APPENDIX BR-1

1. BIOLOGICAL RESOURCES TECHNICAL REPORT
   DECEMBER 2024

2. AQUATIC RESOURCES DELINEATION REPORT
   FEBRUARY 2024

3. ARBORIST REPORT
   AUGUST 2023

4. SOUTH SACRAMENTO HABITAT CONSERVATION PLAN CONSISTENCY ANALYSIS
   NOVEMBER 2024

Biological Technical Report

Coyote Creek Agrivoltaic Ranch Project

AUGUST 2023

REVISED FEBRUARY AND DECEMBER 2024

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
AC	Alternating current
AMM	Avoidance and Minimization Measure
amsl	above mean sea level
ARD	Aquatic Resource Delineation
BAGEPA	Bald and Golden Eagle Protection Act
BCC	Bird of Conservation Concern
BESS	Battery Energy Storage System
BTR	Biological Technical Report
BUOW	Burrowing owl
CBB	Crotch's bumble bee
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CTS	California tiger salamander
CWA	Clean Water Act
DBH	diameter at breast height
DCH	Designated Critical Habitat
EFH	Essential Fish Habitat
EPC	by EnviroPlus Consulting, Inc.
ESA	Environmentally Sensitive Area
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FGC	Fish and Game Code
Gen-tie	Generation tie line
IPaC	Information for Planning and Consultation
MBTA	Migratory Bird Treaty Act
MM	Mitigation Measure
NOAA	National Oceanic Atmospheric Administration
NPPA	Native Plant Protection Act
NRCS	National Resources Conservation Service
NWI	National Wetlands Inventory
OHWM	ordinary high-water mark
OWCA	Oak Woodlands Conservation Act
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
PRC	Public Resources Code
Project	Coyote Creek Agrivoltaic Ranch Project

Acronym/Abbreviation	Definition
PSA	Project Study Area
PV	photovoltaic
quad	quadrangle
Rule	Waters of the United States" Rule (revised)
RWQCB	Regional Water Quality Control Board
SCADA	supervisory control and data acquisition
SMUD	Sacramento Municipal Utility District
SSC	Species of Special Concern
SSHCP	South Sacramento Habitat Conservation Plan
SVRA	State Vehicle Recreation Area
SWHA	Swainson's hawk
TRBL	tricolored blackbird
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VELB	valley elderberry longhorn beetle
WEAP	Worker Environmental Awareness Program
WST	western spadefoot toad

Executive Summary

Sacramento Valley Energy Center, LLC is proposing construction and operation of the Coyote Creek Agrivoltaic Ranch Project (Project), a solar photovoltaic energy-generating and storage facility located in Sacramento County, California. Sacramento Valley Energy Center, LLC has contracted Dudek to prepare this Biological Technical Report (BTR) to provide an overview of biological and aquatic resources within the Project Study Area (PSA), assess impacts to these resources within the solar development area, to identify regulatory constraints and applicable suggested avoidance and minimization measures (AMMs), and to identify proposed mitigation strategies related to these resources.

This BTR is intended to provide support for lead and responsible agency analyses, determinations, and findings pursuant to the California Environmental Quality Act (CEQA), including the preliminary impact evaluations and mitigation planning for state and federal permitting. This BTR includes a description of the Project; methods used to assess biological and aquatic resources; analysis of the literature and database review; compiled field surveys; results of the assessment of biological and aquatic resources; resource impact assessments; and recommended AMMs and/or mitigation to reduce potential impacts.

The PSA (2,704 acres) that was evaluated for this BTR is composed of the "solar development area" (1,412 acres), which includes the grading limits, generation tie (gen-tie) line, switch yard areas, and construction staging areas; plus, the remaining areas outside of the solar development area, which will be referred to herein as "adjacent other lands" (1,292 acres). The Project location was selected because of its proximity to the existing Sacramento Municipal Utility Districts (SMUD) transmission corridor, the fact that the land is actively used for grazing activities (i.e., disturbed), the site's nearby access to existing roads, and the site's excellent solar irradiance.

The Project site is approximately 2.5 miles south of White Rock Road in the Cosumnes rural residential community. The PSA is located approximately 4.5 miles south of U.S. Route 50, southeast of the Prairie City State Vehicle Recreation Area (SVRA) and is bisected by Scott Road. The gen-tie line portion of the Project would extend approximately 1.3 miles to provide an interconnection to the SMUD 230-kilovolt powerline, which runs through the Prairie City.

Further, the PSA within eastern Sacramento County at the eastern edge of the Sacramento Valley, less than 10 miles from the western foothills of the Sierra Nevada Mountains. The vegetation communities and land covers within the PSA include blue oak forest, blue oak woodland, riparian woodland/forest, urban/developed, and valley and foothill grassland. The PSA is primarily used for cattle and sheep grazing or other agricultural operations.

Dudek completed desktop reviews; protocol-level, focused, and reconnaissance-level resource surveys; and Project-specific impact analysis for the following special-status biological and aquatic resources with known occurrences and/or the potential to occur within the PSA:

Special-Status Plant Species

- Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii)*
- Boggs Lake hedge-hyssop (*Gratiola heterosepala)*
- Dwarf downingia (*Downingia pusilla)*
- Heckard's peppergrass (*Lepidium latipes* var. *heckardii)*
- Hoary navarretia (*Navarretia eriocephala)*

- Hogwallow starfish (*Hesperevax caulescens)*
- Legenere (*Legenere limosa)*
- Pincushion navarretia (*Navarretia myersii* ssp. *myersii)*
- Sacramento Orcutt grass (*Orcuttia viscida)*
- Saline clover (*Trifolium hydrophilum)*
- Sanford's arrowhead (*Sagittaria sanfordii)*
- Slender Orcutt grass (*Orcuttia tenuis)*
- Spicate calycadenia (*Calycadenia spicata)*
- Valley brodiaea (*Brodiaea rosea* ssp. *vallicola)*
- Woolly rose-mallow (*Hibiscus lasiocarpos* var. *occidentalis)*

Special-Status Wildlife Species

- American badger (*Taxidea taxus)*
- Bald eagle (*Haliaeetus leucocephalus)*
- Bank swallow (*Riparia riparia)*
- Burrowing owl (*Athene cunicularia*; BUOW)
- California black rail (*Laterallus jamaicensis coturniculus)*
- California tiger salamander (*Ambystoma californiense*; CTS*)*
- Conservancy fairy shrimp (*Branchinecta conservation)*
- Cooper's hawk (*Accipiter cooperii)*
- Crotch's bumble bee (*Bombus crotchii*; CBB)
  Ferruginous hawk (*Buteo regalis)*
- Golden eagle (*Aquila chrysaetos)*
- Grasshopper sparrow (*Ammodramus savannarum)*
- merlin (*Falco columbarius)*Swainson's hawk (*Buteo swainsoni*; SWHA)
- Tricolored blackbird (*Agelaius tricolor;* TRBL)
- Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*; VELB)
- Vernal pool fairy shrimp (*Branchinecta lynchi)*
- Vernal pool tadpole shrimp (*Lepidurus packardi)*
- Western pond turtle (*Actinemys marmorata*)
- Western spadefoot toad (*Spea hammondii*; WST)
- White-tailed kite (*Elanus leucurus)*

Aquatic Resources

- Wetlands and non-wetland waters of the U.S. and state

Sensitive Communities and Habitats

- Northern hardpan vernal pool sensitive natural community
- Valley needle grassland sensitive natural community
- U.S. Fish and Wildlife Service (USFWS) Designated Critical Habitat (DCH):
  - Sacramento Orcutt Grass and Slender Orcutt Grass
  - Vernal Pool Fairy Shrimp and Vernal Pool Tadpole Shrimp
- National Oceanic Atmospheric Administration (NOAA) Essential Fish Habitat (EFH):
  - Central Valley Steelhead, Sacramento River Winter-Run Chinook Salmon, and Central Valley Spring-Run Chinook Salmon
- Riparian zones and habitat
- Tree resources, including oak woodlands and forest

Additional Resources Applicability

- Mather Core Recovery Area
- South Sacramento Habitat Conservation Plan

The significance criteria used to evaluate impacts to the biological and aquatic resources detailed above are based on CEQA Guidelines, as well as federal, state, and local regulatory guidance pertaining to special-status biological resources and potential jurisdictional aquatic resources. The Project could have direct permanent, temporary, and/or indirect impacts to biological and/or aquatic resources within the solar development area. Impacts were evaluated within the solar development area based on Project component(s) and/or activity type(s) in conjunction with the biological or aquatic resource(s) and its applicable regulation(s) and jurisdictional authority. Specifically, the following Project components detailed in the site plan (Primoris 2023) were evaluated for resource impacts: the BESS site; earthwork limits; exclusion zones; fence posts; fenced areas; the gen-tie corridor; inside work areas; inverter locations; laydown/staging areas; overhead transmission corridors; solar module post pile; transmission pole risers; PV modules/solar panels; roads; the substation site; the switchyard site; and water crossing locations. Impacts in this BTR are generally evaluated as follows:

- Direct Permanent Impacts- direct permanent physical loss of a biological and aquatic resource typically due to clearing and grading associated with implementation of a project. Direct permanent impacts are analyzed in four ways: (1) direct permanent loss of vegetation communities and natural land cover types; (2) direct permanent loss of or harm to individuals of special-status plant and wildlife species; (3) direct permanent loss of suitable and/or occupied habitat for special-status species; and/or (4) direct permanent loss of wildlife movement and habitat connectivity in the Project vicinity.
- Temporary Impacts- temporary loss of biological and aquatic resources typically due to clearing and grading associated with implementation of the Project. Temporary impacts generally occur for a short period and would normally be reversible.
- Indirect Impacts- reasonably foreseeable effects of Project implementation on remaining or adjacent biological and aquatic resources outside the direct disturbance zone that may occur during typical grading or maintenance activities or later in time because of the Project.

Based on the resources evaluated in this BTR and the preliminary analysis of impacts, it has been concluded that the Project impacts are less than significant with avoidance, minimization, and/or mitigation.

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1 Introduction

1.1 Purpose

Dudek prepared this Biological Technical Report (BTR) for the Coyote Creek Agrivoltaic Ranch Project (Project). The purpose of this BTR is to provide a complete overview of biological and aquatic resources within the Project Study Area (PSA) and to identify regulatory constraints in relation to these resources. In addition, this BTR provides support for lead and responsible agency analyses, determinations, and findings pursuant to the California Environmental Quality Act (CEQA) and supports impact determination and mitigation planning for state and federal permitting. The PSA (2,704 acres) that was evaluated for this BTR is composed of the "solar development area" (1,412 acres, which includes the grading limits, generation tie line (gen-tie), switch yard areas, and construction staging areas) plus the remaining areas outside of the solar development area, which will be referred to herein as "adjacent other lands" (1,292 acres), per the site plan (Primoris Services Corporation 2023) (Figure 1, Project Location). This BTR includes a description of the Project; methods used to assess biological and aquatic resources, including analysis of the literature and database review; compiled field surveys; results of the assessment of biological and aquatic resources; resource impact assessments; and recommended avoidance and minimization measures (AMMs) and/or mitigation to reduce potential impacts.

1.2 Project Location

The PSA is located on Barton Ranch adjacent to 3830 Scott Road, Sacramento County, California (Figure 1). The site is approximately 2.5 miles south of White Rock Road in the Cosumnes rural residential community. The PSA is located approximately 4.5 miles south of U.S. Route 50, southeast of the Prairie City State Vehicle Recreation Area (SVRA) and is bisected by Scott Road. The gen-tie line portion of the Project (see below Section 1.3- Project Description) would extend approximately 1.3 miles to provide an interconnection to the Sacramento Municipal Utility District (SMUD) 230-kilovolt powerline, which runs through the Prairie City SVRA (Figure 2, Project Setting, and Figure 3, Site Plan).

The Project location was selected because of its proximity to the existing SMUD transmission corridor, the fact that the land is actively used for grazing activities (i.e., disturbed), the site's nearby access to existing roads, and the site's excellent solar irradiance. Land uses in the area include grazing, aggregate mining, Aerojet's currently vacant industrial lands, and the Prairie City SVRA. The main access to the Project would be from Scott Road.

- **County:** Sacramento
- **Public Land Survey System:** S5-8,31-32,35-36; T08-09N; R07-08E
- **U.S. Geological Survey (USGS) 7.5-Minute Quadrangle (quad):** Buffalo Creek (west) and Folsom SE (east)
- **Latitude, Longitude (decimal degrees):** 38.576278°, −121.132944° (Centroid)
- **Elevation Range:** 153 to 368 feet above mean sea level (amsl)
- **Average Elevation:** 261 feet amsl
- **PSA:** 2,704 acres
  - Solar Development Area: 1,412 acres
  - Adjacent Other Lands: 1,292 acres
- **Assessor's Parcel Numbers:** See Table 1 below

Table 1. Assessors Parcels within the Project Study Area

Assessor's Parcel Number	Total Approximate Acreage
072-0100-016	2.40
072-0100-017	13.69
072-0100-018	38.56
072-0110-022	3.05
072-0110-045	7.70
072-0110-066	36.82
072-0110-067	79.87
072-0110-069	83.73
072-0110-070	80.89
072-0110-071	81.07
072-0110-069	55.22
072-0110-073	41.52
072-0110-074	27.16
072-0110-075	18.27
072-0110-076	27.97
072-3160-003	2.22
073-0010-026	0.09
073-0020-008	4.98
073-0020-015	29.75
073-0020-022	13.77
073-0020-029	11.26
073-0020-032	15.76
073-0020-033	13.19
073-0020-034	78.74
073-0020-035	38.05
073-0020-036	39.14
073-0020-037	39.19
073-0020-038	12.33
073-0020-039	73.46
073-0020-040	57.80
073-0020-041	40.06
073-0020-042	73.57
073-0020-043	48.59
073-0020-044	52.42
073-0020-045	105.13
073-0020-046	4.17
073-0020-048	5.53
073-0020-049	41.05
073-0020-050	55.84
073-0020-051	78.46
073-0020-052	83.43
073-0020-053	33.84

Table 1. Assessors Parcels within the Project Study Area

Assessor's Parcel Number	Total Approximate Acreage
073-0020-054	85.35
073-0020-055	6.14
073-0020-056	68.48
073-0020-057	40.48
073-0020-058	66.31
073-0020-059	73.36
073-0020-060	36.97
073-0020-061	80.44
073-0020-062	12.28
073-0020-063	11.57
073-0020-064	62.81
073-0020-065	17.81
073-0020-066	39.88
073-0020-067	11.84
073-0020-068	9.70
073-0020-069	17.17
073-0020-070	39.61
073-0020-071	15.33
073-0020-072	42.92
073-0020-073	5.62
073-0020-074	32.13
073-0020-075	6.37
073-0020-076	2.07
073-0020-077	29.46
073-0050-015	0.33
073-0050-040	1.96
073-0050-041	11.96
073-0050-043	5.29
073-0050-050	10.84
072-3160-002	41.70
072-0100-027	63.41
072-0100-018	51.25
072-0110-031	6.75
072-0110-068	45.42

Source: County of Sacramento 2023a.

1.3 Project Description

The Project would consist of the following components:

- On-site substation and SMUD switchyard;

- Solar photovoltaic (PV) modules mounted on single axis tracking systems and power conversion station including inverters and transformers;
- Energy storage system with capacity to store approximately 100 megawatt AC/400 megawatt hours of energy;
- Meteorological towers;
- Diesel-, propane-, or battery-powered backup generators;
- Water storage tanks and groundwater wells;
- Private access roads;
- Landscaping (screening) along Scott Road;
- Agricultural-style woven-wire perimeter fencing;
- Temporary laydown yards to accommodate construction;
- Gen-tie line; and
- Operation and maintenance buildings.

The below Section 1.3.1- Solar Energy Generation System, provides an overview of the primary Project components.

1.3.1 Solar Energy Generation System

The Project would include approximately 200 megawatt AC solar power generation. The fenced solar facility would house the solar array and associated infrastructure, including solar panels, single axis tracking support structures, inverters, transformers, supervisory control and data acquisition (SCADA), and interconnection facilities (on-site substation) (Figure 1). Solar energy would be captured by PV panels mounted on a single-axis tracker system. Depending on the selected manufacturer for the PV modules, the modules would be mounted on fixed-tilt, single- or dual-axis tracking structures. The modules would be grouped in 1 to 4 megawatt alternating current (AC) arrays. Fixed-tilt arrays would be oriented in east/west rows and would face in a generally southern orientation with a tilt angle of 10 to 40 degrees to maximize the amount of solar radiation absorbed over the year. Single-axis trackers typically rotate ±60 degrees (0 degrees is horizontal) along a north/south axis to track the sun's movement throughout the day. Structural support elements would be constructed of corrosion-resistant steel, aluminum, or equivalent materials that are attached to circular piers or I-beam posts that would be direct-driven into the prepared base grade of the site. Ground disturbance would be minimized to the greatest extent feasible to retain the existing vegetation coverage and topography.

The racking system would be supported, when practical, by driven piers (piles) directly embedded into the ground and would be parallel to the ground. Each rack would hold approximately 80 to 90 panels (depending on final configuration), and at its highest edge would have a maximum height of approximately 12 feet above grade, depending on the dimensions of the chosen panel and racking technology. The minimum clearance from the lower edge of the panel to ground level would be approximately 18 inches, pending final design.

At the center of each array "block" would be a power conversion station where inverters take the direct current power output from the PV modules and convert it to AC power. The adjacent pad-mounted transformer steps the voltage up to a medium-voltage level. The inverter stations are typically open-air and approximately 12 feet in height. The medium-voltage outputs from each of the pad-mounted transformers are collected in combining switchgear located at discrete locations on the Project site. The output power from the inverter stations is then fed to the AC collection system through an aboveground or belowground collection system. This AC collection system would deliver the electricity to the 230 kilovolt on-site substation, where the voltage would be stepped up through a transformer to the interconnection voltage.

1.3.2 On-Site Substation

The Project's on-site substation would be the termination point of the collection system for 34.5 kilovolt electricity. The output of the entire field would be passed through a final interconnection step-up transformer to convert it to the grid tie voltage at 230 kilovolts. The communication system may include aboveground or belowground fiber-optic cable or microwave tower within the substation's fenced boundary. The Project would be interconnected to the regional transmission system from the on-site substation/switchyard via the gen-tie line facilities described in this Project description. Additionally, the Project's on-site substation would host the grid intertie safety equipment and switches required to interconnect to the high-voltage transmission system. The open-air on-site substation would be constructed on the western limits of the Project site. The Project's on-site substation would consist of components up to 150 feet in height, and feeders would be overhead lines constructed with 150-foot-tall and 100-foot-tall poles for the single and double circuits, respectively.

1.3.3 Battery Energy Storage System

The Project would include a centralized Battery Energy Storage System (BESS) that would be constructed adjacent to the Project substation. A BESS would help the array produce a more reliable source of electricity in the case of cloudy periods throughout the day that would decrease array production and help meet peak demand in the late afternoon and evening hours when electricity is needed most. The BESS is proposed to provide a capacity of approximately 400 megawatt hours in small modular structures similar in appearance to cargo shipping containers. The maximum height of the modular system would be approximately 25 feet. The associated inverters, transformers, and switchgear would be immediately adjacent to the BESS facilities on an outdoor pad. The Project may store energy generated by the Project and energy from the grid. Although not currently anticipated, the Project may also incorporate energy storage housed directly at the solar array inverters. Currently, it is anticipated that the centralized BESS would provide the best solution for the Project, but changing technology may allow for BESS facilities to be distributed at the inverters in the future.

The BESS equipment would have a fire rating in conformance with local fire authority and Sacramento County standards. The BESS facilities would have heating, ventilation, and air conditioning to maintain battery efficiency. Power to the heating, ventilation, and air conditioning and lighting, among others, would be provided through a connection to the on-site station service transformer. The BESS would be un-staffed and have remote operational control. Periodic inspections/maintenance would be performed as necessary.

1.3.4 Gen-Tie Line and SMUD Switchyard

The energy from the solar energy generation and energy storage systems would be transported from the on-site substation to SMUD's 230 kilovolt powerlines. The route of the gen-tie line would extend approximately 1.3 miles from the facility's on-site substation to the western terminus of the gen-tie line where it would interconnect into SMUD facilities (Figure 2). The 230 kilovolt gen-tie line would consist of one or two single-circuit structures, which could be constructed with up to 150-foot-tall wood, concrete, or steel poles. The gen-tie line would use existing dirt and paved access roads where available, but improvements and new road sections may be required for construction, operations, and maintenance, along with decommissioning activities. A lower-voltage powerline and communications line would share the same structures or share the same easement to provide power and communications to the Project. A new 230 kilovolt switchyard approximately 600 feet by 600 feet would be constructed at the point of interconnection with SMUD's existing 230 kilovolt powerlines. The new switchyard would

be owned and operate by SMUD following construction and may include restroom facilities for workers completing maintenance activities. Additionally, a retention basin would be on the south and west sides of the switchyard to control stormwater run-off. The area for the switchyard and interconnection improvements would be constructed within an easement granted over Prairie City SVRA property. Impacts to the existing Prairie City SVRA is anticipated to be minimal but may require some temporary closures or rerouting of existing Prairie City SVRA infrastructure. The applicant would continue to engage Prairie City SVRA staff to ensure that any necessary closures, reroutes, or improvements are completed as necessary to accommodate construction and operations of the gen-tie line. The switchyard would be designed to avoid or relocate existing groundwater monitoring wells. The switchyard would be in an area in which Aerojet is performing groundwater remediation.

1.3.5 Ancillary Facilities

1.3.5.1 Access Road

Access to the Project site would be from Scott Road. Access to components of the solar field would be controlled through security gates at entrances. Multiple gate restricted access points would be used during construction and operation. Access roads were designed to improve access to the Project site during construction while minimizing environmental impacts, such as crossings of aquatic resources. Access roads are anticipated to range from 12 to 20 feet in width and would consist of a gravel base. Access road widths may be reduced to further reduce environmental impacts, and access road width will be finalized in coordination with the fire department and Sacramento County prior to building permit issuance before construction. The Project access roads would connect to existing paved access roads on the perimeter of the Project site.

1.3.5.2 Security

Signage and Landscaping

To ensure the safety of the public and the facility, the Project property would be fenced, security lighting may be installed, and signs would be posted on all gates and doors. Spacing would generally be at 500-foot intervals if there are no nearby roads providing access. Signs would be placed at 75-foot intervals along roadways. Access to the site would be controlled, and gates would be installed at the roads entering the property. The fence would be monitored periodically to detect any intrusion into the property. The Project proposes to construct a 7-foot-tall agricultural woven wire fence that would be enhanced with landscaping along Scott Road.

Agricultural-style fencing in conjunction with native landscaping (primarily evergreen oaks) would be used to blend the dark profile of the array into the background for members of the public travelling along Scott Road. There are no other readily available public viewpoints (e.g., roadways, parks) that would require landscaping other than Scott Road. Temporary irrigation would ensure maximized success of proposed landscaping. The native landscaping would provide both screening of the Project and habitat for native species.

Perimeter Fence

The solar arrays and supporting facilities would be enclosed by an approximately 7-foot-tall agricultural-style woven wire fence. This type of fencing was selected as a cost-effective solution that blends with existing fencing in the area as compared to chain-link fencing. No barbed wire is anticipated at most of the facility, other than the substation, switchyard, and BESS, which are anticipated to have chain-link fencing with barbed wire or an

equivalent. Access into the Project site would be provided through drive-through gates. The main purpose of the fence is to prevent unauthorized access to the site. The total height, above grade, of the fence would be approximately 7 feet. Perimeter fencing would be installed around each solar array, BESS facilities, and substation.

Lighting

Low elevation (lower than 14 feet), controlled security lighting would be installed at primary access gates, the on-site substation, and at the entrances to the BESS facilities. The lighting would only switch on when personnel enter the area (through either motion-sensor or manual activation [switch]). The lighting would be shielded so the light is directed downward. Electrical power to supply the access gate and lighting would be obtained from SMUD. Lighting would only be in areas where it is required for safety, security, or operations. All lighting would be directed on site and would include shielding as necessary to minimize illumination of the night sky and potential impacts to surrounding viewers.

Electric Service

Permanent electric service would be obtained for auxiliary loads. Service would be provided by SMUD. Temporary electric service would be obtained for primary construction logistical areas. Generator power may be used for temporary portable construction trailer(s), construction, and/or commissioning.

Communications Systems

The Project would use telephone and internet services that would be provided via overhead or underground lines, microwave tower, or cellular service obtained from a local provider. A SCADA system would be implemented to remotely monitor the Project 24 hours per day, 7 days per week during operations to ensure safe and efficient operations.

Fire Control

The PV modules and ancillary equipment would be constructed of fire-resistant material. Landscape maintenance and/or grazing activities would help ensure control of vegetation. The applicant would continue to engage with local fire and emergency management officials to ensure that the Project is designed to comply with local requirements and expectations. During the dry season, grasses within the facility would be kept at a height of 6 inches to reduce wildfire risk. This is anticipated to be accomplish via grazing, although mowing may be supplemented on an as needed basis to ensure fire risk is mitigated. Lock boxes will be placed at all gated entrances to allow access to emergency services.

Groundwater Wells

On-site groundwater wells may be used to provide construction water needs and operational needs to support activities such as grazing and panel washing. Groundwater well options include the drilling of new wells. Up to four wells would be required to support construction activities. Off-site sources of water may also be sourced and hauled to the site. Based on the anticipated Project life of 35 years, impacts to the water table from construction and operations are anticipated to be negligible.

1.3.6 Ranching Activities

The Project would continue to use land for agricultural activities, which would consist of apiary facilities and/or grazing activities when economically viable. The land has historically been used for sheep and cattle grazing and for apiary facilities. Cattle grazing is anticipated to remain in areas outside of the solar fence line, and sheep would graze within the solar fence line.

Project grading is designed to minimize landform modification associated environmental effects. The grading plan softens the steepness of slopes only to the extent necessary to accommodate safe construction working conditions and for engineering tolerances associated with solar racking. Areas that are disturbed would be reseeded with seed mixes that are proven to thrive in the local environment.

Animal productivity on the site is dependent on the weather and the amount of forage available, and grazing would remain dependent on annual climate differences. The Project would implement the agricultural management with the goal of achieving similar animal productivity and carrying capacity to that currently existing. This would involve the establishment of seed mixes and watering troughs that would allow for sheep grazing within the fenced portions of the Project site.

1.3.7 Construction

Construction is planned to occur over approximately 18 months. Construction would include the following types of activities generally in the following sequence of activities:

- Site preparation and installation of best management practices
- Security fence installation
- Tree removal
- Site preparation and clearing/grading
- Road and utility construction
- Underground work (trenching)
- System installation
- Gen-tie line and switchyard installation
- BESS installation
- Testing and commissioning
- Site cleanup and restoration

For all phases of construction, construction equipment would be delivered to the site on "low bed" trucks unless the equipment can be driven to the site (e.g., boom trucks). Prior to site preparation, best management practices would be implemented to ensure adequate soil stabilization measures and off-site sedimentation are avoided prior to significant earth-disturbing activities. This would include measures such as silt fence installation, installation of avoidance fencing for sensitive areas, implementation of rock pads at public road entrances and exits, and more. Due to topography of the site, the construction contractor is evaluating the use of erosion-control sediment basins to reduce the potential for off-site sedimentation. The use of sediment basins has been conservatively estimated in the grading evaluation but may be reduced as construction plans are finalized. Site preparation would include the clearing of trees, removal of root balls, and backfilling of holes to accommodate

solar construction. Merchantable timber would be hauled off site for local use, and the remainder would be chipped on site and temporarily stockpiled to assist in site stabilization and revegetation efforts later in the construction sequence. The hydrology design was prioritized to protect the Project's facilities and adjacent facilities from large storm events. Grading was designed to avoid and minimize effects on aquatic resources. If the site is unable to be balanced upon final design, any excess cut material would either be used to support other construction backfill needs (e.g., filling of holes following root ball removal), would be distributed across larger swaths of the array area, or would be stockpiled and stabilized for distribution at decommissioning. No excess cut/fill material, other than potential relatively small amounts of fill associated with the proposed switchyard, is anticipated to be hauled off site during construction.

If the subsurface is too hard to excavate, blasting would be conducted. Rock blasting is the controlled use of explosives to excavate, break down, or remove rock. The result of rock blasting is often known as a rock cut and/or crushed rock. The most commonly used explosives today are ammonium nitrate/fuel oil (ANFO)–based blends due to their lower cost compared to dynamite. Blasting times would be limited to the hours permitted in the Sacramento County ordinance, and nearby residents would be notified in advance if blasting needs to occur. Blasting will be limited only to areas onsite that have hard bedrock and where grading is required. Blasting is anticipated to occur within approximately 106.41 acres of the solar development area on an as needed basis (Figure 3).

Following grading, racking installation would begin. Much of the Project would be installed via direct-driven piles to support the solar modules and racking. Some piles would require pre-drilling in areas of shallow bedrock or rocky soils. Following installation of piles, racking and torque tubes would be installed to hold the solar modules. Prior to installation, the PV modules would be off-loaded and installed using small cranes, boom trucks, forklifts, rubber-tired loaders, rubber-tired backhoes, and other small- to medium-sized construction equipment as needed.

A variety of methods would be used for installation of underground collection lines. In areas of underground collection, plowing or trenching equipment would be used that excavates the line location, places the line, and immediately backfills thereafter. This allows for a significant reduction of soil disturbing activities compared to traditional trenching. In some locations, dependent on soil conditions, more traditional trenching via backhoe may be required. In other locations, aboveground collection would be used for collection lines. These locations would place electrical pole infrastructure, likely wooden poles via direct drive or pre-drilled where necessary. Trucks with workers would follow the installation process to install the lines thereafter.

Inverters would be delivered via truck bed to their location via the gravel access roads, where they would be put in place via a boom or crane. BESS, substation, and switchyard equipment would similarly be delivered for installation to their location of installation.

Following installation of the array and interconnection facilities, commissioning and testing would occur. Commissioning would generally certify that facility equipment is certified and ready for energy delivery into the electric grid. Commissioning would be completed in close coordination with SMUD to ensure that all utility standards and expectations are met.

As commissioning of the facility progresses, site cleanup and restoration activities would be ongoing. This includes final site stabilization of exposed soils and final seeding and revegetation, cleanup of any remaining on-site refuse, final installation of Project landscaping, removal, and restoration of site laydown yards/temporary construction facilities, and more. Many site restoration activities would occur long before decommissioning to ensure that the facility remains in good working order throughout the construction period.

1.3.7.1 Construction Schedule

This Project is anticipated to be built over an approximately 18-month timeframe from the onset of security fence installation through testing and commissioning of the facility. It is anticipated that the work would be completed in 8- to 10-hour shifts, with a total of five shifts per week (Monday Friday). Overtime and weekend work would be used only as necessary to meet scheduled milestones or to accelerate the schedule and would comply with all applicable California labor laws and applicable Sacramento County rules. Typical construction work hours are expected to be from 6:00 a.m. to 4:00 p.m. However, the schedule may change based on a need to comply with various biological mitigation measures (MMs), overall construction timing, or worker safety such as avoidance of excessive midday heat. Work at night would be performed occasionally within limited areas of the site.

1.3.7.2 Temporary Construction Facilities

During construction, temporary facilities would be developed on site to facilitate the construction process. Temporary laydown yards are anticipated and may include construction trailers, temporary septic systems or holding tanks, parking areas, material receiving/storage areas, water storage ponds, construction power service, recycling/ waste handling areas, and others. These facilities would be in the areas designated on the final site plan.

1.3.8 Water Use

Water consumption during construction is estimated to be approximately 253 acre-feet for dust suppression, earthwork, and plant re-establishment over an approximately 18-month period. Construction water would be available from on-site wells. New wells may be drilled. Water may also be obtained from off-site sources. Construction-phase water demand would be greatest during site grading, which would consist of scrapers, dozers, graders, and disc and roll compaction over the site. Operational water use is described below in Section 1.3.9- Operation and Maintenance.

1.3.9 Operation and Maintenance

An operations and maintenance building are anticipated to support periodic maintenance activities necessary at the site. The location of the operations and maintenance building is still under evaluation based on regional needs of other solar facilities. An operations and maintenance building may be constructed on site. Alternatively, an off-site operations and maintenance building may be used that services other projects in the Sacramento area. It is anticipated that an on-site operations and maintenance building and any associated staging/laydown would be constructed in an upland area without impacts to sensitive resources, likely adjacent to Scott Road. An off-site location would most likely utilize existing office/warehouse space, if available for lease or purchase.

Operations would be monitored remotely through the SCADA system, and periodic inspections and maintenance activities would occur. During operations, solar panel washing is expected as performance testing, weather, and site conditions dictate. General labor (up to 10 individuals) may assist in the panel cleaning.

The operational phase water demand is anticipated to be limited to solar panel cleaning and occasional restroom use by maintenance workers. A restroom inside of the control building within the substation would accommodate occasional worker use with one toilet and one sink. Water demand for the operation and maintenance phase was estimated to be 3,376 gallons of water per megawatt. Based on the Project's estimated production of 200 megawatt, the water demand for a single panel-washing event would be approximately 2 acre-feet. Assuming

washings would be required once a year, the annual operations and maintenance water demand is estimated to be 2 acre-feet per year (note that panel washing is typically not required in average or wet water years). Water trucks would be used to deliver water for panel washing operations from a local purveyor. The water used for panel washing operations would be clean water, with no chemicals added. The restroom water demand is estimated to be an additional 0.2 acre-feet per year. Water for the agricultural component of the Project would be equivalent to or less than under existing conditions, and therefore would not represent an increase in water use over baseline conditions for that purpose.

1.3.10 Decommissioning

The planned operational life of the facility is approximately 35 years. However, if the facility continues to be economically viable, it could be operated for a longer period.

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2 Regulatory Setting

2.1 Federal

2.1.1 Clean Water Act

The Clean Water Act (CWA) is the major federal legislation governing water quality, providing guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters. Section 401 of the CWA requires an applicant for a federal license or permit that may result in a discharge of pollutants into waters of the U.S. to obtain state certification, thereby ensuring that the discharge will comply with provisions of the CWA. The State Water Resources Control Board and Regional Water Quality Control Boards (RWQCBs) administer the 401 certification program in California. Section 402 of the CWA establishes a permitting system for the discharge of any pollutant (except dredged or fill material) into waters of the U.S. Section 404 establishes a permit program administered by the U.S. Army Corps of Engineers (USACE) that regulates the discharge of dredged or fill material into waters of the U.S., including wetlands. USACE implementing regulations are found in 33 Code of Federal Regulations (CFR) Parts 320 to 332. Guidelines for implementation are referred to as the Section 404(b)(1) Guidelines, which were developed by the U.S. Environmental Protection Agency (USEPA) in conjunction with USACE (40 CFR 230). The Guidelines allow the discharge of dredged or fill material into the aquatic ecosystem only if there were no practicable alternative that would have less adverse impacts.

2.1.1.1 Section 404

The definition of waters of the U.S. establishes the geographic scope for authority under Section 404 of the CWA; however, the CWA does not specifically define" Waters of the United States," leaving the definition open to statutory interpretation and agency rulemaking. The definition of what constitutes "Waters of the United States" (provided in 33 CFR Section 328.3[a]) has changed multiple times over the past few decades starting with the United States v. Riverside Bayview Homes, Inc. court ruling in 1985. Subsequent court proceedings, rule makings, and congressional acts in 2001 (*Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers*), 2006 (*Rapanos v. United States*), 2015 (Clean Water Rule), 2018 (suspension of the Clean Water Rule), 2019 (formal repeal of the Clean Water Rule), 2020 (Navigable Waters Protection Rule), and 2021 (*Pasqua Tribe et al v. United States Environmental Protection Agency* resulting in remand and vacatur of the Navigable Waters Protection Rule and a return to "the pre-2015 regulatory regime") have attempted to provide greater clarity to the term and its regulatory implementation. A Revised Definition of "Waters of the United States" rule (Rule) (88 CFR 3004–3144) became effective on March 20, 2023, restoring federal jurisdiction over waters that were protected prior to 2015 under the CWA for traditional navigable waters, the territorial seas, interstate waters, and upstream water resources that significantly affect those waters. The Rule represented a re-expansion of federal jurisdiction over certain water bodies and wetlands previously exempt pursuant to the 2020 Navigable Waters Protection Rule. The Rule also considered various subsequent court decisions including two notable Supreme Court decisions. However, the applicability of the Rule was substantially affected by a subsequent May 2023 Supreme Court ruling as discussed further below.

The Rule reinstated the "Significant Nexus" test, which refers to waters that either alone, or in combination with similarly situated waters in the region, significantly affect the chemical, physical, or biological integrity of traditional navigable waters, interstate waters, or the territorial seas (86 FR 69372-69450). The "Significant Nexus" test attempts to establish a scientific connection between smaller water bodies, such as ephemeral or intermittent

tributaries, and larger, more traditional navigable waters such as rivers. Significant nexus evaluations take into consideration hydrologic and ecologic factors including, but not limited to, volume, duration, and the frequency of surface water flow in the resource and its proximity to a traditional navigable water, and the functions performed by the resource on adjacent wetlands. The Rule also adopts the "Relatively Permanent Standard" test. To meet the "Relatively Permanent Standard" water bodies must be relatively permanent, standing, or continuously flowing and have a continuous surface connection to such waters.

On May 25, 2023, in Sackett v. USEPA the Supreme Court issued an opinion in a case concerning the applicability of the term "Waters of the United States" in the CWA to wetlands adjacent to other waters. The Court concluded that to assert CWA jurisdiction over an adjacent wetland under the CWA, a party must establish that (1) the adjacent body of water constitutes water[s] of the United States' (i.e., a relatively permanent body of water connected to traditional interstate navigable waters) and (2) the wetland has a continuous surface connection with that water, making it difficult to determine where the water ends and the wetland begins. The USACE and the U.S. Environmental Protection Agency have announced that they are considering revisions to the Rule to address the Sackett decision. The term "wetlands" (a subset of Waters of the U.S.) is defined in 33 CFR, Section 328.3(c)(16), as "areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." In the absence of wetlands, the limits of USACE jurisdiction in non-tidal waters, such as intermittent streams, extend to the "ordinary high water mark," (OHWM) which is defined in 33 CFR 328.3(c)(7) as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas."2.1.2

2.1.1.2 Section 401

Section 401 of the CWA provides states and authorized tribes with a valuable tool to help protect the water quality of federally regulated waters within their borders (i.e., waters of the state), in collaboration with federal agencies.

On June 1, 2020, the USEPA finalized the 2020 CWA Section 401 Certification Rule (i.e., the 2020 Rule). The 2020 rule became effective on September 11, 2020. The 2020 Rule was vacated on October 21, 2021, and the vacatur was stayed on April 6, 2022, so the 2020 Rule is currently in effect (USEPA 2022).

As such, the USEPA's regulations at 40 CFR 121 address CWA Section 401 certification generally. Under Section 401 of the CWA, a federal agency may not issue a permit or license to conduct any activity that may result in any discharge into waters of the U.S. unless a CWA Section 401 water quality certification is issued, or certification is waived. States and authorized tribes where the discharge would originate are generally responsible for issuing water quality certifications. In cases where a state or tribe does not have authority, USEPA is responsible for issuing certification. In making decisions to grant, grant with conditions, or deny certification requests, certifying authorities consider whether the federally licensed or permitted activity will comply with applicable water quality standards, effluent limitations, new source performance standards, toxic pollutants restrictions, and other appropriate water quality requirements of state or tribal law. A federal agency may not issue a license or permit for an activity that may result in a discharge into waters of the U.S. without a water quality certification or waiver (USEPA 2022).

The California State Water Resources Control Board has authority over waters of the state, including wetlands, through Section 401 of the CWA, the Porter-Cologne Water Quality Control Act (Porter-Cologne Act), California Code of Regulations Section 3831(k), and the California Wetlands Conservation Policy. The CWA requires that an applicant for a Section 404 permit (to discharge dredge or fill material into waters of the U.S. first obtain certification from the appropriate state agency stating that the fill is consistent with the state's water quality standards and criteria. In California, the authority to either grant certification or waive the requirement for permits is delegated by the State Water Resources Control Board to the nine regional boards. The Central Valley RWQCB has authority for Section 401 compliance in the Project region. A request for Water Quality Certification is submitted to the RWQCB while an application is filed with USACE (USEPA 2022).

2.1.2 Federal Endangered Species Act

The Federal Endangered Species Act (FESA) of 1973, as amended (16 USC 1531 et seq.), serves as the enacting legislation to list, conserve, and protect threatened and endangered species, and the ecosystems on which they depend, from extinction. In addition, for those wildlife species listed as federally endangered, FESA provides for the ability to Designated Critical Habitat (DCH), defined as that habitat considered "essential to the conservation of the species" and that "may require special management considerations or protection."

Under FESA Section 7, if a project that would potentially result in adverse impacts to threatened or endangered species includes any action that is authorized, funded, or carried out by a federal agency, that agency must consult with the U.S. Fish and Wildlife Service (USFWS) to ensure that any such action is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of DCH for that species. FESA Section 9(a)(1)(B) prohibits the taking, possession, sale, or transport of any endangered fish or wildlife species. "Take" is defined to mean "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct" (16 USC 1532[19]). With respect to any endangered species of plant, Sections 9(a)(2)(A) and 9(a)(2)(B) prohibit the possession, sale, and import or export, of any such species, and prohibits any action that would "remove and reduce to possession any such species from areas under federal jurisdiction; maliciously damage or destroy any such species on any such area; or remove, cut, dig up, or damage or destroy any such species on any other area in knowing violation of any law or regulation of any state or in the course of any violation of a state criminal trespass law." Pursuant to FESA Section 10(a)(1)(B), USFWS may issue a permit for the take of threatened or endangered species if such taking is "incidental to, and not the purpose of, the carrying out of an otherwise lawful activity" (USFWS 2023a).

2.1.3 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) regulates or prohibits taking, killing, possession of, or harm to migratory bird species listed in CFR Title 50, Section 10.13. The MBTA is an international treaty for the conservation and management of bird species that migrate through more than one country and is enforced in the United States by the USFWS. Hunting of specific migratory game birds is permitted under the regulations listed in CFR Title 50, Section 20. The MBTA was amended in 1972 to include protection for migratory birds of prey (raptors). On December 22, 2017, the U.S. Department of Interior issued a legal opinion (M-Opinion 37050) that interpreted the above prohibitions as only applying to direct and purposeful actions of which the intent is to kill, take, or harm migratory birds; their eggs; or their active nests. Incidental take of birds, eggs, or nests that are not the purpose of such an action, even if there are direct and foreseeable results, was not prohibited. On January 7, 2021, the USFWS published a final rule (the January 7th rule) that codified the previous administration's interpretation, which after further review was determined to be inconsistent with most relevant court decisions and readings of the MBTA's

text, purpose, and history. On May 7, 2021, the USFWS published a proposed rule to revoke the January 7th rule, which would result in a return to implementing the statute as prohibiting incidental take. On July 19, 2021, the USFWS announced the availability of two revised economic analysis documents for public review that evaluate the potential for the proposed rule to impact small entities, including businesses, governmental jurisdictions, and other organizations. The public review period on these documents ended on August 19, 2021. A final rule revoking the January 7th rule was published on October 4, 2021 and went into effect on December 3, 2021. In their summary of the October 4, 2021 final rule, the USFWS explained that "the immediate effect of this final rule is to return to implementing the MBTA as prohibiting incidental take and applying enforcement discretion, consistent with judicial precedent and longstanding agency practice prior to 2017" (86 FR 54642). (USFWS 2023a).

2.1.4 Bald and Gold Eagle Protection Act

The Bald and Golden Eagle Protection Act (BAGEPA) (16 USC 668 et seq.) provides for the protection of both bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*). Specifically, the BAGEPA prohibits take of eagles, which is defined as any action that would "pursue, destroy, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb" bald and golden eagles, including parts, nests, or eggs. The term "disturb" is further defined by regulation as "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, injury to an eagle, a decrease in productivity, or nest abandonment" (50 CFR 22.3). Under the BAGEPA, it is also illegal to "sell, purchase, barter, trade, import, or export, or offer for sale, purchase, barter, or trade, at any time or in any manner, any bald eagle or any golden eagle, or the parts, nests, or eggs" of these birds. Pursuant to 50 CFR 22.26, and as of the latest amendment to the BAGEPA in December 2016, a permit may be obtained that authorizes take of bald eagles and golden eagles where the take is "compatible with the preservation of the bald eagle and the golden eagle; is necessary to protect an interest in a particular locality; is associated with, but not the purpose of, the activity; and cannot practicably be avoided" (USFWS 2023b).

2.2 State of California

2.2.1 California Environmental Quality Act

The CEQA, PRC Section 21000 et seq., requires public agencies undertaking discretionary actions to approve a project to first determine whether a project may have a significant effect on the environment, and then to prepare an environmental impact report if there is substantial evidence that the project may have a significant effect on the environment. Where an environmental impact report has been prepared, CEQA further requires public agencies to adopt findings with respect to each significant effect that "changes or alterations have been required in, or incorporated, into the project which mitigate or avoid the significant effects on the environment; that those changes are within the responsibility and jurisdiction of another public agency and have been, or can and should be, adopted by that other agency; or that specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the MMs or alternatives identified in the environmental impact report" (PRC Section 21081[a]).

The California Natural Resources Agency has adopted regulations (i.e., Guidelines) to implement CEQA. Pursuant to CEQA Guidelines Section 15380, protection is provided for federal and/or state-listed species, as well as species not listed federally or by the state that may be considered rare, threatened, or endangered. Species that meet these criteria can include candidate species, species proposed for listing, and Species of Special Concern (SSC). Plants listed in the California Native Plant Society (CNPS) Rare Plant Program are considered to meet CEQA's

Section 15380 criteria as well. Section 15380 also addresses a potential situation in which a public agency is to review a project that may have a significant effect on, for example, a candidate species, which has not yet been listed by USFWS or California Department of Fish and Wildlife (CDFW). Therefore, CEQA enables an agency to protect a species from significant project impacts until the respective government agencies have had an opportunity to list the species as protected, if warranted. Impacts to these species would therefore be considered significant, requiring mitigation (CDFW 2023a).

2.2.2 California Department of Fish and Game Code

Divisions of the California Fish and Game Code (FGC) establish the basis of fish, wildlife, and native plant protections and management in the state.

2.2.2.1 California Endangered Species Act

Under the California Endangered Species Act (CESA), the CDFW has the responsibility of maintaining a list of threatened and endangered species. CESA prohibits the take of state-listed threatened or endangered animals and plants unless otherwise permitted pursuant to CESA. "Take" under CESA is defined as any of the following: "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill" (California FGC Section 86). Species determined by the state to be candidates for listing as threatened or endangered are treated as if listed as threatened or endangered and are, therefore, protected from take. Pursuant to CESA, a state agency reviewing a project within its jurisdiction must determine whether any state-listed endangered or threatened species, or candidate species, could be potentially impacted by that project (CDFW 2023b).

2.2.2.2 Native Plant Protection Act

The Native Plant Protection Act (NPPA) was enacted in 1977 and is administered by CDFW, per California FGC Section 1900 et seq. The NPPA prohibits take of endangered, threatened, or rare plant species native to California, apart from special criteria identified in the California FGC. A "native plant" means a plant growing in a wild uncultivated state that is normally found native to the plant life of the state. A "rare" species can be defined as species that are broadly distributed but never abundant where found, narrowly distributed, or clumped yet abundant where found, and/or narrowly distributed or clumped and not abundant where found. If potential impacts are identified for a project activity, then consultation with CDFW, permitting, and/or other mitigation may be required (CLI 2021).

2.2.2.3 Fully Protected Species

Sections 3511, 4700, 5050, and 5515 of the California FGC outline protection for fully protected species of mammals, birds, reptiles, amphibians, and fish. Species that are fully protected by these sections may not be taken or possessed at any time. CDFW cannot issue permits or licenses that authorize the "take" of any fully protected species, except under certain circumstances, such as scientific research and live capture and relocation of such species pursuant to a permit for the protection of livestock. On July 10, 2023, Senate Bill 147 was signed into law and amends the California FGC to allow a 10-year permitting mechanism for a defined set of projects within the renewable energy, transportation, and water infrastructure sectors. Furthermore, it is the responsibility of the CDFW to maintain viable populations of all native species. Toward that end, the CDFW has designated certain vertebrate species as SSC, because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction.

2.2.2.4 Nesting Migratory Birds and Raptors

Section 3503 of the California FGC states that it is unlawful to take, possess, or needlessly destroy the nests or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Section 3503.5 protects all birds of prey (raptors) and their eggs and nests. Section 3511 states that fully protected birds or parts thereof may not be taken or possessed at any time. Section 3513 states that it is unlawful to take or possess any migratory non-game bird as designated in the MBTA.

2.2.2.5 Non-Game Mammals

California FGC Section 4150 states a mammal occurring naturally in California that is not a game mammal, fully protected mammal, or fur-bearing mammal is a non-game mammal. A non-game mammal may not be taken or possessed under this code. All bat species occurring naturally in California are considered non-game mammals and are therefore prohibited from take as stated in California FGC Section 4150.

2.2.2.6 Sensitive Natural Communities

Section 1940 of the California FGC requires CDFW to develop and maintain a vegetation mapping standard for the state. More than half of the vegetation communities in the state have been mapped through the Vegetation Classification and Mapping Program.

Natural vegetation communities are evaluated by CDFW and are assigned global (G), and state (S) ranks based on rarity of and threats to these vegetation communities in California. Sensitive natural communities are defined by CDFW as vegetation alliances with state ranks of S1–S3 (S1: critically imperiled, S2: imperiled, S3: vulnerable), as identified in the 2010 List of Vegetation Alliances and Associations and subsequent updates. Natural communities with ranks of S1–S3 are considered sensitive natural communities to be addressed in the environmental review processes of CEQA and its equivalents. Additionally, all vegetation associations within the alliances with ranks of S1–S3 are considered sensitive habitats. CEQA requires that impacts to sensitive natural communities be evaluated and mitigated achieve applicable resource agency permitting standards.

Sensitive natural communities are communities that have a limited distribution and are often vulnerable to the environmental effects of projects. These communities may or may not contain special-status species or their habitats. For purposes of this assessment, sensitive natural communities are considered to include vegetation communities listed in CDFW's California Natural Diversity Database (CNDDB) and communities listed in the Natural Communities List with a rarity rank of S1- S3 (CDFW 2023c).

2.2.2.7 California Oak Woodlands Conservation Act and Oak Protection

The 2005 California FGC Sections 1360–1372 outline the terms and conditions comprising the California Oak Woodlands Conservation Act (OWCA) (CLI 2016). An oak woodland is defined as an oak stand with greater than 10% canopy cover, or that may have historically supported greater than 10% canopy cover. The overall purpose of the OWCA is to provide funding for the conservation and protection of California's oak woodlands. In addition, the OWCA is designed to support and encourage voluntary, long-term private stewardship and conservation of California's oak woodlands by offering landowners financial incentives to protect and promote biologically functional oak woodlands over time, as mandated by the Wildlife Conservation Board. The Wildlife Conservation Board has established programs, including the California Oak Woodlands Conservation Program, to protect and restore oak woodlands. The OWCA encourages and defers to local jurisdictions to develop and implement oak conservations plans developed under the OWCA (WCB 2021).

Furthermore, the California Public Resources Code (PRC) Section 21083.4 defines an oak as a native tree species in the genus *Quercus*, not designated as commercial species (i.e., Groups A and B) pursuant to regulations adopted by the State of California Board of Forestry and Fire Protection (i.e., Section 4526), that is 5 inches or more in diameter at breast height (DBH) (i.e., diameter of a tree measured 4.5 feet above natural grade). In addition, the PRC defines a 10% canopy cover stipulation that pertains to an individual stand of vegetation, and not all oaks within an entire project site. PRC 21083.4 does not apply to oak woodlands dominated by black oak (*Quercus kelloggii*). As part of the determination made pursuant to PRC Section 21080.1, it is the responsibility of a county to determine if a project under its jurisdiction would result in a significant effect on the environment resulting from a conversion of an oak woodland. When a county determines that a project could result in significant impacts to oak woodlands, MMs are required and may be selected from several mitigation alternatives set forth in PRC Section 21083.4(b).

2.2.2.8 Wetlands Protection Regulations

The CDFW derives its authority to oversee activities that affect wetlands from state legislation. This authority includes California FGC Sections 1600 through1616 (lake and streambed alteration agreements), the CESA (protection of state-listed species and their habitats, which could include wetlands), and the Keene–Nejedly California Wetlands Preservation Act of 1976 (states a need for an affirmative and sustained public policy program directed at wetlands preservation, restoration, and enhancement). In general, CDFW asserts authority over wetlands within the state through any of the following: review and comment on USACE CWA Section 404 permits, review, and comment on CEQA documents, preservation of state-listed species, or lake and streambed alteration agreements.

Lake and Streambed Alteration Program

Specifically, under California FGC Sections 1600 through 1616, CDFW regulates activities that would alter the flow, bed, channel, or bank of streams and lakes. The limits of CDFW's jurisdiction are defined in the code as the "bed, channel or bank of any river, stream, or lake designated by CDFW in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit." In practice, CDFW usually marks its jurisdictional limit at the top of the stream or bank (i.e., top of bank), or at the outer edge of the riparian vegetation, whichever is wider (CDFW 2023d).

2.2.2.9 Other Special-Status Plant Species Protection Regulations

For the purposes of this analysis, special plant species are defined as plants that are legally protected or that are otherwise considered sensitive by federal, state, or local resource conservation agencies. These species fall into one or more of the following categories:

- Listed by the federal government under the FESA of 1973 or the state of California under the CESA of 1970 as endangered, threatened, or rare;
- A candidate for federal or state listing as endangered or threatened;
- Taxa that are biologically rare, very restricted in distribution, or declining throughout their range but not currently threatened with extirpation;
- Population(s) in California that may be peripheral to the major portion of a taxon's range but are threatened with extirpation in California; and/or
- Taxa closely associated with a habitat that is declining in California at a significant rate (e.g., wetlands, riparian, vernal pools, old growth forests, desert aquatic systems, native grasslands, valley shrubland habitats).

Taxa considered to be "rare, threatened, or endangered in California" as defined by CDFW are assigned a California Rare Plant Ran (CRPR). The CDFW system includes six rarity and endangerment ranks for categorizing plant species of concern, as follows:

- CRPR 1A – Plants presumed to be extinct in California.
- CRPR 1B – Plants that are rare, threatened, or endangered in California and elsewhere.
- CRPR 2A – Plants presumed to be extinct in California, but more common elsewhere.
- CRPR 2B – Plants that are rare, threatened, or endangered in California, but more common elsewhere.
- CRPR 3 – Plants about which more information is needed (a review list).
- CRPR 4 – Plants of limited distribution (a watch list).

Plants ranked as CRPR 1A, 1B, 2A, or 2B may qualify as endangered, rare, or threatened species within the definition of CEQA Guidelines Section 15380. CDFW recommends that potential impacts to CRPR 1 and 2 species be evaluated in CEQA review documents. In general, CRPR 3 and 4 species do not meet the definition of endangered, rare, or threatened pursuant to CEQA Guidelines Section 15380, but these species may be evaluated on a case-by-case basis (CNPS 2023c).

2.2.2.10 Other Species of Special Concern

The CDFW maintains a list of vertebrate animal species considered of "special concern" because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction. A SSC is a species, subspecies, or distinct population of an animal native to California that currently satisfies one or more of the following (not necessarily mutually exclusive) criteria:

- Is extirpated from the state or, in the case of birds, is in its primary seasonal or breeding role
- Is listed as threatened or endangered federally, but not by the state
- Meets the state definition of threatened or endangered but has not formally been listed
- Is experiencing, or formerly experienced, serious noncyclical population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for threatened or endangered status by the state
- Has naturally small populations exhibiting high susceptibility to risk from any factor(s) that, if realized, could lead to declines that would qualify it for threatened or endangered status by the state

Impacts to SSC are typically evaluated and mitigated within the context of an environmental impact report or other document prepared pursuant to CEQA.

2.2.3 Other State Tree Protection Regulations

Additional state laws that regulate and/or protect oaks and oak woodlands include the Professional Foresters Law, CEQA, and the Board of Forestry and Fire Protection. The Professional Foresters Law addresses oak habitat evaluations. Both the Professional Foresters Law and CEQA apply to all local jurisdictions. Since it is a state agency, the Board of Forestry and Fire Protection has regulatory authority over all of California's forested landscapes, including the authority to regulate oak woodlands at the state or local level.

2.2.4 Porter-Cologne Water Quality Control Act

As detailed above in Section 2.1.1.2- Clean Water Act: Section 401, the Porter-Cologne Act, California FGC Sections 1601 through 1607, delegates responsibility to the State Water Resources Control Board for water rights and water quality protection and directs the nine statewide RWQCBs to develop and enforce water quality standards within their jurisdiction. The Porter-Cologne Act requires any entity discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state to file a "report of waste discharge" with the appropriate RWQCB. The appropriate RWQCB then must issue a permit, referred to as a Waste Discharge Requirement. Waste Discharge Requirements implement water quality control plans and take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, and the need to prevent nuisances.

The State Water Resources Control Board defines a water of the state as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code Section 13050[e]). As of April 2019, the State Water Resources Control Board has defined "wetland" to include the following:

1. Natural wetlands,
2. Wetlands created by modification of a surface water of the state,
3. Artificial wetlands that meet any of the following criteria:
    a. Approved by an agency as compensatory mitigation for impacts to other waters of the state, except where the approving agency explicitly identifies the mitigation as being of limited duration;
    b. Specifically identified in a Water Quality Control Plan as a wetland or other water of the state;
    c. Resulted from historic human activity, is not subject to ongoing operation and maintenance, and has become a relatively permanent part of the natural landscape; or
    d. Greater than or equal to one acre in size unless the artificial wetland was constructed and is currently used and maintained, primarily for one or more of the following purposes: industrial or municipal wastewater treatment or disposal; settling of sediment; detention, retention, infiltration, or treatment of stormwater runoff and other pollutants or runoff subject to regulation under a municipal, construction, or industrial permitting program; treatment of surface waters; agricultural crop irrigation or stock watering; fire suppression; industrial processing or cooling water; active surface mining – even if the site is managed for interim wetlands functions and values; log storage; treatment, storage, or distribution of recycled water; maximizing groundwater recharge (this does not include wetlands that have incidental groundwater recharge benefits); or fields flooded for rice growing.

All waters of the U.S. are waters of the state. Wetlands, such as isolated seasonal wetlands, that are not generally considered waters of the U.S. are considered waters of the state if, "under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation."2.3

2.3 County

2.3.1 Sacramento County General Plan

The Sacramento County General Plan addresses policies to help preserve and restore vegetation, wildlife, biological habitat, and aquatic resources throughout Sacramento County, including ways to ensure that these important natural resources are given adequate attention in development projects and master planning efforts. Additionally, the Open Space Element of the General Plan describes protection measures and provides a management/ acquisition for continued preservation and protection of Sacramento County's natural resource habitats. The sections below provide an overview of General Plan Conservation Elements pertaining to biological and aquatic resources in Sacramento County (County of Sacramento 2017).

2.3.1.1 Vegetation and Wildlife

Habitat Protection and Management

Goal: Preserve and manage natural habitats and their ecological functions throughout Sacramento County.

Habitat Mitigation

Objective: Mitigate and restore for natural habitat and special-status species loss.

Policies:

- CO-58. Ensure no net loss of wetlands, riparian woodlands, and oak woodlands.
- CO-59. Ensure mitigation occurs for any loss of or modification to the following types of acreage and habitat function: (1) vernal pools, (2) wetlands, (3) riparian, (4) native vegetative habitat, and (5) special-status species habitat.
- CO-60. Mitigation should be directed to lands identified on the Open Space Vision Diagram and associated component maps.
- CO-61. Mitigation should be consistent with Sacramento County-adopted habitat conservation plans.
- CO-62. Permanently protect land required as mitigation.

Habitat Preserve and Management

Objective: Establish and manage a preserve system with large core and landscape level preserves connected by wildlife corridors throughout Sacramento County to protect ecological functions and species populations.

Policies:

- CO-64. Consistent with overall land use policies, Sacramento County shall support and facilitate the creation and biological enhancement of large natural preserves or wildlife refuges by other government entities or by private individuals or organizations.

- CO-65. Create a network of preserves linked by wildlife corridors of sufficient size to facilitate the movement of species.
- CO-66. Mitigation sites shall have a monitoring and management program including an adaptive management component including an established funding mechanism. The programs shall be consistent with Habitat Conservation Plans that have been adopted or are in draft format.
- CO-67. Preserves and conservation areas should have an established funding mechanism, and where needed, an acquisition strategy for its operation and management in perpetuity. This includes existing preserves such as the American River Parkway, Dry Creek Parkway, Cosumnes River Preserve and other plans in progress for riparian areas like Laguna Creek.
- CO-68. Preserves shall be planned and managed to the extent feasible to avoid conflicts with adjacent agricultural activities.
- CO-69. Avoid, to the extent possible, the placement of new major infrastructure through preserves unless located along disturbed areas, such as existing roadways.

Habitat Protection and Project Review

Objective: Review development plans and projects to ensure a balance between essential growth needs and the protection and preservation of natural habitats and special-status species.

Policies:

- CO-70. Community Plans, Specific Plans, Master Plans and development projects shall: 1- include the location, extent, proximity and diversity of existing natural habitats and special-status species in order to determine potential impacts, necessary mitigation and opportunities for preservation and restoration; 2- be reviewed for the potential to identify nondevelopment areas and establish preserves, mitigation banks and restore natural habitats, including those for special-status species, considering effects on vernal pools, groundwater, flooding, and proposed fill or removal of wetland habitat; and 3- be reviewed for applicability of protection zones identified in this Element, including the Floodplain Protection Zone, Stream Corridor Ordinance, Cosumnes River Protection Combining Zone and the Laguna Creek Combining Zone.
- CO-71. Development design shall help protect natural resources by: (1) Minimizing total built development in the floodplain, while designing areas of less frequent use that can support inundation to be permitted in the floodplain; (2) Ensuring development adjacent to stream corridors and vernal pools provide, where physically reasonable, a public street paralleling at least one side of the corridor with vertical curbs, gutters, foot path, street lighting, and post and cable barriers to prevent vehicular entry; (3) Projects adjacent to rivers and streams shall integrate amenities, such as trail connectivity, that will serve as benefits to the community and ecological function; (4) Siting of wetlands near residential and commercial areas should consider appropriate measures to minimize potential for mosquito habitation; and (5) Development adjacent to stream corridors and vernal pools shall be designed in such a manner as to prevent unauthorized vehicular entry into protected areas.

- CO-72. If land within river and stream watersheds in existing agricultural areas is developed for non-agricultural purposes, Sacramento County should actively pursue easement dedication for recreation trails within such development as a condition of approval.
- CO-73. Secure easement or fee title to open space lands within stream corridors as a condition of development approval.
- CO-74. Evaluate feasible on-site alternatives early in the planning process and prior to the environmental review process that reduce impacts on wetland and riparian habitat and provide effective on-site preservation in terms of minimum management requirements, effective size, and evaluation criteria.

Special-Status Species and Their Respective Habitats

Goal: Preserve, enhance, and restore special-status species habitat in Sacramento County to aid in the recovery of these species.

Protection of Special-Status Species

Objective: Protect and maintain habitat for special-status species.

Policies:

- CO-75. Maintain viable populations of special-status species through the protection of habitat in preserves and linked with natural wildlife corridors.
- CO-77. Development of open space acquisition programs within natural areas shall consider whether the area is occupied by special-status species.

Manage Lands for Special-Status Species

Objective: Manage and maintain special-status species and their respective habitat in a manner that resolves conflicts with adjacent privately owned-land and agricultural operations.

Policies:

- CO-80. Control human access to sensitive habitat areas on public lands to minimize impact upon and disturbance of special-status species.
- CO-82. Ensure that mosquito control measures have the least effect on non-target species.

2.3.1.2 Aquatic Resources

Vernal Pools

Goal: Preserve and enhance self-sustaining vernal pool habitats.

Vernal Pools Preserves

Objective: Establish vernal pool preserves that enhance and protect the ecological integrity of vernal pool resources.

Policies:

- CO-83. Preserve a representative portion of vernal pool resources across their range by protecting vernal pools on various geologic landforms, vernal pools that vary in depth and size, and vernal pool complexes of varying densities; to maintain the ecological integrity of a vernal pool ecosystem.
- CO-84. Ensure that vernal pool preserves are large enough to protect vernal pool ecosystems that provide intact watersheds and an adequate buffer, have sufficient number and extent of pools to support adequate species populations and a range of vernal pool types.
- CO-85. Utilize proper vernal pool restoration techniques as approved by the USFWS, the CDFW, and the USACE.
- CO-86. Limit land uses within established preserves to activities deemed compatible with maintenance of the vernal pool resource, which may include ranching, grazing, scientific study, and education.

Rivers and Streams

Goal: Preserve, protect, and enhance natural open space functions of riparian, stream, and river corridors.

Riparian Habitat

Objective: Manage riparian corridors to protect natural, recreational, economic, agricultural, and cultural resources as well as water quality, supply, and conveyance.

Policies:

- CO-87. Encourage private landowners to protect, enhance and restore riparian habitat.
- CO-88. Where removal of riparian habitat is necessary for channel maintenance, it will be planned and mitigated to minimize unavoidable impacts upon biological resources.
- CO-89. Protect, enhance, and maintain riparian habitat in Sacramento County.
- CO-90. Increase riparian woodland, valley oak riparian woodland and riparian scrub habitat along select waterways within Sacramento County.
- CO-91. Discourage introductions of invasive non-native aquatic plants and animals.
- CO-92. Enhance and protect shaded riverine aquatic habitat along rivers and streams.

Limitation of Fill in Floodplains

Objective: Maintain the natural character of the 100-year floodplain by limiting fill and excavation.

Policies:

- CO-93. Discourage fill in the 100-year floodplain.
- CO-94. Development within the 100-year floodplain and designated floodway of Sacramento streams, sloughs, creeks, or rivers shall be: 1- Consistent with policies to protect wetlands and riparian areas; and 2- Limited to land uses that can support seasonal inundation.
- CO-95. Development within the 100-year floodplain should occur in concert with the development of the Floodplain Protection Zone.

Bank Stabilization

Objectives: Maintain levee protection, riparian vegetation, function and topographic diversity by stream channel and bank stabilization projects. Stabilize riverbanks to protect levees, water conveyance and riparian functions.

Policies:

- CO-96. Reduce dependence on traditional levee protection methods where those methods conflict with habitat preservation efforts and where alternate methods exist which are compatible with preservation efforts and offer an acceptable level of bank stabilization.
- CO-97. Work with appropriate regulatory agencies to reduce bank and levee erosion by minimizing erosive wake activity generated by recreational and commercial boating.
- CO-98. Coordinate with federal, state, and local agencies overseeing levee and bank stabilization to investigate and, whenever possible, utilize biotechnical or nonstructural alternatives to other conventional stabilization methods.
- CO-99. Encourage habitat restoration and recreational opportunities as an integral part of bank and levee stabilization efforts.
- CO-100. Encourage construction of structures for flood control and stormwater quality purposes using currently approved scientific methods to prevent erosion and stabilize the banks.
- CO-101. Stabilize the banks of rivers and streams in a manner that increases flood protection and increases riparian habitat functions.

Protection of Rivers

Objective: Conserve and protect the Sacramento, Cosumnes, Mokelumne and American Rivers to preserve natural habitat and recreational opportunities.

Policies:

- CO-102. Promote and encourage habitat restoration efforts on and adjacent to our river floodways.
- CO-103. Protect the Cosumnes River Corridor by promoting the preservation of agriculture, natural habitat and limited recreational uses adjacent to the river channel, and when feasible by acquiring appropriate lands or easements adjacent to the river.

Channel Modifications

Objective: Protect and restore natural stream functions.

Policies:

- CO-105. Channel modification projects shall be considered for approval by the Board of Supervisors only after conducting a noticed public hearing examining the full range of alternatives, relative costs and benefits, and environmental, economic, and social benefits.
- CO-105a. Encourage flood management designs that respect the natural topography and vegetation of waterways while retaining flow and functional integrity.

- CO-106. Realigned or modified channels should retain topographic diversity including maintaining meandering characteristics, varied berm width, naturalized side slope, and varied channel bottom elevation.
- CO-107. Maintain and protect natural function of channels in developed newly developing, and rural areas.
- CO-108. Channel lowering should occur after consideration of alternatives and only when it is necessary to accommodate the gravity drainage of storm runoff and/or accommodate flood flows under existing bridge structures.
- CO-109. Channel modifications should not prevent minimum water flows necessary to protect and enhance fish habitats, native riparian vegetation, water quality, or ground water recharge.
- CO-110. Improvements in watercourses will be designed for low maintenance. Appropriate Manning's "n" 13 values will be used in design of the watercourses to reflect future vegetative growth (including mitigation plantings) associated with the low maintenance concept.
- CO-111. Channel modifications shall retain wetland and riparian vegetation whenever possible or otherwise recreate the natural channel consistent with the historical ecological integrity of the stream or river.
- CO-112. The use of concrete and impervious materials is discouraged where it is inconsistent with the existing adjacent watercourse and overall ecological function of the stream.
- CO-113. Encourage revegetation of native plant species appropriate to natural substrate conditions and avoid introduction of nonindigenous species.

Land Use Adjacent to Rivers and Streams

Objective: Land uses within and development adjacent to stream corridors are to be consistent with natural values.

Policies:

- CO-114. Protect stream corridors to enhance water quality, provide public amenities, maintain flood control objectives, preserve, and enhance habitat, and offer recreational and educational opportunities.
- CO-115. Provide setbacks along stream corridors and stream channels to protect riparian habitat functions. (1) A functional setback of at least 100 feet and measured from the outside edge of the stream bank should be retained on each side of a stream corridor that prohibits development or agricultural activity. This buffer is necessary to protect riparian functions by allowing for the filtering of sediment, pesticides, phosphorus and nitrogen, organic matter and other contaminates that are known to degrade water quality. This buffer also provides for the protection of vegetation along the stream bank which provides bank stability, erosion control and flood attenuation; (2) A transitional setback of at least 50 feet in width beyond the functional buffer should be retained along all stream corridors. This buffer is necessary to protect hydrogeomorphic functions that regulate water temperature, regulate microclimate, maintain channel complexity, and retain hydrologic flow regimes. This buffer also provides corridors to facilitate the movement of wildlife; (3) An extended setback of at least 50 feet in width beyond the transitional setback should be retained along all stream corridors. This setback will allow for recreational uses such as bike, pedestrian and/or equestrian trails and

will allow for the placement of infrastructure such as water and sewer lines; (4) Stormwater discharge ponds or other features used for improving stormwater quality may be located within the extended or transitional setback area. However, to protect stream habitat and floodplain value, the width of the setback shall not be based upon the width of the pollutant discharge pond. The ponds shall be landscaped and maintained with vegetation native to the surrounding area. Detention ponds or other features implementing pollutant discharge requirements, other than approved regional stormwater quality practices that are designed and operated to complement the corridor functionally and aesthetically, are prohibited; (5) Setback averaging within individual development projects or as otherwise specified in a Sacramento County-adopted master plan will be permitted except when riparian woodland will be lost. The minimum width of setbacks cannot fall below 50 feet; and (6) Master drainage plans may provide for other standards that meet the intent of this policy.

- CO-116. Encourage filter strips using appropriate native vegetation and substrate along riparian streambanks adjacent to irrigated croplands.
- CO-117. Public roads, parking, and associated fill slopes shall be located outside of the stream corridor, except at stream crossings and for purposes of extending or setting back levees. The construction of public roads and parking should utilize structural materials to facilitate permeability. Crossings shall be minimized and be aesthetically compatible with naturalistic values of the stream channel.
- CO-118. Development adjacent to waterways should protect the water conveyance of the system, while preserving and enhancing the riparian habitat and its function.

Maintenance of Rivers and Streams

Objective: Properly manage and fund the maintenance of rivers and streams to protect and enhance natural functions.

Policies:

- CO-120. Development projects adjacent to rivers and streams shall provide unencumbered maintenance access.
- CO-121. No grading, clearing, tree cutting, debris disposal or any other despoiling action shall be allowed in rivers and streams except for normal channel maintenance, restoration activities, and road crossings.
- CO-122. River and stream maintenance should allow natural vegetation in and along the channel to assist in removal of nutrients, pollutants, and sediment and to increase bank stabilization, while minimizing impacts on conveyance.
- CO-123. The use of native plant species shall be encouraged on revegetation plans.
- CO-124. Maintain and manage rivers and streams to encourage special-status species.

Restoration of Rivers and Streams

Objective: Restore concrete sections of rivers and streams to increase natural functions.

Policies:

- CO-125. Restore concrete sections of rivers and streams to natural or naturalized channels, where feasible for increased flood or conveyance capacity and groundwater recharge.

Fisheries

Goal: Preserve and protect fisheries in the Sacramento County waterways and water bodies.

In-Stream Functions

Objective: Provide and protect high quality in-stream habitat, water quality and water flow to support fisheries propagation, development, and migration.

Policies:

- CO-126. Prohibit obstruction or underground diversion of natural waterways.
- CO-127. Protect, preserve, and restore migratory routes for anadromous species.
- CO-128. Require screens on diversion pumps or similar bypass apparatus to reduce fish mortality. CO-129. Require screening on all public water diversion facilities.
- CO-130. Protect, enhance, and restore riparian, in-channel, and shaded riverine aquatic habitat for: (1) spawning and rearing of fish species, including native and recreational non-native, non-invasive species, where they currently spawn; (2) potential areas where natural spawning could be sustainable; and (3) supporting other aquatic species.

2.3.1.3 Terrestrial Resources

Native Vegetation Protection, Restoration, and Enhancement

Objective: Tree and native vegetation management practices to promote regeneration in designated resource conservation areas.

Policies:

- CO-132. Protect native vegetative habitats from improper grazing regimes on public lands and inform private land operators of how they may minimize impacts to these habitats.
- CO-133. Prohibit native vegetative habitat mitigation and/or other public plantings onto incompatible substrates i.e., tree planting in vernal pool hardpan.
- CO-134. Maintain and establish a diversity of native vegetative species in Sacramento County.
- CO-135. Protect the ecological integrity of California Prairie habitat.
- CO-136. Prohibit the loss of mitigated resource areas.
- CO-137. Mitigate for the loss of native trees for road expansion and development consistent with General Plan policies and/or the Sacramento County Tree Preservation Ordinance.

Landmark and Heritage Tree Protection

Objective: Heritage and landmark tree resources preserved and protected for their historic, economic, and environmental functions.

Policies:

- CO-138. Protect and preserve non-oak native trees along riparian areas if used by Swainson's Hawk, as well as landmark and native oak trees measuring a minimum of 6 inches in diameter or 10 inches aggregate for multi-trunk trees at 4.5 feet above ground.
- CO-139. Native trees other than oaks, which cannot be protected through development, shall be replaced with in-kind species in accordance with established tree planting specifications, the combined diameter of which shall equal the combined diameter of the trees removed.
- CO-140. For projects involving native oak woodlands, oak savannah, or mixed riparian areas, ensure mitigation through either of the following methods: (1) An adopted habitat conservation plan; (2) Ensure no net loss of canopy area through a combination of the following: A- preserving the main, central portions of consolidated and isolated groves constituting the existing canopy and B- provide an area on site to mitigate any canopy lost. Native oak mitigation area must be a contiguous area on site which is equal to the size of canopy area lost and shall be adjacent to existing oak canopy to ensure opportunities for regeneration; (3) Removal of native oaks shall be compensated with native oak species with a minimum of a one to one DBH replacement; (4) A provision for a comparable on-site area for the propagation of oak trees may substitute for replacement tree planting requirements at the discretion of the Sacramento County Tree Coordinator when removal of a mature oak tree is necessary; (5) If the project site is not capable of supporting all the required replacement trees, a sum equivalent to the replacement cost of the number of trees that cannot be accommodated may be paid to Sacramento County's Tree Preservation Fund or another appropriate tree preservation fund; and (6) If on-site mitigation is not possible given site limitation, off-site mitigation may be considered. Such a mitigation area must meet all the following criteria to preserve, enhance, and maintain a natural woodland habitat in perpetuity, preferably by transfer of title to an appropriate public entity. Protected woodland habitat could be used as a suitable site for replacement tree plantings required by ordinances or other mitigations. (a) Equal or greater in area to the total area that is included within a radius of 30 feet of the dripline of all trees to be removed; (b) Adjacent to protected stream corridor or other preserved natural areas; (c) Supports a significant number of native broadleaf trees; and (d) Offers good potential for continued regeneration of an integrated woodland community.
- CO-141. In 15 years, the native oak canopy within on-site mitigation areas shall be 50% canopy coverage for valley oak and 30% canopy coverage for blue oak and other native oaks.

2.3.2 Swainson's Hawk Ordinance

The CDFW requires that mitigation for foraging habitat be provided within the known foraging radius of a nesting Swainson's hawk (*Buteo swainsoni*; SWHA). In 1997, in response to the need to mitigate for the loss of SWHA foraging habitat in Sacramento County, the Board of Supervisors adopted an ordinance that established a SWHA Impact Mitigation Program (Chapter 16.130 of the Sacramento County Code). The Program has been amended

several times; the latest amendment went into effect December 2009. By adopting the Program, the Board of Supervisors found that "the most effective means of mitigation for the loss of suitable SWHA foraging habitat is the direct preservation, in perpetuity, of equally suitable foraging habitat on an acre-per-acre basis based on the Project's determined acreage impact."

Under the SWHA Impact Mitigation Program, only projects that have an impact of less than 40 acres are eligible to pay fees. Projects impacting 40 acres or more of foraging habitat must provide land acceptable to CDFW and Sacramento County. Land can be provided in fee title or through conservation easement. The Sacramento County Office of Planning and Environmental Review (PER) administers the SWHA Impact Mitigation Program and more information on lands likely to be determined as acceptable replacement habitat (County of Sacramento County 2023b).

2.3.3 Sacramento County Tree Preservation Ordinance

The Sacramento County regulates tree impacts and preservation through the Tree Preservation Ordinance (Sacramento County Code 480 Section 1, 1981). The Sacramento County Tree Preservation Ordination specifically applies to the following: (1) the planting, maintenance, protection, and preservation of public trees and landscaping; (2) helping to eliminate dangerous conditions caused by trees and shrubs that may result in injuries to persons or property; (3) the protection of all trees within Sacramento County against the spread of disease or pests; and (4) the provision for the special protection of heritage and landmark trees within the unincorporated area of Sacramento County. Chapter 19.12 of the Sacramento County Code requires a Sacramento County Tree Permit before any party shall plant, transplant, move, separate, trim, prune, cut above or below the ground, disrupt, alter, or do surgery upon any public tree located on an easement, planting easement, street, or public premises, irrespective of whether the tree is alive or dead. In addition, without a tree permit or discretionary approval by the Board of Supervisors, Sacramento County Planning Commission, Zoning Board of Appeals, the Zoning Administrator, or the Subdivision Review Committee, no person shall trench, grade, or fill within the dripline of any tree or destroy, kill, or remove any tree as defined, in the designated urban area of the unincorporated area of Sacramento County, on any property, public or private (County of Sacramento 2021). Protected trees under this ordinance include the following: valley oak (*Quercus lobat*a), interior live oak (*Quercus wislizenii*), blue oak (*Quercus douglasii*), or oracle oak (*Quercus* × *morehus).* Additionally, per Sacramento County, a "tree" shall mean any living native oak tree having at least one trunk of 6 inches or more in diameter measured at 4.5 feet above the ground, or a multi-trunked native oak tree having an aggregate diameter of 10 inches or more, measured 4.5 feet above the ground (County of Sacramento 2021).

2.3.4 South Sacramento Habitat Conservation Plan

The South Sacramento Habitat Conservation Plan (SSHCP) streamlines federal and state permitting processes for SSHCP-covered development and infrastructure projects, while protecting habitat, open space, and agricultural lands (SSHCP 2021). The SSHCP is led by a multi-jurisdiction collaborative that includes Sacramento County, the Cities of Rancho Cordova and Galt, the Sacramento County Water Agency, the Sacramento Regional County Sanitation District, and the Capital Southeast Connector Joint Powers Authority (SSHCP 2021). The SSHCP does not expressly include utility-scale solar as a potential covered activity.

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3 Methods

3.1 Database and Literature Evaluation

Dudek completed a database and literature evaluation of special-status biological and aquatic resources present or potentially present within the PSA. The database and literature evaluation assessed the PSA vicinity, which specifically includes the general and nearby areas adjacent to the PSA, not to exceed 5 miles. Resources and search parameters used during the desktop-level review include the following:

- California Aquatic Resource Inventory dataset via ArcGIS for surface waters and their riparian areas in the PSA (CARI 2016)
- CDFW CNDDB eight USGS 7.5-minute quad searches (Carmichael, Buffalo Creek, Folsom SE, Folsom, Sloughhouse, Carbondale, Clarksville, and Latrobe) and within a 5-mile buffer search for special-status species (CDFW 2024)
- CNPS Online Inventory of Rare and Endangered Plants eight USGS 7.5-minute quad searches (Carmichael, Buffalo Creek, Folsom SE, Folsom, Sloughhouse, Clarksville, and Latrobe) (CNPS 2024)
- California Tree and Landscape Consulting Preliminary Arborist Report and Tree Inventory for the Project (CalTLC 2021)
- Federal Emergency Management Agency (FEMA) National Flood Hazard Layer geospatial database (FEMA 2023)
- National Oceanic and Atmospheric Administration (NOAA) Essential Fish Habitat (EFH) West Coast Data Inventory via ArcGIS (NOAA 2023)
- Natural Resources Conservation Service Web Soil Survey (USDA 2023a)
- SSHCP (County of Sacramento 2018)
- USFWS Environmental Conservation Online System Threatened and Endangered Species Active Critical Habitat Report data via ArcGIS (USFWS 2023b)
- USFWS Information for Planning and Consultation (IPaC) Trust Resource Report for the PSA (USFWS 2024)
- USFWS National Wetlands Inventory (NWI) Mapper of historical wetland data (USFWS 2023d)
- USGS National Hydrography Dataset to assess potential surface water features occurring in the PSA vicinity (USGS 2023a)

In addition, Dudek reviewed secondary resources such as the Calflora database and the Jepson Herbarium online for vegetation and specialty soil resources occurring in Sacramento County, the CNPS Manual of California Vegetation Online for vegetation community descriptions and classification attributes (CNPS 2023b), current and historical Google Earth aerial photography to identify any potential jurisdictional aquatic resources based on aerial signatures, and climate information for the region using the Western Regional Climate Center (Calflora 2023; Google Earth 2023; Jepson eFlora 2023; WRCC 2023).

3.2 Field Study

Dudek completed various reconnaissance, focused, and protocol-level technical field studies for aquatic resources and special-status plant and wildlife species that have the potential to occur in the PSA. For a full discussion on occurrence potentials, see below Section 4.5- Special-Status Species. The methodologies for the field studies conducted are detailed in the sections below.

3.2.1 Aquatic Resources Delineation

Dudek conducted an Aquatic Resources Delineation (ARD) of the approximately 2,704-acre PSA between April 2021 and August 2021. The purpose of the ARD was to identify aquatic resources that may be subject to agency jurisdiction pursuant to regulations in Section 401 and 404 of the CWA, Porter-Cologne Act, California FGC, and CEQA Guidelines. Potential aquatic resources within the PSA were field-verified and delineated based on methodology described in the USACE Wetlands Delineation Manual (USACE 1987) and the USACE Regional Supplement for the Arid West Region (USACE 2008a). Non-wetland waters of the U.S. and/or state were delineated based on the presence of an OHWM, as determined using the methodology in the OHWM Field Guide for the Arid West Region (USACE 2008b), and/or the top of bank. Aquatic resources were recorded and mapped in the field using a Trimble R1 GNSS Receiver with sub-meter accuracy and the ArcGIS Collector app for iOS.

A complete summary of ARD results has been included below in Section 4.2.1- Aquatic Resource Delineation and can further be reviewed in the in further detail in the final ARD Report (Dudek 2023a).

3.2.2 Vegetation Community and Land Cover Mapping

Prior to conducting initial field surveys, vegetation community and land cover data was reviewed for the PSA using the SSHCP Modeled Land Cover dataset (County of Sacramento 2018; USDA 2018). Vegetation community and land cover field mapping was conducted in conjunction with the reconnaissance-level biological resource surveys in 2021, as detailed below in Section 3.2.5- Reconnaissance-Level Biological Resource Surveys. Specifically, vegetation community boundaries were differentiated in the field and mapped using a Trimble R1 GNSS Receiver with sub-meter accuracy and the ArcGIS Collector app for iOS. Following field surveys, a desktop evaluation of vegetation and land cover boundaries were reviewed and assigned vegetation community and/or land cover classifications based on the CNPS Manual of California Vegetation (CNPS 2023b).

3.2.3 Special-Status Plant Species

3.2.3.1 Botanical Protocol-Level Surveys

Dudek conducted protocol-level botanical surveys in the PSA in 2021, 2022, and 2023. The purpose of protocol-level botanical surveys was to identify special-status plant resources as defined under FESA, CESA, California FGC, CEQA Guidelines, and the Sacramento County General Plan.

The botanical surveys were performed in accordance with the Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants (USFWS 2000), the Protocol for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018), and the Botanical Survey Guidelines (CNPS 2001). The botanical surveys were conducted during the appropriate

floristic bloom period for special-status plant species known to occur within the Project region (i.e., late spring to early summer months). Reference populations were visited prior to each year's survey to ensure target species were evident and identifiable. Surveys were completed using a systematic transect approach within suitable habitats for special-status species that have the potential to occur. All special-status plant species habitat was mapped, if present, during surveys and reviewed in conjunction with the SSHCP modeled land cover and species models. All plant species encountered were identified to the taxonomic level appropriate to determine species and regulatory status if needed. Botanical resources were recorded and mapped in the field using a Trimble R1 GNSS Receiver with sub-meter accuracy and/or ArcGIS Collector or Field Maps app for iOS with an Arrow receiver for submeter accuracy, and further reviewed in conjunction with the SSHCP modeled land cover and species models.

A summary of protocol-level botanical surveys dates is summarized in Table 2 below. Complete special-status plant species profiles and botanical survey results have been included below in Section 4.5.1- Special-Status Plants.

Table 2. Summary of Protocol-Level Botanical Surveys Conducted within the Project Study Area

Survey Type	Date
Survey Year- 2021	
Pass 1	May 4, 2021
Pass 2	None[1]
Survey Year- 2022	
Pass 1	April 18–20
Pass 2	None[1]
Survey Year- 2023	
Pass 1	May 8–12, and 23
Pass 2	July 31–August 4

Note:

[1] Pass 2 surveys were not conducted due to- (1) abnormally dry conditions from the lack of precipitation and increased season temperature; (2) atypical phenology/bloom periods in the region; (3) no observations of target species at reference population locations.

3.2.4 Special-Status Wildlife Species

3.2.4.1 Western Spadefoot Toad Focused Surveys

Dudek conducted western spadefoot toad (*Spea hammondii*; WST) focused surveys within the PSA. The purpose of focused WST surveys is to assess for suitable habitat and occupancy within the PSA that may be potentially subject to agency jurisdiction pursuant to regulations in CESA, California FGC, and CEQA Guidelines.

Dudek conducted upland burrow surveys for WST within potential suitable habitat for this species during protocol-level and focused BUOW surveys specifically in 2021, see Table 3 below for survey dates. Incidental observations/detections of WST were also recorded in 2023 during other biological resource surveys. Since there are no published protocols specific to WST surveys, WST surveys were performed in accordance with the most recent published literature and recommendations from CDFW and under the guidance of Dudek species experts. Prior to field surveys, potential areas suitable for WST were reviewed using the SSHCP modeled land cover and species models. Potentially suitable habitat and potential burrow locations were recorded in the field using

ArcGIS Collector or Field Maps app for iOS with an Arrow receiver for submeter accuracy. In addition, Dudek conducted breeding season larval and night eye-shine surveys in potentially suitable aquatic habitats in the PSA on March 19, 2022.

A complete WST species profile and survey results have been included in Section 4.5.2.2.

3.2.4.2 Burrowing Owl Protocol-Level and Focused Breeding Season Surveys

Dudek conducted protocol-level and focused burrowing owl (*Athene cunicularia*; BUOW) breeding season surveys within the PSA in 2021 and 2022. Incidental observations/detections for BUOW were also recorded in 2023 during other biological resource surveys. The purpose of protocol-level and focused BUOW surveys is to assess for burrows, suitability of habitat, and foraging or other BUOW activity within and up to 500 feet from the PSA that may be potentially subject to agency jurisdiction pursuant to regulations in MBTA, California FGC, and CEQA Guidelines.

Surveys were completed in the PSA in accordance with the Staff Report on Burrowing Owl Mitigation (CDFG 2012), and the Burrowing Owl Survey Protocol and Mitigation Guidelines (California Burrowing Owl Consortium 1993). Survey areas were focused on suitable habitat within the PSA, such as California annual grasslands, managed agricultural fields, roadside areas, and the margins of agricultural fields, as well as forested areas where tree and/or shrub canopy covered less than 30% of the ground surface. Survey transect centerlines were marked at 30 feet and walked linearly. During the second, third, and fourth passes only those areas that were determined to support suitably sized burrows during the first survey pass were resurveyed. Surveys were conducted between morning civil twilight and 10:00 a.m., and 2 hours before sunset until evening civil twilight and were limited to periods when wind speed was less than 12 miles per hour and no precipitation or dense fog was occurring. BUOW habitat was recorded and mapped during surveys using ArcGIS Collector app for iOS, and/or ArcGIS Collector or Field Maps app for iOS with an Arrow receiver for submeter accuracy, and further and reviewed in conjunction with the SSHCP modeled land cover and species models.

A summary of protocol-level and focused BUOW survey dates is summarized in Table 3 below. A complete BUOW species profile and survey results have been included below in Section 4.5.2.6- Burrowing Owl (*Athene cunicularia*).

Table 3. Summary of Protocol-Level and Focused Burrowing Owl Surveys Conducted within the Project Study Area

Minimum Protocol Requirements	Completed Surveys	
	2021- Protocol-Level	2022- Focused[1]
One site visit between 15 February and 15 April (pass 1)	Pass 1: April 11–15	Pass 1: None[2]
Three survey visits, at least three weeks apart, between April 15th through July 15th, with one at least one visit after June 15th (passes 2 – 4)	Pass 2: May 9–13 Pass 3: June 7–11 Pass 4: June 21–June 25, 2021	Pass 3: None[2] Pass 2: June 7–10 Pass 4: July 6–8

Source: CDFG 2012.

Notes:

1 Surveys in 2022 generally followed the protocol for breeding season surveys; however, they specifically focused on areas of suitable habitat within the PSA and up to 500 feet from the solar development area.

2 None = Surveys only conducted during the last two protocol passes to comply with pre-construction protocol-level survey requirements per California Department of Fish and Wildlife (CDFW).

3.2.4.3 Swainson's Hawk Protocol-Level Surveys

Dudek conducted protocol-level SWHA breeding season surveys within the PSA in 2021, 2022, and 2023. Surveys included visual and aural detection and visual surveys within the PSA and up to 0.5 miles from the solar development area. The purpose of protocol-level surveys is to assess for SWHA nesting, foraging, suitability of habitat, and other activity within the PSA and vicinity that may be subject to agency jurisdiction pursuant to regulations under MBTA, CESA, California FGC, and CEQA Guidelines.

The protocol-level SWHA surveys were conducted in accordance with the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (SHTAC 2000). Initial surveys focused on inspection of individual and cluster trees and riparian areas for nests within the PSA. During subsequent surveys, nests and potential nest sites that were identified during the initial surveys were inspected for nesting activity, including territorial or courtship displays, brooding on the nest, presence of young on the nest, and frequent trips to the nest by adults. Survey transect centerlines were marked at 30 feet and walked linearly. SWHA habitat was recorded and mapped during surveys using a Trimble R1 GNSS Receiver with sub-meter accuracy and/or ArcGIS Collector or Field Maps app for iOS with an Arrow receiver for submeter accuracy, and further reviewed in conjunction with the SSHCP modeled land cover and species models.

A summary of protocol-level SWHA survey dates is summarized in Table 4 below. A complete SWHA species profile and survey results have been included below in Section 4.5.2.9- Swainson's hawk (*Buteo swainsoni*).

Table 4. Summary of Protocol-Level Swainson's Hawk Surveys Conducted within the Project Study Area

Minimum Protocol Requirements	Completed Survey Dates		
	2021	2022	2023
Pass 1: January – March *(optional)*	March 12 and 15	None[1]	None[1]
Pass 2: March 20 - April 5	March 25	None[1]	None[1]
Pass 3: April 5 - 20	April 11 – 15, and 22	April 19	April 7, 10, 14, 17, and 19 - 20
Pass 4: April 21 – June 10 *(monitoring known nest sites)*	May 31 – June 1	June 7 - 10	May 30 – 31; and June 27 - 28
Pass 5: July 10 – 30 *(post fledging)*	N/A[2]	July 6 - 8	N/A[2]

Source: SHTAC 2000.
Notes:
1 None= Only conducted the last survey pass periods required to meet California Department of Fish and Wildlife (CDFW) requirements a pre-construction surveys if the Project were to commence prior to the following years nesting bird season.
2 N/A= Not required; no known sites with active young visible.

3.2.4.4 Swainson's Hawk and Other Raptor Foraging and Land Use Study

In 2013, Estep Environmental Consulting conducted a 1-year study to assess raptor use of solar array fields at three newly developed PV solar facilities in Sacramento County (Estep Environmental Consulting 2013). The purpose of the study was to provide supplemental research that would inform impact assessment and mitigation requirements

related to the loss of SWHA foraging habitat as provided under the Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (*Buteo swainsoni*) in the Central Valley (CDFG 1994). The study sought to determine the potential for solar facilities to maintain foraging habitat for SWHA and evaluated and compared the retained on-site foraging value to other known foraging habitats. The results of this study indicated that SWHA and other raptors can use appropriately designed and managed solar array fields. Specifically, arrays should provide adequate spacing to allow foraging between arrays, and the grassland substrate should be managed to promote visibility and access to prey. The 2013 study found that foraging habitat within the solar arrays was being used by SWHAs at a greater frequency than would be expected based on habitat availability, suggesting that SWHAs were selecting the solar array habitat. Potential explanations for this included in the 2013 report included the ability of the hawks to perch on edges of solar arrays, and the management of grasslands in such a way as to benefit prey detectability as compared to other local habitat types. However, CDFW determined that a 1-year study was insufficient to draw conclusions that would support the modification of standard mitigation requirement for solar projects.

As such, in 2021 Estep Environmental Consulting was resourced to conduct an additional year (i.e., Year 2) of SWHA and other raptor foraging and land use studies at solar array sites within Sacramento County. These studies were initiated on April 12, 2021 and concluded in September 2021. Both the 2013 and 2021 studies included strip transect road surveys, stationary point counts at locations surrounding the solar sites, and habitat mapping of the solar sites and surrounding areas. Surveys were conducted twice weekly during the breeding season for a total of 20 weeks, or 40 total surveys. Following surveys, all data were compiled and analyzed, including a Chi-square analysis to assess the relationship of available habitat, and observed use of habitat to determine the relative use of different land cover, including solar array fields. Results were compiled into Swainson's Hawk and Other Raptor Foraging Use of Solar Array Fields within an Agricultural Landscape in Sacramento County, Year 2, by Estep Environmental Consulting (Appendix A). Results of the 2021 study are presented below in Section 4.5.2.9- Swainson's hawk (*Buteo swainsoni*).

3.2.4.5 Tricolored Blackbird Focused Surveys

Dudek conducted tricolored blackbird (*Agelaius tricolor*; TRBL) focused surveys within the PSA. The purpose of focused TRBL surveys is to assess for colonial breeding sites/nesting, foraging, and suitable habitat for nesting or foraging within the PSA that may be potentially subject to agency jurisdiction pursuant to regulations in MBTA, CESA, California FGC, and CEQA Guidelines.

Surveys for TRBL were conducted in accordance with the Staff Guidance Regarding Avoidance of impacts to Tricolored Blackbird Breeding Colonies on Agricultural Fields (CDFW 2015) and modified for the more natural and naturalized habitat present within the PSA. Surveys were focused on the TRBL breeding season and conducted in conjunction with the protocol-level and focused BUOW and SWHA surveys specifically in 2021 and 2022, see Tables 2 and 3 above for survey dates. Incidental observations/detections for TRBL were also recorded in 2023. Survey transect centerlines were marked at 30 feet and walked linearly. Suitable habitat for TRBL was recorded and mapped during surveys ArcGIS Collector and/or Field Maps app for iOS with an Arrow receiver for submeter accuracy, and further reviewed in conjunction with the SSHCP modeled land cover and species models.

A summary of focused TRBL survey dates is summarized in Tables 2 and 3 above. A complete TRBL species profile and survey results have been included below in Section 4.5.2.10- Tricolored Blackbird (*Agelaius tricolor*).

3.2.4.6 Crotch's Bumble Bee Focused Surveys

Dudek conducted Crotch's bumble bee (*Bombus crotchii; CBB*) focused surveys within the PSA. The purpose of the focused surveys is to assess for potential suitable nesting and foraging habitat (i.e., nectar resources) within the PSA that may be potentially subject to agency jurisdiction pursuant to regulations in CESA, California FGC, and CEQA Guidelines.

Dudek conducted CBB surveys within the PSA on April 11, 2023, May 9 through May 11, 2023, and July 3 through 6, 2023. The surveys focused on identifying suitable nesting site (e.g., down woody debris, burrows, tree cavities, etc.), and foraging habitat (e.g., abundant flowering plant/nectar patches). If bumble bees were observed present during these surveys, qualified biologists opportunistically attempted to identify to species-level without direct handling. Observations and filed notes were collected using ArcGIS Collector or Field Maps app for iOS with an Arrow receiver for submeter accuracy.

A complete CBB species profile and survey results have been included below in 4.5.2.17- Crotch's bumble bee (*Bombus crotchii)*.

3.2.4.7 Valley Elderberry Longhorn Beetle Focused Surveys

Dudek conducted focused valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*; VELB) surveys within the PSA. The purpose of focused VELB surveys is to locate elderberry shrubs (*Sambucus* spp.; VELB host plant) and survey for potential signs of VELB occupancy on the host plant within the PSA that may be potentially subject to agency jurisdiction pursuant to regulations in FESA, CESA, California FGC, and CEQA Guidelines.

First, Dudek conducted reconnaissance-level biological resources surveys in spring of 2021 to identify and map the locations of elderberry shrubs occurring within the PSA. Prior to elderberry shrub mapping, potential areas suitable for VELB were reviewed with the SSHCP modeled land cover and species models. Elderberry shrub locations were recorded in the field using ArcGIS Collector or Field Maps app for iOS with an Arrow receiver for submeter accuracy.

On March 17 and 18, 2022, Dudek used the locational data of the elderberry shrubs within the PSA to conduct focused surveys for VELB. The focused VELB surveys were performed using the Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*) (USFWS 2017), and the Conservation Guidelines for the Valley Elderberry Longhorn Beetle (USFWS 1999). The surveys focused evidence of VELB use, including eggs and/or larval galleries, bore holes, and frass. Only elderberry shrubs with stems greater than 1-inch diameter were evaluated.

A complete VELB species profile and survey results have been included below in Section 4.5.2.18- Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus)*.

3.2.5 Reconnaissance-Level Biological Resource Surveys

Reconnaissance-level biological resource surveys in the PSA were conducted in conjunction with all the 2021, 2022, and 2023 resource-specific surveys listed in the sections above. Reconnaissance-level biological resource survey observations focused on assessing and identifying common plant species to the lowest taxonomic group possible, all wildlife observations, the presence of or potential for other special-status plant and wildlife species, and vegetation communities and land cover types. Field notes, an aerial photograph with an overlay of the property boundary, a Trimble R1 GNSS Receiver with sub-meter accuracy and/or ArcGIS Collector or Field Maps app for iOS with an Arrow receiver for submeter accuracy.

Results of reconnaissance-level biological resource surveys are presented below in Section 4.4.7- Plant and Wildlife Species Observed, and Section 4.5- Special-Status Species.

3.2.6 Arborist Tree Survey and Inventory

An initial (first) tree inventory within portions of the PSA was conducted by CalTLC International Society of Arboriculture (ISA) certified arborists in April through August 2021, which was based on the initial preliminary site plan. A second tree inventory was conducted by Dudek ISDA certified arborists in May through June 2022 for the remaining trees within the proposed solar development area of the PSA, which was based on the updated preliminary site plan (Baker Williams 2021; Kimley-Horn 2021). A third and final tree inventory was conducted by EnviroPlus Consulting, Inc (EPC) ISA-certified arborists in May through June 2023. EPC conducted a final tree inventory based on the final site plan in May 2023 (Primoris Services Corporation 2023). Survey and inventory results have been included in Section 4.6- Arboricultural Resources.

- Field Tag Number - The pre-stamped tree number on the tag, which is installed at approximately 6 feet above ground level on the north side of the tree.
- Species - The species of a tree is listed by local and correct common name and scientific name.
- DBH - DBH is normally measured at 4.6 feet.
- Canopy Radius and Protection Area - The farthest extent of the crown composed of leaves and small twigs. This measurement represents the longest extension from the trunk to the outer canopy, known as the “dripline.” This measurement further defines the protection zone required for development. Sacramento County specifies this measurement as the required “Protected Root Zone.”
- Critical Root Zone - The radius of the critical root zone is a circle equal to the trunk diameter in inches converted to feet and factored by tree age, condition, and health pursuant to the industry standard.
- Arborist Rating - This rating is subject to condition and is based on both the health and structure of the tree, as outlined in Table 5 below.

Table 5. Arborist and Sacramento County Tree Rating Scale

Rating Score	Arborist Tree Rating	Sacramento County Tree Rating
5 – Excellent	No problems	Excellent
4 – Good	No apparent problems	Good
3 – Fair	Minor problems	Fair
2 – Fair to Poor	Major problems	Declining
1 – Poor	Extreme problems	Severe decline
0 – Dead	Dead	Dead

Source: EPC 2023.

4 Results

This section describes the results of desktop studies and field surveys described below in Section 3- Methods, as they relate to the entire PSA, including both the solar development area and adjacent other lands. For information specific to the solar development area, refer below to Section 5- Summary of Solar Development Area Resources.

4.1 Environmental Setting

4.1.1 Regional Setting and Land Use

The PSA is located within eastern Sacramento County at the eastern edge of the Sacramento Valley, less than 10 miles from the western foothills of the Sierra Nevada Mountains (Figure 1). The PSA is approximately 1–2 miles south and east of White Rock/Grant Line Road (planned as the Capital Southeast Connector Expressway), 4 miles north of State Route 16, 2 miles south of the city of Folsom, and approximately 15 miles east of the city of Sacramento. The PSA is surrounded by open space generally composed of annual grassland and agricultural fields, rural residences, and the Prairie City SVRA including Prairie City Kart Track. The PSA is primarily used for cattle and sheep grazing or other agricultural operations (Figure 2).

4.1.2 Climate and Rainfall

The PSA is in a semi-arid climate where average annual temperatures range from approximately 53°F to 92°F, and the average annual precipitation is 18.15 inches. On average, the months with the highest rainfall are January and February, and July has the least precipitation (WRCC 2023). According to data from the Prairie City weather station immediately adjacent to the PSA, the total precipitation recorded from April 2020 through August 2020 was between 12.84 and 13.63 inches, approximately 70% to75% of normal (CDEC 2023). Therefore, the PSA region had below normal hydrological conditions in the year preceding the biological resource surveys.

Northern California, and particularly the Sacramento Valley, experienced a drought that expanded and worsened over the course of 2020 through 2022 due to below-average precipitation, weak monsoon, above-normal temperatures, and evaporative demand (NOAA and NIDIS 2023).

Although 2022 brought slightly above average rainfall totals (20.29 inches at the Prairie City Station, or 12% above historical average), drought persisted. In 2022, Sacramento County was ranked as having D4 “Exceptional Drought” conditions, the highest category, which corresponds to an area experiencing exceptional and widespread crop and pasture losses, fire risk, and water shortages that result in water emergencies (National Drought Mitigation Center 2023). Additionally, D4 conditions in Sacramento County have been associated with fish rescue and relocation beginning, pine beetle infestation, high forest mortality, drying up of wetlands, low survival of native plants and animals, fewer native wildflowers in bloom, widespread wildlife death, and appearance of algae blooms (U.S. Drought Monitor 2023). However, 2023 was an unusually wet year with 32.34 inches (78% above historical average) recorded at the Prairie City weather station from November 2022 to June 2023, which allowed Sacramento County to exit D4 conditions. As of August 2023, Sacramento County is not ranked as being in a drought condition (National Drought Mitigation Center 2023).

The USACE Antecedent Precipitation Tool was used to assess the amount of precipitation received in the review area during the aquatic resource delineation fieldwork (Dudek 2023a). The tool calculated that the watersheds within the review area (sampled at Hydrologic Unit Code 8 geographic scope) experienced, on average, drier than normal antecedent precipitation conditions during the 3 months preceding the delineation fieldwork.

4.1.3 Soil and Terrain

The PSA is in an area of relatively flat topographic relief with scattered rolling hills. Elevations within the PSA range from 174 feet amsl to 349 feet amsl. The average elevation is 262 feet amsl.

According to the Natural Resources Conservation Service (NRCS), there are 22 soil units mapped within the PSA. Each soil unit, hydric status, and drainage class (i.e., frequency and duration of wet periods in conditions like those in which it was developed), and typical landform or geomorphic position within the landscape is detailed in Table 6. Figure 4, Soil and Terrain Setting, provides the geographic extent of each soil unit in the PSA region (USDA 2023a).

Based on the NRCS soil dataset, 5 of the 21 soil units (excluding the 'water' unit) identified within the PSA are listed as partially hydric soils.. Partially hydric soils are defined by the NRCS as soils that at least one major component listed for a given map unit is rated as hydric, and at least one other major component is not hydric (NRCS 2024). Hydric soils are defined by the National Technical Committee for Hydric Soils as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (USDA 2023b). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation. Soils encountered during the field surveys were generally classified as loamy soils.

Table 6. Summary of Soil Units within the Project Study Area

Soil Map Unit Name	Landform	Drainage Class	Hydric	Project Study Area Total Area (acres)
Amador-Gillender complex, 2% to 15% slopes	Shallow loamy	Well-drained	No	29.47
Argonaut-Auburn complex, 3% to 8% slopes	Loamy	Well-drained	No	293.63
Auburn silt loam, 2% to 30% slopes	Shallow loamy	Well-drained	No	344.33
Auburn-Argonaut-Rock outcrop complex, 8% to 30% slopes	Shallow loamy	Well-drained	No	261.98
Creviscreek sandy loam, 0% to 3% slopes	Loam stream terraces	Moderately well drained	No	319.48
Hadselville-Pentz complex, 2% to 30% slopes	Shallow loamy	Moderately well drained	No	161.29
Hicksville sandy clay loam, 0% to 2% slopes, occasionally flooded	Loam stream terrace	Moderately well drained	Partially Hydric	74.26
Mokelumne gravelly loam, 2% to 15% slopes	Loamy (live oak/annual grass)	Well drained	No	243.18
Mokelumne-Pits mine complex, 15% to 50% slopes	Loamy	Well-drained	No	45.91

Table 6. Summary of Soil Units within the Project Study Area

Soil Map Unit Name	Landform	Drainage Class	Hydric	Project Study Area Total Area (acres)
Mokelumne variant sandy clay loam, 2% to 8% slopes	Loamy (blue oak/annual grass)	Well-drained	No	3.76
Pardee-Ranchoseco complex, 3% to 15% slopes	Gravelly loamy	Well-drained	No	3.06
Pentz-Lithic Xerorthents complex, 30% to 50% slopes	Shallow loamy	Well-drained	No	3.48
Peters clay, 1% to 8% slopes	Shallow clayey	Well-drained	No	14.61
Pits	—	—	No	10.37
Red Bluff-Redding complex, 0% to 5% slopes	Loamy	Well-drained	Partially Hydric	25.87
Red Bluff-Xerorthents dredge tailings complex, 2% to 50% slopes	—	Well-drained	Partially Hydric	122.88
Redding gravelly loam, 0% to 8% slopes	Gravelly loamy	Moderately well drained	Partially Hydric	34.14
Vleck gravelly loam, 2% to 15% slopes	Loamy claypan	Moderately well drained	No	187.84
Vleck-Amador-Pits, mine complex, 15% to 50% slopes	Loamy claypan	Moderately well drained	No	84.43
Whiterock loam, 3% to 30% slopes	Very shallow loamy (blue oak/annual grass)	Somewhat excessively drained	No	419.20
Xerorthents, dredge tailings, 2% to 50 % slopes	—	Somewhat excessively drained	Partially Hydric	7.72

Source: USDA 2023a.
Note: The water soil map unit (13.65 acres) is not included in Table 6.

4.2 Hydrology and Aquatic Resources

The PSA occurs primarily within the Deer Creek watershed, which drains 82,990 acres of Sacramento and El Dorado Counties in a southwesterly direction towards the City of Elk Grove (Hydrological Unit Code 1804001305) (USGS 2023b). A complex of seasonally inundated and intermittent aquatic features delivers flows to Carson Creek and two of its tributaries, Coyote Creek, and Little Deer Creek, which drain the PSA in a southerly direction, eventually converging with Deer Creek and then the Cosumnes River outside of the PSA. The PSA also occurs within the Morrison Creek watershed (Hydrological Unit Code 1802016304) and American River watershed (Hydrological Unit Code 1802011102). While most of the PSA is located outside of the Federal Emergency Management Agency National Flood Hazard Layer 1% 100-year floodplain, the southern portions of Carson Creek and Little Deer Creek are located within a 100-year flood zone (FEMA 2023). The NWI maps numerous aquatic resources in the PSA, including freshwater emergent wetland, freshwater forested/shrub wetland, freshwater pond, and riverine (USFWS 2023d). The NWI dataset is based on coarse aerial mapping (Figure 5, Hydrologic Setting).

4.2.1 Aquatic Resources Delineation

Dudek conducted an ARD within the PSA between April 2021 and August 2021. Survey information and conditions are summarized below in Table 7.

Table 7. Aquatic Resources Delineation Survey Information Summary

Date	Hours	Personnel	Conditions
04/14/2021	1100–1527	Laura Burris, Morgan Kennedy	61°–70°F; 0%–20% cc; 1–5 mph wind
04/15/2021	0800–1700	Morgan Kennedy, Robert Valenti	51°–75°F; 0% cc; 0–5 mph wind
04/16/2021	0950–1631	Laura Burris, Robert Valenti, Adam Crawford	59°–81°F; 0% cc; 0–2 mph wind
04/19/2021	1000–1300	Morgan Kennedy, Robert Valenti	70°–76°F; 0% cc; 0–1 mph wind
04/20/2021	0800–1700	Anna Godinho	53°–74°F; 0% cc; 0–5 mph wind
04/21/2021	1124–1600	Anna Godinho, Laura Burris, Morgan Kennedy, Naomi Serratos	60°–81°F; 0% cc; 1–2 mph wind
04/22/2021	0800–1700	Anna Godinho, Morgan Kennedy	52°–72°F; 0% cc; 0–5 mph wind
04/23/2021	1000–1530	Laura Burris, Anna Godinho	60°–75°F; 0% cc; 3–5 mph wind
04/26/2021	0921–1630	Laura Burris, Naomi Serratos, Morgan Kennedy	54°–65°F; 20%–30% cc; 4–5 mph wind
04/27/2021	0800–1500	Laura Burris, Naomi Serratos, Morgan Kennedy, Allie Sennett	50°–72°F; 0% cc; 3–5 mph wind
04/28/2021	0954–1640	Anna Godinho, Naomi Serratos	69°–91°F; 0% cc; 0 mph wind
04/29/2021	0800–1438	Anna Godinho, Naomi Serratos	57°–88°F; 0%–20% cc; 0 mph wind
05/03/2021	0930–1500	Anna Godinho	69°–84°F; 0% cc; 0 mph wind
05/04/2021	0730–1600	Anna Godinho, Mackenzie Forgey, Paul Keating, Naomi Serratos	56°–94°F; 0% cc; 0–10 mph wind
05/05/2021	0645–1600	Mackenzie Forgey, Michelle Leis, Allie Sennett, Paul Keating, Naomi Serratos	60°–102°F; 0% cc; 0–2 mph wind
05/06/2021	0630–1600	Mackenzie Forgey, Michelle Leis, Morgan Kennedy, Naomi Serratos	58 –86°F; 0% cc; 0–3 mph wind
05/07/2021	0800–1700	Laura Burris, Michelle Leis, Naomi Serratos	55°–80°F; 0% cc; 0–3 mph wind
05/11/2021	0830–1600	Laura Burris	69°–95°F; 0% cc; 0–4 mph wind
05/12/2021	0905–1400	Laura Burris	65°–95°F; 0% cc; 0–2 mph wind
05/14/2021	0800–1700	Anna Godinho	55°–79°F; 0% cc; 10–20 mph wind
06/02/2021	0700–1400	Anna Godinho, Laura Burris	65°–89°F; 0% cc; 0–5 mph wind
06/03/2021	0700–1330	Anna Godinho, Laura Burris	63°–93°F; 0% cc; 0–5 mph wind
06/07/2021	0800–1400	Anna Godinho	60°–82°F; 0% cc; 0–5 mph wind
06/08/2021	0745–1415	Anna Godinho, Caroline Kim	56°–75°F; 0%–10% cc; 0–5 mph wind
06/09/2021	0800–1500	Anna Godinho, Caroline Kim	55°–74°F; 0%–10% cc; 0–5 mph wind
06/10/2021	0800–1330	Anna Godinho, Caroline Kim	55°–75°F; 0% cc; 0–5 mph wind
06/14/2021	0800–1700	Anna Godinho, Allie Sennett, Paul Keating	68°–86°F; 0% cc; 5–15 mph wind
06/15/2021	0730–1300	Anna Godinho, Paul Keating	57°–88°F; 0%–10% cc; 0–5 mph wind

Table 7. Aquatic Resources Delineation Survey Information Summary

Date	Hours	Personnel	Conditions
06/15/2021	0708–1428	Allie Sennett	72°F–84°F; 0% cc; 5–10 mph wind
06/16/2021	0700–1416	Anna Godinho, Sheldon Leiker, Paul Keating	58°F–98°F; 0%–30% cc; 0–5 mph wind
06/17/2021	0700–1230	Anna Godinho, Sheldon Leiker	72°F–97°F; 0% cc; 0–3 mph wind
06/18/2021	0600–1030	Laura Burris, Sheldon Leiker	77°F–99°F; 0% cc; 0–1 mph wind
06/21/2021	0810–1519	Kathleen Dayton, Naomi Serratos, Paul Keating, Caroline Kim	68°F–92°F; 0%–40% cc; 0–3 mph wind
06/22/2021	0730–1515	Anna Godinho, Laura Burris, Michele Laskowski	65°F–85°F; 0% cc; 0–5 mph wind
06/22/2021	0719–1617	Callie Amoaku, Cody Schaaf, Naomi Serratos, Paul Keating	61°F–90°F; 0% cc; 0–2 mph wind
06/22/2021	0930–1710	Kathleen Dayton, Caroline Kim	80°F–90°F; 0% cc; 0–3 mph wind
06/23/2021	0625–1345	Kathleen Dayton, Caroline Kim	57°F–89°F; 0% cc; 3–5 mph wind
06/23/2021	0700–1700	Anna Godinho, Laura Burris, Michele Laskowski	61°F–90°F; 0% cc; 0–3 mph wind
06/23/2021	0815–1645	Callie Amoaku, Cody Schaaf, Naomi Serratos, Paul Keating	70°F–82°F; 0% cc; 0–5 mph wind
06/24/2021	0705–0100	Callie Amoaku, Cody Schaaf, Naomi Serratos, Laura Burris, Paul Keating, Caroline Kim	59°F–81°F; 0% cc; 0–5 mph wind
06/25/2021	0800–1700	Paul Keating	62°F–93°F; 0% cc; 10–15 mph wind
08/04/2021	1100–1600	Laura Burris	59°F–97°F; 0% cc; 0–5 mph wind

Thirteen aquatic resource types were documented in the PSA (Table 8). Specifically, a total of eight wetland types were delineated within the PSA including freshwater emergent wetland, pond, seasonal wetland, vernal pool, fringe wetland, seasonal wetland swale, vernal swale, and seep. Additionally, a total of five non-wetland waters (i.e., waters) were delineated within the PSA including ditch, ephemeral channel, intermittent channel, perennial channel, and upland swale (Figure 6, Aquatic Resources Delineation).

Table 8. Summary of Aquatic Resources in the Project Study Area

Feature Type	Cowardin Code[1]	PSA	
		Acres	Linear Feet
Wetlands			
Freshwater Emergent Wetland	PEM	8.00	—
Fringe Wetland	PEM	2.55	—
Pond	R6	9.47	—
Seasonal Wetland	R6	4.10	—
Seasonal Wetland Swale	R6	11.19	38,762.39
Seep	R6	0.16	—
Vernal Pool	PEM	3.57	—
Vernal Swale	R6	2.00	6,341.94
	Total Wetlands	*41.13*	*45,104.33*

Table 8. Summary of Aquatic Resources in the Project Study Area

Feature Type	Cowardin Code[1]	PSA	
		Acres	Linear Feet
Non-Wetland Waters[2]			
Ditch	U	0.89	2,227.07
Ephemeral Channel	R6	12.50	49,926.78
Intermittent Channel	R4, R5	20.45	43,985.08
Perennial Channel	R3	69.58	34,276.08
Upland Swale	U	4.99	25,098.94
	Total Non-Wetland Waters	*108.57*	*155,514.28*
	Total	**149.70**	**200,618.60**

Source: USFWS 2013.
Notes: PSA= Project Study Area.
[1] Cowardin Code: PEM= emergent, palustrine; R3 = upper perennial, riverine; R4 = intermittent, riverine; R5 = unknown perennial, riverine; R6 = riverine, ephemeral (a wetland, spring, stream, river, pond, or lake that only exists for a short period); U = upland.
[2] Acreage of the non-wetland waters extend to ordinary high water mark (OHWM) and/or where the OHWM is equivalent to the top of bank.

4.2.1.1 Wetlands

Freshwater Emergent Wetland

Thirty-four freshwater emergent wetlands comprising approximately 8.0 acres occur primarily below the OHWM of Carson Creek within the PSA (see Photo 1 in Appendix B, Photo Record). In general, these features were characterized by erect, rooted herbaceous hydrophytes and dominated by perennial plants such as hardstem bulrush (*Schoenoplectus acutus*; obligate [OBL]), pale spike rush (*Eleocharis macrostachya*; OBL), and Baltic rush (*Juncus balticus*; facultative wetland [FACW]). These wetlands contained hydric soils as indicated by a depleted matrix (Hydric Soil Indicator F3), and wetland hydrology was confirmed by the presence of surface water (Hydrology Indicator A1), saturation (Hydrology Indicator A3), inundation visible on aerial imagery (Hydrology Indicator B7), and/or oxidized rhizosphere along living roots (Hydrology Indicator C3). Three of these features (FEW-1, FEW-2, and FEW-5) located outside of Carson Creek are shallow impoundments constructed within natural drainages, generally for the purpose of supporting livestock, and one feature (FEW-3) is the result of seepage from an upslope pond.

Pond

There are three ponds comprising approximately 9.47 acres within the PSA. These features are natural closed depressions that have been artificially augmented by perennial water sources, generally for the purpose of supporting livestock. Pond-01 (P-01) is located within the western portion of the PSA (see Photo 2 in Appendix B) and classified as a freshwater pond by the NWI (USFWS 2023d). This feature receives input from ephemeral features during rain events, outlets into an intermittent channel tributary to Coyote Creek, and supports a sparse riparian zone comprised of Goodding's willow (*Salix gooddingii*; OBL). Pond-02 (P-02) located within the northern portion of the PSA adjacent to Carson Creek is largely unvegetated and receives input from ephemeral features during rain events. Pond-03 (P-03) is a large feature located within the eastern portion of the PSA that is classified as a freshwater pond by the NWI (USFWS 2023d). This feature receives intermittent flows from a drainage to the north and outlets into a drainage tributary to Carson Creek. It supports sparse broadleaf cattail (*Typha latifolia*; OBL) and swamp smartweed (*Persicaria amphibia*; OBL) along the margins, and a berm along the west side supports a

dense thicket of Himalayan blackberry (*Rubus armeniacus*; facultative [FAC]). The ponds contained hydric soils as indicated by a depleted matrix (Hydric Soil Indicator F3). Wetland hydrology was confirmed by the presence of surface water (Hydrology Indicator A1), saturation (Hydrology Indicator A3), inundation visible on aerial imagery (Hydrology Indicator B7), and/or oxidized rhizospheres along living roots (Hydrology Indicator C3).

Seasonal Wetland

There are 136 seasonal wetlands comprising approximately 4.10 acres throughout the PSA. These features are inundated seasonally, and some are connected via swales, ephemeral channels, and/or intermittent channels. Seasonal wetlands were characterized by a distinct change in vegetation type and cover from the surrounding grassland (see Photo 3 in Appendix B). The seasonal wetlands contain a dominance of FAC grasses, including perennial rye grass (*Festuca perennis*) and mouse barley (*Hordeum marinum)*. The wetlands contained hydric soils as indicated by depleted matrix, redox dark surface, and redox depressions (Hydric Soil Indicators F3, F6, and F8). Wetland hydrology was confirmed by the presence of oxidized rhizospheres along living roots, surface soil cracks, and/or inundation visible on aerial imagery (Hydrology Indicators C3, B6, and B7). Saturation and deep cow hoof punches were present in many of the seasonal wetlands during the field delineation.

Two seasonal wetlands (SW-90 and SW-121) in the northwestern portion of the PSA appear to be remnants of historical drainages, supporting a fragmented riparian corridor comprised of Fremont's cottonwood (*Populus fremontii*; FAC) and Goodding's willow trees with an understory of sandbar willow (*Salix exigua*; FACW), poison oak (*Toxicodendron diversilobum*; Facultative Upland [FACU]), and Himalayan blackberry. These features do not appear to have hydrologic connectivity to any other aquatic resources, and any natural hydrology in this area has been disrupted by development and disturbance associated with the adjacent Prairie City SVRA.

Vernal Pool

There are 121 vernal pools comprising approximately 3.57 acres throughout the PSA. These features were characterized as three-parameter wetlands with an impermeable layer such as a hard pan that may fill and empty several times during the rainy season. These features may be isolated or connected to larger vernal complexes via swales. The vernal pools on site exhibited concentric rings of distinctly different vegetation cover and species composition (see Photo 4 in Appendix B), the center of which was generally devoid of vegetation due to prolonged inundation and surrounded by a predominance of hydrophytic species such as Great Valley eryngo (*Eryngium castrense*; OBL), Fremont's goldfields *(Lasthenia fremontii*; OBL*),* short woollyheads *(Psilocarphus brevissimus;* FACW*),* and needleleaf navarretia *(Navarretia intertexta;* FACW*),* as well as facultative grasses growing along the feature margins. In general, pits were not dug within vernal pools due to the presence of a hardpan, and soils were assumed hydric due to the presence of hydrophytic vegetation and hydrology indicators. Wetland hydrology was confirmed by the presence of surface water, saturation, surface soil cracks, inundation on aerial imagery (Google Earth 2023), and biotic crust (Hydrology Indicators A1, A3, B6, B7, and B12). Cow punches and evidence of grazing were documented in many of the vernal pools on site, and some hydrology was disrupted by property fences and associated berms.

Fringe Wetland

Twenty-nine fringe wetlands comprising approximately 2.55 acres occur primarily along terraces of Coyote Creek and Carson Creek within the PSA (see Photos 5 and 15 in Appendix B). Most of these features occur between the OHWM and top of bank, abutting intermittent and perennial channels on site. In general, these features were characterized by their proximity to intermittent and perennial channels and dominated by hydrophytic plants such as pale spike rush,

perennial rye grass, annual semaphore grass (*Pleuropogon californicus* var. *Californicus;* OBL), narrowleaf plantain *(Plantago lanceolata*; FAC*),* white-tip clover *(Trifolium variegatum;* FAC*),* and low spearwort *(Ranunculus pusillus;* OBL*).* The wetlands contained hydric soils as indicated by a depleted matrix and redox dark surface (Hydric Soil Indicator F3, F6), and wetland hydrology was confirmed by the presence of saturation (Hydrology Indicator A3), inundation visible on aerial imagery (Google Earth 2023) (Hydrology Indicator B7), and/or oxidized rhizosphere along living roots (Hydrology Indicator C3). No surface water was present during the field delineation. One of these features abuts a pond (P-01) that is an impoundment of an intermittent drainage tributary to Coyote Creek.

Seasonal Wetland Swale

There are 61 seasonal wetland swales comprising approximately 11.26 acres (38,762.39 linear feet) within the PSA. Seasonal wetland swales on site consist of topographic depressions that would be expected to convey water when inundated, but where a defined bed and bank and typical fluvial indicators are lacking (see Photo 6 in Appendix B). These three-parameter wetland features were generally delineated by a mild break in slope and change in vegetation type and cover. These three-parameter wetland features were dominated by facultative wetland grasses and displayed evidence of hydric soils and hydrology indicators like those described for seasonal wetlands above. Saturation was present in some swales at the time of the field delineation.

Vernal Swale

There are 12 vernal swales comprising approximately 2.02 acres (6,341.94 linear feet) primarily within the western portion of the PSA. These features typically function as shallow, seasonal conveyance channels connecting vernal pools or seasonal wetland swales and forming complexes (see Photo 7 in Appendix B). The hydrophytic vegetation species composition and hydrology indicators are like those described for vernal pools above. Also as previously described for vernal pools above, pits were not dug in vernal swales due to the presence of a hardpan, and soils were assumed hydric due to the presence of hydrophytic vegetation and hydrology indicators.

Seep

There are three seeps comprising approximately 0.16 acres within the PSA. These features occur where groundwater flows to the soil surface, either from a clearly defined opening or from a saturated area where water percolates slowly through the soil. Seep-01 (SP-01) is in the eastern portion of the PSA and appears to be fed by the adjacent Carson Creek. Seep-02 (SP-02) occurs in the eastern portion of the PSA and appears to have been artificially augmented for the purpose of supporting livestock, as evidenced by the gated fence surrounding the feature and adjacent cattle trough and water storage infrastructure (see Photo 8 in Appendix B). This linear feature appears to be perennial and contained standing water at the time of the field delineation, contributing flows to an intermittent channel tributary to Coyote Creek. This feature contained hydric soils as indicated by redox depressions (Hydric Soil Indicator F8). Seep-03 (SP-03) is located within an intermittent channel in the eastern portion of the PSA. All three seeps were dominated by herbaceous hydrophytic plants such as annual rabbits foot grass (*Polypogon monspeliensis*; FACW), salt grass (*Distichlis spicata*; FAC), and Pacific foxtail (*Alopecurus saccatus*; OBL). SP-01 and SP-03 were saturated at the time of the field delineation (Hydrology Indicator A3), and soils were assumed hydric due to the presence of hydrophytic vegetation and hydrology indicators.

4.2.1.2 Non-wetland Waters

Ditch

There are five ditches comprising approximately 0.89 acres (2,227.07 linear feet) throughout the northeastern portion of the PSA. The earthen ditches are either human-made or channelized natural features with intermittent hydrology intended for stormwater, agricultural, irrigation, runoff, or similar purposes. Evidence of an OHWM within the ditches includes a break in slope, bed and bank, and change in plant community and/or cover. Ditch-01 and Ditch-03 support facultative vegetation within their bed including perennial rye grass, mouse barley, and prostrate knotweed (*Polygonum aviculare*). These ditches originate off site to the north and continue off site to the south into a large natural wetland complex with potential downstream connectivity to Morrison Creek (see Photo 10 in Appendix B). Ditch-02 is a human-made stormwater control feature that supports a mix of upland and wetland vegetation along the bed and banks including hyssop loosestrife (*Lythrum hyssopifolium*; OBL), tall flatsedge (*Cyperus eragrostis*; FACW), storksbill *(Erodium* spp.; FACU-UPL [Upland]), and Fitch's tarweed (*Centromadia fitchii*; FACU). Ditch-04 supports a fragmented riparian corridor comprised of large Fremont's cottonwood trees. This feature does not appear to have hydrologic connectivity to any other aquatic resources, and any natural hydrology in this area has been disrupted by development associated with the adjacent Prairie City SVRA. Although inundation is visible on aerial imagery (Hydrology Indicator B7) (Google Earth 2023), all ditches were dry during the field delineation. There is no continuous riparian corridor associated with the features in the PSA.

Ephemeral Channel

There are 87 ephemeral drainages comprising approximately 12.50 acres (49,926.78 linear feet) within the PSA. Ephemeral drainages on site consist of stream channels that are naturally occurring rather than anthropogenically created, and contain flowing water during, and for a short duration after, precipitation events. Hydrology of the ephemeral drainages is dependent on inputs during rain events and runoff from the surrounding uplands, with evidence of OHWM including shelving, scour, a break in slope, sediment sorting, bed and bank, bent or absent vegetation, and a change in plant community and/or cover (see Photo 11 in Appendix B). Where vegetation was present, the ephemeral drainages contained a dominance of hydrophytic species like those described for seasonal wetlands and vernal pools above. Many of these drainages flow downstream into intermittent and perennial channels, while others connect swales and wetlands in larger complexes or are isolated. These drainages were dry at the time of the field delineation. There are no continuous riparian corridors associated with these features in the PSA.

Intermittent Channel

There are 26 intermittent drainages comprising approximately 20.45 acres (43,985.08 linear feet) within the PSA. Intermittent drainages generally have flowing water during certain times of the year, when groundwater provides water for stream flow, and receive supplemental water from rainfall runoff. The intermittent drainages on site, including Little Deer Creek, are all tributary to the larger, perennial channels. Evidence of an OHWM and presence of hydrophytic vegetation is like that described for ephemeral drainages above (see Photo 12 in Appendix B); however, these features are characterized by deeper pools throughout. Inundation is visible on aerial imagery and standing water and/or saturation was present within low points or widenings of many of these features at the time of the field delineation.

Perennial Channel

Carson Creek and its tributary, Coyote Creek, flow from north to south throughout the PSA, comprising 69.74 acres (34,276.08 linear feet). Approximately 2 miles south of the PSA, Carson Creek converges with Deer Creek, a tributary to the Cosumnes River, a jurisdictional water with perennial flows that originates in the Sierra Nevada mountains and flows approximately 50 miles into the Central Valley, emptying into the Mokelumne River in the Sacramento-San Joaquin Delta. Portions of the Carson Creek and Coyote Creek riverbeds consist of granite slabs and outcroppings characteristic of mine tailings and riparian woodland described above (see Photos 13 and 16 in Appendix B). The OHWM of these features was mapped based on the presence of one or more of the following indicators: break in slope, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, presence of litter and debris, wracking, vegetation matted down, bent, or absent, sediment sorting, scour, deposition, bed and banks, water staining, or a change in plant community and/or cover. Carson Creek contained standing and/or flowing water throughout the PSA, while Coyote Creek was mostly dry at the time of the field delineation except for standing water in deep plunge pools throughout. Open water within these features supported aquatic plants such as floating water primrose (*Ludwigia peploides;* OBL), Pacific mosquito fern (*Azolla filiculoides*; OBL), and hairy water clover (*Marsilea vestita;* OBL). Saturated areas below the OHWM supported wetland plant species like those described for freshwater emergent wetlands, fringe wetlands, and seasonal wetlands above. Below the top of bank, these features supported a mix of wetland and upland species, including portions of blue oak woodland, riparian woodland, and mixed riparian scrub described above.

Upland Swale

There are 62 upland swales comprising approximately 5.00 acres (25,098.94 linear feet) within the PSA. Upland swales on site consisted of linear topographic depressions that lack a distinct OHWM. These features contain a mild break in slope and a slight change in vegetation type and cover but did not support a dominance of wetland vegetation (see Photo 9 in Appendix B). These features contained upland grasses and facultative wetland grasses, like those described for annual grassland and seasonal wetlands above.

4.3 Terrestrial Vegetation Communities and Land Cover Types

Terrestrial vegetation communities and land cover types within the PSA consist of a combination of terrestrial non-vegetative land covers or natural vegetation communities. The vegetation communities and land covers within the PSA have been adapted from the Manual of California Vegetation, Online Edition (CNPS 2023b). These include blue oak forest, blue oak woodland, riparian woodland/forest, urban/developed, and valley and foothill grassland. Below, detailed descriptions are provided for each vegetation community and land cover type, as well as its relationship to land covers mapped in the SSHCP (Figure 7, Vegetation Communities and Land Cover Types, Figure 8, South Sacramento Habitat Conservation Plan Modeled Land Cover, and Table 9). For further details pertaining to aquatic communities/land cover within the PSA, see above Section 4.2.1- Aquatic Resources Delineation.

Table 9. Crosswalk of Terrestrial Vegetation Communities and Land Cover Classification Types within the Project Study Area

Vegetation Community/ Land Cover Type				PSA Total Acreage[2]
Holland[1]	MCV	WHR	SSHCP	
Blue oak woodland (forest)	Blue oak woodland and forest (*Quercus douglasii* forest and woodland alliance)	Blue oak woodland, blue oak-foothill pine	Blue oak woodland; Mine tailing riparian woodland	262.83
Blue oak woodland	Blue oak woodland and forest (*Quercus douglasii* forest and woodland alliance)	Blue oak woodland, blue oak-foothill pine	Blue oak savanna	344
Riparian woodland/forest	Blue oak woodland and forest (*Quercus douglasii* forest and woodland alliance)	Blue oak woodland, blue oak-foothill pine	Mixed riparian scrub	32.55
Urban/Developed	N/A	N/A	High density development; Low density development; Major roads; Mine Tailings Recreational/Landscaped	150.53
Valley and foothill grassland	Wild oats and annual brome grasslands (*Avena* spp.- *Bromus* spp. herbaceous semi-natural alliance)	Annual grassland	Valley grassland	1,764.73
			Total	**2,554.64**

Source: CNPS 2023b; County of Sacramento 2018; Sawyer et al. 2009; Holland 1986.
Notes: MCV= Manual of California Vegetation; WHR= Wildlife Habitat Relationship; SSHCP= South Sacramento Habitat Conservation Plan; PSA= Project Study Area.

[1] Terrestrial vegetation communities and landcover types that were specifically mapped within PSA utilize the Holand classification systems.

[2] Terrestrial vegetation communities and landcover types do not include aquatic resources, which total an additional 149.70 acres. see above Section 4.2.1- Aquatic Resources Delineation.

4.3.1 Vegetation Communities

4.3.1.1 Blue Oak Woodland (Forest)

Blue oak woodland/forest comprises a total of 262.83 acres within the PSA and is present throughout the site specifically concentrated in the south and eastern vicinities. This community is specifically characterized by greater than 10% tree cover formed primarily by blue oak *(Quercus douglasii*) with other foothill tree species mixed in. This community generally has a sparse shrub layer and well-developed valley and foothill grassland layer, sometimes including vernal pools and other wetland features. Other tree species that may occur in Blue Oak Woodland include foothill pine (*Pinus sabiniana*), interior live oak (*Quercus wislizenii*), valley oak (*Quercus lobata*), and California buckeye (*Aesculus californica*). The shrub layer, where present, only includes scattered individuals of poison oak, and coyote brush (*Baccharis pilularis*). Blue oak woodland/forests often have a relatively open canopy, when compared to riparian land covers (County of Sacramento 2018).

4.3.1.2 Blue Oak Woodland

Blue oak woodland comprises a total of 344.0 acres within the PSA and is present throughout the site specifically in the south and eastern vicinities. This vegetation community is characterized by a sparse (less than 10%) tree canopy structure that ranges from scattered blue oak trees, and small clusters of blue oaks, to small areas of blue oak stands, like a savanna. Like blue oak woodland/forest described above, it generally has little to no shrub layer, but has a well-developed valley and foothill grassland layer. Blue oak woodland is typically transitional between valley and foothill grasslands and blue oak woodland/forests and correlates to oak savanna land type in SSHCP (County of Sacramento 2018).

4.3.1.3 Riparian Woodland/Forest

Riparian woodland/forest comprises a total of 32.55 acres within the PSA and is interspersed with blue oak woodland and forest throughout the site. This vegetation community is primarily concentrated on either perennial, intermittent, or ephemeral channels within the PSA. This vegetation community consists of an open-to-dense shrubby thicket dominated by a mixture of sandbar willow, arroyo willow (*S. lasiolepis*), red willow (*S. laevigata*), and immature stands of mixed various other riparian woodland tree species. This vegetation community can also be a sub-canopy and understory of native and non-native species, including wild rose (*Rosa californica*), wild grape (*Vitis californica*), perennial pepperweed (*Lepidium latifolium*), Himalayan blackberry (*Rubus discolor*), curly dock (*Rumex crispus*), and various non-native grasses (County of Sacramento 2018).

4.3.1.4 Valley and Foothill Grassland

Valley and foothill grassland comprises a total of 1,764.73 acres within the PSA, making it the dominant vegetation community within the site. This vegetation community is an annual herbaceous vegetation community characterized mostly by naturalized annual grasses. Its composition varies with geographic and land use factors, such as rainfall, temperature, elevation, slope, aspect, grazing and other herbivory, and fire frequency and duration. Valley and foothill grassland is dominated by naturalized herbaceous annual forbs, and patches with relatively high proportions of native grasses and forbs. Valley and foothill grassland is associated with several natural communities including vernal pools and occurs as an understory within blue oak woodlands and forests, and riparian areas. Valley and foothill grassland may also occur as a co-dominant with perennial grasses. For example, purple needlegrass (*Stipa pulchra*) can be found as the dominant grass (i.e., comprising greater than 20% cover) in small patches along ridgetops of low-lying hills within the PSA (County of Sacramento 2018).

4.3.2 Land Cover Type

4.3.2.1 Urban/Developed

Urban/Developed land cover within the PSA comprises a total of 150.53 acres. This land cover type is concentrated in the northwestern vicinity of the PSA, and near areas adjacent to Scott Road. This land cover type includes areas that have been completely altered by human activities and contain little to no vegetation. Specifically, such areas include low- and high-density residences and buildings, paved and gravel roadways, trails, gravel lots, recreational areas (i.e., Prairie City SVRA), and other constructed environments.

4.4 Other Biological and Aquatic Resources

4.4.1 Sensitive Natural Communities

Sensitive natural communities are communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects. These communities may or may not contain special-status species. Specifically, sensitive natural communities are those that are listed in the CDFW CNDDB due to the rarity of the community in the state or throughout its entire range (i.e., globally). For rarity, the ranking involves the knowledge of the range and distribution of a given type of vegetation, and the proportion of occurrences that are of good ecological integrity. The conservation of sensitive natural communities is integral to maintaining biological diversity (CDFW 2023a). In addition to the sensitive habitats identified above in Section 4.3- Terrestrial Vegetation Communities and Land Cover Types, two others known CDFW sensitive natural communities occur within 5 miles of the PSA, northern hardpan vernal pool and valley needlegrass grassland. No sensitive natural communities were identified within the solar development area (CDFW 2023d).

4.4.1.1 Northern Hardpan Vernal Pool

Northern hardpan vernal pool has been identified within 5 miles of the PSA, with the closest known occurrence located approximately 1 mile to the north of the PSA (Figure 9, Known Special-Status Species Occurrences, Critical Habitat, and Sensitive Communities) (CDFW 2023e). Northern hardpan vernal pools are seasonally flooded or saturated with fresh water. Many species of plants and wildlife depend on these unique communities and are often classified as special-status, including California tiger salamander (*Ambystoma californiense*; CTS) and WST, which have a potential to occur in the PSA and are further discussed below in Section 4.5.2- Special-Status Wildlife. Vegetative species composition varies from pool to pool and from year to year. Herbs and grasses typically grow less than 1 foot high with intermediate to open cover. These pools form over areas with hardpan soils and generally have more topographic relief associated with them. CDFW tracks this rare habitat (Tulare Basin Wildlife Partners 2021). Although Northern hardpan vernal pool data is not present within the PSA, the conditions of the vernal pools and seasonal wetlands within the PSA may potentially meet the classification criteria for this sensitive natural community. Potential impacts are evaluated for the PSA in Section 4.2 above, and for the solar development area in Section 5.2 below.

4.4.1.2 Valley Needlegrass Grassland

Valley needlegrass grassland has been identified within 5 miles of the PSA, with the closest know occurrence located approximately 5 miles to the north of the PSA (Figure 9). Valley needlegrass grassland usually occur on fine-textured (often clay) soils that are moist or waterlogged during winter, but very dry in summer. Although valley needle grassland data is not present within the PSA, the vernal pools and seasonal wetlands within the PSA present soil conditions that are complimentary to this sensitive natural community. Within the PSA, only one native needlegrass species was identified, nodding needlegrass (*Stipa cernua*). Therefore, some conditions within the PSA may potentially meet the classification criteria for this sensitive natural community.

4.4.2 Riparian Habitat

A stream or other watercourse is a body of water that flows year-round or intermittently, and as such has surface and subsurface flow that supports or has supported riparian vegetation/habitat. Riparian habitat acts as a buffer between aquatic resources and uplands. Healthy riparian habitat is essential in supporting both plant and wildlife

species, as well as supporting watercourse integrity. As such, riparian habitat is considered a sensitive habitat within California pursuant to California FGC 1600-1616 and regulated through the CDFW Lake and Streambed Alteration Program. The goal of conserving riparian habitat as a sensitive natural community is to preserve these systems to maintain species and watercourse health and function. Within the PSA, riparian habitat was identified relatively small concentrations along the perennial, intermittent, and ephemeral channels. Riparian woodland/ forest is discussed above in Section 4.3.1- Vegetation Communities.

4.4.3 Designated Critical Habitat/Essential Fish Habitat

Critical habitat is designated by USFWS and is specifically defined as a geographic area that contains features essential to the conservation of species listed as threatened or endangered under FESA. The purpose of DCH is to identify areas that are essential to the species' conservation and recovery and what management requirements may be necessary to conserve the species. EFH is designated by NOAA and is specific to aquatic habitat where federally managed fish species and invertebrates live and reproduce. Discussed below are the five types of DCH and EFH occurring within the PSA and/or within 5 miles of the PSA (Figure 9).

4.4.3.1 Central Valley Steelhead, Sacramento River Winter-Run Chinook Salmon, and Central Valley Spring-Run Chinook Salmon

NOAA Fisheries has delineated eight recovery domains, or geographic recovery planning areas, for the FESA-listed salmon and steelhead populations on the western coast of California, and this includes Central Valley steelhead (*Oncorhynchus mykiss*), Sacramento River winter-run Chinook salmon (*Oncorhynchus tshawytscha*), and Central Valley spring-run Chinook salmon (*Oncorhynchus tshawytscha*). The 2014 Recovery Plan for Sacramento River Winter-run Chinook, Central Valley Spring-run Chinook, and Central Valley Steelhead domain extends from the upper Sacramento River Valley to the northern portion of the San Joaquin River Valley (NOAA 2014). This domain specifically encompasses the American River.

The American River, the nearest location where EFH for Central Valley steelhead has been identified (NOAA 2023), is located approximately 4 miles northwest of the PSA (Figure 9). The American River has no connectivity to the PSA.

4.4.3.2 Sacramento Orcutt Grass and Slender Orcutt Grass

USFWS has DCH for special-status annual grass species Sacramento Orcutt grass (*Orcuttia viscidia*) and slender Orcutt grass (*Orcuttia tenuis*). Protection and recovery requisites for these species are detailed in the Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon (USFWS 2005). The known range and habitat for these species includes swales, wetlands, and vernal pools within the Sacramento Valley. These species are distributed in a narrow zone of remnant depositional stream terraces at the base of the Sierra foothills in northern hardpan vernal pool and northern volcanic mudflow vernal pools. Most, if not all, occurrences for these species are in eastern Sacramento County in the general vicinity of the PSA. Although several occurrences are now protected under land conversion easements, impacts from surrounding land use, adjacent road widening, and other human activities continue to threaten the species (USFWS 2009).

DCH for Sacramento Orcutt grass has been designated within 5 miles of the PSA, approximately 4.8 miles northwest of the PSA (USFWS 2023e). DCH for Sacramento Orcutt grass and slender Orcutt grass has also been identified approximately 6 miles west of the PSA (Figure 9), (USFWS 2023f). Sacramento Orcutt grass and slender Orcutt grass are discussed in detail below in Section 4.5.1- Special-Status Plants.

4.4.3.3 Vernal Pool Fairy Shrimp and Vernal Pool Tadpole Shrimp

USFWS has identified DCH for special-status invertebrate species vernal pool fairy shrimp (Branchinecta lynchi) and vernal pool tadpole shrimp (Lepidurus packardi). Protection and recovery requisites for these species are detailed in the 2005 Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon (USFWS 2005). These species have an ephemeral life cycle and exist only in vernal pools or vernal pool-like habitats, such as those occurring within the PSA. The overarching recovery strategy for these species is habitat protection and management (USFWS 2005).

DCH for vernal pool fairy shrimp and vernal pool tadpole shrimp is near the PSA, approximately 5 miles to the west of the PSA (Figure 9), (USFWS 2023b). Vernal pool fairy shrimp and vernal pool tadpole shrimp are discussed in detail below in Section 4.5.2- Special-Status Wildlife.

4.4.4 South Sacramento Habitat Conservation Plan Modeled Species Habitat

The permits associated with the SSHCP provide take authorization for 28 Covered Species, of which 11 are currently listed as threatened or endangered under the CESA or the FESA (County of Sacramento 2018). The 28 species were identified through an evaluation process that began with a list of 90 species. Species were selected for coverage based on their potential to occur within the SSHCP Area, their potential to be adversely affected by Covered Activities in the SSHCP Area, the availability of information to adequately evaluate impacts to the species, and the ability to adequately protect the species. The SSHCP includes conservation actions to protect all 28 Covered Species whether they are currently listed. Projects using the SSHCP permits are extended a “no surprises” assurance from USFWS that currently non-listed covered species will not require additional conservation in the event the species becomes listed under the FESA during the SSHCP’s Permit Term (through 2069).

The SSHCP Permittees worked with local species experts and wildlife agency biologists to define and map Covered Species suitable habitat within the SSHCP Area by using the best available information about the life history and biology of each Covered Species and locations in the SSHCP Area known to support the species or where the species has been observed (County of Sacramento 2018).

Specifically, information and data concerning the species’ needs for breeding, feeding, and sheltering at each life history stage; information from SSHCP Area species-surveys; documented species occurrences within the SSHCP Area; and information on species range, including soil type associations and elevation limits, were used to build habitat models. The collected habitat data were compiled using GIS to generate a map-based model of suitable habitat within the SSHCP Area for each Covered Species. Currently, 18 SSHCP Covered Species have potential to occur within the PSA. Table 10 lists those 18 SSHCP Covered Species, how much of their modeled habitat exists within the PSA and solar development area, and how much of their modeled habitat exists within 5 miles of the PSA.

Table 10. South Sacramento Habitat Conservation Plan Modeled Habitat for Covered Species within Project Study Area

Covered Species1	Total SSHCP Modeled Habitat in PSA (acres)	Total SSHCP Modeled Habitat within 5 Miles of the PSA (acres)
Plants		
Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii*)	46.05	2,620.18
Boggs Lake hedge-hyssop (*Gratiola heterosepala*)	212.76	2,342.33
dwarf downingia (*Downingia pusilla*)	29.47	1,235.01
Legenere (*Legenere limosa*)	98.95	10,873.94
Pincushion navarretia *(Navarretia myersii* ssp. *myersii)*	295.37	11,604.65
Sacramento Orcutt grass (*Orcuttia viscida*)	76.09	9,303.49
Sanford's arrowhead (*Sagittaria sanfordii*)	178.37	9,504.95
Slender Orcutt grass (*Orcuttia tenuis*)	76.09	8,520.31
Wildlife		
American badger (*Taxidea taxus*)	2,207.99	36,920.23
burrowing owl (*Athene cunicularia*)	2,190.16	37,116.89
California tiger salamander (*Ambystoma californiense*)	0	315.37
western pond turtle *(Actinemys marmorata*)	2,487.16	30,352.67
Swainson's hawk (*Buteo swainsoni*)	1,065.70	34,537.93
tricolored blackbird (*Agelaius tricolor*)	1,080.50	35,718.31
valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	2.02	1,431.68
vernal pool fairy shrimp (*Branchinecta lynchi*)	759.14	20,242.66
vernal pool tadpole shrimp (*Lepidurus packardi*)	759.14	20,242.66
western spadefoot toad (*Spea hammondii*)	2,559.57	42,918.89

Notes: SSHCP = South Sacramento Habitat Conservation Plan; PSA = Project Study Area.

1 Covered species only include those species that are known and/or have the potential to occur within the PSA.

4.4.5 Mather Core Recovery Area

The USFWS established the Mather Core Recovery Area in the 2005 Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon (USFWS 2005). According to USFWS (2005), the "core areas are the specific sites that are necessary to recover these endangered or threatened species or to conserve sites that are necessary to recover these endangered or threatened species or to conserve the species of concern addressed in this recovery plan." USFWS (2005) also states that "the core areas were developed in part using DCH boundaries, but the two areas differ in that core areas not included in DCH have no legal mandate for protection under the Endangered Species Act and solely rely upon voluntary implementation." Approximately 568 acres of the Mather Core Recovery Area extends into the PSA. Specifically, the Mather Core Recovery Area overlaps approximately 279 acres of the preliminary solar development area, and approximately 288 acres within the adjacent other lands (USFWS 2005).

4.4.6 Wildlife Corridors and Habitat Linkages

Wildlife movement corridors have been recognized by federal and state agencies as important habitats worthy of conservation. Wildlife corridors provide migration channels seasonally (i.e., between winter and summer habitats) and provide non-migrant wildlife the opportunity to move within their home range for food, cover, reproduction, and refuge.

The existing network of fencing throughout the PSA is primarily designed to manage on-site cattle operations while providing high visibility to prevent wildlife injury and reducing natural wildlife barriers to the extent possible. The onsite fencing is comprised of either horizontal barbed wire, and/or vertical and/or horizontal woven wire or high-tensile wire. Fencing averages four to five feet in height. Therefore, the valley grassland in the PSA largely provides open space with some habitat value.

According to the California Essential Habitat Connectivity Project, the Coyote Creek corridor within the PSA is considered a potential habitat connection, providing native habitat for resident wildlife and linkages to additional native habitat in the surrounding area (Spencer et al. 2010). The California Essential Habitat Connectivity Project also identifies much of the grasslands within the PSA as "Natural Areas Small," which are areas important to maintaining ecological integrity, but not specifically identified in the Essential Connectivity Network as Essential Connectivity Areas or Natural Landscape Blocks. As discussed above in Section 4.3- Terrestrial Vegetation Communities and Land Cover Types, the valley grasslands on site provide nursery and migratory habitat for common wildlife species. Furthermore, the SSCHP recognized the Coyote Creek corridor in the vicinity as part of SSHCP Preserve Planning Unit 5 (i.e., a linkage to targeted preserve areas within the region).

4.4.7 Plant and Wildlife Species Observed

During field studies conducted in the PSA, a total of 335 species of native or naturalized plants, 212 (63%) native and 123 non-natives (37%), were recorded on the PSA. A total of 108 wildlife species were observed in the PSA, which primarily consisted of common bird species, but did include some special- status species. A compendium of observed plant and wildlife species identified during the field surveys are included as Appendix C.

4.5 Special-Status Species

4.5.1 Special-Status Plants

Results of the database searches of the USFWS IPaC Report, CDFW CNDDB, the CNPS Inventory of Rare and Endangered Plants, and the SSHCP revealed a total of 30 special-status plant species that have known occurrences within the nine USGS 7.5-minute quads and/or within 5 miles of the PSA (CDFW 2023e; CNPS 2023c). Of these special-status plant species, 15 species have a low to high potential to occur or have been documented in the PSA either during project protocol-level surveys or in database records and are discussed further below. The remaining eight special-status plant species were removed from further consideration due to lack of suitable habitat within or adjacent to the PSA, no known occurrences within 5 miles of the PSA, and/or because the PSA is outside of the species' known geographic or elevation range. The plant species with no potential to occur in the PSA can be referenced in Appendix D.

4.5.1.1 Ahart's Dwarf Rush (*Juncus leiospermus* var. *ahartii*)

Ahart's dwarf rush (*Juncus leiospermus var. ahartii*) is a CRPR 1B.2 species (i.e., moderately threatened in California) and SSHCP Covered Species that was observed in the PSA. Ahart's dwarf rush is an annual herb that is native to California. The common blooming period for this species is April through May. This species can be found in mesic valley and foothill grassland habitat from approximately 98 to 750 feet amsl. This species has not been documented in the vicinity of the PSA, but the PSA is within the known range of the species, and habitat for this species is present. Specifically, suitable grassland habitat for this species is located within the southern and western portions of the PSA. Additionally, SSHCP modeled habitat for this species is present within the PSA (County of Sacramento 2018). Suitable habitat for this species in the PSA includes vernal pools, wetland swales, and seasonal wetlands.

This species (two individuals) was observed during protocol-level botanical surveys in 2023 within adjacent other lands in the northwest portion of the Project, near the gen-tie, but was not detected in 2021 or 2022. The nearest other known occurrence is within 5 miles of the PSA, in the Buffalo Creek USGS 7.5-minute quad (CDFW 2023e).

4.5.1.2 Boggs Lake Hedge-Hyssop (*Gratiola heterosepala*)

Boggs Lake hedge-hyssop (*Gratiola heterosepala*) is a state endangered and CRPR 1B.2 species (i.e., moderately threatened in California) and SSHCP Covered Species with a moderate potential to occur in the PSA. Boggs Lake hedge-hyssop is an annual herb that is native to California. The common blooming period for this species is April through August. This species can be found in clay soils in marshes, swamps, lake margins, and vernal pools from approximately 33 to 7,790 feet amsl. The PSA is within the known range of the species, and low-quality suitable habitat for the species is present throughout the PSA within the vernal pools, wetland swales, and seasonal wetlands of the site. Additionally, SSHCP modeled habitat for this species is present within the PSA (County of Sacramento 2018).

This species was not observed during protocol-level botanical surveys in 2021, 2022, or 2023; however, suitable habitat is present. The nearest known occurrence for this species is approximately 2 miles northwest of the PSA near the intersection of Prairie City Road and White Rock Road (CDFW 2023e; CNPS 2023c).

4.5.1.3 Dwarf Downingia (*Downingia pusilla*)

Dwarf downingia (*Downingia pusilla*) is a CRPR 2B.2 species (i.e., moderately threatened in California) and SSHCP Covered Species with a high potential to occur in the PSA. Dwarf downingia is an annual herb that is native to California. The common blooming period for this species is April through May. This species can be found in mesic valley and foothill grassland and vernal pool habitat from approximately 3 to 1,455 feet amsl. The PSA is within the known range of the species, and suitable habitat for this species is located throughout the PSA within the vernal pools, wetland swales, and seasonal wetlands of the site. Additionally, SSHCP modeled habitat for this species is present within the northwest portion of the PSA (County of Sacramento 2018).

This species was not observed during protocol-level botanical surveys in 2021, 2022, or 2023; however, suitable habitat is present. The nearest known occurrence for this species is approximately 5 miles northwest of the PSA, at the Phoenix Park east of Fair Oaks (CDFW 2023e; CNPS 2023c).

4.5.1.4 Heckard's Pepper-Grass (*Lepidium latipes* var. *heckardii*)

Heckard's peppergrass (*Lepidium latipes* var. *heckardii*) is a CRPR 1B.2 species (i.e., moderately threatened in California) with a moderate potential to occur in the PSA. Heckard's peppergrass is an annual herb that is native to California. The common blooming period for this species is April through May. This species can be found in alkaline flat valley and foothill grassland from approximately 7 to 655 feet amsl. The PSA is within the known range of this species, and suitable habitat for this species is located throughout the PSA within the grassland habitats of the site.

This species was not observed during protocol-level botanical surveys in 2021, 2022, or 2023; however, suitable habitat is present. The nearest known occurrence for this species is recorded in the Florin USGS 7.5-minute quad (CNPS 2023c).

4.5.1.5 Hoary Navarretia (*Navarretia eriocephala*)

Hoary navarretia (*Navarretia eriocephala*) is a CRPR 4.3 species with a low potential to occur in the PSA. Hoary navarretia is an annual herb that is native to California. The common blooming period for this species is May through June. This species can be found in valley and foothill grassland habitats from approximately 345 to 1,310 feet amsl. The PSA is within the known range of the species, and suitable habitat for this species is located throughout the PSA within grassland habitat on site.

This species was not observed during protocol-level botanical surveys in 2021, 2022, or 2023; however, suitable habitat is present. The nearest CNPS observation was recorded 2 miles east of the PSA in 1953 (CNPS 2023a).

4.5.1.6 Hogwallow Starfish (*Hesperevax caulescens*)

Hogwallow Starfish (*Hesperevax caulescens*) is a CRPR 4.2 species with a low potential to occur in the PSA. Hogwallow starfish is an annual herb that is native to California. The common blooming period for this species is March through June. This species can be found in valley and foothill grassland and vernal pools from approximately 0 to 1,655 feet amsl. The PSA is within the known range of the species, and suitable habitat for this species is located throughout the PSA within grassland habitat and vernal pools on site.

This species was not observed during protocol-level botanical surveys in 2021, 2022, or 2023; however, suitable habitat is present. The nearest CNPS observation was recorded approximately 3 miles southwest of the PSA (CNPS 2023a).

4.5.1.7 Legenere (*Legenere limosa*)

Legenere (*Legenere limosa*) is a CRPR 1B.1 species (i.e., seriously threatened in California) and SSHCP Covered Species with a high potential to occur in the PSA. Legenere is an annual herb that is native to California. The common blooming period for this species is April through June. This species can be found in vernal pools from approximately 2 to 2,885 feet amsl. The PSA is within the known range of the species, and habitat for the species is present. Suitable habitat for this species is located throughout the PSA within the vernal pools, wetland swales, and seasonal wetlands of the site. Additionally, SSHCP modeled habitat for this species is present within the PSA (County of Sacramento 2018).

This species was not observed during protocol-level botanical surveys in 2021, 2022, or 2023; however, suitable habitat is present. There are several known occurrences for this species within 5 miles west of the PSA, with the nearest occurrence located at the north end of the Prairie City SVRA, on the south side of White Rock Road (CDFW 2023e; CNPS 2023c).

4.5.1.8 Pincushion Navarretia (*Navarretia myersii* ssp. *myersii*)

Pincushion navarretia (*Navarretia myersii* ssp. *myersii*) is a CRPR 1B.1 species (i.e., seriously threatened in California) and SSHCP Covered Species observed in the PSA. Pincushion navarretia is an annual herb that is native to California. The common blooming period for this species is April through May. This species can be found in often acidic vernal pools from approximately 66 to 1,080 feet amsl. The PSA is within the known range of the species, and habitat for the species is present. Specifically, the Hadselville-Pentz and Redding Gravelly Loam soil complexes within the PSA are slightly acidic, and vernal pools located in these soils provide potential suitable habitat. Additionally, SSHCP modeled habitat for this species is present within the PSA (County of Sacramento 2018).

This species (2,000+ individuals) was observed during protocol-level botanical surveys in 2023 but was not detected in 2021 or 2022. These individuals were observed in other adjacent lands in the northwest, western-central, and western-southern portions of the PSA. Other known occurrences for this species are within 5 miles of the PSA, northwest of the PSA, within the Folsom USGS 7.5-minute quad (CDFW 2023e; CNPS 2023c).

4.5.1.9 Sacramento Orcutt Grass (*Orcuttia viscida*)

Sacramento Orcutt grass is a federally and state endangered and CRPR 1B.1 species (i.e., seriously threatened in California) and SSHCP Covered Species with a moderate potential to occur in the PSA. Sacramento Orcutt grass is an annual herb that is native to California. The common blooming period for this species is April through July. This species can be found in vernal pools from approximately 98 to 330 feet amsl. The PSA is within the known range of the species, and habitat for the species is present. Suitable habitat for this species is located throughout the PSA within the vernal pools, wetland swales, and seasonal wetlands of the site. Additionally, SSHCP modeled habitat for this species is present within the PSA (County of Sacramento 2018). DCH is located approximately 4.8 miles northwest of the PSA and discussed further in Section 4.4.1.2, Valley Needle Grassland.

This species was not observed during protocol-level botanical surveys in 2021, 2022, or 2023; however, suitable habitat is present. Additionally, there are several known occurrences for this species within 5 miles west and southwest of the PSA, with the nearest known occurrence near Keifer Landfill, east of Grant Line Road (CDFW 2023b; CNPS 2023; USFWS 2023e).

4.5.1.10 Saline Clover (*Trifolium hydrophilum*)

Saline clover (*Trifolium hydrophilum*) is a CRPR 1B.1 species (i.e., seriously threatened in California) with a high potential to occur in the PSA. Saline clover is an annual herb that is native to California. The common blooming period for this species is April through June. This species can be found in marshes and swamps, mesic/alkaline valley and foothill grassland, and vernal pools from approximately 0 to 985 feet amsl. The PSA is within the known range of the species, and habitat for the species is present.

This species was not observed during protocol-level botanical surveys in 2021, 2022, or 2023; however, suitable habitat is present. The nearest known occurrence for this species is recorded in the Florin USGS 7.5-minute quad, approximately 3 miles away to the south of the PSA (CNPS 2023c).

4.5.1.11 Sanford's Arrowhead (*Sagittaria sanfordii*)

Sanford's arrowhead (*Sagittaria sanfordii*) is a CRPR 1B.2 species (i.e., moderately threatened in California) and SSHCP Covered Species with a low potential to occur in the PSA. Sanford's arrowhead is a perennial rhizomatous emergent herb that is native to California. The common blooming period for this species is April through October (or sometimes November). This species can be found in assorted, shallow freshwater marshes and swamps from approximately sea level to 2,130 feet amsl. The PSA is within the known range of the species and perennially inundated habitat for the species is present but is minimal and of low quality. However, SSHCP modeled habitat for this species is present within the PSA (County of Sacramento 2018).

This species was not observed during protocol-level botanical surveys in 2021, 2022, or 2023; however, suitable habitat is present, though minimal and of low quality. The nearest known occurrence for this species is within 5 miles of the PSA, northeast of the PSA, along tributaries to Carson Creek that are south of White Rock Road (CDFW 2023e; CNPS 2023c).

4.5.1.12 Slender Orcutt Grass (*Orcuttia tenuis*)

Slender Orcutt grass (*Orcuttia tenuis*) is a federally threatened, state endangered, and CRPR 1B.1 species (i.e., seriously threatened in California) and SSHCP Covered Species with a moderate potential to occur in the PSA. Slender Orcutt grass is an annual herb that is native to California. The common blooming period for this species is May through September. This species can be found in often gravelly vernal pools from approximately 115 to 5,770 feet amsl. The PSA is within the known range of the species, and suitable habitat for this species is located throughout the PSA within the vernal pools, wetland swales, and seasonal wetlands of the site. Additionally, SSHCP modeled habitat for this species is present within the PSA (County of Sacramento 2018). DCH is located approximately 4.8 miles northwest of the PSA and discussed further in Section 4.4.1.2, Valley Needle Grassland.

This species was not observed during protocol-level botanical surveys in 2021, 2022, or 2023; however, suitable habitat is present. This species has been documented within 5 miles of the PSA, southwest of the PSA, east of Mather Airport in Rancho Cordova (CDFW 2023e; CNPS 2023c; USFWS 2023b).

4.5.1.13 Spicate Calycadenia (*Calycadenia spicata*)

Spicate calycadenia (*Calycadenia spicata*) is a CRPR 1B.3 species observed in the PSA. Spicate calycadenia is an annual herb that is native to California. The common blooming period for this species is May through September. This species can be found in cismontane woodland valley and foothill grassland from approximately 130 to 4,595 feet amsl. The PSA is within the known range of the species, and suitable habitat for this species is located throughout the PSA within grassland habitat on site.

This species (500+ individuals) was observed during protocol-level botanical surveys within the solar development area and adjacent other lands in 2023, but was not observed during similar surveys in 2021 and 2022, These individuals were observed in numerous locations, ranging from the southern portion of the PSA, and extending to the northern portion of the PSA. Other species observations were recorded approximately 1 mile north of the PSA, in 2021 (CNPS 2023a).

4.5.1.14 Valley Brodiaea (*Brodiaea rosea* ssp. *vallicola*)

Valley brodiaea (*Brodiaea rosea* ssp. *vallicola*) is a CRPR 4.2 species with a high potential to occur in the PSA. Valley brodiaea is an annual herb that is native to California. The common blooming period for this species is April through May. This species can be found in valley and foothill grassland and vernal pools from approximately 35 to 1,100 feet amsl. The PSA is within the known range of the species, and suitable habitat for this species is located throughout the PSA within grassland habitat and vernal pools on site.

This species was not observed during protocol-level botanical surveys in 2021, 2022, or 2023; however, suitable habitat is present. However, five species observations have been recorded within the PSA, four of which were observed in 2020 (CNPS 2023a).

4.5.1.15 Woolly Rose-Mallow (*Hibiscus lasiocarpos* var. *occidentalis*)

Woolly rose-mallow (*Hibiscus lasiocarpos* var. *occidentalis*) is a CRPR 1B.2 species (i.e., moderately threatened in California) with a low potential to occur in the PSA. Woolly rose-mallow is a perennial rhizomatous emergent herb that is native to California. The common blooming period for this species is June through September. This species can be found in freshwater marshes and swamps, and often in riprap on sides of levees from approximately 0 to 395 feet amsl. The PSA is within the known range of this species; however, habitat is minimal and of low quality.

This species was not observed during protocol-level botanical surveys in 2021, 2022, or 2023; however, suitable habitat is present, though minimal and of low quality. The nearest known occurrence for this species is recorded in the Florin USGS 7.5-minute quad, approximately 4 miles south of the PSA (CNPS 2023c).

4.5.1.16 Protocol-Level Botanical Survey Results

Dudek conducted protocol-level botanical surveys in the PSA in 2021, 2022, and 2023, see below Table 11, and Figure 10, Rare Plant Survey Results 2021-2023.

Table 11. Summary of Special-Status Plant Species Protocol-Level Botanical Survey Results within the Project Study Area

Special-Status Plant Species	Surveys Results		
	2021	2022	2023
Ahart's Dwarf Rush (*Juncus leiospermus* var. *ahartii*)	Not observed	Not observed	Observed
Dwarf Downingia (*Downingia pusilla*)	Not observed	Not observed	Not observed
Heckard's Pepper-Grass (*Lepidium latipes* var. *heckardii*)	Not observed	Not observed	Not observed
Hoary Navarretia (*Navarretia eriocephala*)	Not observed	Not observed	Not observed
Hogwallow Starfish (*Hesperevax caulescens*)	Not observed	Not observed	Not observed
Legenere (*Legenere limosa*)	Not observed	Not observed	Not observed
Pincushion Navarretia (*Navarretia myersii* ssp. *myersii*)	Not observed	Not observed	Observed
Sacramento Orcutt Grass (*Orcuttia viscida*)	Not observed	Not observed	Not observed
Saline Clover (*Trifolium hydrophilum*)	Not observed	Not observed	Not observed
Sanford's Arrowhead (*Sagittaria sanfordii*)	Not observed	Not observed	Not observed
Slender Orcutt Grass (*Orcuttia tenuis*)	Not observed	Not observed	Not observed
Spicate Calycadenia (*Calycadenia spicata*)	Not observed	Not observed	Observed
Valley Brodiaea (*Brodiaea rosea ssp. vallicola*)	Not observed	Not observed	Not observed
Woolly Rose-Mallow (*Hibiscus lasiocarpos* var. *occidentalis*)	Not observed	Not observed	Not observed

4.5.2 Special-Status Wildlife

Results of the database searches of the USFWS IPaC Report and the CDFW CNDDB revealed 30 special-status wildlife species that have known occurrences either within the nine USGS 7.5-minute quads or within 5 miles of the PSA. Of these 30 special-status wildlife species, 21 have potential to occur in the PSA or are known to occur in the PSA. The four special-status wildlife species were removed from further consideration due to lack of suitable habitat within or adjacent to the PSA, no known occurrences within 5 miles of the PSA, and/or because the PSA is outside of the species' known geographic range. The special-status wildlife species with no potential to occur in the PSA can be referenced in Appendix E. In addition, the PSA provides habitat for nesting birds protected by the federal MBTA and the California FGC, as well as native bats protected by the California FGC.

4.5.2.1 California Tiger Salamander (*Ambystoma californiense*)

CTS is a federally and state threatened species and SSHCP Covered Species with a low potential to occur in the PSA. CTS is most associated with annual grassland habitats but may also occur within open woodland areas of low hills and valleys. Necessary habitat components for CTS include suitable underground retreats and breeding ponds. CTS spend most of their adult life within suitable underground refugia, such as the burrows of California ground squirrel (*Spermophilus beecheyi*) and pocket gopher (*Thomomys* sp.) or other small mammal burrows; occasionally CTS will occupy human-made structures. Suitable underground refugia for CTS provides cover from predators, protection from desiccation during the dry season, and foraging habitat (Stebbins and McGinnis 2012; USFWS 2005). Suitable breeding sites include vernal pools, seasonal wetlands, and stock ponds that do not support fish species. They will rarely use slow-moving streams that do not support fish. This species may use permanent human-made ponds if predatory species (e.g., fish, crayfish) are absent (Fisher and Shaffer 1996).

CTS have been reported to migrate up to 1.3 miles between breeding ponds and upland habitat (Orloff 2007); however, only a small number of individuals likely travel this distance (Orloff 2011). The estimated average migration distance is estimated to be 1,844 feet (Searcy and Shaffer 2011). Several studies have indicated that, depending on habitat and life stage, the majority of CTS (between 50% and 95% of adults) travel between 0.09 to 0.5 miles; adult captures declined with increased distance from the breeding pond (Orloff 2011; Trenham and Shaffer 2005).

There are no known occurrences of CTS within 5 miles of the PSA (CDFW 2023e), and the site is at the extreme northern extent of the presumed species range due to the Cosumnes River, located south of the PSA, provides a barrier to movement. There is no SSHCP suitable upland and aquatic modeled habitat in the PSA (County of Sacramento 2018). No CTS or suitable burrows were observed during reconnaissance-level biological resource surveys. However, the PSA does provide some suitable aquatic and upland habitat.4.5.2.2 Western Spadefoot Toad (*Spea hammondii*)

WST is proposed to be federally listed, a state SSC and SSHCP Covered Species with a high potential to occur in the PSA. WST is almost completely terrestrial, entering temporal pools and drainages only to breed. The species aestivates within rodent burrows in upland habitats near aquatic breeding sites (Stebbins 1972). The species prefers open areas with sandy or gravelly soils in a variety of habitats, including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, river floodplains, alluvial fans, playas, and alkali flats (Holland and Goodman 1998; Stebbins 2003). However, the species is most common in grasslands with vernal pools or mixed grassland/coastal sage scrub areas and is most active during periods of rain (Holland and Goodman 1998).

Although WST has not been documented in the PSA, this species is known to occur in the PSA vicinity, and suitable habitat, as well as SSHCP modeled foraging and aestivation habitat, is present in the PSA (County of Sacramento 2018). In addition, there are known occurrences for WST within 5 miles of the PSA, located on the west side of Grant Line Road north of Highway 16 (CDFW 2023e). The nearest known occurrence for this species is recorded in an area that is bordered by Sunrise Boulevard, State Route 16, Grant Line Road, and Douglas Road in the City of Rancho Cordova (CDFW 2023e).

Western Spadefoot Toad Focused Survey Results

Dudek conducted upland burrow surveys for WST within potential suitable habitat for this species during protocol-level and focused BUOW surveys specifically in 2021, see Table 2 above for survey dates. In addition, Dudek conducted breeding season larval and night eye-shine surveys in potentially suitable aquatic habitats in the PSA on

March 19, 2022. No suitable burrows or other signs of WST were observed during the initial upland surveys; however, suitable upland burrowing habitat is present. During the 2022 larval and night eye-shine surveys, no WST were observed. The aquatic habitats surveyed were suitable for WST; however, known predators (i.e., American bullfrogs) were observed within these ponds, therefore decreasing the likelihood for presence.

4.5.2.3 Western Pond Turtle (*Actinemys marmorata*)

Western pond turtle is a state SSC and SSHCP Covered Species that is known to occur within the PSA. This species is found in rivers, lakes, streams, ponds, wetlands, ephemeral creeks, reservoirs, agricultural ditches, estuaries, and brackish waters. Western pond turtles prefer areas that provide cover from predators, such as vegetation and algae, as well as basking sites for thermoregulation. Adults tend to favor deeper, slow-moving water, whereas hatchlings search for slow and shallow water that is slightly warmer. Terrestrial habitats are used for wintering and usually consist of burrows in leaves and soil. Western pond turtles also lay their eggs in terrestrial habitats normally near water. Although nesting sites should contain deep soils (at least 4 inches deep), the type of soil can vary from sandy to very hard.

There are known occurrences for western pond turtle within 2 miles south of the PSA, located within Deer Creek (CDFW 2023e). SSHCP modeled aquatic and upland habitat is present within the PSA (County of Sacramento 2018). During reconnaissance-level biological resource surveys in 2021, a total of approximately 10 individual western pond turtles were observed along Carson Creek, specifically in areas where there were deeper fringe wetlands with slower moving water.

4.5.2.4 Bald Eagle (*Haliaeetus leucocephalus*)

Bald eagle is a federally delisted species and state endangered and fully protected species that is known to occur within the PSA. In California, most nesting bald eagles are found in the northern part of the state, but pairs nest locally south through the Sierra Nevada, in coastal counties in Central and Southern California, and on the Channel Islands. Bald eagles typically nest in large conifers or on rock outcrops near aquatic features, but also occasionally in large hardwoods, such as sycamores and oaks (Anthony et al. 1982; USFWS 1986). They usually nest in one of the largest trees available in proximity of water and generally situated with a prominent overview of the surrounding area (Buehler 2000). Bald eagles preferentially forage on fish and waterfowl, but their diet varies regionally and seasonally in response to locally available resources, and often includes a variety of mammals as well as carrion, especially in winter (Todd et al. 1982; Stalmaster 1987; Ewins and Andress 1995; Buehler 2000).

Although nesting habitat throughout the PSA is generally absent to limited, bald eagles may forage within the PSA from time to time. There are no known CNDDB occurrences of this species within 5 miles of the PSA (CDFW 2023e). However, this species was observed in various locations throughout the PSA, specifically along or near Carson Creek during the reconnaissance-level biological resource surveys conducted by Dudek in 2021.

There are no known occurrences of bald eagle within 5 miles of the PSA (CDFW 2023e). Nesting habitat throughout the PSA is generally absent to limited; however, bald eagles may forage within the PSA from time to time. During reconnaissance-level biological resource surveys, a total of approximately five individual bald eagles were observed foraging along Carson Creek.

4.5.2.5 Bank Swallow (*Riparia riparia*)

Bank swallow (*Riparia riparia*) is a state threatened species with a high potential to occur in the PSA. In California, this species is found primarily west of deserts in riparian and other lowland habitats during the spring–fall period. In summer, bank swallows are restricted to riparian, lacustrine, and coastal areas with vertical banks, bluffs, and cliffs with fine textured sandy soils, into which they dig nesting holes. Approximately 75% of the breeding population in California occurs along banks of the Sacramento and Feather Rivers in the northern Central Valley. Breeding colonies can have between 10 and 1,500 nesting pairs, but typically have between 100 and 200 nesting pairs (CDFW 2023e).

The PSA provides suitable migratory habitat for bank swallow but is located outside the breeding range for this species. There are no known occurrences of bank swallow within 5 miles of the PSA (CDFW 2023e). The nearest known occurrence is recorded on the Cosumnes River, approximately 1.5 miles southeast of Dillard Road at Latrobe Road (CDFW 2023e). No bank swallows were observed during reconnaissance-level biological resource surveys.

4.5.2.6 Burrowing Owl (*Athene cunicularia*)

BUOW is a state SSC and SSHCP Covered Species known to occur near the PSA. In California, BUOW are yearlong residents of open, dry grassland and desert habitats, and in grass, forb, and open shrub stages of pinyon-juniper and ponderosa pine habitats (CDFW 2023e). Preferred habitat is typified by short, sparse vegetation with few shrubs, level to gentle topography, and well-drained soils. The presence of burrows is the most essential component of BUOW habitat, as they are required for nesting, roosting, cover, and caching prey (Poulin et al. 2011). In California, BUOW most commonly live in burrows created by California ground squirrels. BUOW may also occur in human-altered landscapes such as agricultural areas, ruderal grassy fields, vacant lots, and pastures if the vegetation structure is suitable (i.e., open, and sparse), useable burrows are available, and foraging habitat occurs in proximity (Gervais et al. 2008). Debris piles, riprap, culverts, and pipes can also be used for nesting, shelter, and roosting.

Although BUOW has not been previously documented in the PSA, this species is known to occur in the PSA vicinity, and suitable habitat, as well as SSHCP modeled nesting and foraging habitat, is present in the PSA (CDFW 2023e; County of Sacramento 2018).

Protocol-Level Burrowing Owl Breeding Season Survey Results

Dudek conducted protocol-level and focused BUOW breeding season surveys within the PSA and 500 feet beyond the PSA in 2021 and 2022. Incidental observations/detections for BUOW were also recorded in 2023. In 2021, one BUOW was observed perched west of Coyote Creek in central northwestern portion of the PSA. Additionally, various suitable burrow locations, and other ancillary evidence of BUOW (e.g., whitewash, pellets, etc.) were observed during surveys and incidental observations in 2021, 2022, and 2023. Details from the BUOW surveys are summarized in Table 12 below, and Figure 11, Burrowing Owl Survey Results 2021-2023.

Table 12. Protocol-Level and Focused Burrowing Owl Survey Results Summary

Observation Summary	Latitude	Longitude
2021 Protocol-Level Surveys		
Potential burrow- multiple	38.55764665°	-121.130841272°
Potential burrow- single; feathers; whitewash	38.55875673°	-121.123298°

Table 12. Protocol-Level and Focused Burrowing Owl Survey Results Summary

Observation Summary	Latitude	Longitude
Potential burrow- single	38.56043895°	-121.1286701°
Potential burrow- single	38.56044678°	-121.1286257°
Potential burrow- single	38.56049679°	-121.1290726°
Potential burrow- single	38.56050281°	-121.1289361°
Potential burrow- multiple	38.56055625°	-121.1289089°
Potential burrow- single	38.56059469°	-121.1307393°
Potential burrow- single	38.56090506°	-121.131662°
Potential burrow- single	38.56107416	-121.1317861°
Potential burrow- single	38.56151182°	-121.1302206°
Potential burrow- single	38.56153039°	-121.1301853°
Potential burrow- single	38.56153913°	-121.1298737°
Potential burrow- single	38.56154681°	-121.1298594°
Potential burrow- single	38.56215157°	-121.1364657°
Potential burrow- multiple	38.56232879°	-121.1315463°
Potential burrow- multiple	38.56806576°	-121.1283403°
Potential burrow- single	38.56865684°	-121.126266°
Potential burrow- multiple	38.58272598°	-121.1241211°
Potential burrow- multiple	38.58275612°	-121.124417°
Potential burrow- multiple	38.58284671°	-121.1246297°
Pellet	38.58323986°	-121.1391347°
Individual burrowing owl– observed perched	38.58435641°	-121.1369127°
Potential burrow- multiple	38.58671282°	-121.1264552°
Potential burrow- single	38.58704478°	-121.1245913°
Potential burrow- single	38.58754027°	-121.1362788°
Pellet	38.58756136°	-121.1361834°
Potential burrow- single	38.58793779°	-121.1392949°
Pellet	38.58806051°	-121.1366349°
Pellet	38.58807545°	-121.137979°
Pellet	38.5881065°	-121.136488°
Pellet	38.58813108°	-121.1364539°
Potential burrow- multiple; feathers; pellet	38.58822419°	-121.1370972°
Potential burrow- single	38.5891079°	-121.1357626°
Potential burrow- multiple	38.59122592°	-121.1416015°
Potential burrow- multiple	38.59201705°	-121.1377893°
Potential burrow- multiple	38.5920227°	-121.1380888°
Potential burrow- single	38.59362673°	-121.1383374°
Potential burrow- multiple	38.59510712°	-121.1370225°
Potential burrow- single	38.59620896°	-121.1406741°
2022 Focused Surveys		
Potential burrow- multiple	38.56120962°	-121.1122114°
Potential burrow- single	38.56151611°	-121.1074852°

Table 12. Protocol-Level and Focused Burrowing Owl Survey Results Summary

Observation Summary	Latitude	Longitude
Potential burrow- single; whitewash	38.5631304°	-121.1341347°
Potential burrow- single	38.56527136°	-121.1223162°
Potential burrow- single	38.58306362°	-121.1143678°
Potential burrow- single	38.59296422°	-121.1368286°
2023 Incidental Observations		
Pellet	38.58805942°	-121.1374957°
Pellet	38.58809238°	-121.1374004°
Pellet	38.58814992°	-121.1364101°
Pellet	38.58820454°	-121.1372856°
Potential burrow- single	38.59013658°	-121.1338438°

4.5.2.7 California Black Rail (*Laterallus jamaicensis coturniculus*)

California black rail *(Laterallus jamaicensis coturniculus*) is a state threatened species with a low potential to occur in the PSA. This species nests and forages in tidal marshes, shallow freshwater margins, wet meadows, and areas of flooded, grassy vegetation. California black rail also appears in suitable habitats that are often supplied by canal leakage within the Sierra Nevada foothill populations (CDFW 2023e).

Habitat for the species within the PSA is minimal and of low quality. The nearest known occurrence for this species is recorded along Blackstone Parkway, approximately 1 mile southeast of White Rock Road at Latrobe Road, approximately 0.25 miles northeast of the PSA (CDFW 2023e). No California black rail were observed during reconnaissance-level biological resource surveys.

4.5.2.8 Grasshopper Sparrow (*Ammodramus savannarum*)

Grasshopper sparrow (*Ammodramus savannarum*) is a state SSC with a moderate potential to nest in the PSA. This species nests and forages in moderately open grassland with tall forbs or scattered shrubs used for perches.

The PSA provides suitable nesting and foraging habitat for this species within the grassland habitats of the study area. This species has been documented within 2 miles of the PSA, specifically 1.5 miles southeast of the PSA, within the Deer Creek Hills Preserve, 0.5 miles north of Latrobe Road and 0.5 miles east of Scott Road (CDFW 2023e). No grasshopper sparrows were observed during reconnaissance-level biological resource surveys.

4.5.2.9 Swainson's Hawk (*Buteo swainsoni*)

SWHA is a state threatened species and SSHCP Covered Species known to occur in the PSA. In California, this species nests in the Central Valley and smaller adjacent valleys, the Klamath Basin, the Northeastern Plateau, Lassen County, and the Mojave Desert. It breeds in riparian areas, stands of trees in agricultural environments, oak savannah, Joshua trees (*Yucca brevifolia*) in the Mojave Desert, and juniper-sage flats. In the Central Valley, it nests in riparian areas and in isolated tree clusters, often near rural residences or other areas with some human disturbance. Alfalfa fields are the favored foraging areas of SWHA in the Central Valley, but the species also forages in undisturbed grasslands, fallow agricultural fields, and some row crops.

The PSA provide suitable nesting and foraging habitat for SWHA. There is SSHCP modeled foraging habitat within the PSA, but the SSHCP did not map any nesting habitat within the PSA (Sacramento County 2018). (Sacramento County 2018). In addition, there is one documented nesting occurrence of SWHA recorded at the confluence of Deer Creek and Carson Creek, as well as just east of White Rock Road (CDFW 2023e), on the northwest border of the PSA (Figure 9).

Protocol-Level Swainson's Hawk Survey Results

Dudek conducted protocol-level SWHA breeding season surveys within the PSA and up to 0.5 miles from the solar development site within the PSA in 2021, 2022 and 2023. A total of 28 SWHA observations, including foraging and courting, were made during the survey passes conducted in 2021, 2022, and 2023. Two raptor nest observations were made in 2023. Observations were made within areas that primarily provided suitable foraging habitat, as well as some nesting habitat, including both the solar development area and the adjacent other lands within the PSA Details from the SWHA surveys are summarized in Table 13 below, and Figure 12, Swainson's Hawk Survey Results 2021-2023.

Table 13. Protocol-Level Swainson's Hawk Survey Results Summary

Observation Summary	Observation Location (decimal degrees)	
	Latitude	Longitude
2021 Protocol-Level Surveys		
Visual- flight	38.55464467°	-121.1306845°
Visual- flight/vocalizing	38.55630694°	-121.1199074°
Visual- flight	38.56178891°	-121.137722°
Perched	38.56179008°	-121.1377245°
Visual- flight	38.5620637°	-121.1347629°
Visual- flight/vocalizing	38.562064°	-121.1347634°
Visual- flight/vocalizing	38.56216543°	-121.1331622°
Foraging	38.56228299°	-121.1377026°
Courting pair	38.56228878°	-121.1376989°
Raptor nest- unoccupied	38.56227656°	-121.1355247°
Courting pair	38.56280187°	-121.13515°
Raptor nest- unoccupied	38.5629247°	-121.1359878°
Perched	38.56296795°	-121.1360126°
Raptor nest- unoccupied	38.56345317°	-121.1362199°
Raptor nest- unoccupied	38.56377597°	-121.1319261°
Raptor nest- unoccupied	38.56923366°	-121.1198936°
Raptor nest- unoccupied	38.57220785°	-121.1364895°
Raptor nest- unoccupied	38.57226743°	-121.1141066°
Mobbing	38.57924538°	-121.1191641°
Mobbing	38.58153459°	-121.1142462°
Raptor nest- unoccupied	38.58269827°	-121.1241618°
Raptor nest- unoccupied	38.58575692°	-121.1256191°
Visual- flight	38.59093086°	-121.162912°
Mobbing	38.59350289°	-121.1329388°
Visual- flight	38.59785363°	-121.1384505°

Table 13. Protocol-Level Swainson's Hawk Survey Results Summary

Observation Summary	Observation Location (decimal degrees)	
	Latitude	Longitude
2022 Protocol-Level Surveys		
Visual- flight	38.55665822°	-121.1151318°
Raptor nest- unoccupied	38.56240148°	-121.1355688 °
Perched	38.58026382°	-121.1197949°
Raptor nest- unoccupied	38.56420383°	-121.1162091°
2023 Protocol-Level Surveys		
Visual- flight	38.5591602°	-121.118762°
Raptor nest- occupied	38.57198066°	-121.1138851°
Raptor nest- occupied	38.5763678°	-121.1317324°
Courting pair	38.5767104°	-121.1319778°
Perched	38.57916665°	-121.1312099°
Courting pair	38.57921182°	-121.1306374°
Courting pair	38.57983093°	-121.1336447°

Swainson's Hawk and Other Raptor Foraging and Land Use Study Results

As noted above in Section 3.2.4.4- Swainson's Hawk and Other Raptor Foraging and Land Use Study, Estep Environmental Consulting conducted two 1-year studies in 2013 and 2021 to assess raptor use of solar array fields in Sacramento County, including the Dillard Road solar array that is approximately 8 miles south of the Project site (Estep Environmental Consulting 2013; Appendix A). Refer to Appendix A for the report findings of the 2013 and 2021 studies. The studies indicate that raptors including SWHA continued to use moderately sized solar array fields following conversion from cultivated uses. Results of the strip transect road survey indicate raptor use of solar array fields in general, and specifically by SWHA and American kestrel (*Falco sparverius*), exceeds the expected use based on the availability of land covers within the agricultural landscape. This suggests that solar array fields are not avoided by these species and may be selected at a greater frequency than many cultivated land cover types. The stationary observation point surveys confirmed use within solar array fields, including foraging or potential foraging use by all species. The study suggested that management of a grassland substrate to promote rodent populations and maintaining this substrate at a height that promotes visibility and access to prey is favorable to continued raptor usage. Unlike most crop types, these grassland conditions are available in solar fields throughout the spring and summer breeding season, and thus can provide a consistent and available source of prey.

4.5.2.10 Tricolored Blackbird (*Agelaius tricolor*)

TRBL is a state threatened species and SSHCP Covered Species with known foraging occurrences within the PSA. This species typically nests in freshwater marshes with dense growths of emergent vegetation dominated by cattails or bulrushes, but has also established colonies in willows, blackberries (*Rubus* spp.), and a variety of other types of dense, herbaceous vegetation, such as thistles (*Cirsium and Centaurea* spp.) and nettles (*Urtica* sp.). TRBLs forage in a variety of habitats, such as grasslands and croplands, where high densities of suitable insect prey are found.

There is suitable nesting and foraging habitat with the PSA for TRBL. SSHCP has modeled nesting and foraging TRBL habitat located within the PSA (County of Sacramento 2018). In addition, there are several known occurrences of TRBL within 5 miles of the PSA, with the nearest overlapping the southwestern portion of the PSA, west of Scott Road, approximately 1 to 2 miles north of the Deer Creek crossing (CDFW 2023e).

Tricolored Blackbird Focused Survey Results

Dudek conducted focused TRBL surveys within the PSA in 2021 and 2022. Incidental observations/detections for TRBL were also recorded in 2023. TRBL were both individually observed and heard vocalizing within numerous areas of the PSA; however, most observations were concentrated west of Scott Road and on the east side central side of Coyote Creek. No nesting colonies were observed. Details from the TRBL surveys are summarized in Table 14 below. Point locations of individuals observed, vocalization, and/ or suitable habitat are provided in Figure 13, Tricolored Blackbird Survey Results 2021-2023.

Table 14. Focused Tricolored Blackbird Survey Results Summary

Observation Summary	Latitude	Longitude
2021 Focused Surveys		
Vocalizing	38.56056513°	-121.1271852°
Perched	38.56603987°	-121.1247452°
Vocalizing	38.56750379°	-121.1250432°
Vocalizing	38.56785672°	-121.1184583°
Vocalizing	38.56908644°	-121.1367916°
Vocalizing; Perched	38.57158305°	-121.1327033°
Vocalizing	38.59263251°	-121.1405041°
2022 Focused Surveys and 2023 Incidental Observations		
Potential nest	38.56758122°	-121.1234615°
Potential nest	38.56773187°	-121.1235159°
Potential nest	38.57043746°	-121.1248478°
Potential nest	38.57046873°	-121.1248839°
Potential nest	38.57390447°	-121.1202042°
Potential nest	38.57749238°	-121.122333°

4.5.2.11 White-Tailed Kite (*Elanus leucurus*)

White-tailed kite (*Elanus leucurus*) is a state fully protected species known to occur in the PSA. White-tailed kites occur in grasslands, marshes, and lowland scrub habitats, and nest in dense foliage in taller- to medium-size trees near foraging habitat. This species may also forage in meadows, agricultural fields, other types of emergent wetlands, and disturbed lands. White-tailed kites feed principally on rodents, especially voles (CDFW 2023e).

There are several known occurrences for white-tailed kite in or adjacent to the PSA (CDFW 2023e). The nearest CNDDB occurrence is approximately 0.2 miles north of the PSA, on the north side of Scott Road, north of Coyote Creek (CDFW 2023e). There is SSHCP modeled foraging habitat for white-tailed kite within the PSA (County of Sacramento 2018). During the reconnaissance-level biological resource surveys conducted by Dudek in 2021, 2022, and 2023 various observations of white-tailed kite were made within the PSA. Observations specifically included foraging, hovering, perching, and flight.

4.5.2.12 Cooper's Hawk (*Accipiter cooperii*)

Cooper's hawk (*Accipiter cooperii*) is a state Watch List species and SSHCP Covered Species with known occurrences within the PSA. Cooper's hawk nest in mixed and deciduous forests, open woodlands, small woodlots, riparian woodlands, open and pinyon woodlands, and forested mountainous regions. This species may also forage in meadows, agricultural fields, and disturbed lands. Cooper's hawk feed principally on other birds, rodents, and small mammals (CDFW 2023e).

Suitable nesting habitat within the PSA in minimal for Cooper's hawk. There is one known occurrence for Cooper's hawk, approximately 2 miles west of the PSA (CDFW 2023e). There is SSHCP modeled foraging habitat within the PSA (County of Sacramento 2018). No observations or detections of Cooper's hawk were documented during reconnaissance-level biological resource surveys.

4.5.2.13 Ferruginous Hawk (*Buteo regalis*)

Ferruginous hawk (*Buteo regalis*) is a state Watch List species and SSHCP Covered Species with known occurrences within the PSA. Ferruginous hawks' nest in grasslands, prairie, sagebrush steppe, scrubland, and pinyon-juniper woodland edges. This species may also forage in meadows, agricultural fields, and disturbed lands. Ferruginous hawk feed principally on other birds, rodents, and small mammals (CDFW 2023e).

Suitable nesting habitat within the PSA in minimal for Ferruginous hawk. There is one known occurrence for Ferruginous hawk, approximately 3 miles northeast of the PSA (CDFW 2023e). There is SSHCP modeled foraging habitat within the PSA (County of Sacramento 2018). No observations or detections of ferruginous hawk were documented during reconnaissance-level biological resource surveys.

4.5.2.14 Conservancy Fairy Shrimp (*Branchinecta conservatio*)

Conservancy fairy shrimp (*Branchinecta conservatio*) is a federally endangered species with a moderate potential to occur in the PSA. Conservancy fairy shrimp inhabit large, more turbid vernal pools and playa pools.

The PSA is within the known range of the species, and suitable habitat for the species is present. This species is known to occur in 10 populations; the closest two are Yolo Bypass Wildlife Area in Yolo County and Jepson Prairie in Solano County (USFWS 2023b, 2023c). Based on the USFWS IPaC Report, this species has the potential to occur on or near the PSA (CDFW 2023e; USFWS 2023b). Therefore, presence for Conservancy fairy shrimp is assumed within the PSA.

4.5.2.15 Vernal Pool Fairy Shrimp (*Branchinecta lynchi*)

Vernal pool fairy shrimp is a federally threatened species and SSHCP Covered Species that is known to occur in the PSA. This species is known to occupy vernal pools or other areas of similar hydrology that pool continuously for enough time to support its average reproductive period of 43 days (Helm 1998). Vernal pool fairy shrimp does not occupy perennial waters or creeks. They are most frequently found in small vernal pools (less than 0.05 acres), especially pool and swale complexes where they can move between individual pools (USFWS 2005).

Occurrences of this species have been recorded along the western portion of the gen-tie alignment route in the northwest vicinity of the PSA (CDFW 2023e; USFWS 2023c). Additionally, there are several known occurrences of this species within 5 miles of the PSA, several of which are in occupied pools immediately north of the PSA (CDFW 2023e). Suitable habitat and SSHCP modeled habitat are present in the PSA, which include vernal pools (County of Sacramento 2018). The nearest DCH unit for vernal pool fairy shrimp is approximately 6.5 miles southwest of the PSA (USFWS 2023c). Therefore, presence for vernal pool fairy shrimp is assumed within the PSA.

4.5.2.16 Vernal Pool Tadpole Shrimp (*Lepidurus packardi*)

Vernal pool tadpole shrimp is a federally endangered species and SSHCP Covered Species that is known to occur in the PSA. This species occupies vernal pools and seasonally ponded areas within vernal swales. Aquatic habitat for vernal pool tadpole shrimp is typically mud or grass-bottomed with clear to tea-colored or highly turbid water. These species are common in depressional pools within grassland habitat (County of Sacramento 2018).

Occurrences of this species have been recorded along nearly the entirety of the gen-tie alignment route in the northwest vicinity of the PSA (CDFW 2023e; USFWS 2023c). Additionally, there are several known occurrences of this species within 5 miles of the PSA, several of which are in occupied pools immediately north of the PSA (CDFW 2023e). Suitable habitat, as well as SSHCP modeled habitat is present, including vernal pools, within the PSA (CDFW 2023e; County of Sacramento 2018). The nearest DCH unit for vernal pool tadpole shrimp is approximately 6.5 miles southwest of the PSA (USFWS 2023c). Therefore, presence for vernal pool tadpole shrimp is assumed within the PSA.

4.5.2.17 Crotch's Bumble Bee

CBB is state candidate endangered with a moderate potential to occur within vegetation communities on site where nesting and floral/nectar resources are present. The CBB occurs almost exclusively in California, currently primarily in the Central Valley, but has been described as having historically occupied grasslands and shrublands in southern to central California. Bumble bees are known to be generalist pollinators but have preferences based on flower color including purple, blue, and yellow. Suitable habitat may contain any of the following: 1) areas of grasslands and upland scrub that contain requisite habitat elements, such as small mammal burrows and forage plants; 2) potential nest habitat (late February through late October) containing underground abandoned small mammal burrows and ground-nesting bird nests (Kearns and Thomson 2001, McFrederick and LeBuhn 2006), logs, stumps, snags, and clumps of grass are often suitable (Devore 2009); 3) overwintering sites (November through early February) utilized by mated queens in self-excavated hibernacula potentially in soft, disturbed soil, sandy, well-drained, or loose soils, under leaf litter or other debris with ground cover requisites such as barren areas, tree litter, bare-patches within short grass in areas lacking dense vegetation. CBB emerge from their hibernaculum between February through June with a peak in March to seek new nest sites and forage for resources to establish their colony.

The PSA contains limited open grassland habitat with floral resources to support this species. This species is classified as a short-tongued species, whose food plants include milkweed (*Asclepias* spp.), pincushion (*Chaenactic* spp.), lupine (*Lupinus* spp.), clover (*Medicago* sp.), *Phacelia* species, and sage (*Salvia* spp.). The nearest known occurrence for this species is within 4.7 miles west of the PSA, northwest of Douglas Boulevard at Jaeger Road, approximately 3 miles southeast of White Rock Road (CDFW 2023e).

Crotch's Bumble Bee Focused Surveys

Dudek conducted CBB surveys within the PSA on April 11, 2023, May 9 through May 11, 2023, and July 3 through 6, 2023. No CBB individuals were opportunistically observed or detected; however, suitable nesting habitat (e.g., existing burrows, down woody debris, tree cavities, etc.), and foraging nectar sources were mapped during the habitat assessments. Nectar resources are concentrated in the lower lying areas of the annual grasslands through the PSA. See Figure 14, Crotch's Bumble Bee Habitat and Foraging Survey Results 2023.

4.5.2.18 Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*)

VELB is a federally threatened species and SSHCP Covered Species with Moderate potential to occur in the PSA. VELB is completely dependent on its host plant, elderberry (*Sambucus* spp.), which occurs in riparian and other woodland communities in California's Central Valley and the associated foothills. Female beetles lay their eggs in crevices on the stems or on the leaves of living elderberry plants. When the eggs hatch, larvae bore into the stems. The larval stages last for one to two years. The fifth instar larvae create emergence holes in the stems and then plug the holes and remain in the stems through pupation. Adults emerge through the emergence holes from late April through June. The short-lived adult beetles forage on leaves and flowers of elderberry shrubs.

There are several known occurrences of this species west and northwest of the PSA, with the nearest documentation between White Road and Douglas Road (CDFW 2023e). The PSA contains suitable habitat for this species, specifically observed elderberry shrubs (*Sambucus* sp.), with 1- observed within the solar development area and 46 within the adjacent other lands. Additionally, the PSA contains SSHCP modeled habitat for VELB (County of Sacramento 2018).

Valley Elderberry Longhorn Beetle Focused Survey Results

Dudek conducted VELB focused surveys, which included the 10 elderberry shrubs within 165 feet (i.e., typical avoidance buffer area) of the solar development area within the PSA on March 17 and 18, 2022. No VELB, egg/larval galleries, or frass were observed on any of the shrubs. Potential bore and/or exit holes were observed on three of the 10 shrubs, specifically on Shrub ID 6, 9 and 10. Shrub ID 6 is in good condition and located within riparian habitat. Shrub ID 9 is in fair condition and located in an upland area approximately 443 feet from riparian habitat. Shrub ID 10 is also in fair condition and is also located within upland habitat, approximately 188 feet from riparian habitat. The condition of the bore holes observed reflect potential past use of boring insects and are not conclusive to VELB occupancy. No other elderberry shrub observations relevant to VELB were made during focused surveys. Details from the VELB surveys are summarized in Table 15 below, and Figure 15, Valley Elderberry Longhorn Beetle Results 2021-2022.

Table 15. Focused Valley Elderberry Longhorn Beetle Survey Results Summary

Shrub ID (Shrub-Stem)	Dead/ Alive[1]	General Condition[2]	Approx. no. of Stems	Approx. no. of Stems ≥1 in. DBH	Beetle Observed[3]	Eggs/ Larval Gallery [3]	Bore Holes[3]	Frass[3]	Other	Location (Decimal degrees)	Habitat	Land Use	Approx. Distance from Riparian Habitat (Feet)	Approx. Distance from SDA (Feet)	Notes
1	A	G	18	11	N	N	N	N	—	38.590699°, −121.162522°	Upland	Urban/ Developed	424	Outside Approx 30’ from SDA	—
2	A	G	14	9	N	N	N	N	—	38.590701°, −121.153481°	Upland	Ephemeral Channel/ Urban/ Developed	3	Outside Approx 35’ from SDA	—
3	A	G	25	9	N	N	N	N	—	38.390718°, −121.153599°	Riparian	Ephemeral Channel/ Urban/ Developed	0, Within	Outside Approx 10’ from SDA	—
4	A	G	9	4	N	N	N	N	—	38.550808°, −121.153741°	Riparian	Ephemeral Channel/ Urban/ Developed	0, Within	Within	—
5	A	G	5	0	N	N	N	N	—	38.590814°, −121.153741°	Riparian	Ephemeral Channel/ Urban/ Developed	0, Within	Within	—
6	A	G	30	27	N	N	Y	N	—	38.590737°, −121.153679°	Riparian	Ephemeral Channel/ Urban/ Developed	0, Within	Outside Approx 10’ from SDA	Counts were estimated as elderberry shrub was surrounded by poison oak (*Toxicodendron diversilobum*). Evidence of potential bore holes
7	A	G	17	5	N	N	N	N	—	38.581259°, −121.135038°	Upland	Urban/ Developed	403	Outside Approx 25’ from SDA	—
8	A	G	26	3	N	N	N	N	—	38.591074°, −121.155473°	Upland	Urban/ Developed	494	Within	—
9	A	F	28	15	N	N	Y	N	—	38.591012°, −121.155305°	Upland	Urban/ Developed	443	Within	Evidence of potential bore holes
10	A	F	27	18	N	N	Y	N	—	38.550791°, −121.156633°	Upland	Ditch	188	Within	Evidence of potential bore holes

Notes:
1 A = Alive; D = Dead
2 G = Good; F = Fair; P = Poor
3 N = No, Y = Yes
4 PSA= Project Study Area; Locations; SDA = solar development area.

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4.5.2.19 American Badger (*Taxidea taxus*)

American badger (*Taxidea taxus*) is a state SSC and SSHCP Covered SSC with a high potential to occur within the PSA. This species is most abundant in drier open stages of most shrub and forest habitat, as well as open herbaceous habitats, including grasslands, meadows, and savannahs. Suitable habitat for American badger typically contains loose soils for denning and hunting, ample prey, and uncultivated land. American badgers are elusive, mostly nocturnal mammals with expansive home ranges (CDFW 2023e).

This species is known to occur in the vicinity of the PSA, and suitable habitat, as well as SSHCP modeled habitat is present (County of Sacramento 2018). The nearest known occurrence for this species is recorded 0.5 miles east of Sunrise Boulevard, and 1 mile south of Douglas Road in the City of Rancho Cordova (CDFW 2023e).

4.5.2.19 Monarch butterfly (*Danaus plexippus*)

American badger (*Danaus plexippus*) is a federal candidate species with a low potential to occur within the PSA (USFWS 2024). This species Wind-protected tree groves with nectar sources and nearby water sources. Adult monarchs depend on diverse nectar sources for food. Caterpillars dependent on milkweed. (CDFW 2024).

The PSA is within the known range of this species. There are a few stands of wind-protected tree groves for this species within the PSA, however, there are limited suitable nectar sources. Additionally, milkweed has not been observed within the PSA. This species has not been documented within five miles of the PSA (CDFW 2024).

4.5.2.20 Other Special-Status Wildlife

Native Bats

Trees and structures in or adjacent to the PSA provide roosting habitat the pallid bat, a state SSC, and for native bats protected by the California FGC. Specifically, trees with exfoliating bark, crevices, and/or sufficient foliage and barns (or similar structures) in the PSA provide potential bat roosting habitat. Roosting habitat in the PSA consists of scattered trees throughout the blue oak savanna and blue oak woodland communities present throughout the PSA and isolated trees near seasonal ponds or other aquatic habitat that provide nearby foraging opportunities. Nearby bridges and building awnings also provide ample habitat for bats. No active bat roosts or signs of occupation, such as guano or staining, were detected during the reconnaissance-level biological resource surveys.

Nesting Raptors and Migratory Birds

In addition to the special-status birds discussed above, the PSA provides nesting habitat for several other local and migratory bird species. Native birds of prey are protected by California FGC Section 3503.5 and migratory bird species are protected by the federal MBTA. Red-tailed hawk (*Buteo jamaicensis*) and western meadowlark (*Sturnella neglecta*) nests were detected during the field surveys and numerous common migratory birds and raptors were recorded (Appendix C).

4.6 Arboricultural Resources

The tree inventory and assessment conducted within the PSA identified a total of 7,475 individual trees within the PSA (2,479 by CalTLC in 2021; 3,364 by Dudek in 2022; and 1,632 by EPC in 2023). Table 16 summarizes all

arborist survey results within the PSA, as well as the trees' provided protection assignments according to the Sacramento County Tree Preservation Ordinance. See Figure 16, Arborist Survey Results, and Figure 17, Canopy Analysis Results.

Table 16. Preliminary Summary of Trees Inventoried within the Project Study Area

Tree Species		Total Trees Inventoried	Protected by Sacramento County Tree Preservation Ordinance	Total Trees Proposed for Removal
Common Name	Scientific Name			
black walnut	*Juglans* sp.	1	1	0
blue oak	*Quercus douglasii*	6,834	6,391	4,544
California buckeye	*Aesculus californica*	22	8	3
California sycamore	*Platanus racemosa*	6	0	0
Chinese pistache	*Pistacia chinensis*	4	0	0
Coulter pine	*Pinus coulteri*	14	0	0
elderberry sp.	*Sambucus* sp.	67	0	5
Fremont cottonwood	*Populus fremontii*	77	23	6
fruit tree species	*Prunus* sp.	3	1	3
interior live oak	*Quercus wislizeni*	102	88	41
oak sp.	*Quercus sp.*	31	26	24
Pacific willow	*Salix lasiandra*	1	0	0
silver maple	*Acer saccharinum*	1	1	1
toyon	*Heteromeles arbutifolia*	5	0	0
valley oak	*Quercus lobata*	168	163	80
willow sp.	*Salix spp.*	67	44	1
unknown sp.	*Unknown* sp.	72	50	69
	Total	**7,475**	**6,795**	**4,787**

Source: CalTLC 2021; Dudek 2022; EPC 2023.

5 Solar Development Area Resource Summary

In the summary of findings section below, the results provided above in Section 4- Results, have been further summarized to be explicit to the solar development area of the PSA (i.e., excluding the adjacent other lands within the PSA). See Appendix F. 2024 Biological Resources Survey Results Assessment Report for the details on surveys conducted within the SDA in 2024.

Representative photographs of resource findings can be referenced in Appendix B.

5.1 Soil and Terrain

All 21 soil units mapped within the PSA are also within the solar development area, including five of the partially hydric soils. Partially hydric soils are defined by the NRCS as soils that at least one major component listed for a given map unit is rated as hydric, and at least one other major component is not hydric (NRCS 2024). National Technical Committee for Hydric Soils as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (USDA 2023b). Soils encountered during the field surveys were generally classified as clay to clay loam soils (Table 3; Figure 4).

5.2 Hydrology and Aquatic Resources

The solar development area occurs within the Upper Cosumnes River watershed. The entire solar development area is outside of the 500-year FEMA flood zone (i.e., determined to be outside the 1 and 0.2% flood zones), apart from areas surrounding the primary tributaries on site (i.e., Coyote, Carson, and Deer Creek), which are within the FEMA 100-year flood zone (FEMA 2023).

During the ARD conducted for the Project, 10 aquatic resource types were documented within the solar development area including: ditch, ephemeral drainage, intermittent drainage, perennial channel, seasonal wetland, seasonal wetland swale, seep, upland swale, vernal pool, and vernal swale (Figures 5 and 6).

Aquatic resources delineated within the solar development area have the potential to be waters of the U.S. and/or waters of the state based on an analysis of the three parameters (i.e., soils, hydrology, and vegetation), as well as the relatively permanent and/or significant nexus standards. A preliminary jurisdictional assessment of aquatic resources known to occur in the solar development area was completed to evaluate total acreages and linear feet of resources for each known regulatory authority that may require compliance (i.e., permitting), see Table 17 below.

Table 17. Summary of Aquatic Resources in the Solar Development Area

Feature Type	Total Aquatic Resources in the Solar Development Area	
	Acres	Linear Feet
Wetlands		
Fringe Wetland	0.01	—
Pond	0.01	—

Table 17. Summary of Aquatic Resources in the Solar Development Area

Feature Type	Total Aquatic Resources in the Solar Development Area	
	Acres	Linear Feet
Seasonal Wetland	0.10	–
Seasonal Wetland Swale	0.73	5,865.49
Seep	0.01	–
Vernal Pool	0.01	–
Vernal Swale	0.04	131.65
Total Wetlands	*0.91*	*5,997.15*
Non-Wetland Waters		
Ditch	0.02	79.96
Ephemeral Channel	5.46	24,344.31
Intermittent Channel	0.28	794.33
Perennial Channel	0.38	261.36
Upland Swale	1.94	11,965.92
Total NWWs	*8.07*	*37,445.58*
Total	**8.98**	**43,442.73**

Source: Dudek 2023a.
Notes: WOTUS= waters of the U.S.; NWW= non-wetland waters.
[1] All aquatic resources within the solar development area are preliminarily considered to meet criteria as waters of the US and waters of the state of California.
[2] Acreage of the non-wetland waters extend to ordinary high water mark (OHWM) and/or where the OHWM is equivalent to the top of bank.

5.3 Terrestrial Vegetation Communities and Land Cover Types

Terrestrial vegetation communities and land cover types within the solar development area consist of a combination of terrestrial non-vegetative land covers or natural vegetation communities. This includes blue oak forest (101 acres); blue oak woodland (186.27 acres); riparian woodland/forest (4.19 acres); valley and foothill grassland (1,073.73 acres); and urban/developed (20.86 acres).

5.4 Sensitive Natural Communities

No sensitive terrestrial natural communities were identified within the solar development area; however, riparian habitat (riparian forest) is present within the solar development area, including riparian habitat. Two CDFW sensitive natural communities, Northern Hardpan Vernal Pool and Valley Needlegrass Grassland community were identified within 5 miles of the solar development area (Figure 9). Aquatic communities, including vernal pools, were identified within the solar development area of the PSA.

5.5 Designated Critical Habitat and Essential Fish Habitat

NOAA EFH was identified within the solar development area for chinook salmon; however, suitable habitat is absent, and the species is not expected to occur. No USFWS DCH was identified within the solar development area (Figure 9) (USFWS 2023b).

5.6 South Sacramento Habitat Conservation Plan

Using the compiled habitat model data within the SSHCP Area for each Covered Species. There are 18 Covered Species that have the potential to occur within the solar development area. Table 28 in Section 6.2 below lists those Covered Species, how much of their modeled habitat exists within the solar development area, and how much of their modeled habitat exists within each preserve planning unit (i.e., 1 and 5).

5.7 Mather Core Recovery Area

The USFWS designated Mather Core Recovery Area extends into the solar development area and comprises a total of approximately 568 acres (USFWS 2005).

5.8 Special-Status Plant Species

A total of 31 special-status plant species that have known occurrences either within the nine USGS 7.5-minute quads and/or within 5 miles of the PSA were identified (CDFW 2023e; CNPS 2023a). Of these special-status plant species, 15 species have a low to high potential to occur or were observed on the Project site, eight are Covered Species under the SSHCP. The remaining 16 special-status plant species were removed from further consideration due to lack of suitable habitat within the solar development area, no known occurrences within 5 miles of the PSA, and/or because the PSA is outside of the species' known geographic or elevation range. Dudek conducted protocol-level botanical surveys in the solar development area in April 2021, June 2021, April 2022, May 2023, and July 2023, and detected one special-status plant species (*Spicate calycadenia*) (Figure 10) and discussed further below in Section 5.8.1- Spicate Calycadenia. Species with the potential to occur within the solar development area of the PSA are summarized below.

Observed or High Potential for Occurrence or Observed within the Solar Development Area

- Dwarf downingia – No federal status, state moderately threatened (CRPR 1B.2), , SSHCP Covered Species.
- Ahart's dwarf rush – No federal status, state moderately threatened (CRPR 1B.2), SSHCP Covered Species.
- Legenere – No federal status, state seriously threatened (CRPR 1B.1), SSHCP Covered Species.
- Valley brodiaea – No federal status, state limited distribution/ watch list (CRPR 4.2).
- Pincushion navarretia – No federal status, state seriously threatened (CRPR 1B.1), SSHCP Covered Species.
- Spicate calycadenia – No federal status, state low threatened (CRPR 1B.3). *This species was observed during 2023 protocol-level surveys within solar development area*.

Moderate Potential for Occurrence within the Solar Development Area

- **Boggs Lake hedge-hyssop** – No federal status, state moderately threatened (CRPR 1B.2), SSHCP Covered Species.
- **Heckard's pepper-grass** – No federal status, state moderately threatened (CRPR 1B.2).
- **Sacramento Orcutt grass** – Federally endangered, state endangered, state moderately threatened (CRPR 1B.2). DCH for this species is present within 5 miles of the solar development area, SSHCP Covered Species.
- **Slender Orcutt grass** – Federally endangered, state endangered, state seriously threatened (CRPR 1B.1). DCH for this species is present within 5 miles of the solar development area, SSHCP Covered Species.
- Low Potential for Occurrence within the Solar Development Area
- **Sanford's arrowhead** – No federal status, state moderately threatened (CRPR 1B.2), SSHCP Covered Species.
- **Hogwallow starfish** – No federal status, state limited distribution/ watch list (CRPR 4.2).
- **El Dorado County mule ears** – No federal status, state limited distribution/ watch list (CRPR 1B.2)
- **Hernandez bluecurls** – No federal status, state limited distribution/ watch list (CRPR 4.3)
- **Stinkbells** – No federal status, state limited distribution/ watch list (CRPR 4.2)
- **Coast iris** – No federal status, state limited distribution/ watch list (CRPR 4.3)

5.8.1 Spicate Calycadenia

There was 500+ individuals observed during protocol-level botanical surveys within the solar development area and adjacent other lands in 2023. These individuals were observed in numerous locations, ranging from the southern portion of the PSA, and extending to the northern portion of the solar development area.

5.9 Special-Status Wildlife Species

A total of 30 special-status wildlife species have known occurrences either within the nine USGS 7.5-minute quads or within 5 miles of the PSA. Of these 30 special-status wildlife species, 23 have potential to occur in the solar development area and/or are known to occur in the solar development area, and of these, 12 are Covered Species under the SSHCP (County of Sacramento 2018). In addition, the solar development area provides suitable habitat for nesting birds protected by the federal MBTA and California FGC and native bats protected by the California FGC. The remaining seven special-status wildlife species were removed from further consideration due to lack of suitable habitat within or adjacent to the PSA, no known occurrences within 5 miles of the PSA, and/or because the PSA is outside of the species' known geographic range. Dudek conducted protocol-level surveys in the solar development area for BUOW, SWHA, TRBL, WST, CBB, and VELB during the appropriate survey period(s) in 2021, 2022, and 2023. The following special-status wildlife species were observed during protocol-level and reconnaissance-level surveys and are discussed further in Sections 5.8.1 through 5.8.4 below. Species with the potential to occur within the solar development area of the PSA are summarized below.

Special-status wildlife species including bald eagle, BUOW, SWHA, TRBL, and white-tailed kite were observed during field studies (Figures 11-15). Species with the potential to occur within the solar development area of the PSA are summarized below.

Known to Occur/Observed/Detected within the Solar Development Area

- SWHA – Federal Bird of Conservation Concern (BCC), state threatened, SSHCP Covered Species. Species was observed within solar development area during protocol-level surveys.
- Vernal pool tadpole shrimp – Federally endangered, no state status. There is DCH for this species within 7 miles of the solar development area, SSHCP Covered Species. Species has assumed presence in areas where aquatic resources are found within the solar development area.
- Vernal pool fairy shrimp – Federally threatened, no state status. There is DCH for this species within 7 miles of the solar development area, SSHCP Covered Species. Species has assumed presence in areas where aquatic resources are found within the solar development area.
- White-tailed kite – No federal status, state fully protected. Species was observed within solar development area during focused surveys.
- TRBL – Federal BCC, state threatened and SSC, SSHCP Covered Species. Species was detected within the solar development area during focused surveys.
- Bald eagle – Federal BCC, state endangered. Species was detected within the solar development area during focused surveys.
- Golden eagle – Federal BCC, state fully protected. Species was detected within the solar development area during focused surveys.
- Western pond turtle – Federal candidate species, SSC, SSHCP Covered Species. Species was detected within the solar development area during focused surveys.

High Potential for Occurrence within the Solar Development Area

- American badger – No federal status, state SSC, SSHCP Covered Species.
- WST – No federal status, SSC, SSHCP Covered Species.
- BUOW – Federal BCC, no state status, SSHCP Covered Species.
- Bank swallow – No federal status, state threatened.

Moderate Potential for Occurrence within the Solar Development Area

- Grasshopper sparrow – no federal status, SSC.
- Conservancy fairy shrimp – Federally endangered, no state status.
- Valley elderberry longhorn beetle – Federally threatened, no state status, SSHCP Covered Species.

Low Potential for Occurrence within the PSA

- CTS – Federally threatened, state threatened and on state watchlist, SSHCP Covered Species.
- Merlin – State Watch List.
- California black rail – Federal BCC, state fully protected, and state threatened.
- Crotch's bumble bee – No federal status, state endangered (candidate).
- Cooper's hawk – No federal status, state Watch List, SSHCP Covered Species.
- Ferruginous hawk - No federal status, state Watch List, SSHCP Covered Species.

Results of protocol-level and focused surveys for selected special-status wildlife species within the solar development area of the PSA are provided below.

5.9.1 Burrowing Owl

There is suitable foraging and nesting habitat for BUOW within the solar development area. The solar development area contains suitable open grassland habitat with ground squirrel burrows to support this species. From 2021 – 2023, several indicators of BUOW signs were observed and recorded. During protocol-level surveys, multiple suitable burrows, and other ancillary indicators (e.g., feathers, whitewash, and pellet) were observed within the solar development area. Specifically, the southern portion and northern portion of the solar development area is where these resources were recorded (Figure 11).

5.9.2 Swainson's Hawk

There is suitable foraging and nesting habitat for SWHA within the solar development area. There are known occurrences of SWHA within the solar development area. Dudek conducted protocol-level SWHA surveys within the solar development area, and visual surveys up to 0.5 miles outside of the solar development area, in 2021, 2022, and 2023. Within the solar development area, 24 SWHA individuals were observed foraging, perching, and displaying courtship. The majority of the SWHA observations were recorded in the southwestern portion of the solar development area (Figure 12).

5.9.3 Tricolored Blackbird

There is suitable foraging and nesting habitat for TRBL within the solar development area. There are several known occurrences of this species that overlap with the solar development area boundaries, specifically throughout the entirety of the central-southern extent of the solar development area, and several documented occurrences within the immediate vicinity. This species was documented within the solar development area, west of Coyote Creek, during TRBL focused surveys conducted by Dudek in 2021. No nesting activity or nesting colonies were observed during these surveys (Figure 13).

5.10 Arborist Inventory

Based on the tree inventory results, a total of and 4,787 trees were inventoried within the solar development area of the PSA. Of the total trees inventoried in the solar development area, a maximum total of 4,450 fall under Sacramento County Tree Preservation Ordinance protections criteria (i.e., 4,394 protected; 1,792 heritage; and 173 riparian) (CalTLC 2021; Dudek 2022; EPC 2023). This inventory equates to 54.61 acres contiguous canopy of oak woodlands and forest within the solar development area (CalTLC 2021; Dudek 2022; EPC 2023) (Figure 16 and 17).

6 Resources Impact Assessment for the Solar Development Area

This section addresses potential impacts to biological and aquatic resources that have the potential to be affected by the implementation of the Project and provides preliminary analysis of impacts, as well as recommendations to avoid and minimize potential impacts. **For this BTR, this resource impact assessment explicitly addresses only the impacts to resources occurring within the solar development area of the PSA** (i.e., not entire PSA/adjacent other lands).

6.1 Definition of Impact Types

The Project could have direct permanent, temporary, and/or indirect impacts to biological and/or aquatic resources within the solar development area. A general definition of each of the impact types is summarized below. Impacts were evaluated within the solar development area based on the Project component and/or activity type in conjunction with the biological or aquatic resource(s) and its applicable regulation(s) and jurisdictional authority. Specifically, the following Project components detailed in the site plan (Primoris 2023) were evaluated for resource impacts: the BESS site; earthwork limits; exclusion zones; fence posts; fenced areas; the gen-tie corridor; inside work areas; inverter locations; laydown/staging areas; overhead transmission corridors; solar module post pile; transmission pole risers; PV modules/solar panels; roads; the substation site; the switchyard site; and water crossing locations.

6.1.1 Direct Permanent Impacts

Direct permanent impacts refer to the direct permanent physical loss of a biological and aquatic resource typically due to clearing and grading associated with implementation of a project. Direct permanent impacts are analyzed in four ways: (1) direct permanent loss of vegetation communities and natural land cover types (excluding anthropogenic/disturbed land covers), as well as general wildlife and their habitat; (2) direct permanent loss of or harm to individuals of special-status plant and wildlife species; (3) direct permanent loss of suitable and/or occupied habitat for special-status species; and/or (4) direct permanent loss of wildlife movement and habitat connectivity in the Project vicinity. For purposes of this BTR, direct permanent impacts included an evaluation of fence posts, solar array pole risers, overhead transmission poles, inverter pads, roads, BESS, collector substation, and the switchyard to determine if they impacted the known aquatic and/or biological resource within the solar development area.

6.1.2 Temporary Impacts

Temporary impacts refer to a temporary loss of biological and aquatic resources typically due to clearing and grading associated with implementation of the Project. Temporary impacts generally occur for a short period (e.g., up to approximately 1 year) and would normally be reversible (e.g., temporary removal of vegetation after which no direct permanent impacts would occur). For the purposes of this BTR, temporary impacts included an evaluation of areas that are temporarily impacted during construction to determine if they intersect the known aquatic and/or biological resources within the solar development area. These areas shall be revegetated and/or restored following construction. This includes much of the inside work which will contain active construction activities (i.e.,

construction equipment), general grading activities, and proposed blasting. Blasting times shall be limited to the hours permitted in the Sacramento County ordinance to reduce overall noise impacts. To reduce displacement or impacts to biological resources, similar strategies will be utilized for blasting as for other onsite temporary impacts such as pile driving or grading; areas where blasting may occur shall be surveyed by an approved biological monitor prior to the impact to assess for biological resources within the blasting footprint and buffer area, depending on the habitat type and potential for specific biological resources to occur. Furthermore, blasting locations will avoid aquatic resources. Avoidance buffer areas have been implemented to the extent feasible to reduce the effects of vibration and sound pressure to aquatic habitats and associated species. Lastly, as the array is mounted on racking above risers, and the area beneath the array will be revegetated per the specification of the Agricultural Resources Management Plan following construction to allow for grazing. The solar array (other than pole risers), laydown/staging areas, the gen-tie corridor limits, inside work areas (including exclusion zones), and earthworks are considered as temporary impacts (Figure 3).

6.1.3 Indirect impacts

Indirect impacts are reasonably foreseeable effects of Project implementation on remaining or adjacent biological and aquatic resources outside the direct disturbance zone that may occur during typical grading or maintenance activities (i.e., short-term construction-related indirect impacts) or later in time because of the Project (i.e., long-term, or operational, indirect impacts). Short-term indirect impacts can include dust, human activity, pollutants (e.g., potential erosion), and noise that extend beyond the identified construction area. Long-term indirect impacts can include changes to hydrology, introduction of invasive species, dust, and noise that are operations related or persist after construction is complete. For the purposes of this BTR, indirect impacts evaluated include the areas underneath transmission lines (i.e., transmission corridor), including in the gen-tie corridor. Note that depending on the biological and/or aquatic resource (e.g., listed branchiopods) under evaluation, in some instances shading from solar modules would be considered an indirect impact (not temporary).

6.1.4 Design to Avoid Resource Impacts

The Project has the potential to influence both biological and aquatic resources. The Project assessed a PSA of 2,704 acres to allow for flexibility in the solar development design to avoid biological and aquatic resources to the maximum extent possible. Following the completion of studies, additional detailed siting measures were undertaken that accounted of study results. As such, the Project is designed in such a manner that impacts to resources will be avoided and reduced to the extent feasible.

6.1.5 Avoidance, Minimization, and Mitigation

Suggested AMMs and MMs include those measures that would avoid, minimize, or otherwise mitigate potential impacts to biological and aquatic resources. Based on the results in this BTR, preliminary AMMs and MMs have been provided where applicable in the resource impact assessment sections below.

6.2 Preliminary Analysis of Impacts

The significance criteria used to evaluate impacts to biological and aquatic resources is based on CEQA Guidelines, as well as federal, state, and local regulatory guidance pertaining to potential jurisdictional resources and features occurring only within the solar development area of the PSA.

Table 18. Preliminary Resource Impact Analysis Checklist for the Project Study Area

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
BIOLOGICAL RESOURCES – Would the Project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Source: 14 CCR 15000 et seq.

a) ***The Project would have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW and or USFWS.***

A total of 11 special-status plant species and 15 special-status wildlife species are known to occur in the solar development area, were observed or detected during field surveys, or have a moderate to high potential to occur in the solar development area and could therefore be impacted by eventual Project implementation. Species-specific impacts and recommended avoidance, minimization, and mitigation are included below.

a.1 Special-Status Plant Species

Eleven special-status plant species have a moderate to high potential to occur or are known to occur within the solar development area including: dwarf downingia, Ahart's dwarf rush, legenere, saline clover, Boggs Lake hedge-hyssop, Heckard's peppergrass, pincushion navarretia, Sacramento Orcutt grass, slender Orcutt grass, spicate calycadenia, and valley brodiaea. Suitable habitat for these species includes valley grasslands and various types of aquatic resources (e.g., vernal pools, creek margins, mesic areas), like those identified within the solar development area. Of these 11 special-status species, Sacramento Orcutt grass and slender Orcutt are federally, and state listed. The remaining nine special-status plant species are not federally listed but all are state listed and/or have a CNPS CRPR rank of a 1 or 2, including- Ahart's dwarf rush, Boggs Lake hedge hyssop, Dwarf downingia, legenere, saline clover, Heckard's peppergrass, spicate calycadenia, valley brodiaea and pincushion navarretia. Of the 11 special-status plant species with a moderate to high potential to occur in the solar development area, one was observed during protocol-level botanical surveys in 2023, spicate calycadenia. Note that 2022 was slightly above average for precipitation in the region, and 2023 was exceptionally wet, with rainfall amounts approximately 175% of average. The 2022 and 2023 years therefore provided sufficient inundation of aquatic resources and overall soil moisture to cause special-status plants to germinate and be detectable. Negative survey results during one field season does not constitute evidence that a plant occurrence is absent from a location (CDFW 2018). Approximately 500 plus individuals of spicate calycadenia were observed the solar development area and surrounding vicinity of the PSA. These individuals were observed in numerous locations, ranging from the southern portion of the PSA, and extending to the northern portion of the solar development area. Special-status plant resources may be subject to agency jurisdiction pursuant to regulations under FESA, CESA, California FGC, CEQA Guidelines, and the Sacramento County General Plan.

Recommended Avoidance, Minimization, and Mitigation. The following measures are recommended to avoid, minimize, and/or mitigate impacts to special-status plant species:

- A Worker Environmental Awareness Program (WEAP) shall be prepared that will educate staff on the presence of all special-status plant species, sensitive natural communities, and protected wetlands with potential to occur, or that are known to occur, within the solar development area. The program shall describe their identification, habitat requirements, and penalties for species impacts, as well as immediate steps to take should special-status plant species be observed by staff on site. This WEAP shall include biological resource AMMs from the Project's CEQA Mitigation Monitoring and Reporting Program (MMRP), resource permits or agreements, and any species-specific plans. The WEAP can be provided in the form of a handout and/or video presentation. Staff that attend the training shall fill out a sign-in sheet indicating that they completed the training.
- Pre-construction surveys shall be conducted by a qualified botanist a maximum of 2 weeks prior to Project activity initiation, in accordance with CDFW and CNPS Guidelines.
- If no special-status plant species are observed, then no further AMMs or mitigation is required.
- If special-status plant species are observed, then the following measures are additionally recommended to avoid the species:
  - Special-status plant species shall be mapped and flagged within the solar development area.
  - Project activities shall be modified to avoid impact If special-status plant species have been detected in proximity. A buffer may be implemented by the biological monitor to avoid impacts to species.
  - Environmentally sensitive area (ESA) fencing and appropriate signage shall be installed at a minimum of 20 feet from the edge of special-status plant populations. The Project shall avoid performing any construction-related activities within the ESA. A biological monitor shall be present when Project activities are adjacent or near ESAs to avoid impacts.

- If impacts to special-status plant species would occur from Project development, and impacts cannot be avoided, transplantation and/or compensatory mitigation would occur to ensure no net loss of special-status plant species. Prior to development in the area of the special-status plant species, the applicant shall prepare and implement a Botanical Mitigation Plan. The plan will include performance standards for transplantation, including requirements for transplant destinations, methods to minimize damage of plants during transplantation, and irrigation or other treatments required to improve chance of transplantation success. The plan would also include monitoring requirements to demonstrate transplantation success and no net loss of special-status plant species. If monitoring demonstrates transplantation is not fully successful in achieving no net loss of habitat functions and values, compensatory mitigation would be required. The mitigation ratios would vary depending on the level of transplantation success but would ensure no net loss of special-status plant species from direct permanent, indirect, and/or temporary Project impacts.

a.2 Western Spadefoot Toad

WST is proposed to be federally listed, state SSC, and SSHCP Covered Species with a high potential to occur in the solar development area. Vernal pools, seasonal wetlands swales, and other aquatic resources in the solar development area provide habitat for WST. To assist the Project design in understanding areas to avoid, Dudek conducted upland burrow surveys for WST within potential suitable habitat in 2021, and breeding season larval and night eye-shine surveys breeding season larval and night eye-shine surveys in potentially suitable aquatic habitats in the solar development area on March 19, 2022.

Although WST has not been observed in the solar development area, there is both suitable upland burrowing habitat and aquatic breeding habitat within the solar development area. The Project solar development has the potential to impact WST suitable aquatic habitat (i.e., ephemeral, intermittent, perennial, ditch, and swale non-wetland waters), and upland habitat (i.e., blue oak woodland and forest, and valley and foothill grassland). Table 19 below summarizes potential impacts associated with WST. Development could impact WST through removal of habitat or injury if this species is present within the solar development area prior to ground-disturbing activities. In addition, Project operation and maintenance could disrupt activities if any WST within or near the solar development area through human presence, noise, and light. Direct, indirect, and/or temporary impacts to this species and its associated habitat would likely be considered a potentially significant impact under CEQA.

Table 19. Summary of Potential Impacts to Western Spadefoot Toad Suitable Aquatic and Upland Habitat within the Project Solar Development Area

Species Suitable Habitat[1]	Impacts Type (acres)[2]			
	Direct Permanent	Indirect	Temporary	Total (acres)
Upland Habitat	62.38	9.91	1,303.19	*1,375.48*
Aquatic Habitat	0.42	0.55	7.99	*8.97*
Total (acres)	**62.80**	**10.46**	**1,311.18**	**1,384.45**

Notes:

1 WST Suitable Habitat= aquatic habitat: ephemeral, fringe wetland, pond, seasonal wetland, seasonal wetland swale, intermittent, perennial, ditch, seep, vernal pool, vernal swale, and upland swale; upland habitat: blue oak woodland and forest, and valley and foothill grassland.

2 Project Components Intersecting Suitable Habitat= Direct permanent impact project components: fence posts, solar array pole risers, overhead transmission poles, roads, and switchyard; Indirect impact project components: gen-tie corridor transmission, and overhead transmission line corridors; Temporary impact project components: general grading, inside work areas (staging), fencing, and solar array placement.

To reduce impacts to WST and habitat to less than significant with mitigation incorporated, the measures below are recommended.

Recommended Avoidance, Minimization, and Mitigation. The following measures are recommended to avoid, minimize, and/or mitigate impacts to WST:

- Project ground-disturbance activities within WST suitable habitat shall occur outside the combined breeding and dispersal season (i.e., after May 15 and before October 15). In the event ground disturbance activities cannot occur outside the breeding and dispersal seasons, a qualified biologist with valid collecting permits shall be retained, to perform a pre-construction survey for WST within suitable habitat, including breeding habitat. If WST are encountered during the survey, individuals will be safely relocated to suitable habitat outside of the solar development area. The survey shall include searches for small mammal burrows, crevices, and other potential refugia, as well as dip-netting or seining suitable breeding habitat. Additionally, if WST is documented within the solar development area, adult and larval WST and egg masses shall be collected and relocated to suitable habitat (i.e., to be preserved in perpetuity).
- WST shall be hand-captured and relocated outside the construction area to suitable habitat by a qualified biologist with a valid collecting permit or with proper agency authorization as determined during coordination with CDFW. All relocation areas shall be identified and approved by CDFW prior to the pre-construction survey. Relocated WST shall be monitored until they have escaped into upland refugia or aquatic habitat with sufficient water. Project construction activities will be suspended in a 100-foot radius of the WST until the WST leaves the Project site on its own or is located by a CDFW approved qualified biologist. If Project ground-disturbing activities must commence in or within 250 feet of suitable WST upland habitat during the breeding and dispersal season, exclusion fencing will be installed around the Project footprint and must be monitored by a qualified biologist following rain events. Temporary high-visibility construction fencing will be installed along the edge of work areas, and silt fencing will be installed immediately behind the temporary high-visibility construction fencing to exclude WST from entering the construction area. Fencing will remain in place until all construction activities within the construction area are completed.
- At the end of each working day, open trenches and holes must be covered or installed with wildlife ramps to avoid wildlife entrapment overnight.
- If WST are determined to be present within the solar development area, then on-going monitoring during initial ground disturbing activities, and subsequent weekly monitoring site checks, by a qualified biologist will be employed to ensure there are no impacts to this species and its habitat during construction.
- This species shall be included in the WEAP, as described above for special-status plant species, and shall also educate staff on the presence of special-status wildlife species and ways to avoid and minimize impacts.

a.3 Western Pond Turtle

Western pond turtle is proposed to be federally listed as threatened, a state SSC, and SSHCP Covered Species that was observed during reconnaissance-level biological resource surveys. Development could impact western pond turtle through removal of habitat or injury if this species is present within the solar development area prior to ground-disturbing activities. In addition, Project operation and maintenance could disrupt activities of any western pond turtle within or near the solar development area through human presence, noise, and light. To assist the Project design in understanding areas to avoid, Dudek conducted reconnaissance-level biological resource surveys in 2021, 2022, and 2023.

The solar development area has suitable habitat for western pond turtle, and a total of approximately 10 individual western pond turtles were observed along Carson Creek during reconnaissance-level biological resource surveys. Upland wintering sites and aquatic resources are present within the solar development area of the PSA, and development could impact this species if turtles are present within the construction footprint during ground disturbance. The Project solar development has the potential to impact western pond turtle suitable aquatic habitat (i.e., stream/creek land cover and freshwater marsh and open water land covers within 400 meters [0.25 miles] of all stream/creek land cover), and upland habitat (i.e., blue oak woodland and forest, and valley and foothill grassland). Table 20 below summarizes potential impacts to western pond turtle. Development could impact western pond turtle through removal of habitat or injury if this species is present within the solar development area prior to ground-disturbing activities. In addition, Project operation and maintenance could disrupt activities of any western pond turtle within or near the solar development area through human presence, noise, and light. Direct or indirect impacts to this species would likely be considered a potentially significant impact under CEQA.

Table 20. Summary of Potential Impacts to Western Pond Turtle Aquatic and Upland Suitable Habitat within the Project Solar Development Area

Species Suitable Habitat[1]	Impacts Type (acres)[2]			
	Direct Permanent	Indirect	Temporary	Total (acres)
Upland Habitat	47.10	10.15	1,306.18	*1,363.44*
Aquatic Habitat	0.34	0.39	5.40	*6.13*
Total (acres)	**62.73**	**10.30**	**1,309.32**	**1,382.35**

Notes:

1 Western Pond Turtle Suitable habitat= aquatic habitat: ephemeral, intermittent, perennial, pond and ditch non-wetland waters; upland habitat: blue oak woodland and forest, mixed riparian woodland, and valley grassland within 0.25 miles of aquatic habitat.

2 Project Component Intersecting Suitable Habitat= Direct permanent impact project components: fence posts, solar array pole risers, overhead transmission poles, roads, and switchyard; Indirect impact project components: gen-tie corridor transmission, and overhead transmission line corridors; Temporary impact project components: general grading, inside work areas (staging), fencing, and solar array placement.

To reduce impacts to western pond turtle to and habitat are less than significant with mitigation incorporated, the measures below are recommended.

Recommended Avoidance, Minimization, and Mitigation. The following measures are recommended to avoid, minimize, and/or mitigate impacts to western pond turtle:

- For any project-related activities that occur within 300 feet of suitable habitat (e.g., any adjacent riparian woodland), project ground-disturbing activities shall be conducted outside of western pond turtle's active season (i.e., work to occur after May 1 and before September 15). If project activities must be implemented during the breeding and dispersal season, they shall not start until 30 minutes after sunrise and must be completed 30 minutes prior to sunset.
- A qualified biologist shall conduct a pre-construction survey for western pond turtle within 48 hours prior to the start of construction activities within 300 feet of suitable habitat (e.g., ponds, freshwater emergent wetlands, and adjacent riparian woodland). Concurrently with the pre-construction survey, assessments for nesting pits and/or wintering site (e.g., burrows) shall be conducted and any identified sites shall be delineated with high visibility flagging or fencing and avoided during construction activities. If avoidance is not possible, the nest and/or turtle shall be removed by a qualified biologist and relocated to an appropriate location.

- If turtles, nesting pits, and/or wintering sites are encountered during the pre-construction survey, a qualified biologist shall be present during grubbing and clearing activities in suitable habitat (aquatic) to monitor for western pond turtle. If a turtle is observed in the active construction zone, construction shall cease within a 100-foot buffer, and a qualified biologist will be notified. Construction may resume when the qualified biologist has either hand-captured and relocated the turtle to nearby suitable habitat outside the construction zone, or, after thorough inspection, determined that the turtle has moved away from the construction zone.
- On-site personnel will observe a 20-mile-per-hour speed limit within western pond turtle suitable habitat.
- This species shall be included in the WEAP described above for Special-Status Plant Species, that will also educate staff on the presence of special-status wildlife species and ways to avoid and minimize impacts.

a.4 Burrowing Owl

BUOW is an SSC and an SSHCP Covered Species. There is suitable habitat for BUOW in the solar development area and the species was observed during protocol-level surveys in 2021. Additionally, various suitable burrow locations, and other ancillary evidence of BUOW (e.g., whitewash, pellets, etc.) were observed during protocol-level and focused surveys and incidental observations in 2021, 2022, and 2023. Observations of burrowing owl in the solar development areas were concentrated in the valley grasslands in the northern and southern-most limits of the site.

The solar development area has suitable nesting and foraging habitat for burrowing owl, specifically in open areas such as valley grasslands. The Project solar development has the potential to impact BUOW suitable nesting and foraging habitat (i.e., blue oak woodland, and valley grassland; seasonal wetland and vernal pools wetlands; and ephemeral, perennial, intermittent, ditch, and swale non-wetland waters). Table 21 below summarizes potential impacts associated with BUOW. Development could impact BUOW through removal of habitat or injury if this species is present within the solar development area prior to ground-disturbing activities. In addition, Project operation and maintenance could disrupt activities of any BUOW within or near the solar development area through human presence, noise, and light.

Table 21. Summary of Potential Impacts to Burrowing Owl Nesting and Foraging Suitable Habitat within the Project Solar Development Area

Species Suitable Habitat[1]	Impacts Type (acres)[2]			
	Direct Permanent	Indirect	Temporary	Total (acres)
Nesting and Foraging Habitat	57.71	9.52	1,201.32	*1,268.55*

Notes:

1 Burrowing Owl Nesting and Foraging Habitat= mapped Dudek habitats: oak woodland, and foothill valley grassland; seasonal wetland and vernal pools wetlands; and ephemeral, intermittent, ditch, and swale non-wetland waters.

2 Project Component Intersecting Suitable Habitat= Direct permanent impact project components: fence posts, solar array pole risers, overhead transmission poles, roads, and switchyard; Indirect impact project components: gen-tie corridor transmission, and overhead transmission line corridors; Temporary impact project components: general grading, inside work areas (staging), fencing, and solar array placement.

To reduce impacts to BUOW and habitat to less than significant with mitigation incorporated, the measures below are recommended.

Recommended Avoidance, Minimization, and Mitigation. The following measures are recommended to avoid, minimize, and/or mitigate impacts to BUOW:

- A qualified biologist shall conduct surveys for BUOW within 30 days prior to ground-disturbing activities within suitable habitat for the species. The survey shall cover the limits of ground disturbance and potentially suitable nesting habitat within 500 feet. If ground-disturbing activities are delayed, then additional surveys shall be conducted such that no more than 7 days elapse between the survey and ground-disturbing activities.
- If BUOW is encountered during the pre-construction survey, the qualified biologist shall prepare a Special-Status Species Avoidance, Minimization, and Relocation Plan for special-status species occurring in the solar development area, including BUOW. The plan shall include a performance standard of no net loss of BUOW within the solar development area.
- If non-nesting BUOWs are observed in or adjacent to the construction footprint during the survey, construction shall be postponed until the qualified biologist can fully implement a Burrowing Owl Passive Relocation Plan (to be prepared by the qualified biologist). The plan shall be prepared in accordance with the Staff Report on Burrowing Owl Mitigation (CDFG 2012). Once owls have been successfully excluded and unoccupied burrows evacuated, construction in the area may proceed.
- If nesting BUOWs are observed during the survey, construction activities within a minimum of 50 meters and up to 500 meters of occupied burrows shall be delayed until young owls have fledged and are independent of the burrow, as determined by a qualified biologist. The qualified biologist may reduce the buffer based on the type, timing, extent, and intensity of the construction activity and other factors such as site topography and vegetation cover between the construction activity and the burrow consistent with CDFW's 2012 Staff Report guidelines. Once all young have fledged and are no longer dependent upon the nest burrow, the same burrow exclusion (i.e., ESA) procedure described above shall be implemented prior to resuming construction activities in the area.
- If BUOW is determined present within the solar development area, then on-going monitoring by a qualified biologist may be required to ensure there are no impacts to this species and its habitat during construction and operation and maintenance activities for the Project.
- This species shall be included in the WEAP described above for Special-Status Plant Species, that will also educate staff on the presence of special-status wildlife species and ways to avoid and minimize impacts.
- Compensatory mitigation would be required if potential impacts cannot be avoided or minimized to ensure no net loss of BUOW or its habitat function and value. Mitigation ratios for BUOW are determined by the regulatory agency based on status and the total of direct permanent, indirect, and/or temporary impacts of the species. Generally, BUOW mitigation for foraging habitat can be stacked with SWHA mitigation upon agency approvals and would be at a ratio of between 0.5 to 1 acre preserved per 1 acre impacted.

a.5 Swainson's Hawk

SWHA is a federal BCC, state threatened species, and an SSHCP Covered Species. SWHA were observed foraging, flying overhead, nesting, displaying and nesting behaviors within in the solar development area during protocol-level surveys conducted in 2021, 2022, and 2023.

Large trees within the solar development area and up to 0.5 miles outside of the site provide potential nesting habitat for SWHA. Open areas, such as grasslands, in the solar development area and vicinity provide foraging habitat for this species. Suitable SWHA nesting habitat was mapped within the same type of vegetation community as was used for the SSHCP habitat mapping (mixed Riparian Woodland and Mixed Riparian Scrub) utilizing the vegetation community boundaries mapped within the PSA in 2021. The Project solar development has the potential to impact SWHA suitable nesting habitat (i riparian forest), and foraging habitat (i.e., valley and foothill grassland; seasonal wetlands, vernal pool, and swale wetlands; ephemeral, intermittent, and swale non-wetland waters). Note that aquatic land covers provide only seasonal foraging habitat when the aquatic land covers are dry in the summer and fall. Table 22 below summarizes potential impacts associated with SWHA. Construction activities, including grading and grubbing, near suitable nesting habitat (e.g., individual trees or riparian woodland habitats) within the solar development area or within 0.5 miles of the PSA could disturb an active SWHA nest. If trees within 0.5 miles of the solar development area become occupied by nesting SWHA prior to construction, then activities could result in the incidental loss of adults, juveniles, nestlings, or fertile eggs. In addition to the potential to remove a tree with an active nest, construction-generated disturbances also have the potential to indirectly affect SWHAs if the species is nesting within 0.5 miles of Project activities. Increased levels of noise and human activity within 0.5 miles of an active nest could result in nest abandonment or forced fledging and subsequent loss of fertile eggs, nestlings, or juveniles. These construction-generated disturbances could also cause SWHA to temporarily avoid foraging on some or all the solar development area.

Table 22. Summary of Potential Impacts to Swainson's Hawk Suitable Nesting and Foraging Habitat within the Project Solar Development Area

Species Suitable Habitat	Impacts Type (acres)			
	Direct Permanent	Indirect	Temporary	Total (acres)
Nesting	0.04	0.36	3.79	*4.19*
Foraging	53.01	8.63	1,013.83	*1,075.47*
Total (acres)	**5305**	**8.99**	**1,017.62**	**1,079.6**

Notes:

1 Swainson's Hawk Suitable Habitat= Nesting: riparian forest; Foraging: valley and foothill grassland; seasonal wetlands, vernal pool, and swale wetlands;, and swale non-wetland waters.

2 Project Component Intersecting Suitable Habitat= Direct permanent impact project components: fence posts, solar array pole risers, overhead transmission poles, roads, and switchyard; Indirect impact project components: gen-tie corridor transmission, and overhead transmission line corridors; Temporary impact project components: general grading, inside work areas (staging), fencing, and solar array placement.

The results of studies conducted by Estep Environmental Consulting (i.e., 2013, and 2021 findings) indicate that properly designed and managed solar arrays can provide suitable SWHA foraging habitat. As noted in Section 3.2.4.3- Swainson's Hawk Protocol-Level Surveys, and 4.5.2.9- Swainson's Hawk (*Buteo swainsonii*), solar arrays will be spaced to allow for foraging by SWHA between array rows. The solar arrays are proposed to be 6 feet above ground level when at a level position (e.g., mid-day), though distances will vary depending on the panel tilt of 60 degrees to each side. Although the area under the solar arrays would likely be unavailable for aerial foraging, it would still provide habitat for rodents and large insects that form the SWHA prey base. SWHA may also pursue prey under the panels by hopping short distances, especially when the tracking panels are tilted in early morning and late afternoon to better expose the area on each side of the post. SWHA would also likely perch on the solar arrays, potentially enhancing their foraging efficiency within the remaining foraging habitat.

To reduce impacts to SWHA and habitat to less than significant with mitigation incorporated, the measures below are recommended.

Recommended Avoidance, Minimization, and Mitigation. The following measures are recommended to avoid, minimize, and/or mitigate impacts to SWHA:

- If nesting SWHA are determined present within the solar development area or within 0.5 miles of the solar development area during construction of the Project, on-going monitoring by a qualified biologist may be required to ensure there are no impacts to this species and its habitat. The requirement for monitoring will be determined in consultation with CDFW qualified biologists after they are notified of the nesting SWHA.
- SWHA shall be included in the WEAP described above for Special-Status Plant Species, that will also educate staff on the presence of special-status wildlife species and ways to avoid and minimize impacts.
- A SWHA Management Plan shall be developed and implemented by the Project to ensure that the solar development area and adjacent suitable SWHA foraging habitat achieve a performance standard of no net loss of SWHA habitat function and value following Project completion. The SWHA Management Plan shall include at a minimum: (1) requirements for timing of vegetation management and vegetation height to maximize SWHA access to prey species; (2) procedures to be followed in the event SWHA are present in an area, especially during nesting season; (3) eliminate interior fencing within the site and maximize visibility of perimeter fencing through flagging or other techniques to allow freedom of movement by SWHA and avoid collision; and (4) measures to minimize impact on and potentially enhance prey populations (e.g., burrowing rodents) such as avoiding rodenticide use or vegetation management. The SWHA Management Plan and its metric for determining SWHA habitat function and value will be reviewed and approved by CDFW and implemented for the Project duration, until decommissioning.
- Compensatory mitigation shall be provided for the acreage of nesting and foraging habitat impacted by Project infrastructure and that cannot be maintained to support continued foraging habitat for SWHA. The Project may achieve the performance standard through the County of Sacramento Swainson's Hawk Mitigation Program or other compensatory programs (e.g., mitigation banks, conservation easements). Under the County of Sacramento's program, mitigation would be the difference between the existing habitat value (75% of foraging habitat value remaining based on the AG-80 zoning) and the post-Project habitat value (35%, see above justification). Because the impacted area would be larger than 40 acres, the Sacramento County Swainson's Hawk Mitigation Program would require the Project to provide mitigation lands. Compensatory mitigation may be provided through acquisition of mitigation bank credits from authorized mitigation banks, on-site mitigation or conservation measures, and/or off-site mitigation or conservation measures.

a.6 Bald Eagle and Golden Eagle

Bald eagle and golden eagle are both federal BCC species, while their state protection is state endangered and state fully protected, respectively. A bald eagle and golden eagle individual were both observed flying overhead during reconnaissance-level surveys in the solar development area. Large trees within the and outside the solar development area, and within 0.5 miles provide potential nesting habitat for these two species. Additionally, open areas in the solar development area provide foraging habitat for this species.

Construction activities, including grading and grubbing, near suitable nesting habitat (e.g., individual trees or woodland habitats) within the solar development area or within 0.5 miles of the PSA could disturb an active nest. If trees within 0.5 miles of the solar development area become occupied by nesting bald or golden eagles prior to construction, then activities could result in the incidental loss of adults, juveniles, nestlings, or fertile eggs. In addition to the potential to remove a tree with an active nest, construction-generated disturbances also have the potential to indirectly affect bald and golden eagles if the species is nesting within 0.5 miles of Project activities. Increased levels of noise and human activity within 0.5 miles of an active nest could result in nest abandonment or forced fledging and subsequent loss of fertile eggs, nestlings, or juveniles. These construction-generated disturbances could also cause bald or golden eagles to temporarily avoid foraging on some or all the solar development area.

As a state-listed species, impacts to bald and golden eagle may be considered "take" under CESA if the project causes injury or death of an eagle. If "take" of SWHA is anticipated, the Project would require consultation and subsequent authorization (i.e., in the form of an Incidental Take Permit) from CDFW pursuant to Section 2081 of CESA.

To reduce impacts to bald eagle and golden eagle and habitat to less than significant with mitigation incorporated, the measures below are recommended.

Recommended Avoidance, Minimization, and Mitigation. The following measures are recommended to avoid, minimize, and/or mitigate impacts to bald and golden eagles:

- If nesting bald or golden eagles are determined present within the solar development area or within 0.5 miles of the solar development area during construction of the Project, on-going monitoring by a qualified biologist may be required to ensure no impacts to this species and its habitat. The requirement for monitoring will be determined in consultation with CDFW qualified biologists after they are notified of the nesting SWHA.
- A buffer may also be implemented around an active bald or golden eagle nest to alleviate any impacts (e.g., noise, dust).
- Bald and golden eagles shall be included in the WEAP described above for Special-Status Plant Species, that will also educate staff on the presence of special-status wildlife species and ways to avoid and minimize impacts.

a.7 Tricolored Blackbird

TRBL is a federal BCC, state threatened species, an SSC, and an SSHCP Covered Species. Dense stands of emergent vegetation, willows, thistle, Himalayan blackberry and/or similar in the solar development area, provide nesting habitat for TRBL, and open grassland and cultivated land provide foraging habitat for this species. Dudek conducted focused TRBL surveys within the PSA in 2021 and 2022. Incidental observations/detections for TRBL were also recorded in 2023. TRBL were observed throughout the entirety of the central-southern extent of the solar development area, and several documented occurrences within the immediate vicinity. Most primary and secondary observation (e.g., potential nests) were concentrated west of Scott Road and on the east side central side of Coyote Creek. No nesting colonies were observed.

There is suitable foraging and nesting habitat for TRBL within the solar development area. The Project solar development has the potential to impact TRBL suitable nesting and foraging habitat (i.e., valley and foothill grasslands; and freshwater emergent wetlands, ponds, fringe wetlands, seasonal wetlands, vernal pools, and swale wetlands). Table 23 below summarizes potential impacts associated with TRBL. Given the minimal habitat available for TRBL nesting in the solar development area, the primary impact of development would be from the removal or degradation of potential foraging habitat for colonies elsewhere in the solar development area or vicinity. Specifically, development could impact TRBL through removal of habitat or injury if this species is present within the solar development area prior to ground-disturbing activities. In addition, Project operation and maintenance could disrupt activities of any TRBL within or near the solar development area through human presence, noise, and light. Direct or indirect impacts to this species would likely be considered a potentially significant impact under CEQA.

Table 23. Summary of Potential Impacts to Tricolored Blackbird Nesting and Foraging Suitable Habitat within the Project Solar Development Area

Species Suitable Habitat	Impacts Type (acres)			
	Direct Permanent	Indirect	Temporary	Total (acres)
Nesting and Foraging Habitat	53.02	8.65	1,014.90	*1,076.57*

Notes:

1 Tricolored Blackbird Nesting and Foraging Habitat= valley and foothill grasslands, seep, freshwater emergent wetlands, ponds, fringe wetlands, seasonal wetlands, vernal pool, vernal swale, upland swale, and vernal swale.

2 Project Component Intersecting Suitable Habitat= Direct permanent impact project components: fence posts, solar array pole risers, overhead transmission poles, roads, and switchyard; Indirect impact project components: gen-tie corridor transmission, and overhead transmission line corridors; Temporary impact project components: general grading, inside work areas (staging), fencing, and solar array placement.

To reduce impacts to TRBL and habitat to less than significant with mitigation incorporated, the measures below are recommended.

Recommended Avoidance, Minimization, and Mitigation. The following measures are recommended to avoid, minimize, and/or mitigate impacts to TRBL:

- A qualified biologist shall conduct a pre-construction survey for nesting TRBL approximately 2 days prior to vegetation or tree removal or ground-disturbing activities during the nesting season (April through August). The survey shall cover the limits of construction and suitable nesting habitat within 500 feet.
- If any active nests are observed during surveys, a qualified biologist shall establish a suitable avoidance buffer from the active nest. The buffer distance for TRBL will be 500 feet and shall be determined based on factors such as topographic features, intensity and extent of the disturbance, timing relative to the nesting cycle, and anticipated ground disturbance schedule. Limits of construction to avoid active nests shall be established in the field with flagging, fencing, or other appropriate barriers and shall be maintained until the chicks have fledged and the nests are no longer active, as determined by the qualified biologist.
- If vegetation removal activities are delayed, additional nest surveys shall be conducted such that no more than 7 days elapse between the survey and vegetation removal activities. It is recommended that disturbing potential nesting habitat (i.e., trimming and/or vegetation removal) be performed outside of the nesting season (September through April) to avoid impacts to nesting birds.

- If an active nest is identified within 50 feet of the construction zone after construction has started, work within 50 feet of the nest shall be halted until the qualified biologist can provide appropriate AMMs to ensure that the nest is not disturbed by construction. Appropriate measures may include a no-disturbance buffer until the birds have fledged (with periodic checks by the biological monitor), limitations on construction activities that generate substantial vibration and/or noise levels less than 60 dBA (decibels), and/or full-time monitoring by a qualified biologist during construction activities conducted near the nest.
- This species shall be included in the WEAP described above for Special-Status Plant Species, that will also educate staff on the presence of special-status wildlife species and ways to avoid and minimize impacts.

a.8 Grasshopper Sparrow, Bank Swallow, and White-tailed Kite

Grasshopper sparrow, bank swallow, and white-tailed kite are SSC, SSC, state threatened, and state fully protected species. Numerous habitats and vegetation communities within the solar development area provide suitable nesting and foraging habitat for these three species (e.g., blue oak woodland and forest, and valley and foothill grasslands).

During reconnaissance-level surveys, both song sparrow and white-tailed kite were documented in various locations within the solar development area. If present, construction activities within the solar development area could remove or degrade foraging habitat, reduce nesting success and survival of nestlings, or cause nest abandonment. Ongoing operations and maintenance activities could discourage nesting within the solar development area and vicinity through human presence, noise, and lighting effects. As a state-listed species, impacts resulting in injury or death to grasshopper sparrow may be "take" under CESA. If "take" of grasshopper sparrow, bank swallow is anticipated, this Project action would require consultation and subsequent authorization in the form of a CDFW Incidental Take Permit pursuant to Section 2081 of CESA. As a state Fully Protected species, white-tailed kite cannot be permitted for incidental take and impacts must be avoided.

To reduce impacts to song sparrow, grasshopper sparrow, bank swallow, and white-tailed kite and habitat to less than significant with mitigation incorporated, the measures below are recommended.

Recommended Avoidance, Minimization, and Mitigation. The following measures are recommended to avoid, minimize, and/or mitigate impacts to grasshopper sparrow, bank swallow, and white-tailed kite:

- A qualified biologist shall conduct a pre-construction survey for nesting song sparrow, grasshopper sparrow, bank swallow, and white-tailed kite approximately 2 days prior to vegetation or tree removal or ground-disturbing activities during the nesting season. The survey shall cover the limits of construction and suitable nesting habitat within 500 feet.
- If any active nests are observed during surveys, a qualified biologist shall establish a buffer distance that will range from 50 to 300 feet per the discretion of the qualified biologist. The buffer determined by the qualified biologist will be based on factors such as topographic features, intensity and extent of the disturbance, timing relative to the nesting cycle, and anticipated ground disturbance schedule. Limits of construction to avoid active nests shall be established in the field with flagging, fencing, or other appropriate barriers and shall be maintained until the chicks have fledged and the nests are no longer active, as determined by the qualified biologist.

- If vegetation removal activities are delayed, additional nest surveys shall be conducted such that no more than 7 days elapse between the survey and vegetation removal activities. It is recommended that disturbing potential nesting habitat (i.e., trimming and/or vegetation removal) be performed outside of the nesting season (September through April) to avoid impacts to nesting birds.
- If an active nest is identified within 50 to 300 feet of the construction zone after construction has started, work within 50 to 300 feet of the nest shall be halted until the qualified biologist can provide appropriate AMMs to ensure that the nest is not disturbed by construction. Appropriate measures may include a no-disturbance buffer until the birds have fledged, limitations on construction activities that generate substantial vibration and/or noise levels less than 60 dBA, and/or full-time monitoring by a qualified biologist during construction activities conducted near the nest.
- This species shall be included in the WEAP described above for Special-Status Plant Species, that will also educate staff on the presence of special-status wildlife species and ways to avoid and minimize impacts.

a.9 Crotch's Bumble Bee

CBB is state candidate endangered with a moderate potential to occur within vegetation communities on site where nesting and floral/nectar resources may be present. Specifically, suitable nesting and nectar source habitat for CBB was identified and recorded throughout the solar development area during habitat assessments conducted April 11, 2021, May 9 through 11, 2023, May 23, 2023, and July 3 through July 6, 2023. No individual CBB was observed or detected. Based on the focused surveys conducted within the solar development area, nesting and foraging/nectar resource observations were most abundant in the oak woodlands and forest, and foothill and valley grassland vegetation communities.

The Project solar development has the potential to impact CBB nesting and foraging/nectar suitable habitat (i.e., oak woodland and forest, and valley and foothill grasslands). Within the solar development area there is 287.27 acres of oak woodlands and forest, and 1,088.42 acres of valley and foothill grassland that have the potential to be permanently, indirect, and/or temporarily impacted during Project development. Note the habitat suitability for this species is variable and not explicitly dependent to these specific habitats. Direct, indirect, and/or temporary impacts to this species and its associated habitat would likely be considered a potentially significant impact under CEQA.

To reduce impacts to CBB to less than significant with mitigation incorporated, the measures below are recommended.

Recommended Avoidance, Minimization, and Mitigation. The following measures are recommended to avoid, minimize, and mitigate impacts to Crotch's bumble bee:

- A pre-construction survey shall be conducted for CBB including 1) a habitat assessment and 2) focused surveys. The habitat assessment shall include historical and current species occurrences; document potential habitat on site including foraging, nesting, and/or overwintering resources; quantify which plant species are in bloom and their percent cover, and other items described in "Survey Considerations for CESA Candidate Bumble Bee Species" (CDFW 2023f).
- The pre-construction survey will be performed by a qualified biologist with expertise in surveying for bumble bees and include at least three survey passes that are not on sequential days or in the same week, preferably spaced 2 to 4 weeks apart. The timing of these surveys shall coincide with the Colony Active Period (April through August for Crotch's bumble bee). Surveys shall occur at least 1

hour after sunrise and 2 hours before sunset. Surveys will not be conducted during wet conditions (e.g., foggy, raining, or drizzling) and surveyors will wait at least 1 hour following rain. Optimal surveys are when there are sunny to partly sunny skies that are greater than 60° Fahrenheit. Surveys may be conducted earlier if other bees or butterflies are flying. Surveys shall not be conducted when it is windy (i.e., sustained winds greater than 8 mph). Within non-developed habitats, the qualified biologist shall look for nest resources suitable for bumble bee use. Ensuring that all nest resources receive 100% visual coverage, the qualified biologist shall watch the nest resources for up to 5 minutes, looking for exiting or entering worker bumble bees. Worker bees should arrive and exit an active nest site with frequency, such that their presence would be apparent after 5 minutes of observation. If a bumble bee worker is detected, then a representative shall be identified to species. Qualified biologists shall be able view several burrows at one time to sufficiently determine if bees are entering/exiting them depending on their proximity to one another. It is up to the discretion of the qualified biologist regarding the actual survey viewshed limits from the chosen vantage point that would provide 100% visual coverage; this could include a 30- to 50-foot-wide area. If a nest is suspected, the surveyor can block the entrance of the possible nest with a sterile vial or jar until nest activity is confirmed (no longer than 30 minutes).

- Identification will include qualified biologists netting/capturing the representative bumble bee in appropriate insect nets, per the protocol in U.S. National Protocol Framework for the Inventory and Monitoring of Bees. The bee shall be placed in a clear container for observation and photographic documentation if able. The bee will be photographed using a macro lens from various angles to ensure recordation of key identifying characteristics. If bumble bee identifying characteristics cannot be adequately captured in the container due to movement, the container will be placed in a cooler with ice until the bumble bee becomes inactive (generally within 15 minutes). Once inert, the bumble bee shall be removed from the container and placed on a white sheet of paper or card for examination and photographic documentation. The bumble bee shall be released into the same area from which it was captured upon completion of identification. Based on implementation of this method on a variety of other bumble bee species, they become active shortly after removal from the cold environment, so photography must be performed quickly. If CBB nests are not detected, no further mitigation would be required. The mere presence of foraging Crotch's bumble bees would not require implementation of additional minimization measures because they can forage up to 10 kilometers from their nests.
- If nest resources occupied by CBB are detected within the construction area, no construction activities shall occur within 100 feet of the construction zone, or as determined by a qualified biologist through evaluation of topographic features or distribution of floral resources. The nest resources will be avoided for the duration of the CBB nesting period (February 1 through October 31). Outside of the nesting season, it is assumed that no live individuals would be present within the nest as the daughter queens (gynes) usually leave by September, and all other individuals (original queen, workers, males) die. The gyne is highly mobile and can independently disperse to outside of the construction footprint to proposed open space (see MM-WCSP-BIO-5) or other suitable areas beyond that have suitable hibernacula resources. Because construction will have occurred in the area outside of the occupied nesting resources, no suitable habitat will be present in the impact area, and it is assumed that new queens will disperse to habitat outside of the construction area.
- A written survey report will be submitted to CDFW within 30 days of the pre-construction survey. The report will include survey methods, weather conditions, and survey results, including a list of insect species observed and a figure showing the locations of any CBB nest sites or individuals observed. If CBB nests are observed, the survey report will also include the qualifications/resumes of the surveyor

and qualified biologists for identification of photo vouchers, detailed habitat assessment, photo vouchers, recommendations for avoidance, and the location information will be submitted to the CNDDB at the time of, or prior to, submittal of the survey report.

- In the event an Incidental Take Permit is needed, mitigation for direct impacts to CBB will be fulfilled through compensatory mitigation at a minimum 1:1 nesting habitat replacement of equal or better functions and values to those impacted by the Project, or as otherwise determined through the Incidental Take Permit process. Mitigation will be accomplished either through off-site conservation or through a CDFW-approved mitigation bank. If mitigation is not purchased through a mitigation bank, and lands are conserved separately, a cost estimate will be prepared to estimate the initial start-up costs and ongoing annual costs of management activities for the management of the conservation easement area(s) in perpetuity. The funding source will be in the form of an endowment to help the qualified natural lands management entity that is ultimately selected to hold the conservation easement(s). The endowment amount will be established following the completion of a Project-specific Property Analysis Record to calculate the costs of in-perpetuity land management. The Property Analysis Record will consider all management activities required in the Incidental Take Permit to fulfill the requirements of the conservation easement(s), which are currently in review and development.

a.10 Valley Elderberry Longhorn Beetle

VELB is a federally threatened species and an SSHCP Covered Species. As a federally listed species, impacts to VELB resulting in injury or death would be considered take under the FESA. Suitable habitat for VELB has been identified within the solar development area (i.e., elderberry plants within riparian and adjacent non-riparian areas). Specifically, a total of 10 elderberry plants were identified in and/or within 165 feet (i.e., distance of typical avoidance buffer) of the solar development area. Dudek conducted focused surveys of elderberry plants within the PSA on March 17 and 18, 2022. The focused surveys found that three elderberry plants, shrub IDs 6, 9, and 10, exhibited potential relict bore/exit holes from a burrowing insect, and no observations of VELB were recorded. These three elderberry plants have the potential to be indirectly impacted by Project activities, see Table 24 below. If the Project affects VELB and/or VELB habitat (i.e., elderberry shrubs), then the Project may require consultation and subsequent incidental take authorization (in the form of a Biological Opinion or Letter of Concurrence) from USFWS pursuant to Section 7 of the FESA.

Table 24. Summary of VELB Focused Survey Results, Impacts, andProposed Mitigation

ID	Location	Focused Survey Results	Impact Type [a]	Mitigation
1	Upland	No presence observed	No impact	None
2	Upland	No presence observed	No impact	None
3	Riparian	No presence observed	No impact	None
4	Riparian	No presence observed	Indirect	AMMs
5	Riparian	No presence observed	No impact	None
6	Riparian	Relict bore/exit holes, no presence observed	Indirect	AMMs
7	Upland	No presence observed	No impact	None
8	Upland	No presence observed	Indirect	AMMs
9[b]	Upland	Relict bore/exit holes, no presence observed	Indirect	AMMs
10[b]	Upland	Relict bore/exit holes, no presence observed	Indirect	AMMs

Notes: VELB= valley elderberry longhorn beetle; ID= elderberry shrub identification number; AMM= avoidance and minimization measure.

[a] Impact Type: Indirect- reasonably foreseeable effects of a project implementation on remaining or adjacent resources outside the direct disturbance zone that may occur during typical grading or maintenance activities or later in time because of a project; None- no associated impacts.
[b] Cluster of more than one elderberry plant in one location.

To reduce impacts to VELB and habitat to less than significant with mitigation incorporated, the measures below are recommended.

Recommended Avoidance, Minimization, and Mitigation. The following measures are recommended to avoid, minimize, and/or mitigate impacts to VELB:

Indirect impacts (i.e., plants between 20 to 100 feet of solar development construction) will be avoided and are subject to the implementation of the following AMMs:

- Avoidance and Fencing. Project activities that may damage or kill an elderberry plant (e.g., trenching, paving, etc.) shall be avoided or shall achieve the following performance standard: Compensated through transplanting existing elderberry shrubs and/or planting new seedling elderberry plants in areas not subject to project disturbance at a ratio of 1:1. All areas to be avoided during construction activities will be fenced and/or flagged as close to the Project solar development area. Temporary construction fencing and flagging shall be installed at least 165 feet outside the edge of the driplines of the elderberry plants. ESA signs shall be erected along the edge of the avoidance area. In areas where encroachment on the 165-foot buffer has been approved by USFWS, a minimum setback of at least 20 feet from the dripline of each elderberry plant shall be provided, as well as documentation of USFWS setback approval.
- Timing. All activities that could occur within 165 feet of an elderberry plant will be conducted outside of the flight season of the VELB (i.e., March through July) to the extent feasible.
- Trimming. If necessary, trimming may remove or destroy VELB eggs and/or larvae and may reduce the health and vigor of the elderberry plant. Therefore, to avoid and minimize direct impacts to VELB, trimming will occur between November and February and will avoid the removal of any branches or stems that are greater than 1 inch in diameter. Measures to address regular and/or large-scale maintenance (trimming) shall be established and approved by USFWS.
- Mowing. Mechanical weed removal within the dripline of any elderberry plant will be limited to the season when adult VELB are not active (i.e., August through February) and will avoid damage to the elderberry plant.
- Construction Monitoring. A qualified biologist will monitor the Project solar development area if work is approved to occur within the 165-foot avoidance buffer to assure that all AMMs are implemented. The amount and duration of monitoring will depend on the project specifics and shall comply with USFWS Section 7 minimization standards.
- WEAP. A qualified biologist will provide training for all contractors, work crews, and any on-site personnel on the status of the VELB, its host plant and habitat, the need to avoid damaging the elderberry shrubs, and the possible penalties for not complying with these requirements.

a.11 Conservancy Fairy Shrimp, Vernal Pool Fairy Shrimp, and Vernal Pool Tadpole Shrimp

Conservancy fairy shrimp are a federally endangered species. Suitable habitat for the species is present within the PSA, however the PSA is not within the known range of this species. The species is not expected to occur within the solar development area. This species has not been documented within five miles of the

PSA (CDFW 2023e). This species is known to occur in 10 populations; the closest two are Yolo Bypass Wildlife Area in Yolo County and Jepson Prairie in Solano County.

Vernal pool fairy shrimp are a federally threatened species, and vernal pool tadpole shrimp are a federally endangered species. Both species are SSHCP Covered Species that have been documented in the northwest region of the PSA. There are known occurrences of this species along the western portion of the gen-tie alignment route in the northwest vicinity of the solar development area (CDFW 2023e, USFWS 202b). Additionally, there are several known occurrences of this species within 5 miles of the PSA, several of which are in occupied pools immediately north of the PSA (CDFW 2023e). The nearest DCH unit for vernal pool fairy shrimp and vernal pool tadpole shrimp is approximately 5 miles west of the PSA (Figure 9) (USFWS 2023b).

The Project assumes presence of listed branchiopods in the solar development due to the level of known occurrences and DCH in the area, as well as suitable habitat presence within the solar development area. Development within or adjacent to aquatic resources within the solar development area could impact listed branchiopods and their habitat. Direct permanent impacts may occur due to the permanent modification (i.e., dredge and/or fill) of suitable aquatic resource habitat (i.e., wetlands and non-wetland waters excluding perennial and intermittent channels, ditches, and upland swales) from the development of the Project switchyard, roads and associated waters crossings, fence post installation, solar array post piles, and utility poles. Aquatic resource impacts outside the direct permanent disturbance area may be subject to temporary or indirect impacts listed brachiopods and their associated habitat. Of note, areas shaded by the solar array to be an indirect effect to Branchiopod Habitat, which differs from other resources evaluated in this BTR (i.e., upland areas in a vegetated state have generally similar function beneath the solar array). Thus, for Branchiopods, indirect impacts may occur due to long or short-term indirect shading from solar modules and/or overhead transmission lines. Temporary impacts would be considered those impacts that could be restored to pre-existing Project conditions (i.e., earthworks, inside work areas, exclusion zones, fenced areas, and portions of the gen-tine corridor). Table 25 below summarizes potential impacts associated with aquatic resource impacts suitable for listed branchiopods in the solar development area, as well as notes providing resource impacts within the Mather Core Recovery area of the solar development area. Vernal pool tadpole shrimp and vernal pool tadpole shrimp species and their habitat are subject to agency jurisdiction pursuant to regulations under FESA, CESA, California FGC, CEQA and additional CWA Guidelines. Measures to avoid, minimize, and mitigate impacts to jurisdictional wetlands and waters that provide potential large listed branchiopod habitat are provided in Section 6.2(c).

Table 25. Summary of Potential Impacts to Aquatic Resources Suitable for Listed Branchiopods within the Project Solar Development Area

Species Suitable Habitat[1]	Impacts Type (acres)[2]			
	Direct Permanent	Indirect	Temporary	Total (acres)
Wetlands	0.07	0.28	0.69	*0.91*
Non-Wetland Waters	0.25	0.84	7.28	*7.69*
Total (acres)[3]	*0.32*	*0.31*	*7.96*	*8.59*

Notes:

1 Listed Branchiopod Suitable Habitat= Aquatic resource suitable habitat within the solar development area excludes perennial channels.

2 Project Component Intersecting Aquatic Resources for Branchiopods= Direct permanent: switchyard, roads and associated waters crossings, fence post installation, solar array post piles, and utility poles; Indirect impacts: shading from solar modules and/or overhead transmission lines; Temporary impacts: earthworks, inside work areasfenced areas, and portions of the gen-tine corridor.

3 Subset of permanent impacts to aquatic resources suitable for listed branchiopods specific to the Mather Core Recovery Area that extends into the solar development area includes the following: 0.04 acres of wetlands, and 0.11 acres of suitable aquatic habitat.

To reduce Project effects on vernal pool fairy shrimp, vernal pool tadpole shrimp to less than significant with mitigation incorporated, the measures below are recommended.

Recommended Avoidance, Minimization, and Mitigation. The following measures are recommended to avoid, minimize, and/or mitigate impacts to listed branchiopods:

- Unless a smaller buffer is approved through formal consultation with USFWS, construction fencing shall be installed a minimum of 250 feet from the delineated wetland edge of any potentially suitable aquatic habitats for listed branchiopods. All construction and operations activities are prohibited within this buffer area. If total avoidance is achieved, no further action is required.
- If avoidance, as described above, is not feasible, to achieve the performance standard of no net loss jurisdictional wetlands and non-wetland waters, impacts shall be mitigated. Direct and indirect effects to on-site suitable aquatic habitats that may support listed branchiopods shall be offset through mitigation options that may include one or a combination of purchasing mitigation credits from an agency-approved wetlands mitigation bank, paying an agency-approved in-lieu fee, and/or on-site and/or off-site conservation measures to compensate impacts to aquatic resources. A Project-specific Compensatory Mitigation Plan and/or a Restoration and Revegetation Plan that includes aquatic resource will be prepared to mitigate impacts that are not avoided to achieve the applicable regulatory permitting standards. The mitigation ratios shall, at minimum, comply with applicable mitigation ratios in terms and conditions of biological opinion issued by USFWS pursuant to Section 7 of the FESA.

a.12 American Badger

American badger is a state SSC and SSHCP Covered Species with a high potential to occur in the solar development area. Grasslands in the solar development area provide habitat for American badger. Although American badger has not been documented within the solar development area, there are known occurrences of American badger within 5 miles of the PSA. In addition, this species has SSHCP modeled habitat is present (County of Sacramento 2018).

There is suitable habitat, Eventual solar development area for American badger including loose soils for denning and hunting, ample prey, and uncultivated land. Development could impact American badger through removal of habitat or injury if this species is present within the solar development area prior to ground-disturbing activities. In addition, this species is also largely nocturnal and avoids areas of human presence, so the operations and maintenance of the Project could continue to impact the habitat quality of the solar development area and vicinity. The Project solar development has the potential to impact American badger suitable aquatic habitat (i.e., ephemeral, intermittent, perennial, ditch, and swale non-wetland waters), and upland habitat (i.e., blue oak woodland and valley grasslands; seasonal wetlands, and vernal pool wetlands). Note, that some ephemeral aquatic resource types are listed as upland habitat during when not inundated. Table 26 below summarizes potential impacts associated with American badger. Development could impact WST through removal of habitat or injury if this species is present within the solar development area prior to ground-disturbing activities. Direct or indirect impacts to this species would likely be considered a potentially significant impact under CEQA.

Table 26. Summary of Potential Impacts to American Badger Suitable Habitat within the Project Solar Development Area

Species Suitable Habitat[1]	Impacts Type (acres)[2]			
	Direct Permanent	Indirect	Temporary	Total (acres)
Upland and Aquatic	57.80	9.26	1,208.16	*1,274.82*

Notes:

1 American Badger Suitable Habitat= Upland: blue oak woodland and valley grasslands; Aquatic: seasonal wetlands, and vernal pool wetlands.

2 Project Component Intersecting Suitable Habitat= Direct permanent impact project components: fence posts, solar array pole risers, overhead transmission poles, roads, and switchyard; Indirect impact project components: gen-tie corridor transmission, and overhead transmission line corridors; Temporary impact project components: general grading, inside work areas (staging), fencing, and solar array placement.

To reduce impacts to American badger to less than significant with mitigation incorporated, the measures below are recommended.

Recommended Avoidance, Minimization, and Mitigation. The following measures are recommended to avoid, minimize, and mitigate impacts to American badger:

- A qualified biologist shall conduct focused surveys for American badger dens within 2 weeks prior to ground-disturbing activities in undeveloped grassland. The survey shall cover the limits of ground disturbance and a 100-foot buffer. Any winter or natal American badger dens located during the survey shall be evaluated (typically with remote cameras) to determine activity status.
- If American badger is identified, then prior to construction, the qualified biologist shall establish a 100-foot no-disturbance buffer (e.g., mesh exclusion fencing, flagging, or similar) around any active American badger natal dens identified during the survey. The buffer shall be maintained until the qualified biologist determines that the den is no longer active, and the young are no longer dependent upon the den for survival.
- If construction occurs during the non-breeding period (i.e., typically from June through February) and an active non-natal den is found in or adjacent to the construction footprint, a qualified biologist shall attempt to trap or flush the individual and relocate it to suitable habitat away from construction. If no dens are observed, and/or after a trapping or flushing effort is completed, and/or after it is confirmed that a natal den is no longer active, the vacated or unoccupied den can be excavated, and construction can proceed.
- If American badger is determined present within the solar development area, then coordination with the appropriate regulatory agencies will be conducted and avoidance will be employed by a qualified biologist to ensure there are minimal to no impacts to this species and its habitat during construction and operation and maintenance activities for the Project.
- This species shall be included in the WEAP described above for Special-Status Plant Species, that will also educate staff on the presence of special-status wildlife species and ways to avoid and minimize impacts.

a.13 Native Bats

Native bat roosting habitat in the solar development area is limited to isolated trees near seasonal ponds or other aquatic habitat that provide nearby foraging opportunities, as well as bridges and/or culvert adjacent to the development area. No active bat roosts or signs of occupation, such as guano or staining,

were detected during the reconnaissance-level field surveys or incidentally during the other surveys conducted on site. If bats are roosting in or adjacent to the solar development area, impacts could result from the permanent removal of roosting sites, such as trees and snags, or from Project-related noise disturbance to an occupied roosting site in the vicinity of construction. Native bat species are protected by the state under the California FGC Section 4150 for non-game mammals (including bats). Should bats be roosting during construction activities, removal of active roost sites that would result in the injury or mortality of native bats and may be considered a violation of the "take" provisions of Section 4150 of the California FGC.

To reduce impacts to native bats species to less than significant with mitigation incorporated, the measures below are recommended.

Recommended Avoidance, Minimization, and Mitigation. The following measures are recommended to avoid, minimize, and/or mitigate impacts to native bats:

- A qualified biologist shall conduct a habitat assessment for roosting bats within the solar development area. The habitat assessment shall include a visual inspection of potential roosting features (bats need not be present) and presence of guano within the solar development area, access routes, and 300 feet around these areas. The qualified biologist shall survey these areas no less than 30 days prior to the start of work. Potential roosting features found during the survey shall be flagged or marked.
- Removal of potential roost habitat identified during the assessment (described above) shall be avoided during the bat maternity season (i.e., May 1 through August 15). If removal of potential roost habitat occurs outside of the maternity season, no further mitigation shall be required.
- If a bat roosting or maternity colony cannot be completely avoided, the individuals shall be safely evicted under the direction of the qualified biologist. If individuals cannot be safely evicted due to factors such as lack of alternative roosting sites or the young still being reliant on adults, as determined by the qualified biologist, ground-disturbing activities within 50 feet of the roost (specified distance to be determined by the qualified biologist, based on surroundings and vulnerability of roost site, etc.) shall be postponed or halted until conditions are suitable for safe eviction or the roost has vacated naturally.
- If native bats are determined present within the solar development area, then on-going monitoring by a qualified biologist may be required to ensure there are minimal to no impacts to this species and its habitat during construction and operation and maintenance activities for the Project.
- If native bats are identified in the solar development area, prior to Project initiation, a Bat and Avian Protection Plan (with eviction and performance standard details) will be prepared in coordination with CDFW and USFWS to reduce/eliminate impacts to bat and avian species to minimize impacts.
- Native bats shall be included in the WEAP described above for Special-Status Plant Species, that will also educate staff on the presence of special-status wildlife species and ways to avoid and minimize impacts.

a.14 Nesting Raptors and Migratory Birds

Potential nesting habitat for migratory bird species within the solar development area is generally limited to that for ground-nesting species. Bald eagles and white-tailed kites were observed within the solar development area, but nesting habitat for the species is not present in the solar development area. Bank swallows have low to no potential to occur within the solar development area and there are known occurrences within 5 miles of the solar development area. Construction within the solar development

area could involve removal of vegetation and isolated trees, which has the potential to impact nesting birds protected by the federal MBTA and California FGC. To avoid impacting active nests, it is recommended conducting tree or vegetation removal be constructed outside of the nesting season (i.e., February through August).

To reduce impacts to nesting bird species to less than significant with mitigation incorporated, the measures below are recommended.

Recommended Avoidance, Minimization, and Mitigation. The following measures are recommended to avoid, minimize, and/or mitigate impacts to nesting raptors and migratory birds:

- A qualified biologist shall conduct a survey for nesting birds with 1 week prior to vegetation removal or ground-disturbing activities during the nesting season within suitable habitat (i.e., February through August). The survey shall cover the limits of construction and accessible suitable nesting habitat within 150 feet.
- If any active nests are observed during surveys, a qualified biologist shall establish a suitable avoidance buffer from the active nest. The qualified biologists will be responsible for monitoring all nests that are found within the Project survey area once construction work is initiated. Nests will be monitored within the following distances until the final nest outcome is determined (i.e., fledged or failed):
  - 150 feet for passerines and other non-raptors,
  - 500 feet for raptors and owls,
  - 250 feet for occupied burrowing owl burrows,
  - 500 feet for federally and/or state-listed species, and
  - 0.25 miles for SWHA.
- If the qualified biologists determine that the recommended buffer may not avoid disturbance that could cause a nest failure, the qualified biologists will recommend additional measures (e.g., increased buffer width, noise or visual barriers, work intervals, stopping work as needed, or allowing only specific work types). These measures may be implemented on a case-by-case basis to minimize impacts to nesting birds and may be based on site-specific conditions and work requirements. The qualified biologists will use behavioral cues that indicate nest disturbance (e.g., time off the nest, hesitation approaching the nest, incessant chattering, bill swiping, or other unusual behavior) to determine the buffer's effectiveness. All potential sources of nest disturbance will be assessed and documented, including non-construction activities (e.g., interspecific, and conspecific interactions and depredation) and non-Project-related activities (e.g., traffic and recreational activities). Limits of construction to avoid active nests shall be established in the field with flagging, fencing, or other appropriate barriers and shall be maintained until the chicks have fledged and the nests are no longer active, as determined by the qualified biologist.
- Vegetation or trees planned for removal shall be removed during the period of September through January, to avoid the nesting season. If the season cannot be avoided, measures shall be implemented to avoid take of birds or nests prohibited by the MBTA and the FGC. Any trees that are to be removed during the nesting season, which is February through August, will be surveyed by a qualified biologist and will only be removed if no nesting migratory birds are found. If vegetation removal activities are delayed, additional nest surveys shall be conducted such that no more than 7 days elapse between the survey and vegetation removal activities. If vegetation removal activities are delayed, additional nest surveys shall be conducted such that no more than 7 days elapse between the survey and vegetation removal activities.

- If an active nest is identified in or adjacent to the construction zone after construction has started, work in the vicinity of the nest shall be halted as-needed until the qualified biologist can provide appropriate AMMs to ensure that the nest is not disturbed by construction. Appropriate measures may include a no disturbance buffer until the nest has fledged and/or full-time monitoring by a qualified biologist during construction activities conducted near the nest.
- Nesting birds shall be included in the WEAP described above for Special-Status Plant Species, that will also educate staff on the presence of special-status wildlife species and ways to avoid and minimize impacts.

b) The Project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS.

b.1 Riparian Habitat and Sensitive Natural Communities

Sensitive natural communities, including riparian habitat, may fall under the jurisdiction of the CDFW pursuant to CESA and Section 1600 of the California FGC, and USFWS pursuant to FESA. These communities are habitats that have a limited distribution and are often vulnerable to the environmental effects of projects. In addition, riparian habitat may also be subject to Sacramento County tree permits and fees for the removal of protected tree species within the riparian habitat zone (i.e., *Quercus* spp.). These communities may or may not contain special-status species or their habitats.

No sensitive terrestrial natural communities were identified within the solar development area; however, riparian habitat (riparian forest) is present within the solar development area. In additional, two CDFW sensitive natural communities, Northern Hardpan Vernal Pool, and Valley Needlegrass Grassland communities were also identified within 5 miles of the solar development area.

Impacts to Northern Hardpan Vernal Pool sensitive natural community is addressed in the aquatic resource analysis of impacts in Section 6.2(c), below.

Valley needle grasses with the potential to occur within the solar development area include slender Orcutt grass and Sacramento Orcutt grass. Present habitat within the solar development area for these species includes valley and foothill grassland vegetation communities, as well wetlands and swales within the grasslands. Impacts to wetlands are addressed in the aquatic resource analysis of impacts in Section 6.2(c), below. The Project has the potential to permanently, indirectly, and temporary impacts 1, 088.21 acres of valley and foothill grassland suitable to valley needle grasses. AMMs to address no net loss of special-status plants are addressed in Section 6.2(a) above.

Riparian habitat is present along the intermittent channels (i.e., Coyote Creek), and perennial channels (i.e., Carson Creek), and well as around ponds, within the solar development area. Standard BMPs would be implemented during all Project activities to avoid riparian habitat; however, there are specific areas where individual riparian tree removal may be required. The Project proposes to remove approximately 173 trees within riparian areas within the solar development area. Riparian corridors will remain intact during and after Project development activities. AMMs relating to tree removal are detailed in Section 6.2(e) below.

c) The Project would not have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

c.1 State and Federally Protected Wetlands and Non-Wetland Waters

Dudek conducted an ARD of the approximately 2,704-acre PSA between April 2021 through August 2021. During the ARD, it was determined that there are approximately 8.97 acres of aquatic resources within the solar development area that meet the criteria of waters of the U.S. and/or waters of the state by the USACE, RWQCB, and CDFW. A preliminary jurisdictional determination has not yet been verified by the regulatory agencies for the Project, therefore all waters of the state are also considered waters of the U.S. CDFW jurisdiction extends to the top of bank or edge of wetland or riparian vegetation (if present) rather than the OHWM of applicable aquatic resources. Table 27 below provides a summary of aquatic resource impacts within the solar development area by jurisdictional authority (i.e., USACE, RWQCB, CDFW).

Table 27. Summary of Aquatic Resources Impacts in the Solar Development Area by Jurisdiction

Resource Agency	USACE	CDFW	RWQCB
Direct Permanent Impact (acres)[1]			
Wetlands	0.07	0.07	0.07
Non-Wetland Waters	0.17	0.35	0.17
Total Direct Permanent Impacts	*0.24*	*0.42*	*0.24*
Indirect Impact (acres)[2]			
Wetlands	0.15	0.15	0.15
Non-Wetland Waters	0.16	0.40	0.16
Total Indirect Impacts	*0.31*	*0.55*	*0.31*
Temporary Impact (acres)[3]			
Wetlands	1.57	1.57	1.57
Non-Wetland Waters	5.87	8.16	5.87
Total Temporary Impacts	*6.06*	*8.00*	*6.06*
Total Overall Impacts	**7.99**	**8.98**	**7.99**

Source: Dudek 2023a.
Notes: USACE = U.S. Army Corps of Engineers; CDFW = California Department of Fish and Wildlife; RWQCB = Regional Water Quality Control Board.

1 Direct permanent impact project components intersecting aquatic features: fence posts, solar array pole risers, overhead transmission poles, roads, and switchyard.
2 Indirect impact project components intersecting aquatic features: gen-tie corridor transmission, and overhead transmission line corridors.
3 Temporary impact project components intersecting aquatic features: general grading, inside work areas (staging), fencing, and solar array placement.

Project implementation would result in the direct permanent loss of a maximum of 0.42 acres wetlands and non-wetland waters (i.e., with the limits being the greater of the top of bank and/or OHWM). These direct permanent impacts would occur due to the permanent modification (i.e., dredge and/or fill) of aquatic resources because of the development of the Project switchyard, roads and associated waters crossings, fence post installation, solar array post piles, and utility poles. Aquatic resources outside the direct

permanent disturbance area that may occur during typical grading or maintenance activities (i.e., short-term construction-related indirect impacts) or later in time because of the Project (i.e., long-term, or operational, indirect impacts total a maximum of 0.55 acres. Indirect impacts would specifically be a result from the gen-tie corridor and installation of new overhead transmission lines. Temporary impacts that could be restored to pre-existing Project conditions include general grading, fencing, and installation of solar modules. Temporary impacts would total a maximum of 8.00 acres for the Project.

To reduce impacts to state and federally protected wetlands and waters to less than significant with mitigation incorporated, the measures below are recommended.

Recommended Avoidance, Minimization, and Mitigation. The following measures are recommended to avoid, minimize, and or mitigate impacts to aquatic resources:

- Direct permanent, indirect, and temporary impacts to jurisdictional aquatic resources will require prior authorization from the applicable resource agencies within their associated jurisdiction in the form of waters and/or aquatic resource habitat permitting (e.g., CWA 404 Nationwide or Individual Permit, CWAA 401 Water Quality Certification, California FGC Code 1600 Lake or Streambed Alteration Agreement, FEMA Floodplain Encroachment Permit, USFWS Section 7 biological assessment, etc.), as well as compensatory mitigation to ensure no net loss resources, habitat function, and value to comply with the permitting standards of the applicable permitting agency . Potential mitigation options include one or a combination of purchasing mitigation credits from an agency-approved wetlands mitigation bank, paying an agency-approved in-lieu fee, and/or on-site and/or off-site conservation measures to compensate impacts to aquatic resources. A Project-specific Compensatory Mitigation Plan and/or a Restoration and Revegetation Plan that includes aquatic resource will be prepared to mitigate impacts that are not avoided to achieve the applicable regulatory permitting standards.
- The Project is assuming all waters within the solar development area are both water of the state and waters of the U.S. Therefore, the Project will be seeking and approval of a preliminary jurisdictional determination. An approved preliminary jurisdictional delineation request and ARD Report from the USACE must be completed prior to and/or in conjunction with permit submittals with the USACE, CDFW, and RWQCB.
- Jurisdictional waters that may provide habitat to special-status species (e.g., large-listed branchiopods, WST, western pond turtle, etc.), may require additional compensatory mitigation for Project impacts. Compensatory mitigation requirements and ratios will ensure a minimum of no net loss of habitat value and to otherwise comply with USFWS and CDFW permitting standards.
- Aquatic resources shall be included in the WEAP as described above, that will also educate staff on the aquatic resources and water quality and ways to avoid and minimize impacts.

d) The Project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.

d.1 Wildlife Corridors

As stated above, the undeveloped grasslands in the solar development area provide nursery and migratory habitat for common wildlife species. Additionally, the Coyote Creek corridor in the central-southern vicinity of the solar development area provides a habitat connection, providing native habitat for resident wildlife,

as well as linkages to additional native habitat in the surrounding area. Riparian corridors will remain intact during and after Project development activities. Proposed fencing around the solar development area of the Project may limit wildlife permeability for certain species. Species such as birds, small to medium sized mammals (e.g., coyote, racoon) and reptiles (e.g., snakes, lizards) would be able to pass through or over the proposed fencing and their movement through the solar development area would not be impeded.

According to the California Essential Habitat Connectivity, grasslands within the solar development area are not specifically identified as Essential Connectivity Areas or Natural Landscape Blocks. In addition, there is ample similar open land available in the Project vicinity and many thousands of acres of habitat for migrating birds. The Project site plan and recommended AMMs ensure this impact is less than significant. Therefore, the Project would have a less-than-significant impact on wildlife movement or nursery sites.

To reduce impacts to wildlife corridors to less than significant with mitigation incorporated, the measures below are recommended.

Recommended Avoidance, Minimization, and Mitigation. The following measures are recommended to avoid, minimize, and or mitigate impacts to wildlife corridors and linkages:

- The Project will avoid placement of fencing, inverters, and solar array in primary riparian corridors that provide linkages/connectivity to adjacent preserves, open spaces, and primary tributaries (e.g., Carson Creek and Coyote Creek) within the solar development area. On average, the solar development area will maintain a 120 foot buffer from the top of bank of primary tributaries.
- Open, split rail, or other open fencing will be installed at designated locations in coordination with a qualified biologist. These measures shall be employed only where they do not conflict with the need to prevent public access to the Project for health and safety, and in locations where it does not conflict with on-going cattle and livestock operations.

e) The Project would conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

e.1 Local Biological Resources, Including Tree Preservation

Protected tree species are primarily located within the blue oak woodlands and forest, as well as riparian areas, within the solar development area. Within the solar development area, of the 4,787 trees inventoried, a total of a maximum of 4,394 trees are protected by Sacramento County Tree Preservation Ordinance (i.e., 4,394 protected oaks; 1,792 heritage species; and 173 riparian). This inventory equates to 54.61 acres contiguous canopy of oak woodlands and forest within the solar development area (CalTLC 2021; Dudek 2022; EPC 2023).

The Project has the potential to directly impact (i.e., removal) and/or otherwise indirectly impact (i.e., root damage from construction equipment) oak species with greater than 6 inches DBH (4,394 individual trees, total of 78,028.8 diameter inches), heritage and landmark species with greater than 16 inches DBH (1,762 individual trees, total of 48,829.7 diameter inches), and oak woodlands and forest (54.61 acres contiguous canopy).

To reduce impacts to local biological resource ordinances and policies to less than significant with mitigation incorporated, the measures below are recommended.

Recommended Avoidance, Minimization, and Mitigation. The following measures are recommended to avoid, minimize, and or mitigate impacts to local biological resource ordinances and policies:

- The Project arborist shall review the final issue for construction drawings prior to submittal to Sacramento County and identify the impacts to each tree and recommend actions regarding implementation of the AMMs below to increase the likelihood of long-term survival post-construction:
  - Identify the root protection zones and show the placement of tree protection fencing pursuant to the Project arborists recommendations or Sacramento County requirements.
  - Include on the final issue for construction drawings an "arborist inspection schedule" to monitor the site during (and after) construction to ensure AMMs are employed.
  - Clearly designate an area on within the Project site outside the dripline of all trees where construction materials may be stored, including where parking can take place. No materials or parking shall take place within the root protection zones of protected trees.
  - All work to be performed inside the root protection zone shall have fencing (i.e., exclusion fencing) installed and supervised by the Project arborist.
  - The Project arborist shall inspect the exclusion fencing prior to grading and/or grubbing for compliance with the recommended protection areas.
  - The Project arborist shall directly supervise the clearance pruning, irrigation, fertilization, placement of mulch and chemical treatments.
  - Prior to any grading, or other work with the Project site that will come within 50 feet of any tree to be preserved, the Project arborist shall determine whether irrigation needs to be installed from April through September and/or placement of a 4- to 6-inch layer of chip mulch over the root protection zone of all trees that will be impacted.
  - Trenching inside the root protection zone shall be by a hydraulic or air spade, placing pipes underneath the roots, or boring deeper trenches underneath the roots.
  - No grade cuts greater than 1 foot shall occur within the driplines of oak trees to be preserved, and no grade cuts whatsoever shall occur within 5 feet of their trunks.
  - No fill greater than 1 foot shall be placed within the driplines of oak trees to be preserved and no fill whatsoever shall be placed within 5 feet of their trunks.
  - No irrigation system shall be installed within the driplines of oak tree(s) to be preserved that may be detrimental to the preservation of the oak tree(s) unless specifically authorized by the approving body or the Director of Public Works.
  - Clearance pruning shall include removal of all the lower foliage that may interfere with equipment prior to having grading or other equipment on site. The Project arborist shall approve the extent of foliage elevation and oversee the pruning to be performed by a contractor.
  - Grading beneath trees to be saved shall be given special attention. The Project arborists shall identify efforts to avoid creating conditions adverse to the tree's health. The natural ground within the driplines of protected trees shall remain undisturbed as determined by the Project arborist as necessary to increase the likelihood of survival of the protected trees. Grading within the driplines of oak trees shall not be permitted unless specifically authorized by the approving body or by the Director of Public Works.
  - Major roots 2 inches or greater in diameter encountered within the tree's dripline during excavation from beneath trees that are not to be removed shall not be cut and shall be kept moist and covered

with earth as soon as possible. Roots 1 inch to 2 inches in diameter that are severed shall be trimmed and treated with pruning compound and covered with earth as soon as possible. Support roots that are inside the dripline of the tree shall be protected. The Project is required to hand-dig in the vicinity of major trees to prevent root cutting and mangling that may be caused by heavy equipment.

- All stumps within the root protection zone to be preserved shall be ground out using a stump router or left in place. No trunk within the root protection zone of other trees shall be removed using a backhoe or other piece of grading equipment.

- If tree removal and/or work within the dripline is not avoided, then the Sacramento County Tree Preservation Ordinance requires a tree removal permit for the removal will be required. This ordinance also prohibits grading, trenching, or filling any area within the area of a protected tree without being issued a permit. Potential impacts to trees must be mitigated in accordance with the Sacramento County Tree Preservation Ordinance.
- Mitigation of tree resources can be achieved through the following methods: (1) Mitigation for individual oaks less than 18 inches in DBH would require a mitigation ratio of 1:1 per diameter inch and heritage and landmark oak species with a DBH greater than 18 inches would require a mitigation ratio of 2:1 per diameter inch; (2) Mitigation at 1:1 ratio per contiguous acre loss of oak woodland/forest canopy cover. Mitigation for tree resources can be achieved through one or a combination of approaches: (1) on-site or off-site preservation and mitigation, (2) payment into in lieu fee program (e.g., Sacramento County Tree Preservation Fund), and (3) preservation bank credit purchase.

f) The Project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

f.1 Habitat Conservation Plan(s)

Sacramento County adopted the SSHCP in 2019, which established a regional habitat conservation program for the South Sacramento area. The SSHCP provides simplified permitting for the impacts of identified covered activities to certain special-status covered species and wetlands. Most SSHCP covered activities are located within Sacramento County's Urban Services Boundary and the Urban Development Area defined in the SSHCP. The Project land is outside of those areas. Solar development outside the Urban Development Area is not a covered activity, is not subject to the SSHCP permitting process, and is not otherwise subject to regulation under the SSHCP.

The Project has reviewed and processed a SSHCP Consistency Analysis for solar development activities (Dudek 2023b). While the Project is not considered a covered activity under the SSHCP, the SSHCP "does not preclude activities from occurring … provided they obtain the legally required local, state, and federal permits and approvals otherwise and customarily required, including mitigation for impacts caused by those activities" (County of Sacramento 2018). The SSHCP acknowledges that the Sacramento County General Plan provides for land uses that are not SSHCP covered activities, but that are within the SSHCP plan area. Thus, while not a covered activity, the Project utilized the SSHCP to develop a mitigation approach for the Project that is consistent with the SSHCP.

The SSHCP contemplates those activities that are not covered activities, and therefore are not regulated by the SSHCP, may nevertheless occur within the Plan Area of the SSHCP with the approval of the applicable state and federal environmental agencies. For example, the SSHCP acknowledges that the

Sacramento County General Plan provides for land uses that are not covered activities, but that are within the Plan Area of the SSHCP. The SSHCP recognizes that land uses outside of the Plan Area that are not covered activities may be permitted through separate federal and state authorization. While mitigation banks in the Plan Area are not a covered activity, the SSHCP provides for the acquisition of mitigation bank credits by the South Sacramento Conservation Agency to meet certain of the SSHCP goals and objectives (County of Sacramento 2018).

The Project will obtain applicable permits and other approvals from the USFWS, USACE, CDFW, and RWQCB, and will further minimize and mitigate impacts on natural resources to achieve comply with the regulatory standards of these agencies. These are the same regulatory standards applied by the USFWS and the other environmental agencies in their review and approval of the SSHCP. Therefore, the Project mitigation strategy is designed to achieve the mitigation standards applicable to covered activities under the SSHCP.

During the 30-year life of the Project, the lands within the solar development area would not be available for acquisition by the South Sacramento Conservation Agency and inclusion within the SSHCP Preserve System. The solar development area will continue to provide some habitat value for SSHCP Covered Species, but the lands in the solar development area could not be acquired and considered for inclusion in the SSHCP preserve System prior to the decommissioning of the Project.

The Project will provide compensatory mitigation for impacts to aquatic resources and specific SSHCP covered species through the acquisition of credits from existing mitigation banks and other compensatory mitigation.

The SSHCP included an inventory of undeveloped potential habitat for SSHCP Covered Species in the SSHCP Plan Area and in each Preserve Planning Unit. The Project is mostly located outside of Preserve Planning Units, but a small portion in the southeast is in Preserve Planning Unit 5 and a few portions of the Project in the west are in Preserve Planning Unit 1. That inventory is excerpted below and compared with the acres of land cover proposed within only the solar development area for the Project.

As Table 28 indicates, The Project impacts a small percentage of the SSCHP modeled habitat in SSHCP Preserve Planning Unit 1 and 5. For example, during the 30-year life of the Project, approximately 1.0% of swales and 0.20% of vernal pools in Planning Unit 5 and 0.002% of vernal pools in Preserve Planning Unit 1 would not be available for acquisition by the South Sacramento Conservation Agency. The SSHCP has no specific preservation goals or objectives for areas outside Preserve Planning Units, so development of those area would not conflict with implementation of the SSHCP Conservation Strategy.

Although the Project site includes a range of natural land covers including wetlands and a riparian corridor, most of the Project site is located outside of the SSHCP Preserve Planning Units and outside the UDA, which is an area that is inside the SSHCP area but where the SSHCP did not envision land acquisition. The Project site is adjacent to an existing preserve area on the east. The SSHCP design focus in Preserve Planning Unit 5 is primarily to provide habitat linkages among existing and future preserves both outside and inside the Urban Development Area, primarily along the Cosumnes River/Deer Creek Corridor.

Existing fencing around and inside the Project site will not restrict movement of medium-to large sized mammals (e.g., deer). Small to medium-sized mammals such as coyotes, raccoons, and possums likely have no issue moving through the site, either digging under the existing fencing or passing through gaps.

Coyote was observed several times during visits to the site. Scott Road does not carry a high traffic volume[1] and the undeveloped lands to the west and east of the property make transit possible from the Cosumnes/Deer Creek corridor through the subject property to the existing preserve east of the site. In addition to terrestrial mammals, the open grassland of the subject property can provide a movement corridor for bird species that are less likely to move through a developed area, including the red-tailed hawk and northern harrier.

The Project site will allow for continued wildlife movement through the Cosumnes River/Deer Creek corridor and across the Project lands for common species and SSHCP covered species. Project fencing may impair some wildlife movement through the Project site by larger mammals (e.g., deer). However, based on the extended analysis conducted regarding SWHA space use of solar PV facilities in Sacramento County (Appendix A), areas with solar panels can continue to provide foraging habitat for raptor species if appropriate vegetation is maintained under and between solar arrays (Appendix A).

The impacts to SSHCP land cover types from Project development are a very small percentage of the inventory of those lands in Preserve Planning Unit 1 and 5, and most of the Project is proposed to occur outside of Preserve Planning Units and outside the UDA where the SSHCP did not envision preservation. Mitigation for the Project would include incorporating the applicable AMMs from the SSHCP. This mitigation would ensure that Project effects on SSHCP Covered Species, if present, would be avoided and minimized in the same way as if the SSHCP permits applied to the Project.

[1] Measured 24-hour traffic volumes on Scott Road at White Rock Road (combined northbound and southbound) ranged from 2,621 to 2,860 daily vehicles during measurements taken from 2015 through 2019. No measurements are available that specify the time of day for traffic levels. However, if it assumed that 75% of this traffic happens during the hours of 6:00 a.m.–6:00 p.m., that daily traffic amounts to 1.5 cars per minute during the day (including both directions) and 0.5 cars per minute during the evening (again, including both directions).

Table 28. South Sacramento Habitat Conservation Plan Special-Status Species Baseline Modeled Habitat and Land Cover within the Plan Area, the Undeveloped Lands in the Plan Area, and the Project Solar Development Area

SSHCP Modeled Habitat Land Cover Types	SSHCP PLAN AREA	SSCHP PPU 1		SSCHP PPU 5		SSHCP OUTSIDE PPUs AND UDA	
	SSHCP Plan Area- Total Baseline Modeled Habitat Potentially Available (acres)	Total Baseline Modeled Habitat Potentially Available in the SSHCP Plan Area (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)	Total Baseline Modeled Habitat Potentially Available in the SSHCP Plan Area (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)	Total Baseline Modeled Habitat Potentially Available (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)
Wildlife							
California tiger salamander (*Ambystoma californiense*) – upland habitat							
Blue oak savanna	3,322	0	0	242	0	0	0
Blue oak woodland	3,774	0	0	992	0	0	0
Valley grassland[1]	78,274	0	0	13,897	0	0	0
California tiger salamander – aquatic habitat							
Seasonal wetland	1,391	0	0	355	0	0	0
Vernal pool	3,033	0	0	277	0	0	0
Western spadefoot (*Spea hammondii*) – upland habitat							
Blue oak savanna	5,637	0	0	692	0	1,847	576
Blue oak woodland	9,132	0	0	5,864	19	475	82
Valley grassland[1]	135,094	14,840	156	27,463	129	5,964	427
Western spadefoot – aquatic habitat							
Open water	2,344	92	0	365	0	24	0
Seasonal wetland	2,600	17	0	446	0	31	0
Streams/Creeks	2,674	15	0	481	0	63	2
Streams/Creeks (VPIH)	73	39	0	0	0	0	0

Table 28. South Sacramento Habitat Conservation Plan Special-Status Species Baseline Modeled Habitat and Land Cover within the Plan Area, the Undeveloped Lands in the Plan Area, and the Project Solar Development Area

SSHCP Modeled Habitat Land Cover Types	SSHCP PLAN AREA	SSCHP PPU 1		SSCHP PPU 5		SSHCP OUTSIDE PPUs AND UDA	
	SSHCP Plan Area- Total Baseline Modeled Habitat Potentially Available (acres)	Total Baseline Modeled Habitat Potentially Available in the SSHCP Plan Area (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)	Total Baseline Modeled Habitat Potentially Available in the SSHCP Plan Area (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)	Total Baseline Modeled Habitat Potentially Available (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)
Swale	1,252	204	1	89	0	36	1
Vernal pool	4,536	432	0	0	0	53	0
Western pond turtle (*Actinemys marmorata*) –upland habitat							
Blue oak savanna	4,825	0	0	519	0	1,841	574
Blue oak woodland	7,610	0	0	4,983	19	442	101
Mine tailing riparian woodland	306	41	0	59	0	0	0
Mixed riparian scrub	1,178	2	0	170	0	4	0
Mixed riparian woodland	5,347	0.07	0	1,152	0	11	0
Valley grassland[1]	91,580	3,932	135	22,373	129	5,739	555
Western pond turtle – aquatic habitat							
Freshwater marsh	2,240	9	0	122	0	4	0
Open water	1,441	43	0	205	0	24	0
Stream/Creeks	2,674	15	0	480	0	63	2
Tricolored blackbird (*Agelaius tricolor*) – nesting and foraging habitat							
Cropland	47,905	411	0	2,549	0	0	0

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Freshwater marsh	2,922	19	0	159	0	4	0
Seasonal wetland	2,600	17	0	446	0	31	0
Valley grassland[1]	135,112	14,846	156	27,463	129	5,964	555
Tricolored blackbird – foraging habitat							
Irrigated pasture-Grassland	15,991	8	0	2,203	0	0	0
Open water	2,344	92	0	365	0	24	0
Swale	1,222	204	1	89	0	36	1
Vernal pool	4,536	432	0	339	0	53	0
Burrowing owl (*Athene cunicularia*) – nesting and foraging habitat							
Blue oak savanna	5,637	0	0	692	0	1,847	576
Cropland	47,905	411	0	2,549	0	0	0
Irrigated pasture-Grassland	15,991	8	0	2,203	0	0	0
Valley grassland[1]	135,112	14,846	156	27,463	129	5,964	555
Burrowing owl – foraging habitat							
Seasonal wetland	2,600	17	0	446	0	31	0
Stream/Creek (VPIH)	73	39	0	0.4	0	0	0
Swale	1,252	204	0	89	0	36	0

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Vernal pool	4,536	432	0	339	0	53	0
Swainson's hawk (*Buteo swainsoni*) – nesting habitat							
Mixed riparian scrub	1,449	3	0	173	0	4	0
Mixed riparian woodland	5,785	2	0	1,169	0	11	0
Swainson's hawk – foraging habitat							
Cropland	47,905	411	0	2,549	0	0	0
Irrigated pasture-Grassland	15,991	8	0	2,203	0	0	0
Seasonal wetland	2,600	17	0	446	0	31	0
Swale	1,252	204	1	89	0	35	1
Valley grassland[1]	133,705	14,846	156	26,503	129	5,518	555
Vernal pool	4,536	432	0	339	0	53	0
White-tailed kite (*Elanus leucurus*) – nesting and foraging habitat							
Blue oak savanna	5,637	46	0	692	0	1,949	576
Blue oak woodland	9,132	0	0	5,871	19	503	101
Cropland	47,905	411	0	2,591	0	0	0

Table 28. South Sacramento Habitat Conservation Plan Special-Status Species Baseline Modeled Habitat and Land Cover within the Plan Area, the Undeveloped Lands in the Plan Area, and the Project Solar Development Area

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Irrigated pasture-Grassland	15,991	8	0	2,221	0	0	0
Mine tailing riparian woodland	641	881	1	59	0	0	0
Mixed riparian scrub	1,452	3	0	173	0	4	0
Mixed riparian woodland	5,785	2	0	1,69	0	11	0
Seasonal wetland	2,600	20	0	446	0	31	0
Swale	1,252	235	1	89	0	37	1
Valley grassland	135,112	17,045	156	27,531	129	6,957	555
Vernal pool	4,536	496	0	339	0	56	0
Vernal pool fairy shrimp (*Branchinecta lynchi*) and vernal pool tadpole shrimp (*Lepidurus packardi*)							
Streams/Creeks (VPIH)	73	39	0	0.4	0	0	0
Swale	1,252	204	1	89	0	36	1
Valley grassland[1]	97,349	14,729	156	13,028	0	2,239	320
Vernal pool	4,536	432	0	339	0	53	0

Table 28. South Sacramento Habitat Conservation Plan Special-Status Species Baseline Modeled Habitat and Land Cover within the Plan Area, the Undeveloped Lands in the Plan Area, and the Project Solar Development Area

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Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)							
Mine tailing riparian woodland	641	881	1	1,401	0	0	0
Mixed riparian scrub	1,451	3	0	173	0	4	1
Mixed riparian woodland	5,785	2	0	1,169	0	11	0
American badger (*Taxidea taxus*)							
Blue oak savanna	5,637	46	2	692	0	1,949	576
Seasonal wetland	2,600	20	0	446	0	31	0
Swale	1,252	235	1	89	0	37	1
Valley grassland	135,112	17,045	156	27,531	129	6,957	555
Vernal pool	4,536	496	0	339	0	56	0
Plants							
Dwarf downingia (*Downingia pusilla*)							
Swale	359	16	0	17	0	1	0
Valley grassland	22,241	943	9	2,327	0	61	7
Vernal Pool	1,539	20	0	79	0	0	0
Boggs Lake hedge hyssop (*Gratiola heterosepala*)							
Seasonal wetland	354	4	0	76	0	0	0

Table 28. South Sacramento Habitat Conservation Plan Special-Status Species Baseline Modeled Habitat and Land Cover within the Plan Area, the Undeveloped Lands in the Plan Area, and the Project Solar Development Area

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Valley grassland	35,113	20,383	64	4,507	0	430	80
Vernal Pool	1,532	395	0	132	0	18	0
Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii*)							
Swale	314	134	0	16	0	2	0
Valley grassland	23,885	9,295	21	1,857	0	127	0
Valley grassland	814	363	0	42	0	8	0
Legenere (*Legenere limosa*)							
Seasonal wetland	886	4	0	30	0	0	0
Valley grassland	47,526	11,203	21	4,087	0	323	15
Vernal pool	2,437	416	0	127	0	20	0
Pincushion navarretia (*Navarretia myersii* ssp. *myersii*)							
Swale	627	155	1	39	0	9	0
Valley grassland	54,967	10,793	96	4,990	0	585	62
Vernal pool	1,721	297	0	84	0	19	0
Slender Orcutt grass (*Orcuttia tenuis*) and Sacramento Orcutt grass (*Orcuttia viscida*)							
Valley grassland	33,265	9,644	27	2,170	0	317	4
Vernal pool	1,226	368	0	43	0	13	0
Sanford's arrowhead (*Sagittaria sanfordii*)							
Freshwater marsh	2,044	11	0	62	0	3	0

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Open water	1,086	42	0	53	0	3	0
Seasonal wetland	1,425	4	0	91	0	0	0

Table 28. South Sacramento Habitat Conservation Plan Special-Status Species Baseline Modeled Habitat and Land Cover within the Plan Area, the Undeveloped Lands in the Plan Area, and the Project Solar Development Area

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Streams/Creeks	894	10	0	54	0	14	1
Valley grassland	47,375	10,963	21	6,450	0	1,043	72

Source: County of Sacramento 2018.

Notes: PPU= Preserve Planning Unit; SSHCP= South Sacramento Habitat Conservation Plan; UDA= Urban Development Area; VPIH= Vernal Pool Invertebrate Habitat.

[1] Valley Grassland is synonymous with California Annual Grassland.

- No SSHCP Valley Grassland landcover was modeled within the solar development area of the Project Study Area (PSA); however, approximately 361.91 acres of SSHCP California Annual Grassland landcover, a similar vegetation community, was mapped within the solar development area of the PSA.
- For this table, the aquatic resource acreages are based on the total of SSHCP modeled landcover and differs from the final acreages defined by the aquatic resource delineation conducted for the Project, as analyzed further within this document.

7 Conclusion

All biological and aquatic resources known to occur and/or that may have the potential to occur with the solar development area of the PSA were evaluated based on federal, state, and local jurisdictional requirements and guidance for each resource. Impacts were evaluated based on the Project development activities that have the potential to directly/permanently, indirect, or indirectly impact each resource. Based on the resources evaluated in this BTR and the preliminary analysis of impacts, it can be concluded that the Project impacts are less than significant with avoidance, minimization, and/or mitigation. A complete summary of resource and AMMs to reduce the significance of impacts is detailed in Table 29 below.

Table 29. Aquatic and Biological Resource Impacts and Avoidance, Minimization, and Mitigation Summary for the Project

Resource	Maximum Impacts	Significance Before AMM	Significance After AMM
Special-status plant species	Approximately 500 individuals of spicate calycadenia identified within the solar development area.	Significant	LTS with AMMs, and/or mitigation
Western spadefoot toad	▪ Upland: Direct permanent- 62.38 acres; Indirect- 9.91 acres; Temporary- 1,303.19 acres. ▪ Aquatic: Direct permanent - 0.35 acres; Indirect- 0.40 acres; Temporary- 8.90 acres.	Significant	LTS with AMMs, and/or mitigation
Western pond turtle	▪ Upland: Direct permanent - 62.38 acres; Indirect- 9.91 acres; Temporary- 1,303.19 acres. ▪ Aquatic: Direct permanent - 0.35 acres; Indirect- 0.39 acres; Temporary- 6.87 acres.	Significant	LTS with AMMs, and/or mitigation
Burrowing owl	▪ Nesting and foraging: Direct permanent - 57.82 acres; Indirect- 9.77 acres; Temporary- 1,217.56 acres.	Significant	LTS with AMMs, and/or mitigation
Swainson's hawk	▪ Nesting: Direct permanent - 9.48 acres; Indirect- 1.78 acres; Temporary- 280.20 acres. ▪ Foraging: Direct permanent - 52.27 acres; Indirect- 8.79 acres; Temporary- 1,036.72 acres.	Significant	LTS with AMMs, and/or mitigation
Bald eagle and golden eagle	▪ Nesting: See 'Swainson's hawk' above. ▪ Foraging: See 'Swainson's hawk' above, and 'state and federally protected wetlands and non-wetland waters', and 'local biological resources, including tree preservation' below for impact or equitable impacts.	Significant	LTS with AMMs, and/or mitigation

Table 29. Aquatic and Biological Resource Impacts and Avoidance, Minimization, and Mitigation Summary for the Project

Resource	Maximum Impacts	Significance Before AMM	Significance After AMM
Tricolored blackbird	Nesting and foraging: Direct permanent - 53.01 acres; Indirect- 8.64 acres; Temporary- 1,028.33 acres.	Significant	LTS with AMMs, and/or mitigation
Grasshopper sparrow, bank swallow, and white-tailed kite	Nesting and foraging: See 'Swainson's hawk' above.	Significant	LTS with AMMs, and/or mitigation
Crotch's bumble bee	▪ Nesting and foraging/nectar sites: Direct permanent, indirect, and/or temporary impacts: 287.27 acres of oak woodlands and forest; 1,088.42 acres of valley and foothill grassland.	Significant	LTS with AMMs, and/or mitigation
Valley elderberry longhorn beetle	▪ Indirect: Five (5) total elderberry shrubs.	Significant	LTS with AMMs, and/or mitigation
Vernal pool fairy shrimp, vernal pool tadpole shrimp	▪ Wetlands: Direct permanent - 0.07 acres; Indirect- 0.15 acres; Temporary- 1.57 acres. ▪ Non-Wetland Waters: Direct permanent - 0.35 acres; Indirect- 0.40 acres; Temporary- 8.16 acres.	Significant	LTS with AMMs, and/or mitigation
American badger	▪ Upland and Aquatic Suitable Habitat: Permanent- 57.80 acres; Indirect- 9.26 acres; Temporary- 1,208.16 acres.	Significant	LTS with AMMs, and/or mitigation
Native bats	▪ Suitable habitat limited isolated trees near seasonal ponds or other aquatic habitat that provide nearby foraging opportunities. See 'state and federally protected wetlands and non-wetland waters', and 'local biological resources, including tree preservation' below for impact or equitable impacts.	Significant	LTS with AMMs, and/or mitigation
Nesting raptors and migratory birds	▪ See 'Swainson's hawk' above, and 'state and federally protected wetlands and non-wetland waters', and 'local biological resources, including tree preservation' below for impact or equitable impacts.	Significant	LTS with AMMs, and/or mitigation
Riparian habitat and sensitive natural communities	▪ See 'Swainson's hawk' above, and 'state and federally protected wetlands and non-wetland waters', and 'local biological resources, including tree preservation' below for impact or equitable impacts. ▪ The Project proposes to remove 173 trees within riparian habitat.	Significant	LTS with AMMs, and/or mitigation

Table 29. Aquatic and Biological Resource Impacts and Avoidance, Minimization, and Mitigation Summary for the Project

Resource	Maximum Impacts	Significance Before AMM	Significance After AMM
State and federally protected wetlands and non-wetland waters	▪ USACE/RWQCB: Direct permanent - 0.24 acres; Indirect- 0.42 acres; Temporary- 7.44 acres. ▪ CDFW: Direct permanent - 0.72 acres; Indirect- 0.55 acres; Temporary 10.74 acres.	Significant	LTS with AMMs, and/or mitigation
Wildlife corridors	▪ Riparian corridors will remain intact during and after Project development activities.	LTS	LTS plus AMMs
Local biological resources, including tree preservation	▪ Direct and/or indirect oak species impacts: ▪ With greater than 6 inches DBH- 4,394 individual trees, total of 78,028.8 diameter inches; and ▪ Heritage and landmark species with greater than 16 inches DBH- 1,762 individual trees, total of 48,829.7 diameter inches; or ▪ Oak woodlands and forest canopy- 54.61 acres contiguous canopy.	Significant	LTS with AMMs, and/or mitigation
Habitat conservation plans	▪ Project impacts AMMs and mitigation are consistent with those defined in the SSHCP. The Project will obtain applicable permits from resource agencies to achieve SSHCP standards and comply with the regulatory requirements of these agencies.	LTS	LTS plus AMMs,

Notes: LTS= less than significant; AMM= avoidance and minimization.

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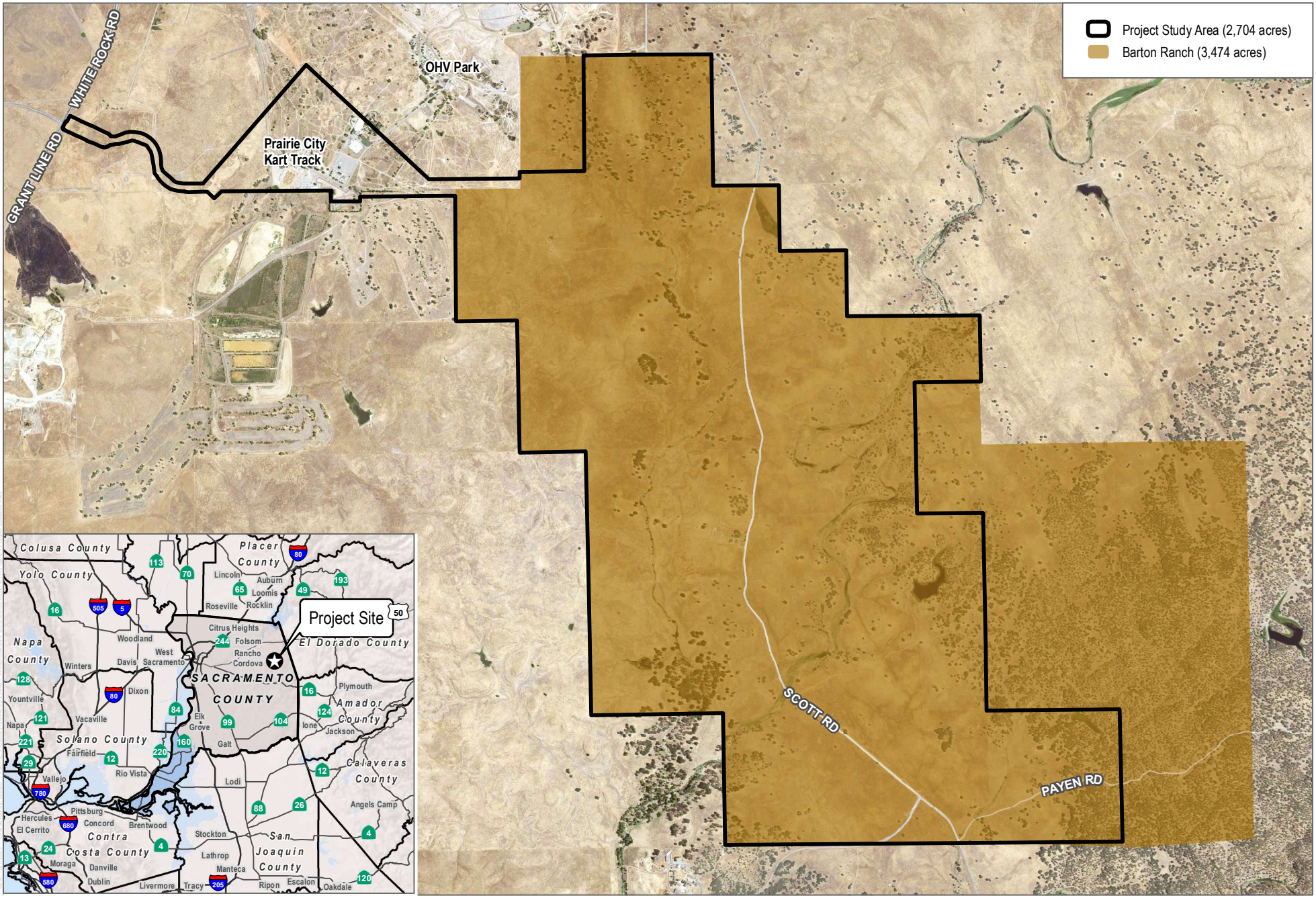

SOURCE: DigitalGlobe 2017

DUDEK

0 1,000 2,000 Feet

FIGURE 1

Project Location

Biological Technical Report for the Coyote Creek Agrivoltaic Ranch Project

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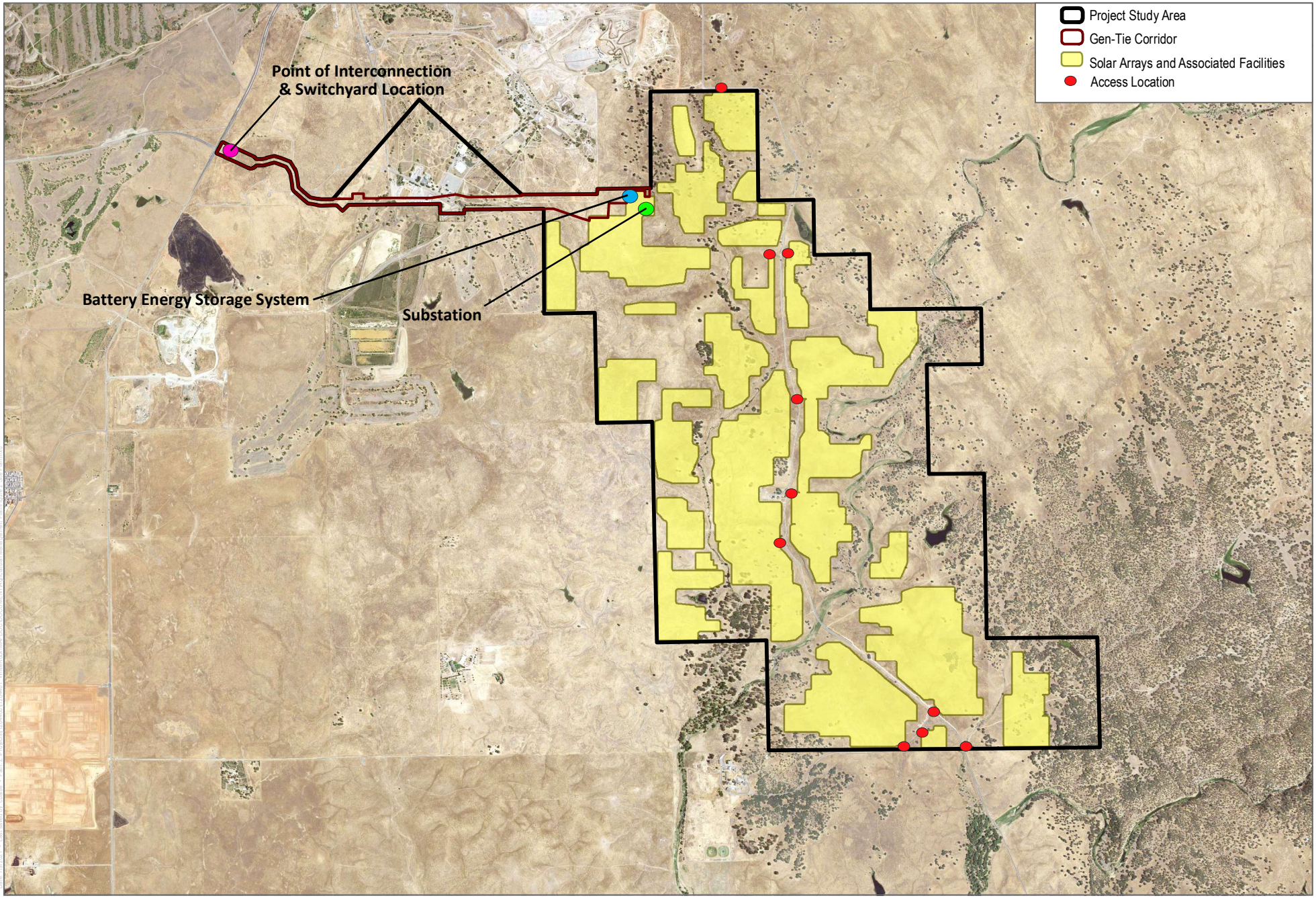

SOURCE: USDA 2018

DUDEK

0 1,550 3,100 Feet

FIGURE 2

Project Setting

Biological Technical Report for the Coyote Creek Agrivoltaic Ranch Project

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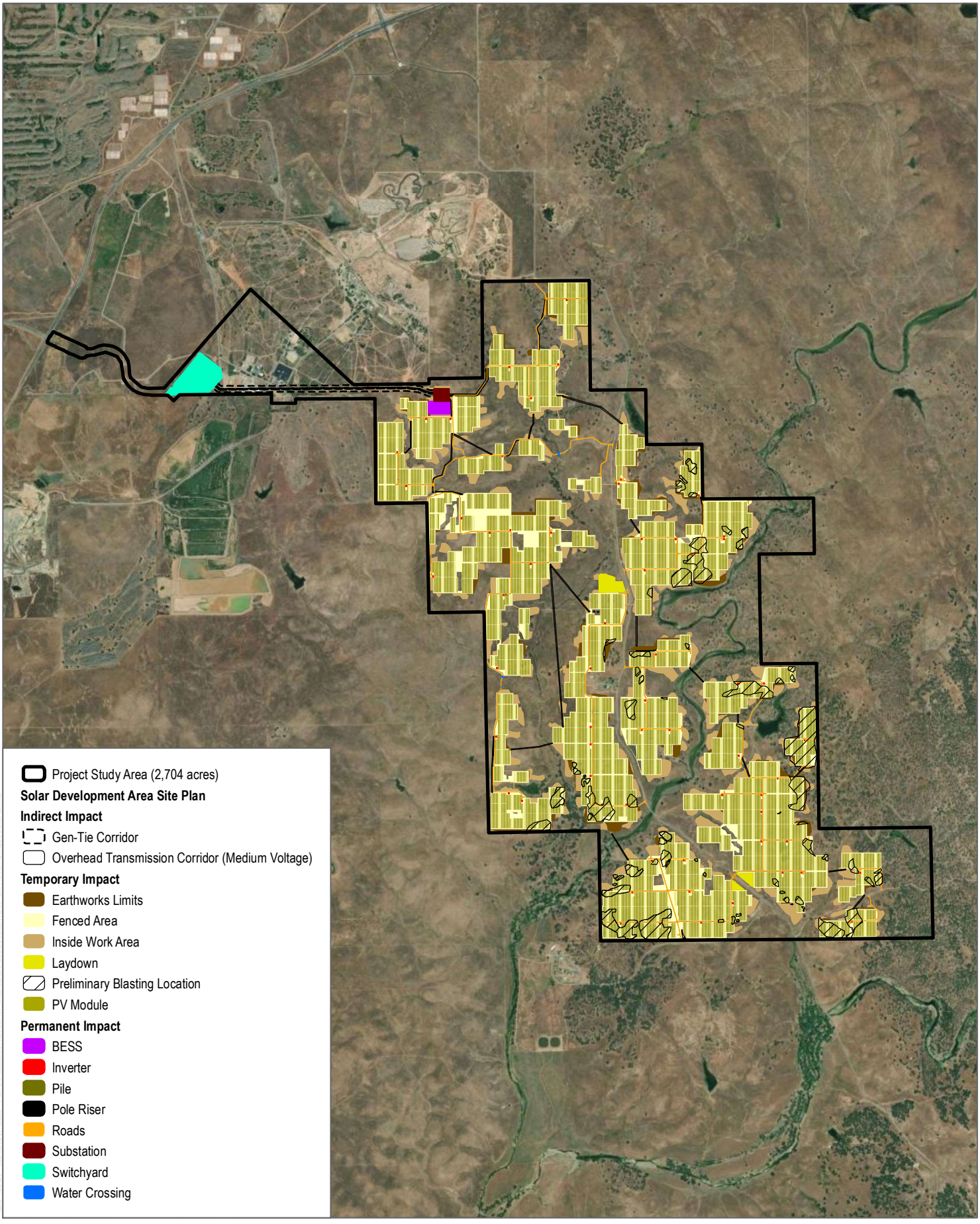

SOURCE: ESRI 2023

DUDEK

0 1,500 3,000 Feet

FIGURE 3

Site Plan

Biological Technical Report for the Coyote Creek Agrivoltaic Ranch Project

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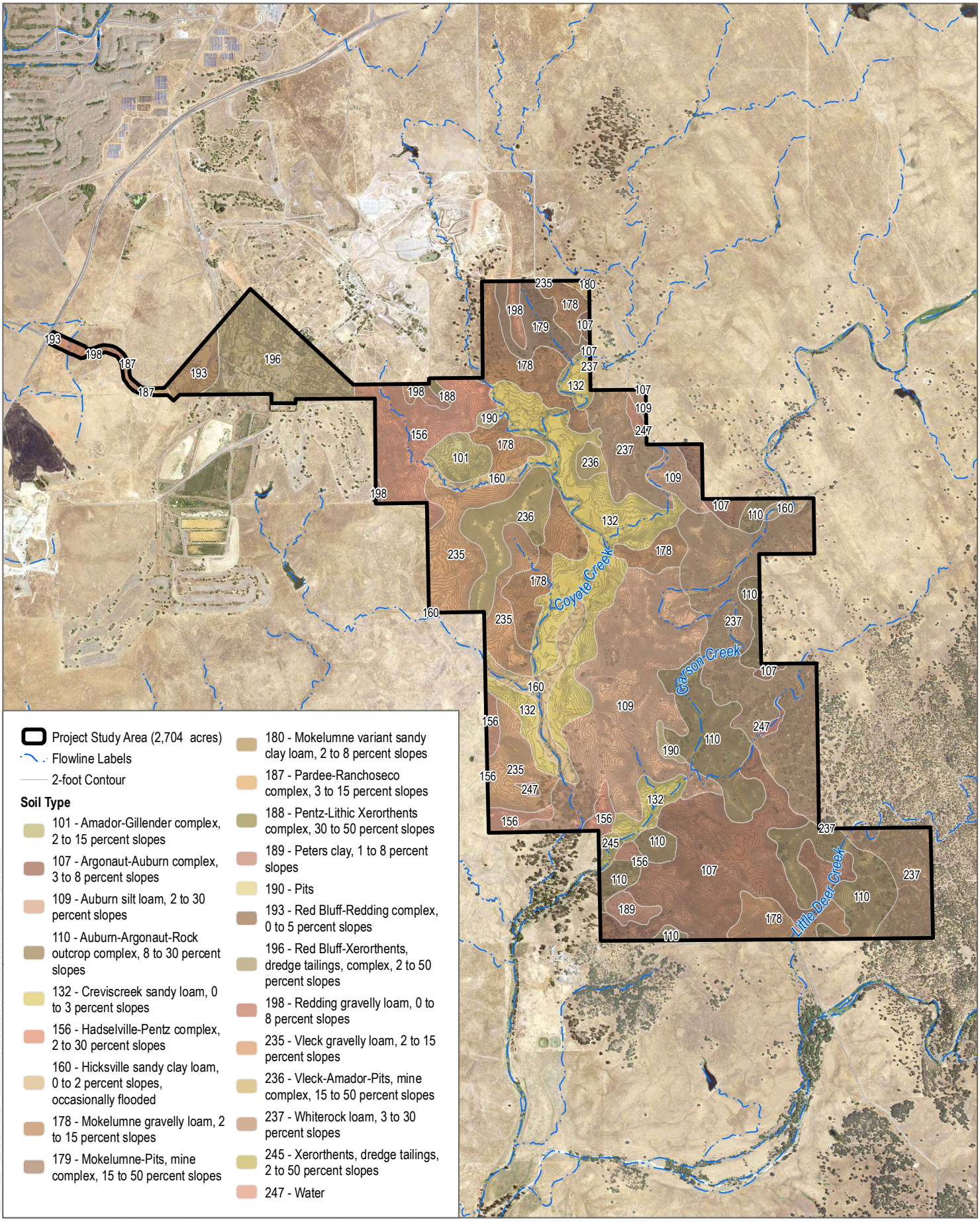

SOURCE: USDA 2020

FIGURE 4

Soil and Terrain Setting

Biological Technical Report for the Coyote Creek Agrivoltaic Ranch Project

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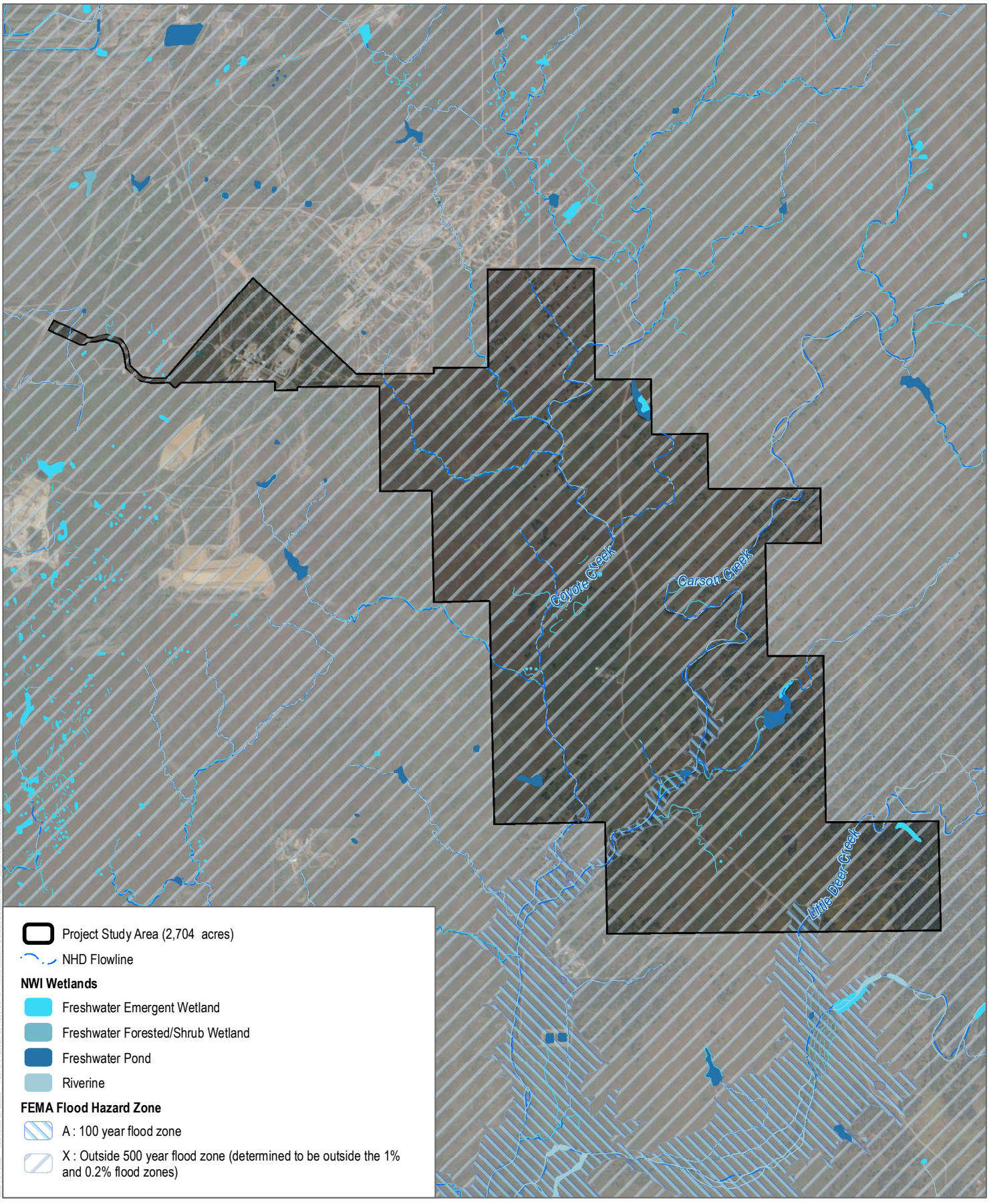

SOURCE: Bing Maps 2020, NHD 2019, Sacramento County 2019, USFWS 2020, FEMA 2019

DUDEK

0 750 1,500 Feet

FIGURE 5

Hydrologic Setting

Biological Technical Report for the Coyote Creek Agrivoltaic Ranch Project

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Project Study Area (2,704 acres)

Component

Solar Development Area (1,412 acres)

Adjacent Other Lands (1,292 acres)

HUC 8 Watershed

AquaticResources

Wetlands *(41.17 acres) (45,104 linear feet)*

Freshwater Emergent Wetland *(8 acres)*

Fringe Wetland *(2.55 acres)*

Pond *(9.47 acres)*

Seasonal Wetland *(4.1 acres)*

Seasonal Wetland Swale *(11.3 acres) (38,762 linear feet)*

Seep *(0.16 acres)*

Vernal Pool *(3.47 acres)*

Vernal Swale *(2.02 acres) (6,341 linear feet)*

Waters (Non-Wetland) *(108.56 acres) (153,286 linear feet)*

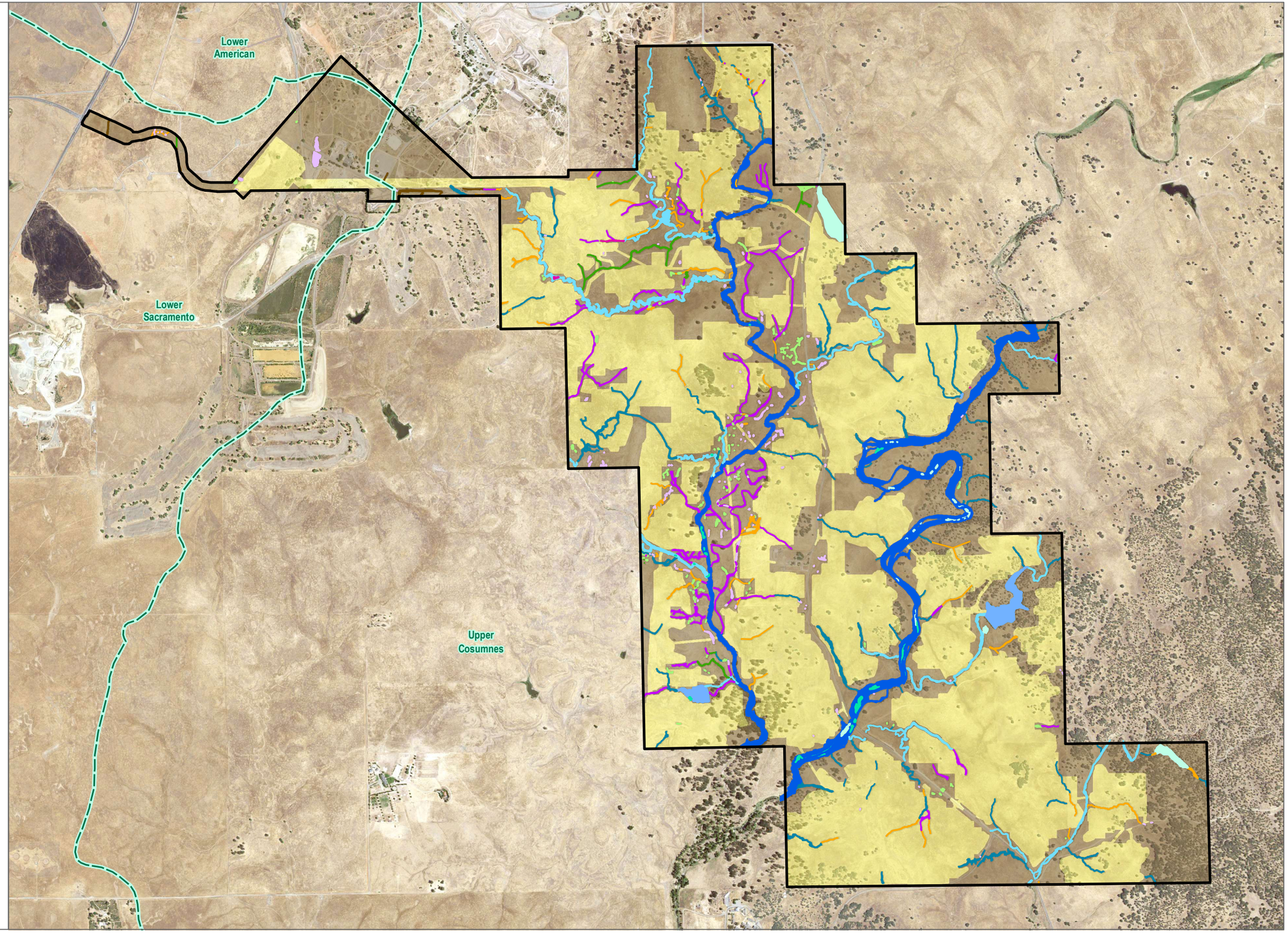
Ditch *(0.88 acres)*

Ephemeral Channel *(12.49 acres) (49,926 linear feet)*

Intermittent Channel *(20.45 acres) (43,985 linear feet)*

Perennial Channel *(69.74 acres) (34,276 linear feet)*

Upland Swale *(5 acres) (25,098 linear feet)*



Coordinate System: NAD 1983 CA State Plane (Zone II)
Projection: Lambert Conformal COnic
Datum: North American 1983
Vertical Datum: NAVD 88, U.S. Feet
1 inch = 200 feet

Created on September 2rd, 2021

Made in accordance with the
Updated Map and Drawing Standards for the South Pacific Division Regulatory Program,
as amended on February 10, 2016, by:
Jason Deters, Project Manager
Enforcement and Special Projects Unit
U.S. Army Corps of Engineers
South Pacific Division
Sacramento District, Regulatory Division
1325 J Street, Room 1350
Sacramento, California 95814-2922

SOURCE: USDA 2018

DUDEK

0 2,000 Feet

FIGURE6

Aquatic Resources Delineation

Biological Technical Report for the Coyote Creek Agrivoltaic Ranch Project

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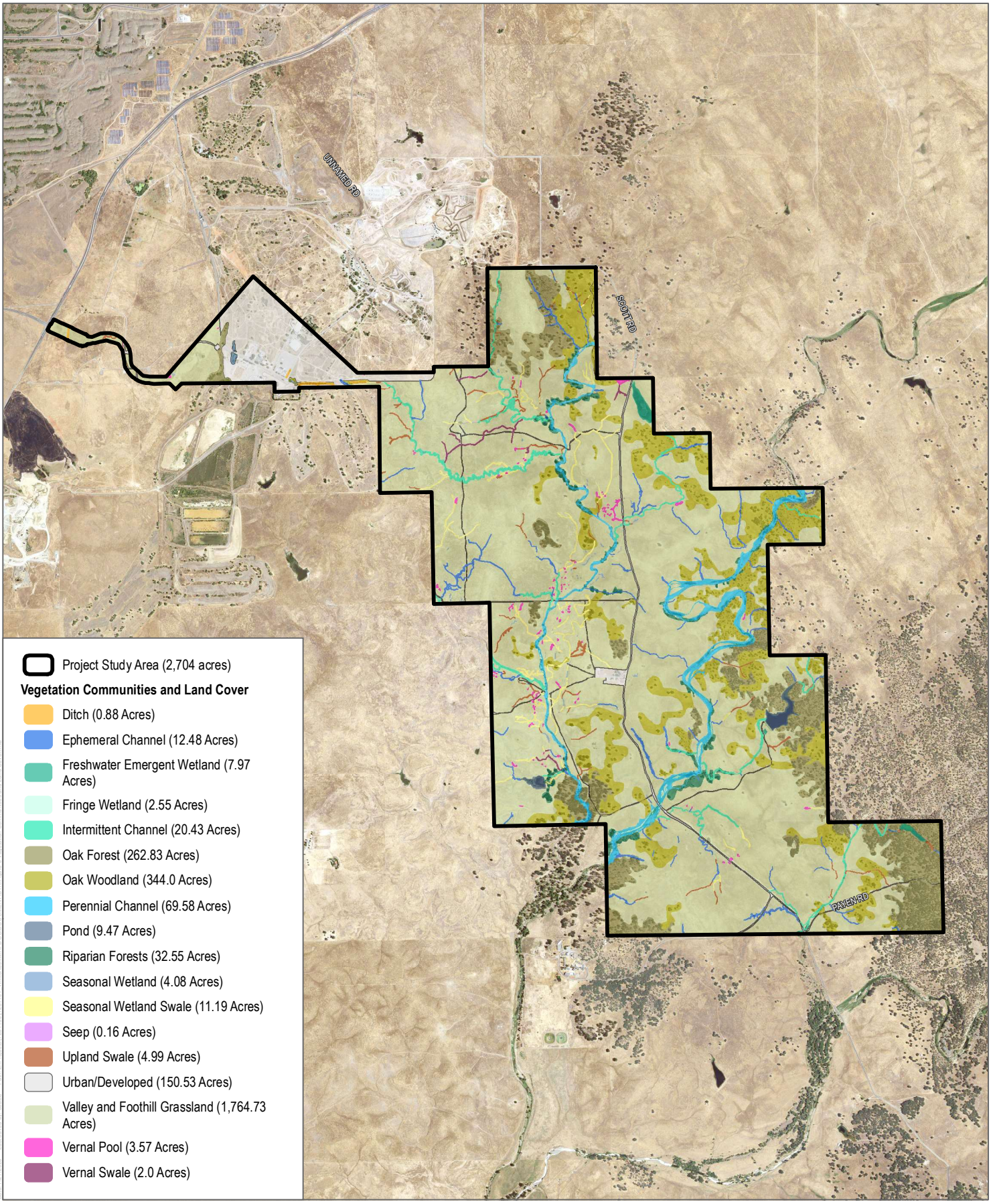

SOURCE: USGS 2018

DUDEK

0 1,000 2,000 Feet

NAD1983, CA State Plane Zone II

FIGURE 7

Vegetation Communities and Land Cover Types

Biological Technical Report for the Coyote Creek Agrivoltaic Ranch Project

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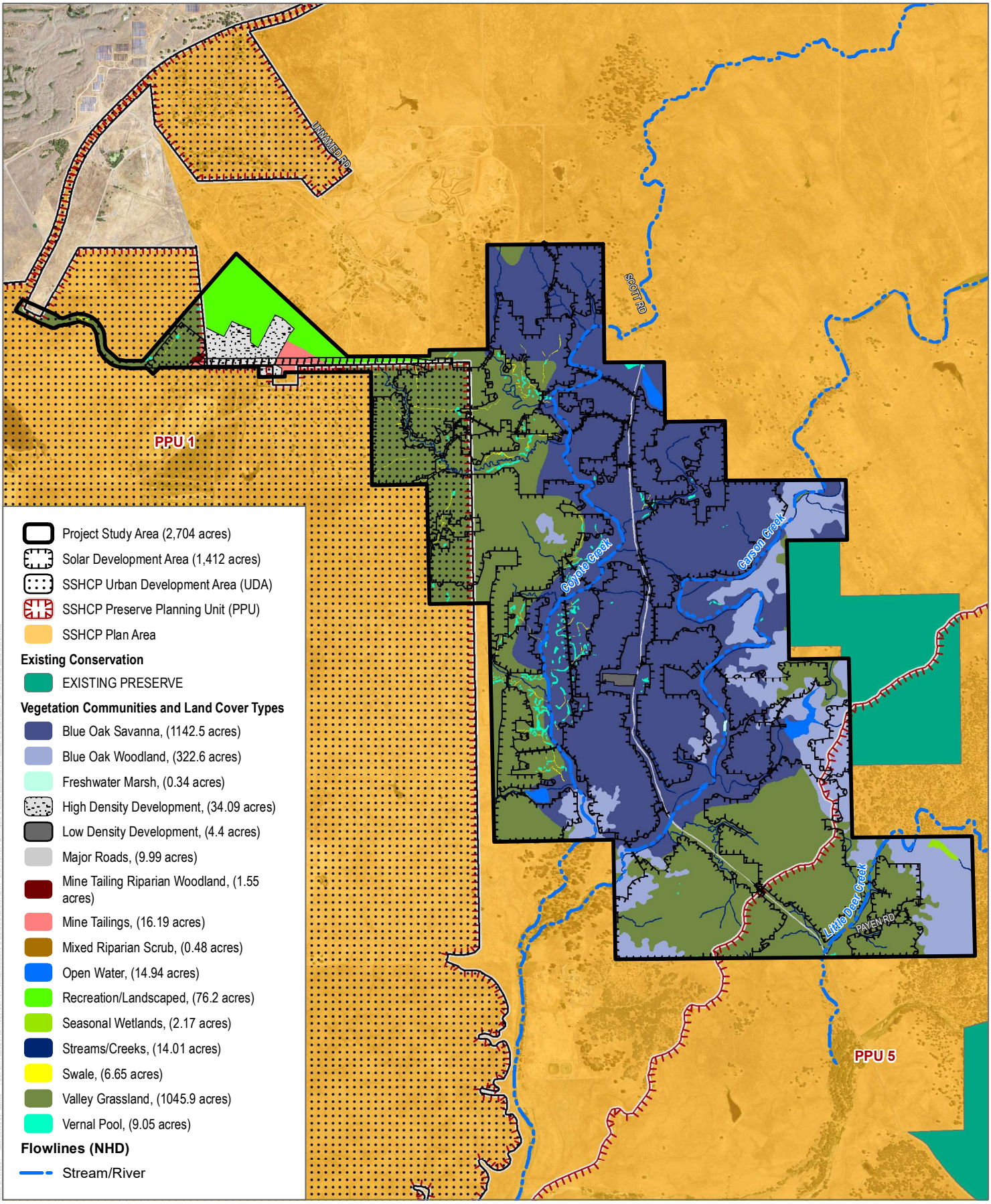

SOURCE: USGS 2018; SSHCP

DUDEK

0 1,000 2,000 Feet

NAD1983, CA State Plane Zone II

FIGURE 8

South Sacramento Habitat Conservation Plan Modeled Land Cover

Biological Technical Report for the Coyote Creek Agrivoltaic Project

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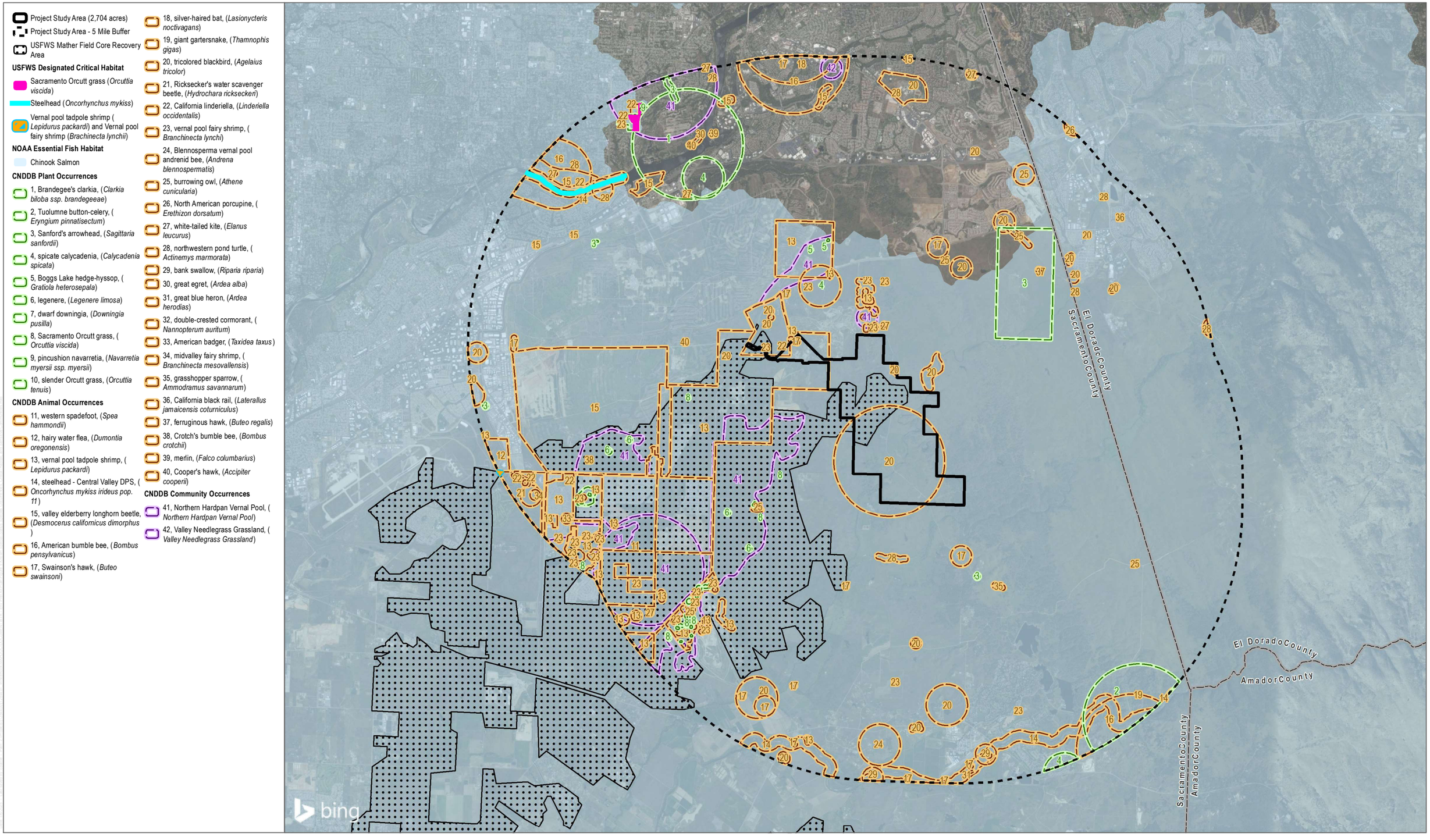

SOURCE: Bing Maps 2024; CA Dept. of Fish and Wildlife 2024; USFWS 2024

DUDEK

0 4,200 8,400 Feet

FIGURE 9

Known Special-Status Species Occurrences, Critical Habitat, and Sensitive Communities

Biological Technical Report for the Coyote Creek Agrivoltaic Ranch Project

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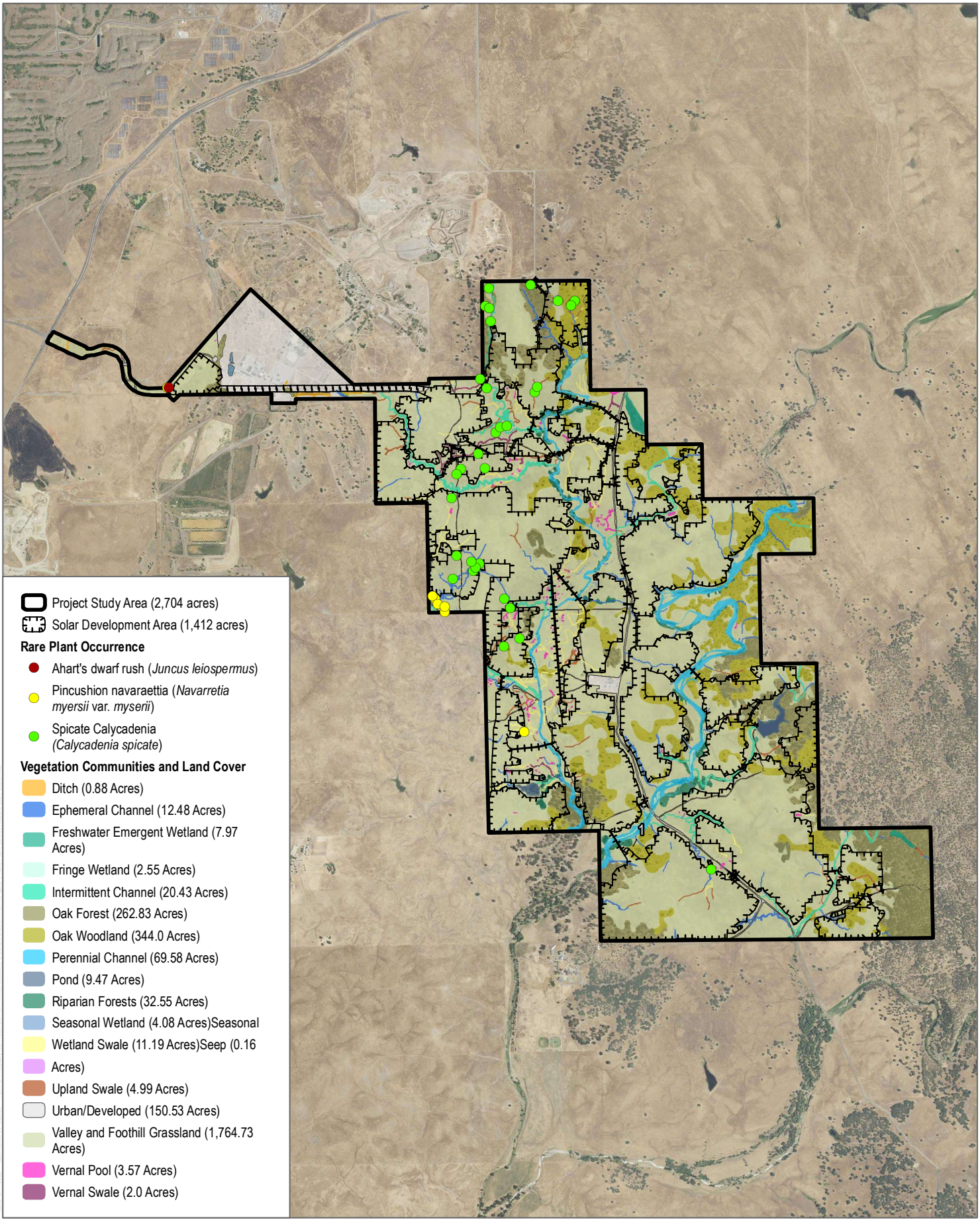

SOURCE: USDA 2020

DUDEK

0 1,000 2,000 Feet

FIGURE10

Rare Plant Survey Results 2021-2023

Biological Technical Report for the Coyote Creek Agrivoltaic Ranch Project

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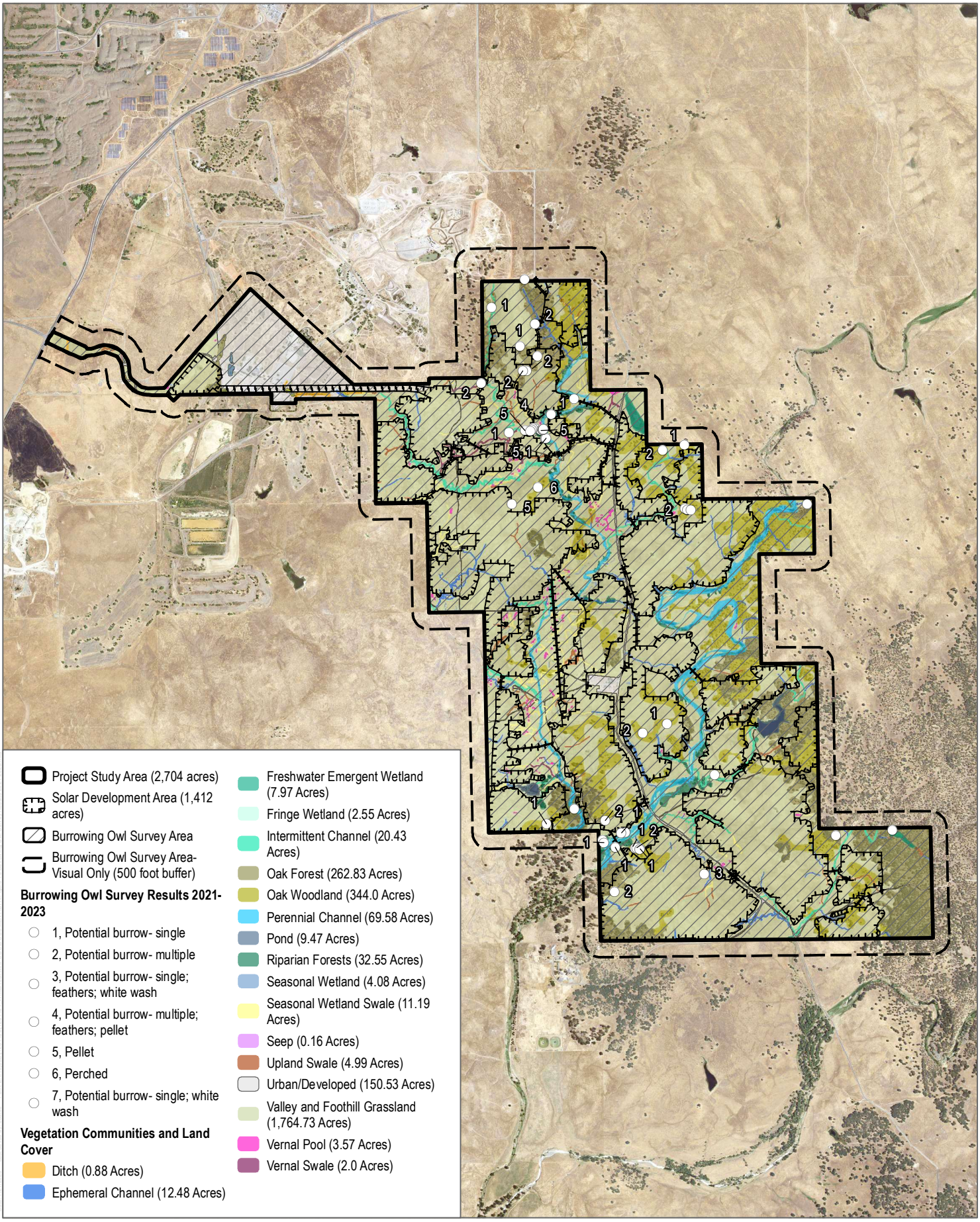

SOURCE: USDA 2020

DUDEK

0 1,000 2,000 Feet

FIGURE 11

Burrowing Owl Survey Results 2021-2023

Biological Technical Report for the Coyote Creek Agrivoltaic Ranch Project

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Project Study Area (2,704 acres)
Solar Development Area (1,412 acres)
Swainson's Hawk Survey Area
Swainson's Hawk Survey Area- Vvsual Only (0.5 mile buffer)

Swainson's Hawk Survey Results 2021-2023

- 8, Visual- flight
- 9, Raptor nest- unoccupied
- 10, Perched
- 11, Mobbing
- 12, Foraging
- 13, Courting pair
- 14, Raptor nest

Vegetation Communities and Land Cover

- Ditch (0.88 Acres)
- Ephemeral Channel (12.48 Acres)
- Freshwater Emergent Wetland (7.97 Acres)
- Fringe Wetland (2.55 Acres)
- Intermittent Channel (20.43 Acres)
- Oak Forest (262.83 Acres)
- Oak Woodland (344.0 Acres)
- Perennial Channel (69.58 Acres)
- Pond (9.47 Acres)
- Riparian Forests (32.55 Acres)
- Seasonal Wetland (4.08 Acres)
- Seasonal Wetland Swale (11.19 Acres)
- Seep (0.16 Acres)
- Upland Swale (4.99 Acres)
- Urban/Developed (150.53 Acres)
- Valley and Foothill Grassland (1,764.73 Acres)
- Vernal Pool (3.57 Acres)
- Vernal Swale (2.0 Acres)

SOURCE: USDA 2020

DUDEK

0 1,200 2,400 Feet

FIGURE 12

Swainson's Hawk Survey Results 2021-2023

Biological Technical Report for the Coyote Creek Agrivoltaic Ranch Project

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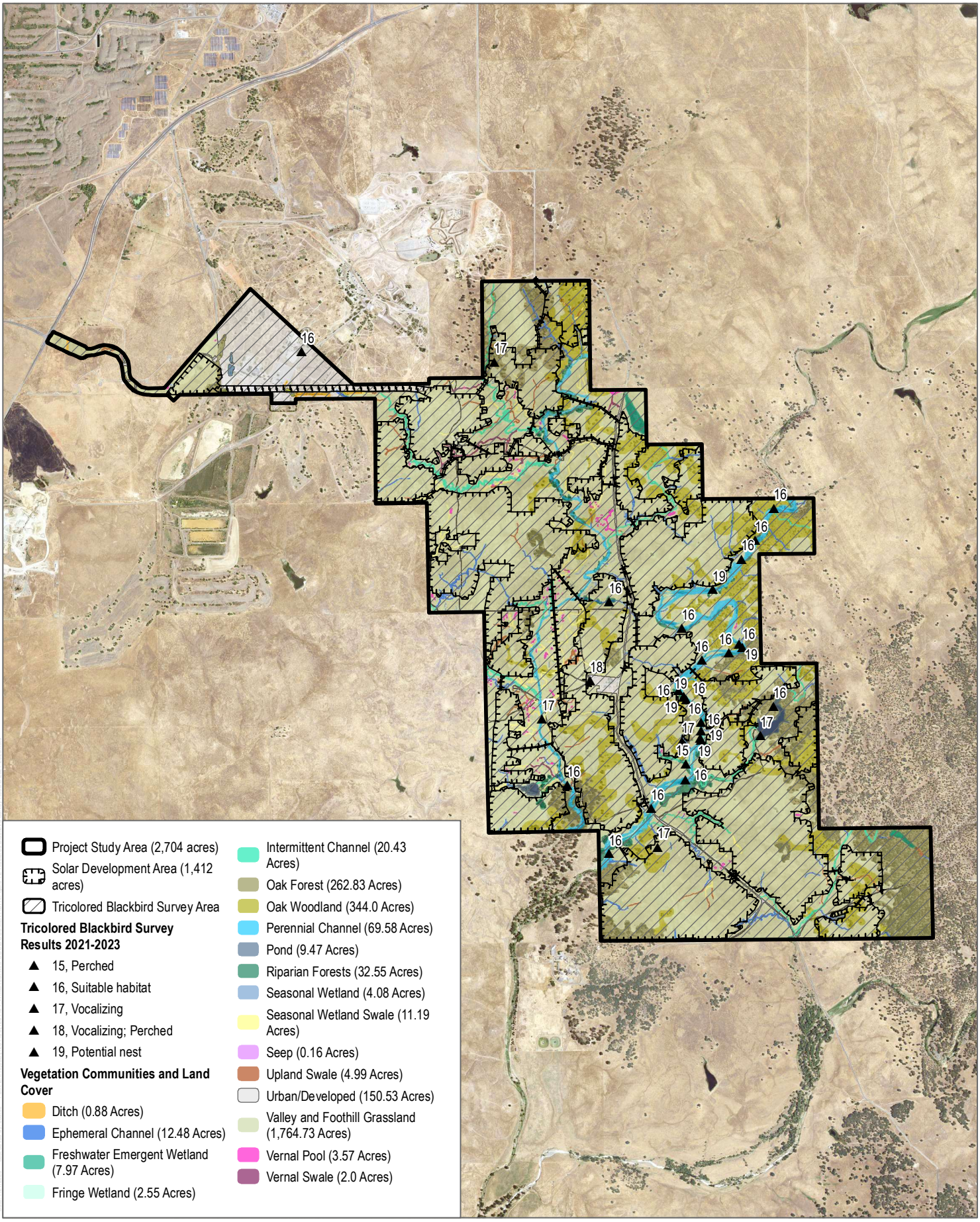

SOURCE: USDA 2020

DUDEK

0 1,000 2,000 Feet

FIGURE 13

Tricolored Blackbird Survey Results 2021-2023

Biological Technical Report for the Coyote Creek Agrivoltaic Ranch Project

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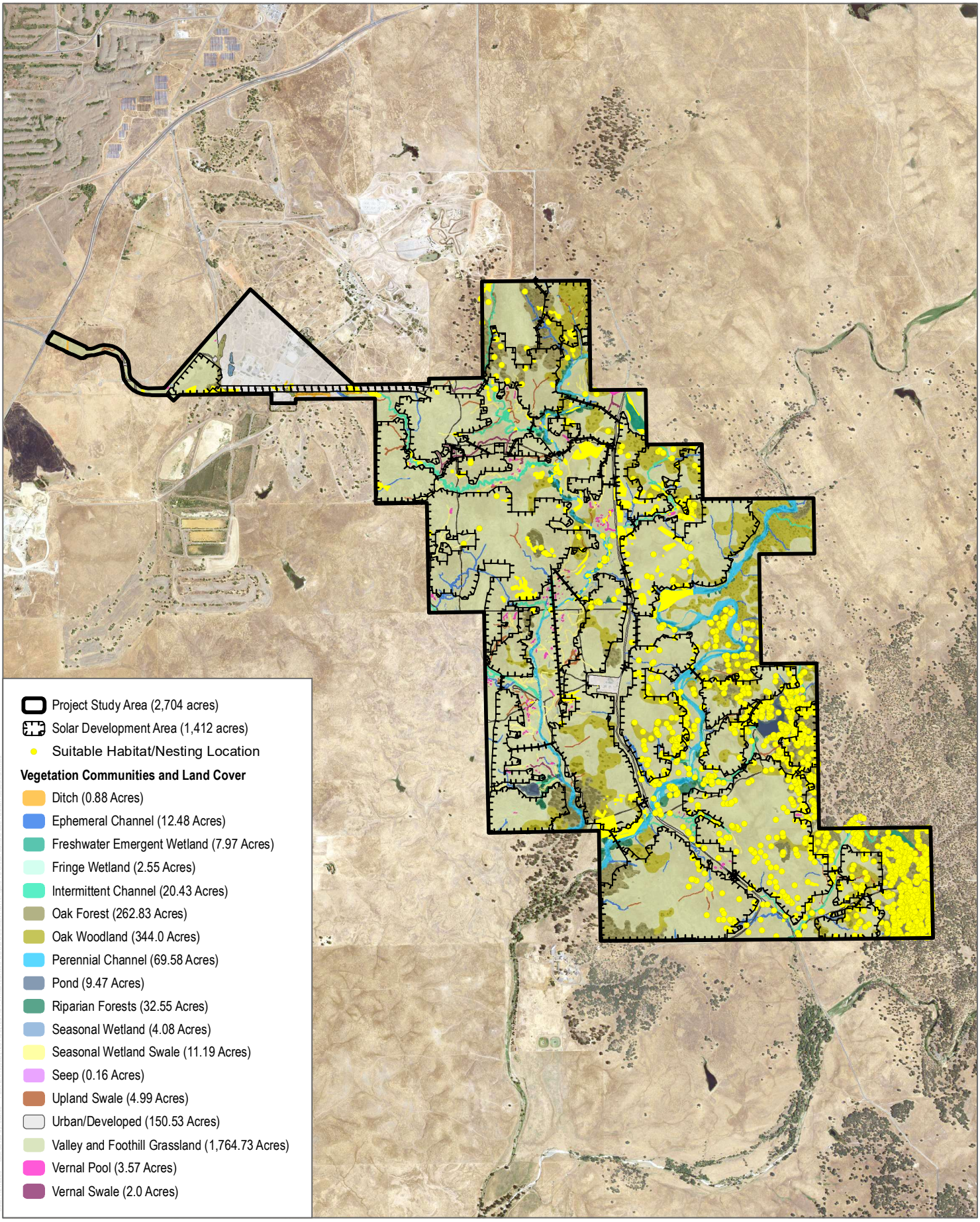

SOURCE: USDA 2020

DUDEK

0 1,000 2,000 Feet

FIGURE 14

Crotch's Bumble Bee Habitat and Foraging Resource Survey Results 2023

Biological Technical Report for the Coyote Creek Agrivoltaic Ranch Project

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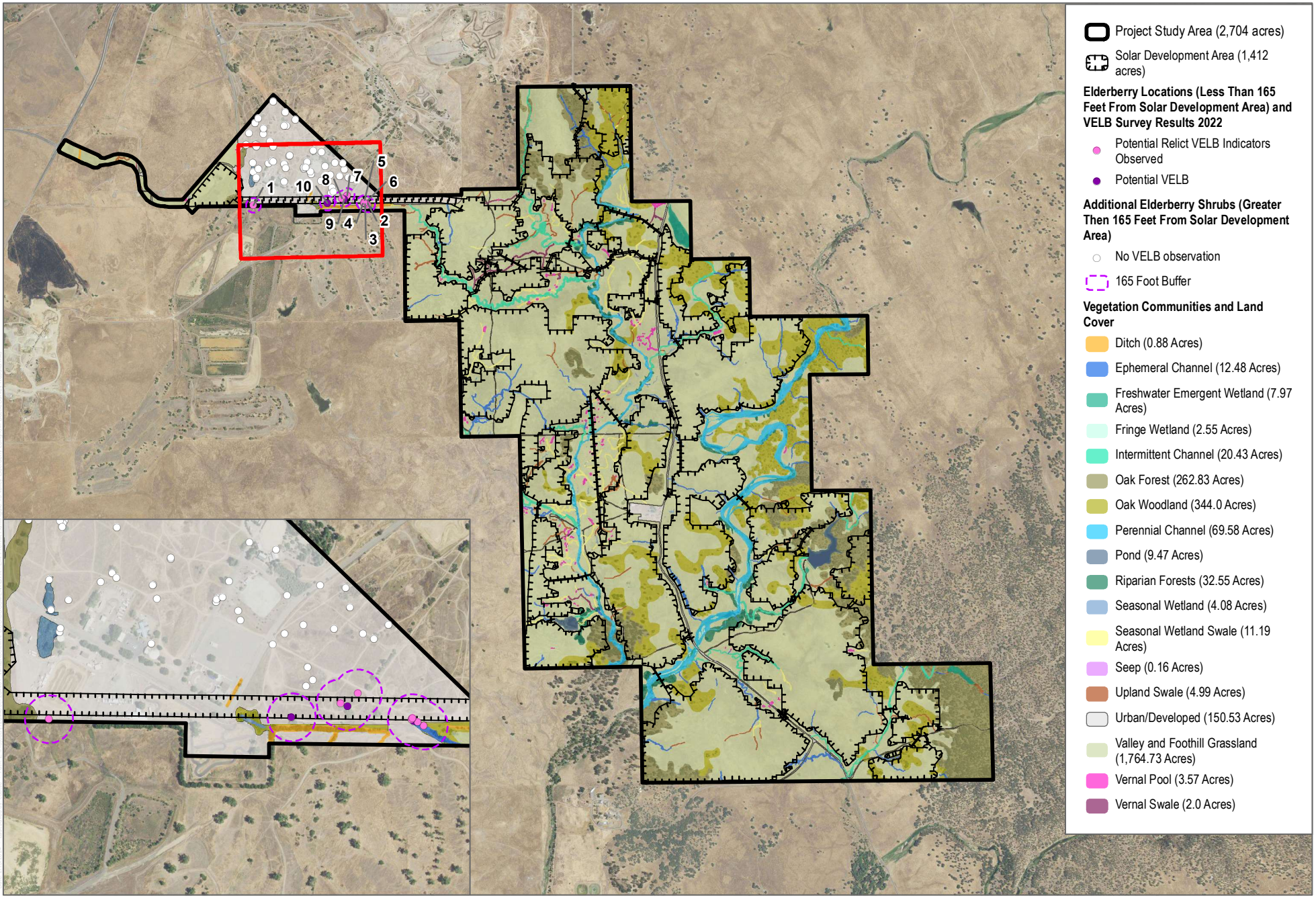

SOURCE: USDA 2020

DUDEK

0 1,450 2,900 Feet

FIGURE 15

Valley Elderberry Longhorn Beetle Survey Results 2021-2023

Biological Technical Report for the Coyote Creek Agrivoltaic Project

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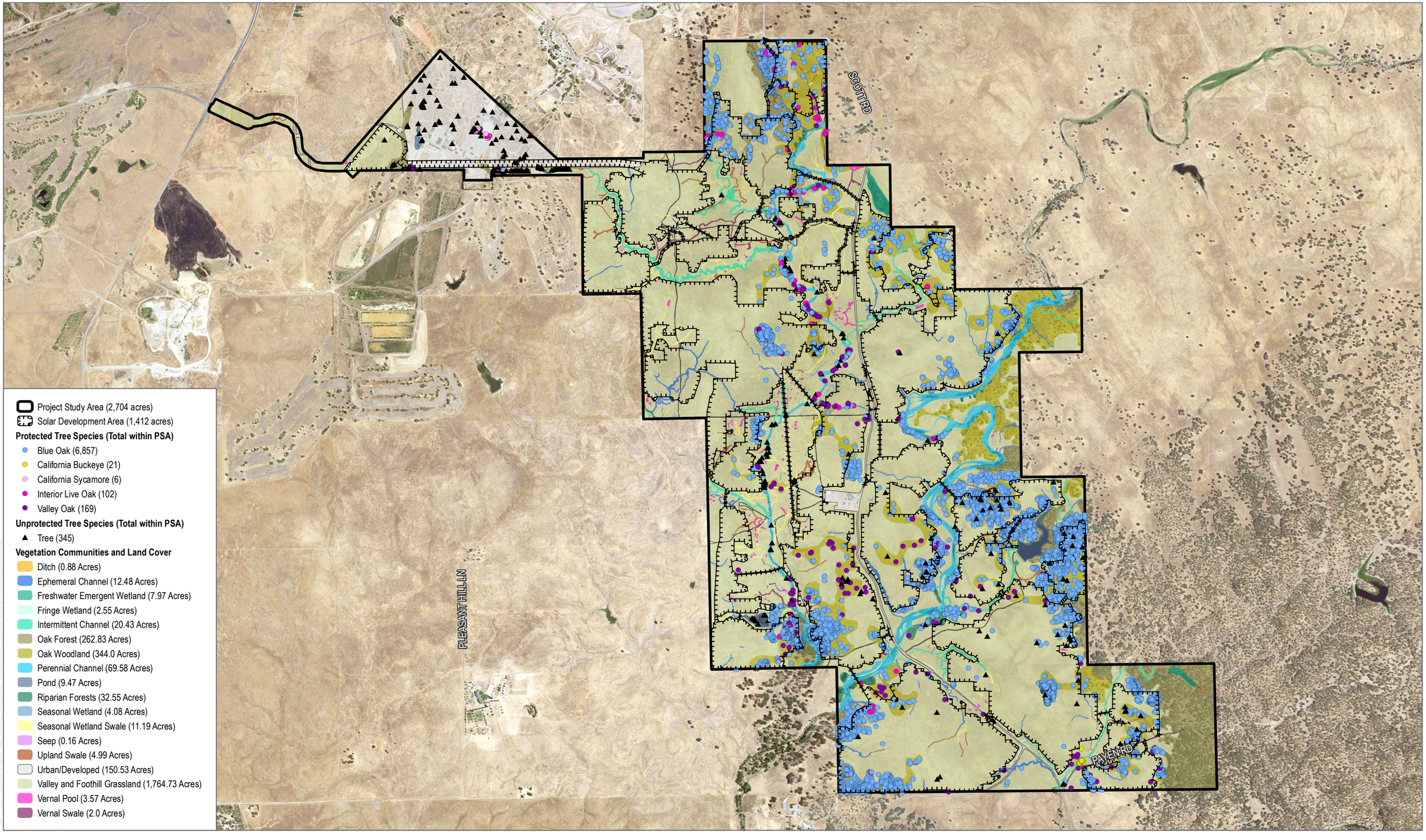

SOURCE: USGS 2018; CalTLC 2021

DUDEK

0 900 1,800 Feet

FIGURE 15

Preliminary Arborist Inventory

Biological Technical Report for the Coyote Creek Agrivoltaic Project

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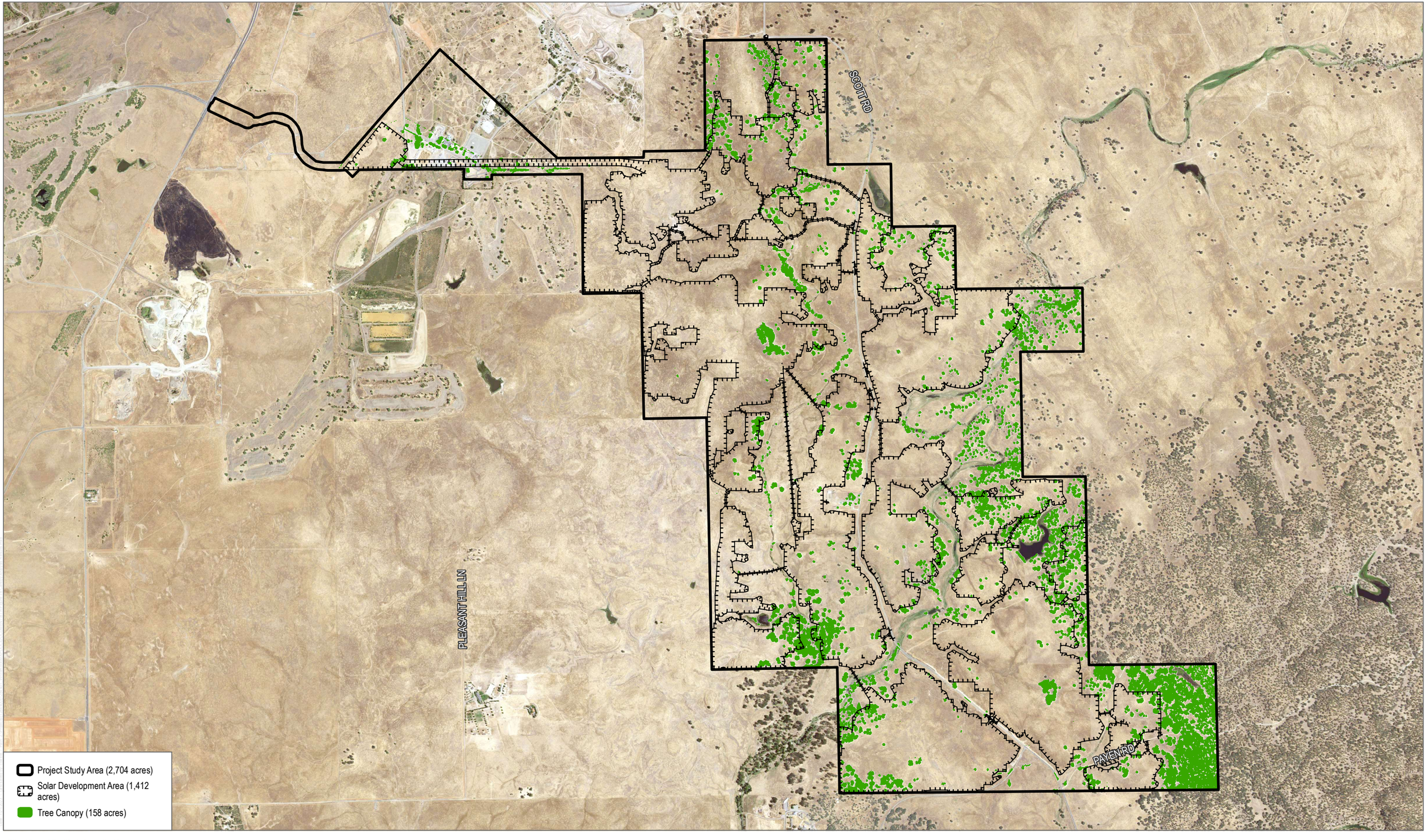

SOURCE: USGS 2018; CalTLC 2021

DUDEK

FIGURE 17
Canopy Analysis Results
Biological Technical Report for the Coyote Creek Agrivoltaic Ranch Project

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Appendix A

Swainson's Hawk and Other Raptor Foraging Use of Solar Array Fields within an Agricultural Landscape in Sacramento County, Year 2

Swainson's Hawk and Other Raptor Foraging Use of Solar Array Fields within an Agricultural Landscape in Sacramento County

Year 2

November 2021

Prepared for:

DUDEK

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Swainson's Hawk and Other Raptor Foraging Use of Solar Array Fields within an Agricultural Landscape in Sacramento County

Year 2

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Introduction

This report presents data from the second year of a study to evaluate the use of photovoltaic solar energy projects by Swainson's hawks (*Buteo Swainsoni*) and other raptors within an agricultural landscape in the Sacramento Valley.

Background

Four photovoltaic solar energy projects were constructed in south Sacramento County in 2012. All occur within an agricultural landscape used by foraging raptors, including the state-listed Swainson's hawk. Because of its dependence on agricultural foraging habitats in the Central Valley, loss of suitable agricultural lands to urban development has been considered a potentially significant environmental impact on the Swainson's hawk pursuant to the California Environmental Quality Act (CEQA) (CDFG 1994). Since the early 1990s, impacts considered significant were usually mitigated through a compensatory process of acquisition, management, and preservation of replacement agricultural lands. This process was based initially on guidance provided by the California Department of Fish and Wildlife (CDFG 1994) and later in Sacramento County through an ordinance enacted in 2006 (Sacramento County 2006). Because neither the CDFG guidance nor the county ordinance addressed the relationship between land conversion and the status of the Swainson's hawk breeding population or differentiated between different types of land use conversion, but instead assumed significance pursuant to CEQA based on broadly defined habitat availability/species abundance relationships, the proponents of the four solar projects questioned the reliability of the existing process to require compensatory mitigation relative to the specific conditions of a photovoltaic solar project compared with other types of land conversion, mainly urban development. As a result, through consultation with the county and CDFW, a one-year study was undertaken to assess the use of the photovoltaic solar projects by Swainson's hawks and other raptors.

The initial study was completed in 2013 (Estep 2013) and results were presented to the county and CDFW staff. Despite the evidence of ongoing Swainson's hawk and other raptor use of the solar projects, CDFW determined that the evidence gathered during a single year was insufficient and that the project should remain subject to the earlier guidelines (CDFG 1994) and county ordinance, and with concurrence from Sacramento County, the request to reevaluate the need for and extent of compensatory mitigation was rejected.

In 2018, the South Sacramento County Habitat Conservation Plan was approved and subsequently became the framework for ongoing mitigation and conservation efforts in Sacramento County, superseding earlier CDFW guidance and the county ordinance to address land conversion impacts to Swainson's hawk related to most development projects. However, solar energy projects were not included in the HCP as covered projects, and thus remain under the purview of independent CEQA review by Sacramento County to determine the significance of the land use conversion and the need for compensatory mitigation.

In 2021, Bona Terra Energy, LLC proposed construction of additional photovoltaic projects in South Sacramento County. Aware of the efforts in 2013 to investigate ongoing use of solar

projects and the resulting unsuccessful negotiations with the county and CDFW, they decided to undertake a second year of study in order to provide additional data to supplement the results from the initial 2013 study. If results were similar to the 2013 study, this additional information would again be presented to the county and CDFW in an effort to reassess the need for and extent of compensatory mitigation. This report summarizes the results of this additional research.

Summary of 2013 Results

The 2013 study, which is largely repeated in 2021, poses a simple question: Do Swainson's hawks and other raptors use photovoltaic solar arrays for foraging, and if so, within a diverse agricultural landscape, to what extent are they, and other land cover types, used in proportion to their availability? The results documented use by Swainson's hawk, red-tailed hawk (*Buteo jamaiscensis*), American kestrel (*Falco sparverious*), and northern harrier (*Circus hudsonius*), and indicated that Swainson's hawks used solar array fields at a significantly greater frequency than would be expected relative to their availability, suggesting that solar array fields were being selected by foraging Swainson's hawks. This result was also found for American kestrels. The report concluded that integrated within a diverse agricultural landscape, the presence solar array fields of moderate size and that maintain a suitable grassland substrate are unlikely to have a negative affect on Swainson's hawk distribution or abundance.

Location

The four solar projects installed in 2012 (referred to as Bruceville, Kammerer, McKenzie, and Dillard projects) were all used in this study. A fifth solar project (Belectric project), installed earlier, was also included. The study area is located at and in the vicinity of these five projects in South Sacramento County. All are south of the City of Sacramento and east of Interstate 5 (Figure 1). The Kammerer, Bruceville, and Belectric project sites are immediately south of the City of Elk Grove between Interstate 5 and State Route 99. The McKenzie project site is just north of the City of Galt and just east of State Route 99, and the Dillard project is further northeast, just south of State Route 16 (Figure 1).

Description of the Solar Projects

The four solar projects installed in 2012 range in size from approximately 45 acres to 200 acres and consist of an array of photovoltaic solar panels installed in east-west-facing rows. The earlier-installed 140-acre Belectric project is similarly designed with northeast-southwest-facing rows. The panels are connected uniformly in rows along a solar tracker frame that maintains conformity and allows the panels to pivot along a single axis as they track the sun. The trackers are set into the ground using 4-inch galvanized steel poles set in 1-foot concrete pads spaced approximately 10 feet apart along the row. The 8-foot-long solar panels are installed onto the frame with a 2-foot minimum clearance from the ground to panel edge at a 45-degree angle, the maximum tilt angle. The total height of the structure reaches a maximum of approximately 10 feet at full 45-degree tilt. Panel rows are spaced 20 feet apart from pole to pole. With 8-foot-long panels, this leaves 12 feet of open space between each row at horizontal, and slightly larger open space as the trackers angle. The collection systems are underground with the exception of grid tie

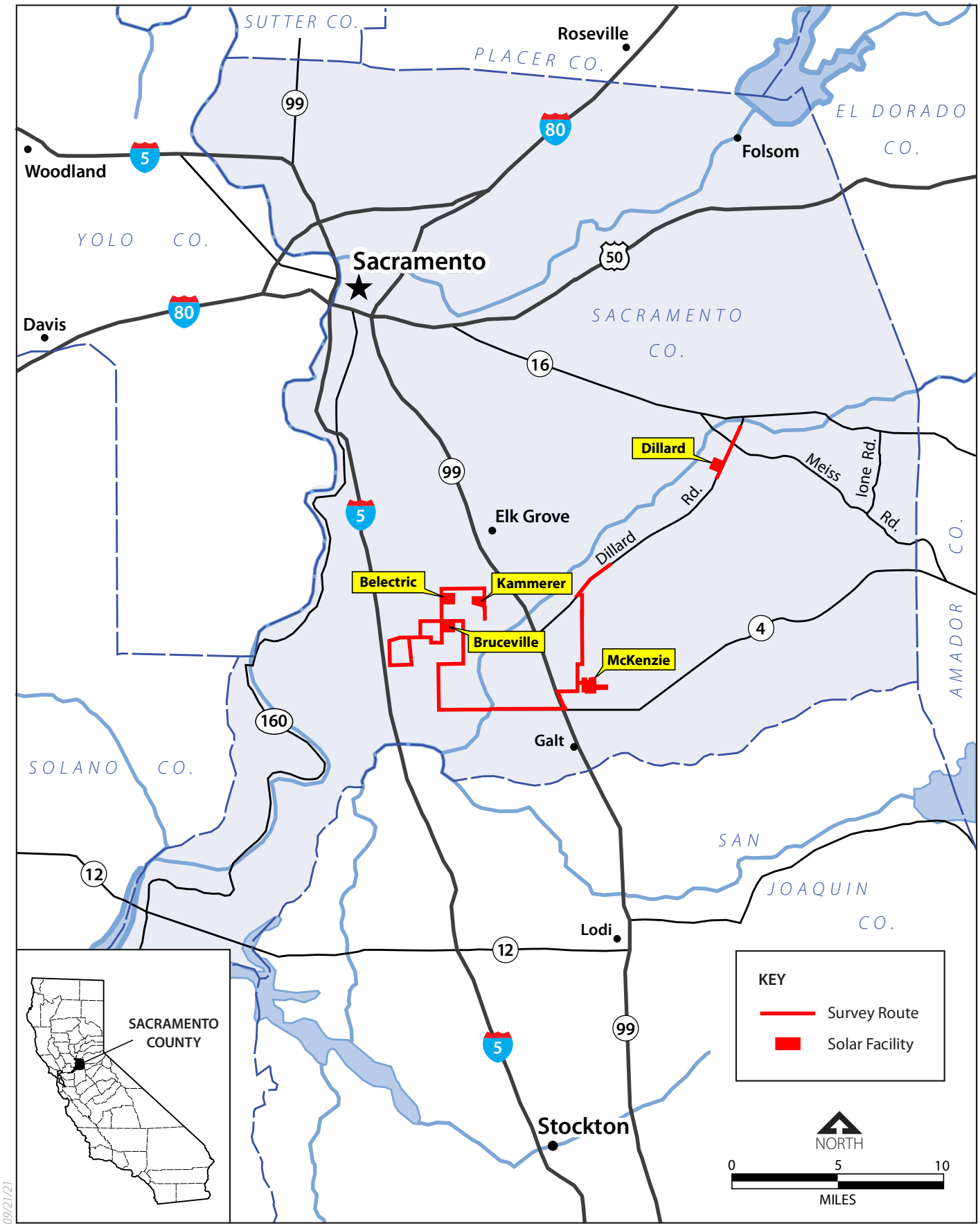


Figure 1
Regional Location of Survey Route and Photovoltaic Solar Facilities

inverters, which are spaced uniformly throughout each project site. Power is delivered to an onsite solar substation. Each project also includes internal gravel access roads and an 8-foot-high chain link security fence around the perimeter.

A management plan was prepared for each of the sites constructed in 2012, which includes the establishment of grasses throughout the project sites, including beneath and between the trackers and solar panels. The grasses are maintained at a low (4 to 12 inches) height through a sheep grazing program that periodically rotates between the sites as needed. The grass ground cover is designed to encourage the establishment of rodent populations to promote raptor use of the site as well as to provide for rodent refugia to aid in the reestablishment of rodent prey populations on adjacent farmlands following cultivation. The earlier-installed Belectric project also includes a similar grass substrate.

Differentiating the Structure and Management of Solar Arrays from Cultivated Habitats

The extent to which raptors are likely to use solar arrays compared with cultivated fields is largely a function of their design and management as well as the foraging behavior of each species. For example, Swainson's hawks are highly active aerial hunters. Typical foraging behavior is a relatively low (less than 100 meters) circling flight above suitable foraging habitat. They avoid fields with tall or dense vegetation because this condition reduces visibility and access to prey (Bechard 1982, Estep 2009). As a result, at first glance it would seem that a solar array, like a vineyard or orchard, would not provide suitable foraging conditions. Swolgaard et al. (2007) found some use of vineyards by foraging Swainson's hawks, but not to the extent of other crops and land cover types in the surrounding landscape. Still, the Swolgaard et al. (2007) study revealed that Swainson's hawks are not entirely averse to hunting in these conditions.

A typical solar array, however, has greater separation between rows than do most vineyards. For most photovoltaic solar projects, including the five included in this study, at least 60 percent of the area within the solar array remains potentially available at any given time. Most projects also retain open areas between array cells, along access roads, and between the arrays and the perimeter fence. Management of the substrate is also essential to ensure that the project supports available rodent prey for foraging raptors. In order to encourage a sustainable source of small rodent prey, a grass substrate is maintained year-round throughout the project area (Plate 1). Sheep grazing is used to control vegetation height and density, which also encourages accessibility of raptors to rodent prey (Plate 2). Because the grass substrate is maintained, it also functions as a stable source of recolonization of rodent populations into adjacent fields, which may be subject to seasonal fluctuations of rodent populations resulting from the planting/harvesting regime. In some cases, it is also possible to apply the principals of agrivoltaics (Goetzberger and Zastrow, 1982; Dolezal et al. 2021), the practice of agriculture in and around solar PV facilities, by including a mixture of grasses, forbs, and a variety of pollinator plant species. In addition to further encouraging rodent prey populations, this deep-rooted system helps save water, holds and improves the topsoil on-site, and encourages pollinators, which can benefit neighboring crops.

Plate 1. Solar array with grassland substrate.

Plate 2. Sheep grazing the grasslands at the Bruceville solar project site, 2021.

Physiography and Land use

The surrounding land use is entirely agricultural, consisting of a combination of irrigated pasture, dry pasture, and irrigated cropland. Dominant crop types in the area include oat hay, alfalfa, corn, wheat, and vineyards. Agricultural land use has changed since the 2013 study. Orchards, a land cover providing unsuitable foraging habitat for most raptors, have increased substantially, replacing row and grain crops, and potentially reducing overall use of the landscape by foraging raptors. Urbanization from the City of Elk Grove has also expanded southward toward the survey route. Although these dense urban developments were not included within the survey area, their increasingly close proximity likely affects raptor use of the surrounding area and thus may influence occurrences within the survey area.

Rural urban areas also occur throughout the area including farm and ranch residences and related facilities and dairies. The landscape is flat with virtually no topographic relief other than seasonal and perennial drainages, with the exception of the low grassland hills surrounding the Dillard project and to a lesser extent on the open grassland/rangelands of the Cosumnes River Preserve, north of the McKenzie project. Trees occur along riparian corridors, roadsides, and field borders, and around farm and ranch residences. These trees provide nesting habitat for several of the raptor species in the study area including Swainson's hawk, red-tailed hawk, red-shouldered hawk (*Buteo lineatus*), white-tailed kite (*Elanus leucurus*), American kestrel, and great-horned owl (*Bubo virginianus*).

Distribution and Foraging Behavior of Nesting Swainson's Hawks and other Raptor Species in South Sacramento County

Because of its status as a state-threatened species and its association with mitigation and conservation actions in the Central Valley, our target species for this study was the Swainson's hawk. However, all raptor species were recorded during the survey. A brief description of those species known to occur in the vicinity of the study area follows.

The Swainson's hawk is a medium-sized buteo most often characterized by its long, narrow, and tapered wings held in flight in a slight dihedral shape. The body size is somewhat smaller, thinner, and less robust than other buteos, although the wings are at least as long as other buteos. This body and wing shape allow for efficient soaring flight and aerial maneuverability, important for foraging, which Swainson's hawks do primarily from the wing, and during courtship and inter-specific territorial interactions (Plate 3). The species nests in trees along riparian corridors, field edges, roadsides, isolated trees, and around rural homesites; and forages in compatible cultivated landscapes and grasslands.

Plate 3. Adult Swainson's hawk showing the long, tapered wings that allow for efficient soaring and flight maneuverability.

The Swainson's hawk occurs throughout the undeveloped portions of Sacramento County. Surveys have been conducted throughout Sacramento County for several decades resulting in a substantial number of breeding records (California Natural Diversity Data Base 2021, Estep 2007, 2009a, 2012). Surveys conducted in 2006 reported a total of 188 active breeding sites in Sacramento County south of Jackson Highway (State Route 16) (Estep 2007). More recent surveys (Estep 2009a, 2012) reported additional active breeding sites within and south of the City of Elk Grove. Additional nesting sites are reported in eBird, a publicly-accessed online repository of bird occurrence data. Several additional nest sites were also reported during road transect surveys conducted for this study, one of which is located within the substation of the Kammerer solar project site (Plates 4 and 5).

Plate 4. Swainson's hawk nest in the Kammerer substation, 2021.

Plate 5. Swainson's hawk nest at Kammerer solar site, 2021.

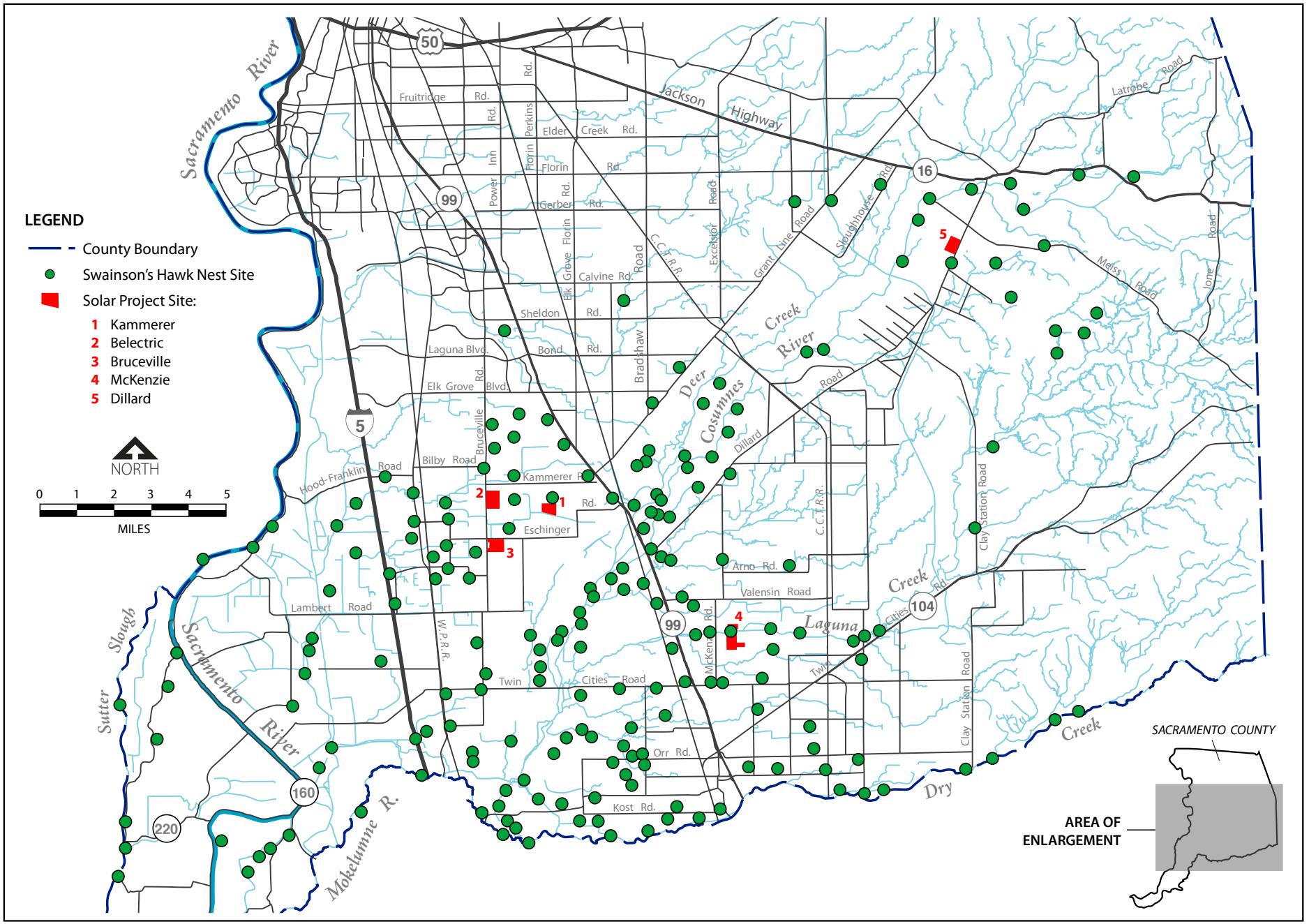
Figure 2 illustrates the locations of reported Swainson's hawk nests in South Sacramento County in the vicinity of the solar project sites. The highest nesting density was found in the interior of the county where the land use is predominantly irrigated cropland and irrigated pastureland.

In the Central Valley, the distribution of the red-tailed hawk is similar to the Swainson's hawk. There is substantial overlap in the habitat associations of the two species. Similar in size, but more robust in body than the Swainson's hawk, red-tailed hawks are somewhat less-active hunters, often hunting from perches. Distribution in the vicinity of the study area is similar to the Swainson's hawk, and although red-tailed hawks are more common range-wide, they are less abundant than Swainson's hawks in the irrigated agricultural landscape of the Central Valley (Estep 2007, 2008, 2012, 2020, Estep and Dinsdale 2012).

Red-shouldered hawks are distributed throughout the Central Valley, and are found primarily in riparian and other woodland habitats. As a result, their distribution is less uniform across the landscape compared with Swainson's hawk and red-tailed hawk, and although underreported, they are also less common. Red-shouldered hawks forage primarily in woodlands and along woodland edges, but will opportunistically hunt in open agricultural and grassland habitats.

White-tailed kites also occur throughout the Central Valley, using similar nesting and foraging habitats as Swainson's hawk and red-tailed hawk. However, they are substantially less common and more specialized in their use of foraging habitats and their hunting behavior, particularly their use of kiting or hovering technique while searching for rodent prey.

American kestrel is also distributed throughout the Central Valley, and although populations fluctuate, the species is relatively common and ubiquitous in agricultural landscapes. Kestrels also nest in similar riparian and other woodland habitats, in tree rows, or in small woodlots or in



SOURCE: Estep 2021.

Figure 2
Swainson's Hawk Distribution in the Vicinity of the Solar Project Sites

trees surrounding rural farm houses. They typically hunt from a perch – often seen along utility line corridors – or using a hovering technique similar to white-tailed kite.

Northern harrier is a ground-nesting raptor also commonly observed in agricultural and grassland landscapes in the Central Valley that uses a low-elevation coursing flight technique while hunting for small rodents. Great-horned owl, with a similar Central Valley distribution, nests in riparian and other woodland habitats and hunts, usually from a perch, in cultivated fields and grasslands. Burrowing owl, also a ground-nesting species, occurs primarily in open grassland habitats but is also occasionally found in cultivated landscapes. Cooper's hawk (*Accipiter cooperii*) is uncommonly found in riparian and other woodland habitats in the Central Valley where it uses a meandering flight pattern under the canopy to surprise prey. However, like all raptors in the altered landscape of the Central Valley, they will opportunistically hunt in open cultivated or grassland habitats.

Purpose

This study was designed to meet the following objectives (1) examine how and the extent to which Swainson's hawks and other raptors forage on or otherwise use the solar facilities; and (2) evaluate raptor use of solar facilities and other available land cover types relative to their availability on the landscape. Through this investigation, the purpose was to provide a general estimation of the use of the solar project facilities compared to other available land cover types and to provide data that can be used to assess the potential for changes in the distribution and abundance of Swainson's hawks resulting from the presence of moderately-sized solar facilities within an otherwise diverse, expansive, and dynamic agricultural landscape.

Methods

Strip Transect Road Surveys

The strip transect road survey method (Fuller and Mosher 1987) was used to evaluate relative foraging use of different land cover types, including the solar arrays. The transect route included the same 26-mile route used during the 2013 study, but included an additional 14 miles for a total route distance of approximately 40 miles. The survey route was selected based on the following:

- Incorporating the five solar facilities into the design
- Road/vehicle accessibility
- Visibility
- Road safety
- Diversity of land cover types

The survey area extended 600 feet from each side of the road for a total width of 1,200 feet. Initially, all land cover types were mapped and classified along the survey route. To conduct the survey, the surveyor slowly drove at a consistent pace between 10 and 15 mph, stopping as needed to identify and record raptors and raptor behavior. Recorded behaviors included:

- Circling below 100 meters
- Soaring below 200 meters
- Flying through the survey area below 200 meters
- Kiting/Hovering
- Perching (adjacent poles/trees/fences)
- Standing on ground
- Prey capture attempt
- Prey capture successful
- Prey capture unsuccessful
- Aerial foraging

The surveyor recorded data as raptors were observed within the 1,200-foot-wide transect survey area. Land cover type and status, including vegetation height, and farming activity were recorded for each occurrence. Start times were variable in order to account for differences in foraging use patterns. Using this method, a reliable statistical analysis can be performed that measures habitat use as a proportion of availability. In other words, it determines whether a habitat type is used more or less than expected relative to its availability. In this way we can evaluate the relative use of all cover types in the survey area, including the solar array fields.

A survey form along with an accompanying data code sheet and field maps with the route and land cover types illustrated were used to record observational and related data while in the field. Surveys were conducted during daylight hours and were not conducted during severe weather events such as heavy rainfall, winds greater than 20 mph or foggy conditions. Surveys were conducted twice weekly by the same surveyor between April 19 and August 31, 2021 for a total of 39 surveys.

Habitat Mapping. Land cover types were mapped and characterized in the field along the survey route on 7.5-minute USGS quadrangle maps. Current 2021 land use was documented in the field according to the land cover type categories listed below.

- Oats
- Alfalfa
- Dry Pasture
- Irrigated pasture
- Ruderal/Developed
- Vineyard
- Orchard
- Grassland
- Corn
- Tilled
- Solar Array field
- Idle/Fallow
- Riparian/Wetland
- Wheat

Field boundaries were recorded, confirmed, or adjusted as needed on USGS base maps. Tilled was included separately because some fields were tilled and unplanted for approximately one-half of the survey period before being planted. Rural residences and their surrounding footprint (e.g., barns, out buildings, yards, and equipment storage areas), adjacent ruderal areas, and other agricultural facilities, mainly dairies, were combined into a single category – Ruderal/Developed. Following the initial field mapping of habitat/land use categories, the data were then re-mapped using aerial photos to confirm field boundaries.

These maps were then converted to graphic maps using Adobe Illustrator. Habitat/land use cover type acreages were calculated from the graphic maps using a plug-in filter from Telegraphics Inc. While this process provided a reasonably accurate representation of land cover types along the survey route, it did not exclude interior farm roads and other edge features. As a result, the acreage totals may exceed the actual acreage for some types. However, this was considered to have a negligible effect on the total calculations or the relative abundance of the various types.

Several crop type rotations occurred during the survey including wheat, oats, and tilled fields rotating to corn. These rotations or conversions occurred at approximately the mid-point of the survey. To account for these changes and to satisfy the assumption that habitat availability is constant throughout the study (Manly et al. 2002), we used the same approach as Swolgaard et al. (2008) by tallying the areas of all fields that changed crops midseason, dividing the values in half, and assigning those values to each habitat.

Analysis. Documented raptor occurrences and acreages of land cover types were compiled and proportions of land cover types and occurrences within each land cover type calculated. As in the 2013 study, of the nine species documented during the survey, only Swainson's hawk, red-tailed hawk, and American kestrel had sufficient occurrences to be included in the statistical analysis. The null hypothesis stated that Swainson's hawks and other raptor species used each habitat for foraging in proportion to its availability in the survey area. Therefore, only behaviors that represented foraging were included in the analysis. To ensure consistency with the 2013 results, foraging behaviors for Swainson's hawk included circling below 100 meters, the typical foraging behavior of Swainson's hawks, kiting/hovering, and prey capture attempts. Perching behavior was initially excluded because the species does not typically hunt from a perch. However, in 2021, additional calculations were run that included perching as a foraging behavior to account for observed behavioral changes in Swainson's hawk use of solar array fields since 2013. Perching was included as a foraging behavior for red-tailed hawk and American kestrel, species that often hunt from perches.

Hypothesis testing for selection of foraging habitat consisted of a chi-square test for goodness of fit, followed by chi-square testing of individual types to determine if use was disproportionate to availability and whether it was positively or negatively correlated. While this approach may be regarded as very conservative compared with other more robust statistical tests used in habitat use/availability studies, it was considered appropriate to address the rather narrow objectives (use of solar array fields) of this study.

Stationary Observation Point Surveys

In addition to the strip transect road surveys, surveys were also conducted from stationary observation points around the perimeter of four of the five solar arrays (not including the Belectric project). The purpose of these surveys was to document additional use of the solar fields by all raptor species and to increase the opportunity to record prey captures or prey capture attempts, which are generally less frequently observed during road transect surveys. Stationary observation point surveys were conducted at the four solar projects once per week in a rotational sequence between April 22 and August 25 for a total of 19 separate four-hour observation periods totaling 76 hours of observation.

Results and Discussion

Land Cover Types within the Survey Area

Table 1 presents the types and corresponding acreages of land cover within the survey area. Figures 3a through 3h illustrate the distribution of these types along the survey route. The land use along the approximately 40-mile route and throughout much of the south Sacramento County area consists of a mixture of grazing lands in the form of both irrigated and non-irrigated pasturelands and cultivated lands. Of the 5,501 acres within the survey area, 79 percent are active agricultural types including irrigated and non-irrigated pasturelands (21.7 percent), seasonally or annually cultivated crops (28.8 percent), semi-perennial hays (12.2 percent), and perennial crops (16.1 percent). The remaining 21 percent of the land cover consists of ruderal/developed (9.7 percent), uncultivated grassland (6.2 percent), riparian (1.4 percent), and solar array fields (3.7 percent). Two primary changes occurred since the 2013 survey: the expansion of orchards – largely at the expense of irrigated pasture acreage, and the increase in grassland, which is due mainly to expanding the survey route through a portion of the Cosumnes River preserve (Table 1).

Table 1. Land use types and acreages in the survey area, 2021 and 2013.

Land Cover Type	Acres	Percent of Total 2021	Percent of Total 2013
Oats	844	15.3	19.2
Alfalfa	672	12.2	10.6
Dry Pasture	613	11.1	7.2
Irrigated Pasture	585	10.6	23.6
Ruderal/Developed	531	9.7	10.8
Vineyard	495	9.0	6.5
Orchard	393	7.1	0
Grassland	340	6.2	1.3
Corn	283	5.1	4.6
Tilled	235	4.3	4.7
Solar Array Field	206	3.7	6.9
Idle/Fallow	159	2.9	0.2
Riparian/Wetland	77	1.4	1.1
Wheat	68	1.2	3.3
Total	5,501	100	100

Seasonally or Annually Cultivated Crops. Within the survey area, these include oat hay, corn, and wheat crops, much of which is grown as silage to support local dairy operations. Tilled lands are cultivated lands that are between plantings and were included as a separate type because most of these areas were in a tilled condition for approximately one-half of the survey period before being planted to corn, which is often planted later in the season. These crops have variable suitability as foraging habitat depending on vegetation height and density, which influences prey accessibility (Bechard 1982, Estep 2009). Of the types found in the survey area, oat hay likely provides the highest value due to large rodent prey populations and relatively early harvest, which increases prey accessibility. After cutting, oat fields may continue to provide foraging value if the field is not disked and prepared for the following planting.

Semi-Perennial Hays. These are alfalfa hay fields that remain uncultivated for at least 3 consecutive years. During the spring and summer months, alfalfa fields are mowed approximately once per month and may be irrigated as frequently as once per week. This is considered a high value foraging crop type for Swainson's hawk and other raptors because of the lack of seasonal or annual cultivation and because the regular mowing and irrigation operations increase prey accessibility (Estep 2009).

Irrigated and Non-irrigated Pasturelands. Irrigated pastures are planted with grasses (e.g., bromes, ryegrass, clovers), irrigated, and grazed by livestock. They may be periodically cultivated and replanted. Non-irrigated, or dry pastures are uncultivated natural grasslands that are grazed by livestock. Both types are used by Swainson's hawks and other foraging raptors but are considered to have only moderate value due to low rodent prey populations compared to some cultivated lands (Estep 1989, 2009).

Perennial Crops. Perennial crops include vineyards and orchards. Although some use by Swainson's hawks has been documented (Swolgaard et al 2008), vineyards are generally considered to have low foraging value because as they mature, the vegetation becomes tall and dense and largely precludes foraging access (Estep 1989). Orchards, primarily nut orchards, have expanded throughout the region and in 2021 represent 7.1 percent of the land cover in the survey area, up from 0 percent in 2013. This land cover is considered unsuitable for Swainson's hawk foraging due to the dense canopy and inaccessibility to the ground.

Urban/Ruderal. Rural farm and ranch residences and associated out-buildings, dairy facilities, and other farming and ranching facilities occur along the survey route. Ruderal weedy or grassy patches also occur within or adjacent to some of the developed areas. Although these areas provide relatively little foraging value, they often provide perching habitat or nest sites where suitable trees or utility poles occur around their perimeter.

Uncultivated Grassland and Riparian. The survey route crosses the flood plain of the Cosumnes River where a small amount of riparian and associated uncultivated grassland were documented. The riparian forest in this area supports high value nesting habitat but would not typically be used for foraging by raptor species documented during the survey with the exception of red-shouldered hawk and Cooper's hawk. The small patches of grassland may be used by foraging raptors, but usually do not support the prey abundance and accessibility compared with open, cultivated lands. The expanded route for 2021 included additional open grassland through

the Cosumnes River Preserve and in the vicinity of the Dillard project at the eastern terminus of the route.

Solar Array Fields. A description of the five solar fields is provided in the Introduction section.

Strip Transect Road Surveys

Data on species occurrence, land cover, and behavior are compiled into the following tables, which provide insight into the use of solar fields compared with other land cover types by each raptor species, and inform the statistical outcome presented in the chi-square value tables from which the relative importance of each land cover can be inferred.

A total of 1,029 raptor occurrences were documented within the survey area. Three of the seven documented species, Swainson's hawk, red-tailed hawk, and American kestrel comprised 92.4 percent of the total occurrences. Swainson's hawk comprised 30.4 percent of the total occurrences (Table 2), down from 38.5 percent in 2013, speculatively due to orchard expansion in the region. In 2021, red-tailed hawks were the most commonly documented species in the survey area at 39.8 percent, up from 31.2 percent in 2013.

Table 2. Species occurrences documented within the survey area, 2021.

Species	Number of Occurrences	Percent of Total
Red-tailed hawk	410	39.8
Swainson's hawk	313	30.4
American kestrel	228	22.2
Red-shouldered hawk	42	4.1
White-tailed kite	20	1.9
Osprey	5	0.5
Cooper's Hawk	5	0.5
Northern harrier	4	0.4
Great-horned Owl	2	0.2
Total	1,029	100

Table 3 shows the number of occurrences by species within each land cover type. Alfalfa was associated with the largest proportion of all raptor occurrences at 23.6 percent, and the largest proportion of occurrences for red-tailed hawk (21.2 percent), Swainson's hawk (27.2 percent), American kestrel (26.3 percent), and red-shouldered hawk (23.8 percent). Dry pasture, irrigated pasture, solar fields, and oats also supported relatively high overall raptor occurrences, particularly red-tailed hawks, Swainson's hawks, and American kestrels.

Although solar fields made up only 3.7 percent of the survey area (Table 1), 8.7 percent of all raptor occurrences and 11.2 percent of all Swainson's hawk occurrences were documented in solar fields. Nearly 13 percent of all American kestrel occurrences and 4.6 percent of all red-tailed hawk occurrences were in solar fields.

Table 3. Species occurrences documented within each land cover type, 2021.

Land Cover Type	Species									Total	% of Total
	RTHA	SWHA	AMKE	RSHA	WTKI	OSPR	NOHA	COHA	GHOW		
Alfalfa	87	85	60	10	1					243	23.6
Dry pasture	56	34	11	3	1					105	10.2
Irrigated. pasture	53	20	15	5						93	9.0
Solar field	19	35	29	4				2	1	90	8.7
Oats	14	33	32		3				1	83	8.1
Vineyard	48	16	7	3			2	2		78	7.6
Corn	24	16	25	2				1		68	6.6
Field edge*	13	15	16	8	6	5				63	6.1
Tilled	11	25	20	3	1		1			61	5.9
Idle/Fallow	27	2	6		8					43	4.2
Orchard	38	4	1							43	4.2
Wheat	4	16	5							25	2.4
Grassland	15	5	1				1			22	2.1
Riparian/wetland	1	2		4						7	0.7
Ruderal/Develop	0	5								5	0.5
Total	410	313	228	42	20	5	4	5	2	1,029	100

SWHA = Swainson's hawk; RTHA = red-tailed hawk; AMKE = American kestrel; NOHA = northern harrier; WTKE = white-tailed kite; RSHA = red-shouldered hawk; OSPR = osprey; COHA = Cooper's hawk, GHOW = great-horned owl.
*Field or road edge was not a mapped habitat type, so these data are not included in the statistical analysis.

Species occurrences by behavior type are presented in Table 4. Perched occurrences were most common followed by circling below 100 meters, and together comprised nearly 82 percent of all occurrences. A total of 831 occurrences (81 percent) were considered potential foraging occurrences (Table 4).

Table 4. Behaviors documented by species. Potential foraging behaviors are highlighted.

Behavior Code	Species									Total	% of Total
	RTHA	SWHA	AMKE	RSHA	WTKI	COHA	OSPR	NOHA	GHOW		
P	304	122	145	31	14	2	3		1	622	60.4
C	81	122	10	4	2		1			220	21.4
F	13	14	24	4	3	3	1	3	1	66	6.4
G	1	28	1	1						31	3.0
CS	1	9	12	1						23	2.2
K		5	14		1					20	1.9
CU	2	3	11							16	1.6
S	5	9						1		15	1.5
CA	3	1	9	1						14	1.4
AF			2							2	0.2
Total	410	313	228	42	20	5	5	4	2	1029	100

SWHA = Swainson's hawk; RTHA = red-tailed hawk; AMKE = American kestrel; NOHA = northern harrier; WTKE = white-tailed kite; RSHA = red-shouldered hawk; OSPR = osprey. P-perching; C-circling below 100m; F-flying through below 200m; G-on the ground; CS-successful prey capture; K-kiting/hovering; CU-unsuccessful prey capture; S-soaring below 200m; CA-prey capture attempt; AF-aerial foraging.

Table 5 summarizes all raptor behaviors by land cover type. Tables 6, 7, and 8 show the behaviors associated with each occurrence in each land cover type for the Swainson's hawk, red-tailed hawk, and American kestrel, respectively. Swainson's hawks (Table 6) generally spend less time perching, particularly while foraging, than do red-tailed hawks and American kestrels, species that often hunt from perches. Typical hunting behavior of Swainson's hawk is a circling

flight at an altitude less than 100 meters. Nearly 40 percent of all Swainson's hawk occurrences were of circling flights below 100 meters. The proportion of perching occurrences (39%) was similar (up from 29% in 2013); however, in contrast, the largest proportion of Red-tailed hawk and American kestrel occurrences (74 percent and 64 percent, respectively) were of perching individuals (Tables 7 and 8).

Table 5. All raptor behaviors by land cover type

Land Cover Type	Behaviors										Total
	P	S	C	F	CA	CS	CU	G	K	AF	
Oats	48	2	23	1			3	1	5		83
Alfalfa	141	2	39	9	5	12	8	18	9		243
Dry pasture	66	1	22	8	1	2	1	4			105
Irrigated pasture	59	4	17	5	1	3	1	2		1	93
Ruderal/Developed	4		1								5
Vineyard	44	2	26	6							78
Orchard	35		8								43
Grassland	12		7	2	1						22
Corn	44	1	13	6		1	2			1	68
Field edge*	38		13	11					1		63
Tilled	35		16	5		1		4			61
Solar field	51		22	10	4	2	1				90
Idle/fallow	32		7	2	2						43
Riparian/Wetland	4		1	1					1		7
Wheat	6	3	8			2		2	4		25
Total	619	15	223	66	14	23	16	31	20	2	1029

P = perching; S = soaring below 200 m; C = circling below 100 meters; F = Flying below 200 meters; CA = prey capture attempt; CS = prey capture successful; CU = prey capture unsuccessful; G = standing on the ground; K = kiting/hovering, AF = aerial foraging. *Field or road edge was not a mapped habitat type, so these data are not included in the statistical analysis.

Table 6. Swainson's hawk behaviors by land cover type

Land Cover Type	Behaviors										Total
	P	S	C	F	CA	CS	CU	G	K	AF	
Oats	9	2	21					1			33
Alfalfa	26	1	24	5	1	7	2	17	2		85
Dry pasture	13	1	14	2		1		3			34
Irrigated pasture	9	1	8				1	1			20
Ruderal/Developed	4		1								5
Vineyard	5		11								16
Orchard			4								4
Grassland	2		2	1							5
Corn	10	1	5								16
Field edge	7		4	3					1		15
Tilled	8		11	2				4			25
Solar field	24		10			1					35
Idle/fallow	2										2
Riparian/wetland				1					1		2
Wheat	3	3	7					2	1		16
Total	122	9	122	14	1	9	3	28	5		313

P = perching; S = soaring below 200 m; C = circling below 100 meters; F = Flying below 200 meters; CA = prey capture attempt; CS = prey capture successful; CU = prey capture unsuccessful; G = standing on the ground; K = kiting/hovering. *Field or road edge was not a mapped habitat type, so these data are not included in the statistical analysis.

Table 7. Red-tailed hawk behaviors by land cover type

Land Cover Type	Behaviors										Total
	P	S	C	F	CA	CS	CU	G	K	AF	
Oats	12		2								14
Alfalfa	71	1	11	1	1		2				87
Dry pasture	45		8	2				1			56
Irrigated pasture	37	3	8	3	1	1					53
Ruderal/Developed											0
Vineyard	32	1	14	1							48
Orchard	34		4								38
Grassland	9		5		1						15
Corn	15		8	1							24
Field edge	8		4	1							13
Tilled	9		1	1							11
Solar field	7		10	2							19
Idle/Fallow	22		4	1							27
Riparian/wetland			1								1
Wheat	3		1								4
Total	304	5	81	13	3	1	2	1			410

P = perching; S = soaring below 200 m; C = circling below 100 meters; F = Flying below 200 meters; CA = prey capture attempt; CS = prey capture successful; CU = prey capture unsuccessful; G = standing on the ground; K = kiting/hovering. *Field or road edge was not a mapped habitat type, so these data are not included in the statistical analysis.

Table 8. American kestrel behaviors by land cover type

Land Cover Type	Behaviors										Total
	P	S	C	F	CA	CS	CU	G	K	AF	
Oats	23			1			3		5		32
Alfalfa	35		3	3	3	5	4	1	6		60
Dry pasture	5			4		1	1				11
Irrigated pasture	11		1	1		1				1	15
Ruderal/Developed											0
Vineyard	4		1	2							7
Orchard	1										1
Grassland	1										1
Corn	17			4		1	2			1	25
Field edge	9		2	5							16
Tilled	18		1			1					20
Solar field	17		2	4	4	1	1				29
Idle/fallow	4				2						6
Riparian/Wetland											0
Wheat						2			3		5
Total	145		10	24	9	12	11	1	14	2	228

P = perching; S = soaring below 200 m; C = circling below 100 meters; F = Flying below 200 meters; CA = prey capture attempt; CS = prey capture successful; CU = prey capture unsuccessful; G = standing on the ground; K = kiting/hovering, AF = aerial foraging. *Field or road edge was not a mapped habitat type, so these data are not included in the statistical analysis.

To examine the extent of foraging within solar fields and to evaluate the foraging use of solar fields and other land cover types relative to their availability within the survey area, those behaviors that were considered foraging behaviors were isolated from the total occurrences and used in the statistical analysis. For Swainson's hawk this included the following behaviors:

- Circling below 100 meters

- Kiting/Hovering
- Standing on ground
- Prey capture (attempt, successful, unsuccessful)

However, review of the data revealed an increase in Swainson's hawk perching occurrences compared with 2013, particularly at solar array fields (Plate 6). Although many of these were attributed to the proximity of the active nest at the Kammerer solar site, it also appeared that Swainson's hawk perching within the solar arrays had increased and may be attributed to using the structures as hunting perches within the array. The proportion of perching occurrences within in the solar array in 2021 (7.7 percent) increased nearly four times of that reported in 2013 (2.1 percent). As a result, although the analysis was initially conducted using the behaviors noted above, it was repeated using perching as a potential foraging behavior. Only those perching events within the solar arrays that were not attributed to the nesting activity at the Kammerer solar site were used.

Plate 6. Adult Swainson's hawk perched on solar panel at the McKenzie site. This use of the solar array suggests potential onsite foraging activity.

For the red-tailed hawk and American kestrel, perching was also included as a foraging behavior since these species commonly hunt from a perch. Note that with the exception of prey capture types and kiting/hovering, the remaining behaviors could be attributed to activities other than foraging. However, these are the primary foraging techniques of these species, and including them provides a reasonable estimation of foraging use for purposes of a comparative analysis.

Swainson's Hawk

Table 9 shows the relationship between foraging occurrences and habitat/land use type acreages for Swainson's hawk. As expected, 33.3 percent of the foraging occurrences were in alfalfa.

Oats, dry pasture, and tilled fields account for an additional 34.5 percent. Although comprising only 3.7 percent of the land cover, 6.9 percent of the foraging occurrences were in solar fields. Table 10 shows the same relationship but includes additional perching occurrences within solar fields considered potential foraging occurrences, increasing the proportion of foraging occurrences in solar fields to 10.6 percent.

Table 9. Swainson's hawk foraging occurrences within each land cover type.

Land Cover Type	Acres	Percent of Total	SWHA Foraging Observations	Percent of Total
Oats	844	15.3	22	13.8
Alfalfa	672	12.2	53	33.3
Dry Pasture	613	11.1	18	11.3
Irrigated Pasture	585	10.6	10	6.3
Ruderal/Developed	531	9.7	1	0.6
Vineyard	495	9.0	11	6.9
Orchard	393	7.1	4	2.5
Grassland	340	6.2	2	1.3
Corn	283	5.1	5	3.1
Tilled	235	4.3	15	9.4
Solar Array Field	206	3.7	11	6.9
Idle/Fallow	159	2.9	0	0
Riparian/Wetland	77	1.4	1	0.6
Wheat	68	1.2	10	6.3
Total	5,501	100	163	100

Table 10. Swainson's hawk foraging occurrences within each land cover type (including perching occurrences within solar array fields).

Land Cover Type	Acres	Percent of Total	SWHA Foraging Observations	Percent of Total
Oats	844	15.3	22	12.9
Alfalfa	672	12.2	53	31.2
Dry Pasture	613	11.1	18	10.6
Irrigated Pasture	585	10.6	10	5.9
Ruderal/Developed	531	9.7	1	0.6
Vineyard	495	9.0	11	6.5
Orchard	393	7.1	4	2.4
Grassland	340	6.2	2	1.2
Corn	283	5.1	5	2.9
Tilled	235	4.3	15	8.2
Solar Array Field	206	3.7	18	10.6
Idle/Fallow	159	2.9	0	0
Riparian/Wetland	77	1.4	1	0.6
Wheat	68	1.2	10	5.9
Total	5,501	100	170	100

The first chi-square test determines whether or not foraging use was in proportion to the availability of the land cover types in the survey area. As expected, the pattern of use indicates a high degree of habitat selectively and thus the null hypothesis was rejected ($\chi^2_{13.d.f.= 34.528}$ $P<0.001$) (Table 11). In other words, Swainson's hawks are selecting or avoiding specific crop or land cover types for foraging. Next, the contribution of the individual types was evaluated with regard to their significant contribution (positive or negative) to the chi-square

determination. Those with an observed use that exceeds the expected use, have a significant positive contribution (brown highlighting) and those with an expected use that exceeds the observed use have a significant negative contribution (blue highlighting) ($\chi^2_{1.d.f.= 3.84}$ $P<0.05$). In other words, Table 11 indicates that Swainson's hawks appear to be using alfalfa, tilled, wheat, and solar array fields at a significantly greater frequency than would be expected relative to their availability in the survey area.

Table 12 shows the same relationship but includes the additional perching occurrences within solar fields considered potential foraging occurrences (Table 10), resulting in a similar outcome, but with a substantially greater positive contribution from solar array fields. In other words, Swainson's hawks are not avoiding solar array fields within the agricultural landscape and appear to be using them at a greater frequency than would be expected given their availability.

Some caution is needed when interpreting these results. While the results indicate that land cover types overall are not used in proportion to their availability and that certain types have a significant contribution to this result, it does not necessarily indicate that those that do not have a significant contribution or that have a significant negative association lack value. For example, dry pasture accounted for the third highest number of Swainson's hawk foraging occurrences, but because dry pasture was relatively common within the survey area, the expected use was similar to the observed use. So, while it does not appear to have been selected over other land cover types or used in proportion to its availability, 10.6 percent of all documented Swainson's hawk foraging occurred in dry pastures, and therefore this type, regardless of its availability or use, clearly has foraging value to this species.

Table 11. Chi-square values for Swainson's hawk.

Land Cover Type	Available Land Cover (%)	Observed Use of Land Cover (Frequency)	Expected Use of Land Cover (Frequency)	Chi-square Contribution
Oats	15.3	22	24.94	0.35
Alfalfa	12.2	53	19.89	55.12
Dry Pasture	11.1	18	18.09	0.00
Irrigated Pasture	10.6	10	17.28	3.07
Ruderal/Developed	9.7	1	15.81	13.87
Vineyard	9.0	11	14.67	0.92
Orchard	7.1	4	11.57	4.95
Grassland	6.2	2	10.11	6.51
Corn	5.1	5	8.31	1.32
Tilled	4.3	15	7.01	9.11
Solar Array Field	3.7	11	6.03	4.10
Idle/Fallow	2.9	0	4.72	4.72
Riparian/Wetland	1.4	1	2.28	0.72
Wheat	1.2	10	1.96	32.98
Total	100	163	163	137.74*

*137.74 represents the sample statistic in the chi-square analysis. To be considered significant, this value must exceed the Critical Value ($\chi^2_{13.d.f.= 34.528}$ $P<0.001$), indicating that the observed frequencies are significantly different from the expected frequencies. The brown-highlighted rows indicate the land cover types that have a significant positive contribution and the blue-highlighted rows indicate a significant negative contribution ($\chi^2_{1.d.f.= 3.84}$ $P<0.05$).

Table 12. Chi-square values for Swainson's hawk (including perching in solar arrays).

Land Cover Type	Available Land Cover (%)	Observed Use of Land Cover (Frequency)	Expected Use of Land Cover (Frequency)	Chi-square Contribution
Oats	15.3	22	26.01	0.62
Alfalfa	12.2	53	20.74	50.18
Dry Pasture	11.1	18	18.87	0.04
Irrigated Pasture	10.6	10	18.02	3.57
Ruderal/Developed	9.7	1	16.49	14.55
Vineyard	9.0	11	15.30	1.21
Orchard	7.1	4	12.07	5.40
Grassland	6.2	2	10.54	6.92
Corn	5.1	5	8.67	1.55
Tilled	4.3	15	7.31	8.09
Solar Array Field	3.7	18	6.29	21.80
Idle/Fallow	2.9	0	4.93	4.93
Riparian/Wetland	1.4	1	2.38	0.80
Wheat	1.2	10	2.04	31.06
Total	100	170	170	150.72*

*150.72 represents the sample statistic in the chi-square analysis, which exceeds the Critical Value ($\chi^2_{13.d.f.= 34.528}$ P<0.001), indicating that the observed frequencies are significantly different from the expected frequencies. The brown-highlighted rows indicate the land cover types that have a significant positive contribution and the blue-highlighted rows indicate a significant negative contribution ($\chi^2_{1.d.f.= 3.84}$ P<0.05).

Red-tailed Hawk

Table 13 shows the relationship between foraging occurrences and land use type acreages for red-tailed hawk. Three types comprised nearly 50 percent of the foraging occurrences, alfalfa, irrigated pasture, and dry pasture. Red-tailed hawk was also found more frequently in vineyards and orchards, which together comprised 22 percent of the total foraging occurrences. Most of these were perching individuals and were thus considered potential foraging occurrences, although it is likely that many were roosting rather than foraging. Solar fields accounted for 4.5 percent of the red-tailed hawk occurrences and just 3.7 percent of the total land cover.

Table 13. Red-tailed hawk foraging occurrences within each land cover type.

Land Cover Type	Acres	Percent of Total	RTHA Foraging Observations	Percent of Total
Oats	844	15.3	14	3.7
Alfalfa	672	12.2	85	22.4
Dry Pasture	613	11.1	54	14.2
Irrigated Pasture	585	10.6	47	12.4
Ruderal/Developed	531	9.7	0	0
Vineyard	495	9.0	46	12.1
Orchard	393	7.1	38	10.0
Grassland	340	6.2	15	3.9
Corn	283	5.1	23	6.1
Tilled	235	4.3	10	2.6
Solar Array Field	206	3.7	17	4.5
Idle/Fallow	159	2.9	26	6.8
Riparian/Wetland	77	1.4	1	0.3
Wheat	68	1.2	4	1.1
Total	5,501	100	380	100

As expected, the pattern of use for red-tailed hawk also indicates a high degree of habitat selectively and thus the null hypothesis was rejected ($\chi^2_{13.d.f.= 34.528}$ $P<0.001$) (Table 14). The contribution of the individual types indicated that alfalfa, idle/fallow fields, and to a marginal extent vineyards and orchards, were used significantly more than their relative availability and oats and ruderal/developed, were used significantly less than their relative availability ($\chi^2_{1.d.f.= 3.84}$ $P<0.05$). Although not contributing significantly to the sample statistic, the results also indicate that solar fields were not avoided by foraging red-tailed hawks. Instead, they accounted for 4.5 percent of all red-tailed hawk foraging occurrences with observed use higher than expected use.

As noted above, lack of a significant contribution or a significant negative contribution does not necessarily indicate lack of value. For example, dry and irrigated pastures accounted for 14.2 and 12.4 percent of foraging occurrences, respectively (Table 13). But because these types occurred more frequently in the survey area, even though observed use exceeded expected use, neither had a significant positive contribution. However, the proportion of occurrences clearly suggests the importance of these land cover types to foraging red-tailed hawks.

Table 14. Chi-square values for red-tailed hawk.

Land Cover Type	Available Land Cover (%)	Observed Use of Land Cover (Frequency)	Expected Use of Land Cover (Frequency)	Chi-square Contribution
Oats	15.3	14	58.14	33.51
Alfalfa	12.2	85	46.36	32.21
Dry Pasture	11.1	54	42.18	3.31
Irrigated Pasture	10.6	47	40.28	1.12
Ruderal/Developed	9.7	0	36.86	36.86
Vineyard	9.0	46	34.20	4.07
Orchard	7.1	38	26.98	4.50
Grassland	6.2	15	23.56	3.11
Corn	5.1	23	19.38	0.68
Tilled	4.3	10	16.34	2.46
Solar Array Field	3.7	17	14.06	0.61
Idle/Fallow	2.9	26	11.02	20.36
Riparian/Wetland	1.4	1	5.32	3.51
Wheat	1.2	4	4.56	0.07
Total	100	380	380	146.38*

*146.38 represents the sample statistic in the chi-square analysis. To be considered significant, this value must exceed the Critical Value ($\chi^2_{13.d.f.= 34.528}$ $P<0.001$), indicating that the observed frequencies are significantly different from the expected frequencies. The brown-highlighted rows indicate the land cover types that have a significant positive contribution and the blue-highlighted rows indicate a significant negative contribution ($\chi^2_{1.d.f.= 3.84}$ $P<0.05$).

American Kestrel

Table 15 shows the relationship between foraging occurrences and habitat/land use type acreages for American kestrel. Three types made up 58.6 percent of the foraging occurrences, alfalfa, oats, and solar array fields. Thirteen percent of all foraging occurrences were in solar fields.

Table 15. American kestrel foraging occurrences within each land cover type.

Land Cover Type	Acres	Percent of Total	AMKE Foraging Observations	Percent of Total
Oats	844	15.3	31	16.1
Alfalfa	672	12.2	57	29.5
Dry Pasture	613	11.1	7	3.6
Irrigated Pasture	585	10.6	14	7.3
Ruderal/Developed	531	9.7	0	0
Vineyard	495	9.0	5	2.6
Orchard	393	7.1	1	0.5
Grassland	340	6.2	1	0.5
Corn	283	5.1	21	10.9
Tilled	235	4.3	20	10.4
Solar Array Field	206	3.7	25	13.0
Idle/Fallow	159	2.9	6	3.1
Riparian/Wetland	77	1.4	0	0
Wheat	68	1.2	5	2.6
Total	5,501	100	193	100

The pattern of use for American kestrel also indicates a high degree of habitat selectively and thus the null hypothesis was rejected ($\chi^2_{13.d.f.=34.528}$ $P<0.001$) (Table 16). The contribution of the individual types indicate that alfalfa, solar fields, tilled, and corn fields were used significantly more than their relative availability, and dry pasture, ruderal/developed, vineyard, orchard, and grassland were used significantly less than their relative availability ($\chi^2_{1.d.f.=3.84}$ $P<0.05$).

Foraging use of solar fields by American kestrels was particularly high due mainly to the high proportion of perching occurrences (63.6 percent) (Table 8). The solar panels and the perimeter fence provided excellent perching habitat for kestrels (Plate 7).

Table 16. Chi-square values for American kestrel.

Land Cover Type	Available Land Cover (%)	Observed Use of Land Cover (Frequency)	Expected Use of Land Cover (Frequency)	Chi-square Contribution
Oats	15.3	31	29.53	0.07
Alfalfa	12.2	57	23.55	47.51
Dry Pasture	11.1	7	21.42	9.71
Irrigated Pasture	10.6	14	20.46	2.04
Ruderal/Developed	9.7	0	18.72	18.72
Vineyard	9.0	5	17.37	8.81
Orchard	7.1	1	13.70	11.77
Grassland	6.2	1	11.97	10.05
Corn	5.1	21	9.84	12.66
Tilled	4.3	20	8.30	11.70
Solar Array Field	3.7	25	7.14	44.68
Idle/Fallow	2.9	6	5.60	0.03
Riparian/Wetland	1.4	0	2.70	2.70
Wheat	1.2	5	2.32	3.09
Total	100	193	193	183.54

*183.54 represents the sample statistic in the chi-square analysis. To be considered significant, this value must exceed the the Critical Value ($\chi^2_{13.d.f.=34.528}$ $P<0.001$), indicating that the observed frequencies are significantly different from the expected frequencies. Brown-highlight indicates a significant contribution and blue indicates negative contribution ($\chi^2_{1.d.f.=3.84}$ $P<0.05$).

Plate 7. American kestrel perch-hunting on a solar panel at the Kammerer Site.

All Raptors

Table 17 shows the relationship between foraging occurrences and land cover type acreages for all raptors combined. Not unexpectedly, the largest proportion of foraging occurrences for all raptors combined occurred in alfalfa fields (26.2 percent), although this land cover type made up just 12.2 percent of the survey area. Dry pasture, irrigated pasture, and oats were also relatively frequently used and combined for a total of 29.3 percent of the occurrences, although they made up 37 percent of the survey area. Solar array fields, 3.7 percent of the survey area, contributed 7.2 percent of the foraging occurrences for all raptors combined.

The overall pattern of use for all raptor species combined also indicates a high degree of habitat selectively and thus the null hypothesis was rejected ($\chi^2_{13.d.f.=34.528}$ $P<0.001$) (Table 18). The contribution of the individual types indicates that alfalfa, solar fields, idle/fallow, and tilled fields were used significantly more than their relative availability, and ruderal/developed, grassland, and oats were used significantly less than their relative availability ($\chi^2_{1.d.f.=3.84}$ $P<0.05$). With the same cautionary notes expressed above relating to existing knowledge of observed habitat value and the availability/frequency formulation used here, it is clear that raptors are not avoiding solar array fields and at least to some extent appear to be selecting them.

Table 17. All raptor foraging occurrences within each land cover type.

Land Cover Type	Acres	Percent of Total	All Raptor Foraging Observations	Percent of Total
Oats	844	15.3	71	9.1
Alfalfa	672	12.2	205	26.2
Dry Pasture	613	11.1	83	10.6
Irrigated Pasture	585	10.6	75	9.6
Ruderal/Developed	531	9.7	1	0.1
Vineyard	495	9.0	67	8.6
Orchard	393	7.1	43	5.5
Grassland	340	6.2	19	2.4
Corn	283	5.1	51	6.5
Tilled	235	4.3	46	5.9
Solar Array Field	206	3.7	56	7.2
Idle/Fallow	159	2.9	39	5.0
Riparian/Wetland	77	1.4	6	0.8
Wheat	68	1.2	19	2.4
Total	5,501	100	781	100

Table 18. Chi-square values for all raptors.

Land Cover Type	Available Land Cover (%)	Observed Use of Land Cover (Frequency)	Expected Use of Land Cover (Frequency)	Chi-square Contribution
Oats	15.3	71	119.49	19.68
Alfalfa	12.2	205	95.28	126.35
Dry Pasture	11.1	83	86.69	0.16
Irrigated Pasture	10.6	75	82.79	0.73
Ruderal/Developed	9.7	1	75.76	73.77
Vineyard	9.0	67	70.29	0.15
Orchard	7.1	43	55.45	2.80
Grassland	6.2	19	48.42	17.88
Corn	5.1	51	39.83	3.13
Tilled	4.3	46	33.58	4.59
Solar Array Field	3.7	56	28.90	25.41
Idle/Fallow	2.9	39	22.65	11.80
Riparian/Wetland	1.4	6	10.93	2.22
Wheat	1.2	19	9.37	9.90
Total	100	781	781	298.57

*298.57 represents the sample statistic in the chi-square analysis. To be considered significant, this value must exceed the Critical Value ($\chi^2_{13.d.f.=34.528}$ $P<0.001$), indicating that the observed frequencies are significantly different from the expected frequencies. The brown-highlighted rows indicate the land cover types that have a significant positive contribution and the blue-highlighted rows indicate a significant negative contribution ($\chi^2_{1.d.f.=3.84}$ $P<0.05$).

Stationary Observation Points

A total of 160 raptor occurrences were reported within the solar array fields during the stationary observation point surveys (Table 19). Of these, 126 (78.8 percent) were considered foraging occurrences. Consistent with the driving transect survey results, American kestrel (38.8 percent) and Swainson's hawk (36.9 percent) were the most commonly observed raptors. Nearly 60 percent of the Swainson's hawk occurrences were considered foraging occurrences. Some of the perching occurrences may also have been associated with foraging behavior, but were excluded for consistency with the 2013 data.

Although fewer Swainson's hawks were observed in 2021 (59) than in 2013 (108), the proportion of foraging occurrences (59.3 percent in 2021 and 63.9 percent in 2013) was similar. Results were also consistent for all other species between 2013 and 2021.

Table 20 shows the different behaviors of each species within the solar fields. Similar to the road transect results, the most common behaviors were circling below 100 meters and perching, comprising 78.6 percent of foraging occurrences. Nearly 17 percent of the foraging occurrences were prey captures or prey capture attempts.

Table 19. Total number of occurrences and the proportion of foraging occurrences in solar fields for all species observed.

Species	Total occurrences	Foraging occurrences	Percent Foraging occurrences
Swainson's hawk	59	35	59.3
Red-tailed hawk	27	26	96.3
American kestrel	62	55	88.7
Red-shouldered hawk	2	1	50.0
Cooper's hawk	8	7	87.5
Northern harrier	1	1	100
Peregrine falcon	1	1	100
Total	160	126	78.8

Table 20. Behaviors in solar fields (all species). Foraging behaviors are highlighted.

	Behaviors								
	P	**S**	**C**	**K**	**F**	**G**	**CA**	**CS**	**CU**
SWHA	14	2	32	1	8		1	1	
RTHA	3	1	21			1	1		
AMKE	31		5	2	8		9	5	2
RSHA			1		1				
COHA	2		3		1		2		
NOHA					1				
PEFA			1						
Total	50	3	63	3	19	1	13	6	2

P = perching; S = soaring below 200 m; C = circling below 100 meters; F = Flying below 200 meters; CA = prey capture attempt; CS = prey capture successful; CU = prey capture unsuccessful; G = standing on the ground; K = kiting/hovering. SWHA = Swainson's hawk; RTHA = red-tailed hawk; AMKE = American kestrel; RSHA = red-shouldered hawk; COHA = Cooper's hawk; NOHA = northern harrier; PEFA = peregrine falcon.

Summary and Conclusions

The results of this study indicate ongoing raptor use of moderately-sized solar array fields following conversion from cultivated uses. Results of the strip transect road survey indicate raptor use in general, and specifically Swainson's hawk and American kestrel use of solar array fields exceeds expected use based on their availability within the agricultural landscape. This suggests that solar array fields are not avoided by these species and may be selected at a greater frequency than many cultivated land cover types. The stationary observation point surveys confirm use within solar array fields, including foraging or potential foraging use by all species observed.

Comparison with 2013 Results

Data from 2021 are consistent with the 2013 results. Although there were some differences in the use of specific cultivated land cover types for some species, similar use patterns were found, particularly the overall use of solar array fields.

The total number and the relative proportion of Swainson's hawks in 2021 (30.4 percent) was less than in 2013 (38.5 percent), while the numbers of other species, including red-tailed hawk, American kestrel, and red-shouldered hawk, increased in 2021 (Table 21). This may have been due in part to the expansion of the strip transect road survey route, which increased the proportion of grasslands, and to the conversion to orchards along the route, which decreased the proportion of irrigated pasture (Table 22). The extent of orchard expansion throughout the region has resulted in declines of available habitat for Swainson's hawk (Estep 2020).

The proportion of Swainson's hawk foraging observations in solar array fields was greater in 2013 (12.8 percent) than in 2021 (6.9 percent). However, the observed use of solar array fields by Swainson's hawk has changed since 2013, with a greater proportion of perching occurrences in 2021. Perching was not included as a potential foraging behavior in 2013, but 2021 observations suggest that perching within the solar array may have become a more common technique for foraging within the array. Thus, the data were recalculated by including several perching occurrences considered to be foraging behaviors, resulting in the proportion of foraging observations approaching 11 percent and greater consistency with 2013 results. However, either result (including and not including the additional perching occurrences) resulted in an observed use of solar array fields by Swainson's hawks that exceeded expected use. In other words, in either case, Swainson's hawks appear to be using solar array fields at a significantly greater frequency than would be expected relative to their availability.

Conclusions

The following conclusions are the same as were made in the 2013 study (Estep 2013).

1. Swainson's hawks use and forage within managed solar array fields. The results of the driving transect surveys and the stationary observation point surveys indicate foraging use of the solar array fields by Swainson's hawks and other raptors. While it is difficult to observe the precise locations of prey capture attempts in solar array fields due to their height, the rows of

solar trackers may not preclude foraging in the open grasslands between them. However, foraging hawks may also be focused primarily on the wider spaces between the sub-areas within the projects and around the perimeter of the projects. Of key importance is the management of a grassland substrate to promote rodent populations and maintaining this substrate at a height that promotes visibility and access to prey. Unlike most crop types, this condition is available in solar fields throughout the spring and summer breeding season, and thus provides a consistent and available source of prey. Many crop types, while important in the overall agricultural matrix, may be available for a relatively short period of time during the breeding season due to the planting, growth, and harvesting regime.

2. Swainson's hawk foraging use of solar array fields exceeds what would be expected based on their availability. This suggests that not only were the solar array fields being used by foraging Swainson's hawks, but that they were being selectively used at greater frequency than some of the other land cover types in the survey area. The data indicates a similar conclusion for American kestrel, and although not selected at a greater frequency, data on red-tailed hawk use of solar array fields indicate they were not avoided.

3. Within the diverse agricultural landscape of the study area, the presence of the managed solar array fields (i.e., managed grassland substrate) did not appear to negatively affect the Swainson's hawk and other raptors. The solar array fields were used for foraging similarly to other moderate to high value agricultural cover types and their presence did not appear to affect the overall use of the landscape by Swainson's hawks or other raptors. As one element of an otherwise diverse agricultural matrix, the solar array fields provided a consistent and an apparently reasonably accessible source of prey, particularly for Swainson's hawks and American kestrels. However, this outcome should be viewed with some caution in that while this study indicated a positive relationship, only a small percent of the survey area was solar array field. But these results suggest that solar array fields designed and managed similarly as those included within this study and integrated into a diverse agricultural landscape may not negatively affect Swainson's hawk and other raptors.

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LEGEND

- Survey Route
- Survey Area (1,200' total width)

KEY TO LAND COVER

Solar Facility	116 Ac.
Irrigated Pasture	232 Ac.
Oats	315 Ac.
Dry Pasture	61 Ac.
Alfalfa	187 Ac.
Ruderal/Developed	133 Ac.
Wheat	
Tilled	2.5 Ac.
Vineyard	160 Ac.
Grassland	
Orchard	132 Ac.
Idle/Fallow	62 Ac.

ROTATED LAND COVER

Wheat to Corn	
Oats to Corn	53 Ac.
Tilled to Corn	78 Ac.
Oats to Tilled	64 Ac.

MATCH LINE (see Figure 3b)

MATCH LINE (see Figure 3c)

Figure 3a
Survey Route and Land Cover Types

NORTH

0 1,000 2,000

FEET

BASE MAP: USGS 7.5' Bruceville and Galt, California Quadrangles

09/21/2021

LEGEND

- Survey Route
- Survey Area (1,200' total width)

KEY TO LAND COVER

Solar Facility	
Irrigated Pasture	118 Ac.
Oats	20 Ac.
Dry Pasture	92 Ac.
Alfalfa	142 Ac.
Ruderal/Developed	74 Ac.
Wheat	
Tilled	
Vineyard	30 Ac.
Grassland	
Orchard	25 Ac.
Idle/Fallow	2 Ac.

ROTATED LAND COVER

Wheat to Corn	15 Ac.
Oats to Corn	32 Ac.
Tilled to Corn	
Oats to Tilled	83 Ac.

MATCH LINE (see Figure 3a)

Point Pleasant

Bruceville

Figure 3b
Survey Route and Land Cover Types

NORTH

0 1,000 2,000

FEET

BASE MAP: USGS 7.5' Bruceville and Galt, California Quadrangles

09/21/2021

MATCH LINE (see Figure 3a)

MATCH LINE (see Figure 3d)

LEGEND

- Survey Route
- Survey Area (1,200' total width)

KEY TO LAND COVER

Solar Facility	
Irrigated Pasture	
Oats	47 Ac.
Dry Pasture	25 Ac.
Alfalfa	115 Ac.
Ruderal/Developed	80 Ac.
Wheat	
Tilled	
Vineyard	
Grassland	
Orchard	53 Ac.
Idle/Fallow	35 Ac.

ROTATED LAND COVER

Wheat to Corn	18 Ac.
Oats to Corn	15 Ac.
Tilled to Corn	176 Ac.
Oats to Tilled	

09/21/2021

Figure 3c
Survey Route and Land Cover Types

NORTH

0 1,000 2,000

FEET

BASE MAP: USGS 7.5' Bruceville and Galt, California Quadrangles

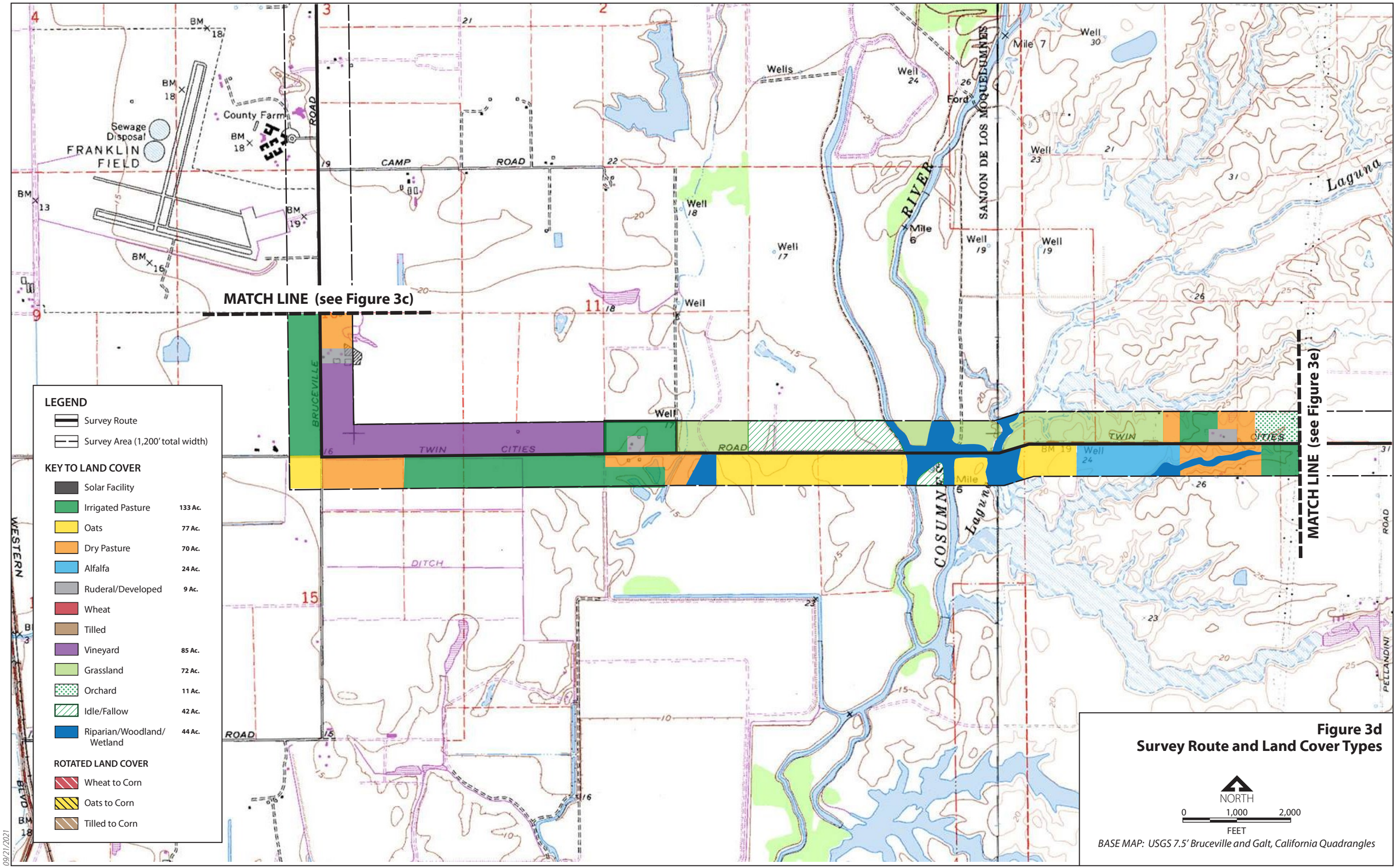

Figure 3d
Survey Route and Land Cover Types

09/21/2021

LEGEND

- Survey Route
- Survey Area (1,200' total width)

KEY TO LAND COVER

Solar Facility	64 Ac.
Irrigated Pasture	82 Ac.
Oats	47 Ac.
Dry Pasture	108 Ac.
Alfalfa	60 Ac.
Ruderal/Developed	160 Ac.
Wheat	25 Ac.
Tilled	
Vineyard	175 Ac.
Grassland	
Orchard	107 Ac.
Idle/Fallow	18 Ac.
Riparian/Woodland/ Wetland	4 Ac.

ROTATED LAND COVER

Wheat to Corn	
Oats to Corn	66 Ac.
Tilled to Corn	19 Ac.

MATCH LINE (see Figure 3f)

MATCH LINE (see Figure 3d)

D E L O S

M O Q U E L U M N E S

PACIFIC

4 LANE

99

104

MINGO ROAD

MC KENZIE ROAD

HAUSCHILDT RD

WALDO RD

SKUNK

LAGUNA

TWIN

SPRING ST

MIDWAY AVE

WALNUT AVE

Twin Cities

Need

BM 37

BM 43

BM 42

Well

Figure 3e
Survey Route and Land Cover Types

NORTH

0 1,000 2,000

FEET

BASE MAP: USGS 7.5' Bruceville and Galt, California Quadrangles

09/21/2021

MATCH LINE (see Figure 3g)

LEGEND

- Survey Route
- Survey Area (1,200' total width)

KEY TO LAND COVER

Solar Facility	
Irrigated Pasture	
Oats	22 Ac.
Dry Pasture	15 Ac.
Alfalfa	44 Ac.
Ruderal/Developed	33 Ac.
Wheat	
Tilled	22 Ac.
Vineyard	27 Ac.
Grassland	183 Ac.
Orchard	
Idle/Fallow	
Riparian/Woodland/ Wetland	29 Ac.

ROTATED LAND COVER

Wheat to Corn	9 Ac.
Oats to Corn	40 Ac.
Tilled to Corn	

MATCH LINE (see Figure 3e)

Figure 3f
Survey Route and Land Cover Types

NORTH
0 1,000 2,000
FEET

BASE MAP: USGS 7.5' Bruceville and Galt, California Quadrangles

09/21/2021

LEGEND

- Survey Route
- Survey Area (1,200' total width)

KEY TO LAND COVER

Solar Facility	
Irrigated Pasture	20 Ac.
Oats	140 Ac.
Dry Pasture	76 Ac.
Alfalfa	81 Ac.
Ruderal/Developed	15 Ac.
Wheat	
Tilled	
Vineyard	
Grassland	85 Ac.
Orchard	
Idle/Fallow	
Riparian/Woodland/ Wetland	

ROTATED LAND COVER

Wheat to Corn	44 Ac.
Oats to Corn	
Tilled to Corn	

MATCH LINE (see Figure 3f)

Figure 3g
Survey Route and Land Cover Types

NORTH

0 1,000 2,000

FEET

BASE MAP: USGS 7.5' Bruceville and Galt, California Quadrangles

09/21/2021

LEGEND

- Survey Route
- Survey Area (1,200' total width)

KEY TO LAND COVER

Solar Facility	26 Ac.
Irrigated Pasture	
Oats	
Dry Pasture	166 Ac.
Alfalfa	19 Ac.
Ruderal/Developed	27 Ac.
Wheat	
Tilled	
Vineyard	18 Ac.
Grassland	
Orchard	65 Ac.
Idle/Fallow	
Riparian/Woodland/ Wetland	

ROTATED LAND COVER

- Wheat to Corn
- Oats to Corn
- Tilled to Corn

Figure 3h
Survey Route and Land Cover Types

NORTH

0 1,000 2,000

FEET

BASE MAP: USGS 7.5' Sloughhouse, California Quadrangle

09/21/2021

Appendix B
Photo Record

Photo 1 (P-01). Photo depicts Coyote Creek.

Photo 2 (P-02). Photo depicts oak woodland-savannah vegetation community.

Photo 3 (P-03). Photo depicts suitable tricolored blackbird habitat.

Photo 4 (P-04). Photo depicts valley grassland vegetation community.

Photo 5 (P-05). Photo depicts high density development.

Photo 6 (P-06). Photo depicts landscape of PSA.

Photo 7 (P-07). Photo depicts Carson Creek.

Photo 8 (P-08). Photo depicts Swainson's hawk chasing off golden eagle.

Photo 9 (P-09). Photo depicts baby turkey vultures observed.

Photo 10 (P-10). Photo depicts owl pellet observed on site.

Photo 11 (P-11). Photo depicts several northwestern pond turtles observed within PSA.

Photo 12 (P-12). Photo depicts mountain garter snake observed within PSA.

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Appendix C
Observed Species Compendium

Plant Species

Vascular Species

Eudicots

ADOXACEAE—MUSKROOT FAMILY

Sambucus nigra ssp. *caerulea*—blue elderberry

AIZOACEAE—FIG-MARIGOLD FAMILY

Trianthema portulacastrum—desert horsepurslane

AMARANTHACEAE—AMARANPTH FAMILY

* *Amaranthus albus*—prostrate pigweed

Amaranthus blitoides—mat amaranth

ANACARDIACEAE—SUMAC OR CASHEW FAMILY

Toxicodendron diversilobum—poison oak

Pistacia chinensis—Chinese pistache

APIACEAE—CARROT FAMILY

* *Daucus carota*—Queen Anne's lace

* *Daucus pusillus* – American wild carrot

Eryngium aristulatum—California button-celery

Eryngium castrense—Great Valley eryngo

Lomatium caruifolium—alkali desertparsley

Lomatium utriculatum—common lomatium

Osmorhiza berteroi—sweetcicely

Sanicula bipinnatifida—purple sanicle

* *Torilis arvensis*—spreading hedgeparsley

APOCYNACEAE—DOGBANE FAMILY

Asclepias fascicularis—Mexican whorled milkweed

Asclepias speciosa—showy milkweed

ASTERACEAE—SUNFLOWER FAMILY

Achillea millefolium—common yarrow

Agoseris sp.—dandelion species

* *Anthemis cotula*—stinking chamomile

* *Artemisia californica* – California sagebrush

Artemisia douglasiana – California mugwort
Baccharis pilularis—coyote brush
Bidens frondosa—devil's beggartick
Blennosperma nanum—common stickyseed
Calycadenia spicata—spiked western rosinweed
Carduus tenuiflorus – winged thistle
* *Carduus pycnocephalus*—Italian plumeless thistle
* *Carduus tenuiflorus*—slender-flowered thistle
* *Centaurea solstitialis*—yellow star-thistle
Centromadia fitchii—Fitch's tarweed
* *Chondrilla juncea*—rush skeletonweed
* *Cichorium intybus*—chicory
* *Cirsium vulgare*—bull thistle
* *Cotula coronopifolia*—brass buttons
* *Dittrichia graveolens*—stinkwort
Erigeron foliosus—leafy fleabane
Gnaphalium palustre—western marsh cudweed
Grindelia camporum—Great Valley gumweed
Helianthus annuus—common sunflower
Holocarpha virgata—yellowflower tarweed
Holozonia filipes—whitecrown
* *Hypochaeris glabra*—smooth cat's ear
* *Hypochaeris radicata*—hairy cat's ear
* *Lactuca serriola*—prickly lettuce
* *Lactuca virosa*—wild lettuce
Lagophylla glandulosa – glandular hareleaf
Lasthenia californica ssp. *californica*—California goldfields
Lasthenia fremontii—Fremont's goldfields
Lasthenia glaberrima—smooth goldfields
Layia chrysanthemoides—smooth tidytips
Layia fremontii—Fremont's tidy-tips
* *Leontodon saxatilis*—lesser hawkbit
Lessingia virgata—wand lessingia
* *Logfia gallica*—narrowleaf cottonrose
Madia elegans—common madia
Matricaria discoidea—disc mayweed
Micropus californicus var. *californicus*—q-tips
Microseris douglasii ssp. *douglasii*—Douglas' silverpuffs
Pseudognaphalium californicum—ladies' tobacco

Psilocarphus brevissimus—short woollyheads
Psilocarphus tenellus—slender woollyheads
* *Senecio vulgaris*—old-man-in-the-Spring
* *Silybum marianum*—blessed milkthistle
* *Soliva sessilis*—field burweed
* *Sonchus asper*—spiny sowthistle
Uropappus lindleyi—Lindley's silverpuffs
* *Wyethia angustifolia – California compassplant*
Xanthium strumarium—cocklebur

BORAGINACEAE—BORAGE FAMILY

Amsinckia menziesii—Menzies' fiddleneck
Amsinckia eastwoodiae - Eastwood's fiddleneck
Phacelia cicutaria var. *cicutaria*—caterpillar phacelia
Phacelia heterophylla—varileaf phacelia
Plagiobothrys bracteatus—bracted popcornflower
Plagiobothrys greenei—Greene's popcornflower
Plagiobothrys leptocladus—finebranched popcornflower
Plagiobothrys nothofulvus—popcorn flower
Plagiobothrys stipitatus var. *micranthus*—stalked popcornflower
Plagiobothrys stipitatus—stalked popcornflower
Plagiobothrys trachycarpus—roughfruit popcornflower

BRASSICACEAE—MUSTARD FAMILY

* *Brassica nigra*—black mustard
* *Brassica rapa*—field mustard
* *Capsella bursa-pastoris*—shepherd's purse
Cardamine californica—milkmaids
* *Hirschfeldia incana*—shortpod mustard
Lepidium nitidum—shining pepperweed
Nasturtium officinale—watercress
* *Raphanus raphanistrum*—wild radish
Rorippa palustris ssp. *palustris*—hispid yellowcress
* *Sisymbrium officinale*—hedgemustard
Thysanocarpus radians - fringepod

CAMPANULACEAE—BELLFLOWER FAMILY

Downingia bicornuta var. bicornuta - Double-horn calicoflower
Downingia cuspidate - toothed calicoflower
Downingia ornatissima var. *ornatissima*—folded calicoflower

CARYOPHYLLACEAE—PINK FAMILY

* *Cerastium glomeratum*—sticky chickweed
Minuartia cismontana—cismontane minuartia
* *Petrorhagia dubia*—hairypink
* *Silene gallica*—common catchfly
* *Spergularia rubra*—red sandspurry
* *Stellaria media*—common chickweed

CHENOPODIACEAE—GOOSEFOOT FAMILY

* *Salsola tragus*—prickly Russian thistle

CONVOLVULACEAE—MORNING-GLORY FAMILY

* *Convolvulus arvensis*—field bindweed
Cuscuta sp. —dodder species

CRASSULACEAE—STONECROP FAMILY

Crassula connata—sand pygmyweed
Dudleya cymosa—canyon liveforever
Sedella pumila—Sierra mock stonecrop

ERICACEAE—HEATHER FAMILY

Arctostaphylos sp.— manzanita

EUPHORBIACEAE—SPURGE FAMILY

Croton setiger—dove weed
Euphorbia serpyllifolia—thymeleaf sandmat
Euphorbia sp.—spurge species

FABACEAE—LEGUME FAMILY

Acmispon americanus—Spanish clover
Cercis canadensis—eastern redbud
Lupinus bicolor—miniature lupine
Lupinus microcarpus—valley lupine
* *Medicago lupulina*—black medick
* *Medicago polymorpha*—burclover
* *Melilotus indicus* – sour clover
* *Robinia pseudoacacia*—black locust
* *Trifolium campestre*—field clover
Trifolium depauperatum var. *depauperatum*—cowbag clover
Trifolium depauperatum—cowbag clover
* *Trifolium dubium*—suckling clover

* *Trifolium fragiferum*—strawberry clover
* *Trifolium glomeratum*—clustered clover
* *Trifolium hirtum*—rose clover
  Trifolium macrocephalum—largehead clover
* *Trifolium repens*—white clover
* *Trifolium subterraneum*—subterranean clover
* *Trifolium tomentosum*—woolly clover
  Trifolium variegatum—white-tip clover
  Trifolium willdenovii—tomcat clover
  Trifolium wormskioldii—cows clover
  Vicia americana ssp. *americana*—American vetch
* *Vicia sativa* ssp. *sativa*—garden vetch
* *Vicia villosa*—winter vetch

FAGACEAE—OAK FAMILY

Quercus chrysolepis—canyon live oak
Quercus douglasii—blue oak
Quercus kelloggii—California black oak
Quercus lobata—valley oak
Quercus wislizeni—interior live oak

GENTIANACEAE—GENTIAN FAMILY

* *Centaurium tenuiflorum*—slender centaury
  Zeltnera muehlenbergii—Muhlenberg's centaury
  Zeltnera sp.—centaury species

GERANIACEAE—GERANIUM FAMILY

* *Erodium botrys*—longbeak stork's bill
* *Erodium brachycarpum*—shortfruit stork's bill
* *Erodium cicutarium*—redstem stork's bill
* *Erodium moschatum*—musky stork's bill
* *Geranium dissectum*—cutleaf geranium
* *Geranium molle*—dovefoot geranium

HYPERICACEAE—ST. JOHN'S WORT FAMILY

* *Hypericum perforatum*—common St. Johnswort

JUGLANDACEAE—WALNUT FAMILY

Juglans hindsii—Northern California black walnut
* *Juglans regia*—English walnut

LAMIACEAE—MINT FAMILY

* *Lamium amplexicaule*—henbit deadnettle
* *Mentha x rotundifolia*—apple mint
* *Mentha arvensis*—wild mint
* *Mentha pulegium*—pennyroyal

Pogogyne douglasii - Douglas' mesamint

Pogogyne zizyphoroides—Sacramento mesamint

Stachys albens—whitestem hedgenettle

Trichostema lanceolatum—vinegarweed

LENTIBULARIACEAE—BLADDERWORT FAMILY

Utricularia gibba—humped bladderwort

LIMNANTHACEAE—MEADOWFOAM FAMILY

Limnanthes douglasii ssp. *douglasii*—Douglas' meadowfoam

Limnanthes douglasii ssp. *rosea*—Douglas' meadowfoam

LINACEAE—FLAX FAMILY

Hesperolinon californicum—California dwarf-flax

* *Linum bienne*—pale flax

LINDERNIACEAE—FALSE-PIMPERNEL FAMILY

Lindernia dubia—yellowseed false pimpernel

LYTHRACEAE—LOOSESTRIFE FAMILY

* *Lythrum hyssopifolia*—hyssop loosestrife

Lythrum sp.— loosestrife species

MALVACEAE—MALLOW FAMILY

* *Malva nicaeensis* — bull mallow

Malvella leprosa – alkali mallow

Sidalcea hartwegii — Hartweg's checkbloom

MONTIACEAE—MONTIA FAMILY

Calandrinia ciliate - red maids

Claytonia perfoliata ssp. *perfoliata*—miner's lettuce

MORACEAE—MULBERRY FAMILY

* *Ficus carica*—edible fig

MYRSINACEAE—MYRSINE FAMILY

* *Lysimachia arvensis*—scarlet pimpernel

Lysimachia minima - chaffweed

OLEACEAE—OLIVE FAMILY

Fraxinus angustifolia sub sp. *oxycarpa*— raywood ash

ONAGRACEAE—EVENING PRIMROSE FAMILY

Clarkia purpurea—winecup clarkia

Clarkia unguiculata - elegant clarkia

Cordylanthus pilosus ssp. hansenii - Hansen's birds-beak

Epilobium campestre—smooth spike-primrose

Epilobium densiflorum—denseflower willowherb

Epilobium torreyi - Torrey's willowherb

* *Ludwigia hexapetala*—no common name

* *Ludwigia peploides*—floating primrose-willow

OROBANCHACEAE—BROOM-RAPE FAMILY

Castilleja attenuata—attenuate Indian paintbrush

Castilleja exserta ssp. *exserta*—exserted Indian paintbrush

Castilleja lemmonii—Lemmon’s Indian paintbrush

* *Parentucellia viscosa*—yellow glandweed

Triphysaria eriantha—johnny-tuck

Triphysaria pusilla—dwarf owl’s-clover

OXALIDACEAE—OXALIS FAMILY

* *Oxalis micrantha*—dwarf woodsorrel

PAPAVERACEAE—POPPY FAMILY

Eschscholzia caespitosa—tufted poppy

Eschscholzia californica—California poppy

Eschscholzia lobbii—fryingpans

PHRYMACEAE—LOPSEED FAMILY

Diplacus tricolor - tricolor monkeyflower

Erythranthe guttata—common monkey flower

PLANTAGINACEAE—PLANTAIN FAMILY

Callitriche marginata—winged water-starwort

Gratiola ebracteate - bractless hedgehyssop

* *Kickxia elatine*—sharpleaf cancerwort

* *Plantago coronopus*—buckhorn plantain
  Plantago erecta—dwarf plantain
* *Plantago lanceolata*—narrowleaf plantain
* *Plantago major*—common plantain
* *Plantago* sp.—plantain species
* *Plantago virginica* – dwarf plantain
* *Platanus* × *acerifolia*—London plantree
* *Platanus racemose*—California sycamore
* *Veronica anafgallis-aquatica*—water speedwell
  Veronica peregrina ssp. xalapensis— hairy purslane speedwell

POLEMONIACEAE—PHLOX FAMILY

Leptosiphon bicolor—true babystars
Navarretia intertexta—needleleaf navarretia
Navarretia leucocephala—whitehead navarretia
Navarretia myersii ssp. myersii - Pincushion navarretia
Navarretia pubescens—downy pincushionplant

POLYGONACEAE—BUCKWHEAT FAMILY

Eriogonum nudum—naked buckwheat
Persicaria amphibia—longroot smartweed
Persicaria hydropiperoides—swamp smartweed
* *Polygonum aviculare*—prostrate knotweed
* *Polygonum argyrocoleon* - Persian knotweed
* *Rumex acetosella*—common sheep sorrel
* *Rumex crispus*—curly dock
* *Rumex pulcher*—fiddle dock

PRIMULACEAE—PRIMROSE FAMILY

Primula clevelandii var. *patula*—no common name

RANUNCULACEAE—BUTTERCUP FAMILY

Delphinium variegatum ssp. *variegatum*—royal larkspur
Ranunculus aquatilis—white water crowfoot
Ranunculus bonariensis—Carter's buttercup
Ranunculus californicus—California buttercup
Ranunculus canus—Sacramento Valley buttercup
* *Ranunculus muricatus*—spinyfruit buttercup
  Ranunculus occidentalis—western buttercup
  Ranunculus pusillus—low spearwort

RHAMNACEAE—BUCKTHORN FAMILY

Frangula californica spp. californica— California coffeeberry

ROSACEAE—ROSE FAMILY

Heteromeles arbutifolia—toyon

Potentilla sp. —cinquefoil species

Prunus ilicifolia ssp. ilicifolia - holly-leaf cherry

Rosa californica—California rose

* *Rubus armeniacus*—Himalayan blackberry

RUBIACEAE—MADDER FAMILY

Cephalanthus occidentalis—button willow

Galium aparine—stickywilly

Sherardia arvensis—field madder

SALICACEAE—WILLOW FAMILY

Populus deltoides – eastern cottonwood

Populus fremontii—Fremont cottonwood

Salix exigua—sandbar willow

Salix gooddingii—Goodding's willow

Salix laevigata—red willow

Salix lasiolepis—arroyo willow

SAPINDACEAE—SOAPBERRY FAMILY

Acer saccharinum—silver maple

Aesculus californica—California buckeye

SOLANACEAE—NIGHTSHADE FAMILY

* *Solanum furcatum*—forked nightshade

TAMARICACEAE—TAMARISK FAMILY

Tamarix chinensis—five-stamen tamarisk

VALERINACEAE—HONEYSUCKLE FAMILY

Plectritis ciliosa— long-spur seablush

VERBENACEAE—VERVAIN FAMILY

Phyla nodiflora—turkey tangle fogfruit

Verbena bracteata—bigbract verbena

VITACEAE—GRAPE FAMILY

* *Vitis vinifera*—wine grape

Fern and Fern Allies

AZOLLACEAE—MOSQUITO FERN FAMILY

Azolla filiculoides—Pacific mosquitofern

MARSILEACEAE—MARSILEA FAMILY

Marsilea vestita—hairy waterclover

Monocots

AGAVACEAE—AGAVE FAMILY

Chlorogalum angustifolium - narrow-leaved soap plant

Chlorogalum pomeridianum—wavyleaf soap plant

ALISMATACEAE—WATER-PLANTAIN FAMILY

* *Alisma lanceolatum*—lanceleaf water plantain

Damasonium californicum—California damsonium

Sagittaria montevidensis ssp. *calycina*—hooded arrowhead

ALLIACEAE—ONION FAMILY

Allium amplectens—narrowleaf onion

Allium peninsulare var. peninsulare - penisula onion

Allium sp. —onion species

ARACEAE- NO COMMON NAME

Lemna sp.—duckweed species

ASPARAGACEAE—ASPARAGUS FAMILY

Dipterostemon capitatus — blue dicks

CYPERACEAE—SEDGE FAMILY

Carex. ssp. —sedge species

Cyperus eragrostis—tall flatsedge

Eleocharis macrostachya—pale spike rush

Isolepis cernua—low bulrush

Schoenoplectus acutus—hardstem bulrush

IRIDACEAE—IRIS FAMILY

Iris sp.—iris species

Sisyrinchium bellum—western blue-eyed grass

JUNCACEAE—RUSH FAMILY

Juncus balticus—no common name
Juncus bufonius var. *bufonius*—toad rush
Juncus capitatus - Leafybract dwarf rush
Juncus leiospermus var. ahartii - Ahart's rush
Juncus occidentalis—western rush
Juncus xiphioides—irisleaf rush

JUNCAGINACEAE—ARROWGRASS FAMILY

Triglochin scilloides — Awl-leaf lilaea

LILIACEAE—LILY FAMILY

Calochortus luteus—yellow mariposa lily

POACEAE—GRASS FAMILY

* *Aegilops triuncialis*—barbed goatgrass
* *Agrostis capillaris*—colonial bentgrass
* *Agrostis stolonifera*—creeping bentgrass
* *Aira caryophyllea*—silver hairgrass
Alopecurus saccatus—Pacific foxtail
Aristida oligantha - oldfield three-awn
* *Avena barbata*—slender oat
* *Brachypodium distachyon*—purple false brome
* *Briza maxima*—big quakinggrass
* *Briza minor*—little quakinggrass
* *Bromus diandrus*—ripgut brome
* *Bromus hordeaceus*—soft brome
* *Bromus madritensis*—compact brome
* *Crypsis schoenoides*—swamp pricklegrass
* Cynodon dactylon—Bermudagrass
* *Cynosurus echinatus*—annual dogtails
Deschampsia danthonioides—annual hairgrass
Distichlis spicata—salt grass
Echinochloa crus-galli - barnyard grass
* *Elymus caput-medusae*—medusahead
* *Festuca myuros*—rat-tail fescue
* *Festuca perennis*—perennial rye grass
* *Glyceria declinata*—low manna grass
* *Hordeum marinum* ssp. *gussoneanum*—Mediterranean barley
* *Hordeum marinum*—seaside barley

* *Hordeum murinum*—mouse barley
Koeleria macrantha—prairie Junegrass
Melica californica—California melicgrass
* *Paspalum dilatatum*—dallisgrass
Paspalum distichum—knotgrass
* *Phalaris aquatica*—Harding grass
* *Phalaris canariensis*—annual canarygrass
Pleuropogon californicus var. *californicus*—annual semaphoregrass
* *Poa bulbosa*—bulbous bluegrass
* *Poa annua* – annual bluegrass
* *Poa pratensis*—Kentucky blue grass
* *Polypogon monspeliensis*—annual rabbitsfoot grass
* *Polypogon* sp.—rabbitsfoot grass species
* *Sorghum halepense*—Johnsongrass
Stipa cernua—nodding needlegrass

PONTEDERIACEAE—PICKEREL-WEED FAMILY

* *Eichhornia crassipes*—common water hyacinth

POTAMOGETONACEAE—PONDWEED FAMILY

Potamogeton sp.—pondweed species

TECOPHILAEACEAE—NO COMMON NAME

Odontostomum hartwegii—Hartweg's doll's-lily

THEMIDACEAE—BRODIAEA FAMILY

Brodiaea coronaria—crown brodiaea
Brodiaea elegans—harvest brodiaea
Brodiaea minor - Purdy's brodiaea
Dichelostemma volubile—twining snakelily
Dipterostemon capitatus ssp. *capitatus*—bluedicks
Dipterostemon capitatus—bluedicks
Triteleia hyacinthina—white brodiaea
Triteleia ixioides—prettyface
Triteleia laxa—Ithuriel's spear

TYPHACEAE—CATTAIL FAMILY

Typha latifolia—broadleaf cattail

Wildlife Species

Amphibians

FROGS

HYLIDAE—TREEFROGS

Pseudacris cadaverina—California treefrog

robin – Pacific chorus frog

RANIDAE—TRUE FROGS

* *Lithobates catesbeianus*—American bullfrog

Birds

Blackbirds, Orioles and Allies

ICTERIDAE—BLACKBIRDS

Agelaius phoeniceus—red-winged blackbird

Agelaius tricolor—tricolored blackbird

Euphagus cyanocephalus—Brewer's blackbird

Icterus bullockii—Bullock's oriole

Sturnella neglecta—western meadowlark

* *Molothrus ater*—brown-headed cowbird

Bushtits

AEGITHALIDAE—LONG-TAILED TITS AND BUSHTITS

Psaltriparus minimus—bushtit

Cormorants

PHALACROCORACIDAE—CORMORANTS

Phalacrocoracidae sp.—brown creeper

Creepers

CERTHIIDAE—CREEPERS

Certhia americana—brown creeper

Falcons

FALCONIDAE—CARACARAS AND FALCONS

Falco sparverius—American kestrel

Finches

FRINGILLIDAE—FRINGILLINE AND CARDUELINE FINCHES AND ALLIES

Haemorhous mexicanus—house finch

Spinus psaltria—lesser goldfinch

Flycatchers

TYRANNIDAE—TYRANT FLYCATCHERS

Contopus cooperi—olive-sided flycatcher

Myiarchus cinerascens—ash-throated flycatcher

Sayornis nigricans—black phoebe

Sayornis saya—Say's phoebe

Tyrannus verticalis—western kingbird

Grebes

PODICIPEDIDAE—GREBES

Podilymbus podiceps—pied-billed grebe

Gulls

LARIDAE— GULLS, TERNS, AND SKIMMERS

Larus californicus— California gull

Hawks

ACCIPITRIDAE—HAWKS, KITES, EAGLES, AND ALLIES

Accipiter striatus—sharp-shinned hawk

Aquila chrysaetos—golden eagle

Buteo jamaicensis—red-tailed hawk

Buteo lineatus—red-shouldered hawk

Buteo swainsoni—Swainson's hawk

Elanus leucurus—white-tailed kite

Haliaeetus leucocephalus—bald eagle

Circus hudsonius—northern harrier

Herons and Bitterns

ARDEIDAE—HERONS, BITTERNS, AND ALLIES

Ardea alba—great egret
Ardea herodias—great blue heron
Egretta thula—snowy egret

Hummingbirds

TROCHILIDAE—HUMMINGBIRDS

Calypte anna—Anna's hummingbird

Jays, Magpies and Crows

CORVIDAE—CROWS AND JAYS

Aphelocoma californica—California scrub-jay
Corvus brachyrhynchos—American crow
Corvus corax—common raven
Pica nuttalli—yellow-billed magpie

Kingfishers

ALCEDINIDAE—KINGFISHERS

Megaceryle alcyon—belted kingfisher

Kinglets

REGULIDAE—KINGLETS

Corthylio calendula—ruby-crowned kinglet

Larks

ALAUDIDAE—LARKS

Eremophila alpestris—horned lark

Mockingbirds and Thrashers

MIMIDAE—MOCKINGBIRDS AND THRASHERS

Mimus polyglottos—northern mockingbird

New World Quail

ODONTOPHORIDAE—NEW WORLD QUAIL

Callipepla californica—California quail

New World Vultures

CATHARTIDAE—NEW WORLD VULTURES

Cathartes aura—turkey vulture

Nuthatches

SITTIDAE—NUTHATCHES

Sitta carolinensis—white-breasted nuthatch

Owls

TYTONIDAE—BARN OWLS

Tyto alba—barn owl

STRIGIDAE—TYPICAL OWLS

Athene cunicularia—burrowing owl (evidence only)

Bubo virginianus—great horned owl

Pigeons and Doves

COLUMBIDAE—PIGEONS AND DOVES

Zenaida macroura—mourning dove

* *Columba livia*—rock pigeon (rock dove)

Quails, Pheasants and Relatives

PHASIANIDAE—PARTRIDGES, GROUSE, TURKEYS, AND OLD WORLD QUAIL

Meleagris gallopavo—wild turkey

* *Pavo cristatus*—Indian peafowl

Rails, Gallinules and Coots

RALLIDAE—RAILS, GALLINULES, AND COOTS

Rallus limicola—Virginia rail

Shorebirds

CHARADRIIDAE—LAPWINGS AND PLOVERS

Charadrius vociferus—killdeer

SCOLOPACIDAE—SANDPIPERS, PHALAROPES, AND ALLIES

Tringa flavipes—lesser yellowlegs

Tringa melanoleuca—greater yellowlegs

Shrikes

LANIIDAE—SHRIKES

Lanius ludovicianus—loggerhead shrike

Starlings and Allies

STURNIDAE—STARLINGS

* *Sturnus vulgaris*—European starling

Swallows

HIRUNDINIDAE—SWALLOWS

Hirundo rustica—barn swallow

Petrochelidon pyrrhonota—cliff swallow

Tachycineta bicolor—tree swallow

Thrushes

TURDIDAE—THRUSHES

Sialia mexicana—western bluebird

Turdus migratorius—American robin

Titmice

PARIDAE—CHICKADEES AND TITMICE

Baeolophus inornatus—oak titmouse

Wagtails

MOTACILLIDAE—WAGTAILS, LONGCLAWS, AND PIPITS

Anthus rubescens— American pipit

Waterfowl

ANATIDAE—DUCKS, GEESE, AND SWANS

Aix sponsa—wood duck

Anas acuta—northern pintail

Anas platyrhynchos—mallard

Branta canadensis—Canada goose

Mergus merganser—common merganser

Cygnus olor—mute swan

Spatula cyanoptera—cinnamon teal

Mareca americana—American wigeon

Wood Warblers and Allies

PARULIDAE—WOOD-WARBLERS

Setophaga coronata—yellow-rumped warbler

Woodpeckers

PICIDAE—WOODPECKERS AND ALLIES

Colaptes auratus—northern flicker
Dryocopus pileatus—pileated woodpecker
Melanerpes formicivorus—acorn woodpecker
Melanerpes lewis—Lewis's woodpecker
Sphyrapicus ruber—red-breasted sapsucker
Dryobates albolarvatus—white-headed woodpecker
Dryobates villosus—hairy woodpecker

Wrens

TROGLODYTIDAE—WRENS

Troglodytes aedon—house wren

Cranes

GRUIDAE—CRANES

Antigone canadensis tabida—greater sandhill crane

New World Sparrows

PASSERELLIDAE—NEW WORLD SPARROWS

Chondestes grammacus—lark sparrow
Junco hyemalis—dark-eyed junco
Melozone crissalis—California towhee
Melospiza melodia – song sparrow
Passerculus sandwichensis—savannah sparrow
Pipilo maculatus—spotted towhee
Zonotrichia atricapilla—golden-crowned sparrow
Zonotrichia leucophrys—white-crowned sparrow

Mammals

Canids

CANIDAE—WOLVES AND FOXES

Canis latrans—coyote

Cats

FELIDAE—CATS

Puma concolor—puma (scat and audible only)

Hares and Rabbits

LEPORIDAE—HARES AND RABBITS

Lepus californicus—black-tailed jackrabbit

Sylvilagus audubonii—desert cottontail

Pocket Gophers

GEOMYIDAE—POCKET GOPHERS

Thomomys bottae—Botta's pocket gopher

Squirrels

SCIURIDAE—SQUIRRELS

Sciurus griseus—western gray squirrel

Otospermophilus beecheyi—California ground squirrel

Ungulates

CERVIDAE—DEERS

Odocoileus hemionus—mule deer

Odocoileus virginianus—white-tailed deer

Rats, Mice, and Voles

CRICETIDAE—RATS, MICE, AND VOLES

Neotoma sp.—woodrat (nest only)

Insects

Bees

APIDAE - BUMBLEBEES

Bombus sp.—bumblebee

Reptiles

Lizards

PHRYNOSOMATIDAE—IGUANID LIZARDS

Sceloporus occidentalis—western fence lizard

Snakes

COLUBRIDAE—COLUBRID SNAKES

Coluber lateralis—striped racer

Pituophis catenifer—gophersnake

Thamnophis sirtalis—common gartersnake

VIPERIDAE—VIPERS

Crotalus oreganus—western rattlesnake

Turtles

EMYDIDAE—BOX AND WATER TURTLES

Actinemys marmorata—northwestern pond turtle

* signifies introduced (non-native) species

Appendix D

Special-Status Plants with Potential to Occur

Table D.1. Special-Status Plants with Potential to Occur within the Project Study Area

Common Name	Scientific Name	Status (Federal/State/CRPR/SSHCP)	Primary Habitat Associations, Lifeforms/ Blooming Period/and Elevation Range (Feet)	Potential to Occur
Arctostaphylos myrtifolia	Ione manzanita	FT/None/1B.2/None	Chaparral, Cismontane woodland; acidic, Ione soil, clay, or sandy/perennial evergreen shrub/Nov–Mar/197–1,900.	**Not expected to occur.** Habitat for this species is absent in the PSA. There are no documented CNDDB occurrences of this species within five miles of the PSA (CDFW 2024).
Brodiaea rosea ssp. vallicola	valley brodiaea	None/None/4.2/None	Valley and foothill grassland Vernal pools; alluvial terraces, gravelly, sandy microhabitats; April – May (June)/35 – 1,100.	**Observed.** Valley brodiaea species was not observed during protocol-level botanical surveys in 2021, 2022, or 2023; but was observed in 2024. Valley brodiaea were observed primarily on the surrounding upland banks to ephemeral channels and swales. (Dudek 2024).
Calandrinia breweri	Brewer's calandrinia	None/None/4.2/None	Chaparral, Coastal scrub; Burned areas, Disturbed areas, Loam (sometimes), Sandy (sometimes)/annual herb/(Jan)Mar–June/35–4,005.	**Not expected to occur.** Habitat for this species is absent in the PSA. There are no documented CNDDB occurrences of this species within five miles of the PSA (CDFW 2024).
Calycadenia spicata	spicate calycadenia	None/None/1B.3/None	Cismontane woodland and valley and foothill grassland; May – September; 130 – 4,595.	**Observed.** The PSA is within the known range of the species, and habitat for the species is present; specifically, grassland habitat. One CNPS observation was recorded approximately one mile north of the PSA, in 2021 (CNPS 2024). This species was observed during protocol-level survey conducted by Dudek in 2023.
Ceanothus roderickii	Pine Hill ceanothus	FT/None/1B.3/None	Chaparral, cismontane woodland, serpentine soils/April-June/630-2,065	**Not expected to occur.** Habitat for this species is absent in the PSA. There are no documented CNDDB occurrences of this species within five miles of the PSA (CDFW 2023e).

Table D.1. Special-Status Plants with Potential to Occur within the Project Study Area

Common Name	Scientific Name	Status (Federal/State/CRPR/SSHCP)	Primary Habitat Associations, Lifeforms/ Blooming Period/and Elevation Range (Feet)	Potential to Occur
Chlorogalum grandiflorum	Red Hills soaproot	None/None/1B.2/None	Chaparral, cismontane woodland; lower montane coniferous forest, serpentine soils/(April) May-June/805-5,545	**Not expected to occur.** Habitat for this species is absent in the PSA. There are no documented CNDDB occurrences of this species within five miles of the PSA (CDFW 2023e).
Clarkia biloba ssp. brandegeeae	Brandegee's clarkia	None/None/4.2/None	Chaparral, Cismontane woodland, lower montane coniferous forest; roadsides (often), acidic, clay, or sandy/November–March/245–3,00	**Not expected to occur.** Habitat for this species is absent in the PSA. There are no documented CNDDB occurrences of this species within five miles of the PSA (CDFW 2023e).
Crocanthemum suffrutescens	Bisbee Peak rush-rose	None/None/3.2/None	Chaparral; burned areas, disturbed areas, gabbroic microhabitats; April – August/245 – 2,200.	**Not expected to occur.** Habitat for this species is absent in the PSA. There are no documented CNDDB occurrences of this species within five miles of the PSA (CDFW 2023e).
Cuscuta obtusiflora var. *glandulosa*	Peruvian dodder	None/None/2B.2/None	Marshes and swamps (freshwater)/annual vine (parasitic)/July–Oct/49–920.	**Not expected to occur.** The habitat for the species is either absent or of low quality in the PSA. The nearest known occurrence for this species is recorded in the Florin USGS 7.5-Minute Quad (CNPS 2023c).
Downingia pusilla	dwarf downingia	None/None/2B.2/Covered	Valley and foothill grassland (mesic), Vernal pools/annual herb/Mar–May/3–1,455.	**High potential to occur.** The PSA is within the known range of the species, and habitat for the species is present. Specifically, suitable grassland and vernal pool habitat occurs within the southern and western portions of the PSA. Additionally, SSHCP modeled habitat for this species is present within the northwest portion of the PSA (Sacramento County 2018). The nearest known occurrence for this species is approximately five miles northwest of the PSA,

Table D.1. Special-Status Plants with Potential to Occur within the Project Study Area

Common Name	Scientific Name	Status (Federal/State/CRPR/SSHCP)	Primary Habitat Associations, Lifeforms/ Blooming Period/and Elevation Range (Feet)	Potential to Occur
				at the Phoenix Park east of Fair Oaks (CDFW 2023e, CNPS 2023c).
Eriogonum apricum var. *apricum*	Ione buckwheat	FE/SE/1B.1/None	Chaparral (openings, Ione soil)/perennial herb/July–Oct/197–475.	**Not expected to occur.** Habitat for this species is absent in the PSA. There are no documented CNDDB occurrences of this species within five miles of the PSA (CDFW 2023e).
Eriogonum apricum var. *prostratum*	Irish Hill buckwheat	FE/SE/1B.1/None	Chaparral (openings, Ione soil)/perennial herb/June–July/295–395.	**Not expected to occur.** Habitat for this species is absent in the PSA. There are no documented CNDDB occurrences of this species within five miles of the PSA (CDFW 2023e).
Eryngium pinnatisectum	Tuolumne button-celery	None/None/1B.2/None	Cismontane woodland, Lower montane coniferous forest, Vernal pools; mesic/annual / perennial herb/May–Aug/230–3,000.	**Not expected to occur.** This species has not been documented in the vicinity of the PSA, but the PSA is within the known range of the species. Habitat for the species in the PSA is either absent or of low quality. The PSA is also outside of the species known elevation range. The nearest known occurrence of this species is approximately five miles southeast of the PSA at the Michigan Bar just east of the City of Sacramento (CDFW 2023e, CNPS 2023c).
Fremontodendron decumbens	Pine Hill flannelbush	FE/None/1B.2/None	Chaparral, cismontane woodland, rocky, serpentine soils (sometimes)/April-July/1,395-2,495	**Not expected to occur.** Habitat for this species is absent in the PSA. There are no documented CNDDB occurrences of this species within five miles of the PSA (CDFW 2023e).
Fritillaria agrestis	stinkbells	None/None/4.2/None	Chaparral, cismontane woodland, pinyon and juniper woodland, valley and foothill grassland; clay, serpentine (sometimes) soil/March-June/35-5,100	**Low.** Habitat for the species in the project site is present; however, there are no documented CNDDB occurrences of this species within five miles of the PSA (CNPS 2023c).

Table D.1. Special-Status Plants with Potential to Occur within the Project Study Area

Common Name	Scientific Name	Status (Federal/State/CRPR/SSHCP)	Primary Habitat Associations, Lifeforms/ Blooming Period/and Elevation Range (Feet)	Potential to Occur
Galium californicum ssp. *sierrae*	El Dorado bedstraw	FE/None/1B.2/None	Chaparral, pine-oak woodland, lower montane coniferous forest/May-June/330-1,920	**Not expected to occur.** Habitat for this species is absent in the PSA. There are no documented CNDDB occurrences of this species within five miles of the PSA (CDFW 2023e).
Githopsis pulchella ssp. *serpentinicola*	serpentine bluecup	None/None/4.3/None	Cismontane woodland (loam, serpentinite)/May-June/1,050-2,000	**Not expected to occur.** Habitat for this species is absent in the PSA. There are no documented CNDDB occurrences of this species within five miles of the PSA (CDFW 2023e).
Gratiola heterosepala	Boggs Lake hedge-hyssop	None/SE/1B.2/Covered	Marshes and swamps (lake margins), Vernal pools; clay/annual herb/Apr–Aug/33–7,790.	**Moderate potential to occur.** The PSA is within the known range of the species, and suitable habitat for the species is present. Specifically, within the PSA suitable habitat for this species is located throughout the vernal pools, wetlands swales and seasonal wetlands that occur on site. Additionally, SSHCP modeled habitat for this species is present within the PSA (Sacramento County 2018). The nearest known occurrence for this species is approximately 2 miles northwest of the study area, near the intersection of Prairie City Road and White Rock Road (CDFW 2023e, CNPS 2023c).
Hesperevax caulescens	hogwallow starfish	None/None/4.2/None	Valley and foothill grassland and vernal pools; alkaline microhabitats; March – June/0 – 1,655.	**Low potential to occur.** Habitat for the species in the PSA is present; however, the nearest CNPS observation was recorded approximately three miles southwest of the PSA (CNPS 2023c).
Horkelia parryi	Parry's horkelia	None/None/1B.2/None	Chaparral, Cismontane woodland; Ione formation and other soils/perennial herb/Apr–Sep/262–3,510.	**Not expected to occur.** Habitat for this species is absent in the PSA. There are no documented CNDDB occurrences of this species within five miles of the PSA (CDFW 2023e).

Table D.1. Special-Status Plants with Potential to Occur within the Project Study Area

Common Name	Scientific Name	Status (Federal/State/CRPR/SSHCP)	Primary Habitat Associations, Lifeforms/ Blooming Period/and Elevation Range (Feet)	Potential to Occur
Iris longipetala	coast iris	None/None/4.2/None	Coastal prairie, lower montane coniferous forest, meadows and seeps/March-May(June)/0–1,970.	**Low.** Habitat for the species in the project site is minimal and of low quality. There are no documented CNDDB occurrences of this species within five miles of the PSA (CNPS 2023c).
Juncus leiospermus var. *ahartii*	Ahart's dwarf rush	None/None/1B.2/Covered	Valley and foothill grassland (mesic)/annual herb/Mar–May/98–750.	**Observed.** This species has not been documented in the vicinity of the PSA but is within the known range of the species, and habitat for the species is present within the PSA. Specifically, within the PSA suitable grassland habitat for this species is located within the southern and western portions of the PSA. Additionally, SSHCP modeled habitat for this species is present within the PSA (Sacramento County 2018). This species was observed during protocol-level survey conducted by Dudek in 2023.

Table D.1. Special-Status Plants with Potential to Occur within the Project Study Area

Common Name	Scientific Name	Status (Federal/State/CRPR/SSHCP)	Primary Habitat Associations, Lifeforms/ Blooming Period/and Elevation Range (Feet)	Potential to Occur
Legenere limosa	legenere	None/None/1B.1/Covered	Vernal pools/annual herb/Apr–June/3–2,885.	**High potential to occur.** This species has not been documented in the vicinity of the PSA but is within the known range of the species, and habitat for the species is present within the PSA. Specifically, within the PSA suitable grassland habitat for this species is located within the southern and western portions of the PSA. Additionally, SSHCP modeled habitat for this species is present within the PSA (Sacramento County 2018). The nearest known occurrence is within five miles of the PSA, in the Buffalo Creek USGS 7.5-Minute Quad (CDFW 2023e).
Navarretia myersii ssp. *myersii*	pincushion navarretia	None/None/1B.1/Covered	Vernal pools; often acidic/annual herb/Apr–May/66–1,080.	**Observed.** The PSA is within the known range of the species, and habitat for the species is present. Specifically, within the PSA, suitable habitat for this species is located within the vernal pools, wetland swales, and seasonal wetlands that are present within the study area. Additionally, the Hadselville-Pentz and Redding Gravelly Loam soil complexes within the PSA are slightly acidic, therefore vernal pools located in these soils provide potential suitable habitat. Additionally, SSHCP modeled habitat for this species is present within the PSA (Sacramento County 2018). This species was observed during protocol-level surveys conducted by Dudek in 2023 and 2024.
Orcuttia tenuis	slender Orcutt grass	FT/SE/1B.1/Covered	Vernal pools; Often gravelly/annual herb/May–Sep (Oct)/115–5,770.	**Moderate potential to occur.** The PSA is within the known range of the species, and habitat for the species is present. Specifically, within the PSA, suitable habitat for this species is located within

Table D.1. Special-Status Plants with Potential to Occur within the Project Study Area

Common Name	Scientific Name	Status (Federal/State/CRPR/SSHCP)	Primary Habitat Associations, Lifeforms/ Blooming Period/and Elevation Range (Feet)	Potential to Occur
				the vernal pools, wetland swales, and seasonal wetlands that are present within the study area. Additionally, SSHCP modeled habitat for this species is present within the PSA (Sacramento County 2018). Designated Critical Habitat (DCH) for this species is located approximately 4.20 miles northwest of the PSA. This species has been documented once within five miles of the PSA, southwest of the PSA, east of the Mather Air Force Base in Rancho Cordova (CDFW 2023e, CNPS 2023c, USFWS 2023b).
Orcuttia viscida	Sacramento Orcutt grass	FE/SE/1B.1/Covered	Vernal pools/annual herb/Apr–July (Sep)/98–330.	**Moderate potential to occur**. The PSA is within the known range of the species, and habitat for the species is present. Specifically, within the PSA, suitable habitat for this species is located within the vernal pools, wetland swales, and seasonal wetlands that are present within the study area. Additionally, SSHCP modeled habitat for this species is present within the PSA (Sacramento County 2018). DCH for this species is located approximately 4.8 miles northwest of the PSA. There are several documented occurrences of this species within five miles west and southwest of the PSA, with the nearest known occurrence near Keifer Landfill, east of Grant Line Road (CDFW 2023e, CNPS 2023c, USFWS 2023b).
Packera layneae	Layne's ragwort	FT/None/1B.2/None	Chapparal, cismontane woodland, rocky, serpentine (sometimes) soils/April-August/655 – 3,560.	**Not expected to occur.** Habitat for this species is absent in the PSA. There are no documented CNDDB occurrences of this species within five miles of the PSA (CDFW 2023e).

Table D.1. Special-Status Plants with Potential to Occur within the Project Study Area

Common Name	Scientific Name	Status (Federal/State/CRPR/SSHCP)	Primary Habitat Associations, Lifeforms/ Blooming Period/and Elevation Range (Feet)	Potential to Occur
Ranunculus lobbii	Lobb's aquatic buttercup	None/None/4.2/None	Cismontane woodland, North Coast coniferous forest, valley and foothill grassland, and vernal pools; mesic microhabitats/February – May/50 – 1,540.	**Not expected to occur.** Habitat for this species is minimal (vernal pools) in the PSA. There are no documented CNDDB occurrences of this species within five miles of the PSA (CDFW 2023c).
Sagittaria sanfordii	Sanford's arrowhead	None/None/1B.2/Covered	Marshes and swamps (assorted shallow freshwater)/perennial rhizomatous herb (emergent)/May–Oct (Nov)/0–2,130.	**Low potential to occur.** The PSA is within the known range of the species, and habitat for the species is present however minimal and of low quality. Specifically, within the PSA, there is limited and low-quality habitat for this species (perennially inundated habitat). However, SSHCP modeled habitat for this species is present within the PSA (Sacramento County 2018). This species has been documented within five miles of the PSA, northeast of the PSA, along tributaries to Carson Creek that are south of White Rock Road (CDFW 2023e, CNPS 2023c).
Trichostema rubisepalum	Hernandez bluecurls	None/None/4.3/None	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, vernal pools; gravelly, serpentine (sometimes), volcanic (sometimes) /June-August/985-4,710	**Low.** The project contains suitable habitat for the species, however minimal and of low quality. There are no documented CNDDB occurrences of this species within five miles of the PSA (CDFW 2023e).
Wyethia reticulata	El Dorado County mule ears	None/None/1B.2/None	chaparral, cismontane woodland, lower montane coniferous forest, vernal	**Low.** The project contains suitable habitat for the species, however minimal and of low quality. There are no documented CNDDB

Table D.1. Special-Status Plants with Potential to Occur within the Project Study Area

Common Name	Scientific Name	Status (Federal/State/CRPR/SSHCP)	Primary Habitat Associations, Lifeforms/ Blooming Period/and Elevation Range (Feet)	Potential to Occur
			pools; clay (sometimes) /April-August/605-2,065	occurrences of this species within five miles of the PSA (CDFW 2023e).

Sources: CDFW 2024; CNPS 2024; Jepson eFlora 2023; Sacramento County 2018; USDA 2023a; USFWS 2023a; USFWS 2024; USFWS 2023e

Federal Status

FE: Federally listed as endangered.
FT: Federally listed as threatened

State Status

SE: State listed as endangered

California Rare Plant Rank (CRPR) Status

1B: plants rare, threatened, or endangered in California and elsewhere.
2B: plants rare, threatened, or endangered in California but more common elsewhere.
3: Plants about which more information is needed – A Review List.
4: Plants of limited distribution – A Watch List.

Threat Rank

0.1: Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat).
0.2: Moderately threatened in California (20%–80% occurrences threatened/moderate degree and immediacy of threat).
0 .3: Not very threatened in California (less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known).
None = No conservation status.

SSHCP (South Sacramento Habitat Conservation Plan)

Covered: Currently listed as threatened or endangered under the California Endangered Species Act (ESA) or the federal ESA and covered within the Plan Area by the SSHCP.
None: Not covered under the SSHCP.

Potential for Occurrence Ranks

High Potential to Occur: The species has not been documented in the Project site but is known to occur in the vicinity and species habitat is present.
Moderate Potential to Occur: the species has not been documented in the vicinity, but the Project site is within the known range of the species, and habitat for the species is present.
Low Potential to Occur: The species has not been documented in the vicinity and the PSA is within the known range of the species, but habitat for the species is of low quality.
Not Expected to Occur: The PSA is outside the known range of the species, and habitat for the species is either absent or of low quality.

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Appendix E

Special-Status Wildlife with Potential to Occur

Table E.1. Special-Status Wildlife with Potential to Occur within the Project Study Area

Scientific Name	Common Name	Status (Federal/State/SSHCP)	Habitat	Potential to Occur
Amphibians				
Ambystoma californiense	California tiger salamander (CTS)	FT/ST, WL/Covered	Upland habitat is annual grassland, valley–foothill hardwood, and valley–foothill riparian habitats; aquatic breeding habitat is vernal pools and other ephemeral pools, and less commonly in man-made pools and along stream courses and if predatory fishes are absent.	**Low potential to occur.** The PSA; provides some suitable grassland and vernal pool habitat. There are no known occurrences of this species within 5 miles of the PSA (CDFW 2024). The PSA is at the extreme northern extent of the presumed species range due to the Cosumnes River, located south of the PSA, provides a barrier to movement.
Rana boylii pop. 5	Foothill Yellow-legged Frog (South Sierra Distinct Population Segment)	FE/SE/None	Frequents rocky streams and rivers with rocky substrate and open, sunny banks, in forests, chaparral, and woodlands. Sometimes found in isolated pools, vegetated backwaters, and deep, shaded, spring-fed pools. Sea level to 6,000 ft.	**Low potential to occur.** There is little suitable habitat for the species within the PSA, at rocky streams within forest and woodland land cover. Further, there are no known occurrences of this species within 5 miles of the PSA (CDFW 2024).
Rana draytonii	California red-legged frog	FT/SSC/None	Lowland streams, wetlands, riparian woodlands, livestock ponds; dense, shrubby or emergent vegetation associated with deep, still or slow-moving water; uses adjacent uplands	**Not expected to occur.** There is suitable aquatic habitat for the species within the PSA, however the PSA is at the edge of the known range for the species. Further, there are no known occurrences of this species within 5 miles of the PSA (CDFW 2024).
Spea hammondii	western spadefoot toad (WST)	PX/SSC/Covered	Primarily grassland and vernal pools, but also in ephemeral wetlands that persist at least 3 weeks in chaparral, coastal scrub, valley–foothill woodlands, pastures, and other agriculture.	**High potential to occur.** This species has not been documented in the PSA; however, this species is known to occur in the Project vicinity and suitable habitat is present. Additionally, SSHCP modeled foraging and aestivation habitat is present within the PSA (Sacramento County 2018). There are known occurrences for this species within five miles of the PSA, located on the west side of

Table E.1. Special-Status Wildlife with Potential to Occur within the Project Study Area

Scientific Name	Common Name	Status (Federal/State/SSHCP)	Habitat	Potential to Occur
				Grant Line Road, north of Highway 16 (CDFW 2024). The nearest known occurrence for this species is recorded in an area that is bordered by Sunrise Boulevard, Stare Route 16, Grant Line Road, and Douglas Road in the City of Rancho Cordova (CDFW 2024). No WST were identified during focused field studies conducted by Dudek in 2021.
Fishes				
Oncorhynchus mykiss irideus pop. 11	steelhead - Central Valley DPS	FT/None/None	Coastal basins from Redwood Creek south to the Gualala River, inclusive; does not include summer-run steelhead.	**Not expected to occur.** The PSA does not provide suitable aquatic habitat for this species. This species is known to occur in the American River northwest of the PSA and in the Consumnes River south of the PSA (CDFW 2024).
Oncorhynchus tshawytscha	chinook salmon – Sacramento River winter-run	FE/SE/None	Sacramento River winter-run Chinook Salmon pass under the Golden Gate Bridge to begin their spawning migration in November and continue upstream from December through early August. Sacramento River winter-run Chinook Salmon spawn in the upper mainstem Sacramento River from mid-April through August, peaking in June and July.	**Not expected to occur.** The PSA does not provide suitable aquatic habitat for this species. This species is known to occur in the American River northwest of the PSA (NOAA 2023).
Oncorhynchus tshawytscha	Chinook salmon – Central Valley spring-run	FT/FT/None	Spring-run Chinook salmon enter the Sacramento River from late March through September. Adults hold in cool water habitats through the summer, then spawn in the fall from mid-August through	**Not expected to occur.** The PSA does not provide suitable aquatic habitat for this species. This species is known to occur in the American River northwest of the PSA (NOAA 2023).

Table E.1. Special-Status Wildlife with Potential to Occur within the Project Study Area

Scientific Name	Common Name	Status (Federal/State/SSHCP)	Habitat	Potential to Occur
			early October. Spring run juveniles migrate soon after emergence as young-of-the-year or remain in freshwater and migrate as yearlings.	
Reptiles				
Actinemys marmorata	western pond turtle	PT/SSC/Covered	Slow-moving permanent or intermittent streams, ponds, small lakes, and reservoirs with emergent basking sites; adjacent uplands used for nesting and during winter.	**Observed.** Various occurrences of this species have been documented within the PSA, specifically along or near Carson Creek (Dudek 2024). Additionally, suitable aquatic and upland habitat is present within the PSA and SSHCP modeled aquatic and upland habitat is present within the PSA (Sacramento County 2018). There are also known occurrences for this species within two miles of the PSA, located within Deer Creek south of the PSA (CDFW 2024). Four individuals were observed during Dudek reconnaissance surveys.
Thamnophis gigas	giant garter snake	FT/ST/None	Freshwater marsh habitat and low-gradient streams; also uses canals and irrigation ditches.	**Not expected to occur.** Habitat within the PSA for this species is either absent or of low quality. There is one known occurrence within five miles of the PSA (CDFW 2024).
Birds				
Accipiter cooperii (nesting)	Cooper's hawk	None/WL/Covered	Nests in mixed and deciduous forests, open woodlands, small woodlots, riparian woodlands, open and pinyon woodlands, and forested mountainous regions.	**Low potential to occur.** This species has not been documented in the PSA as suitable nesting habitat is minimal. There is a known occurrence for this species approximately two miles west of the PSA (CDFW 2024).
Agelaius tricolor (nesting colony)	tricolored blackbird (TRBL)	BCC/SSC, ST/Covered	Nests near freshwater, emergent wetland with cattails or tulles, but also in Himalayan blackberry; forages	**Observed (vocalization).** Quality suitable habitat is present within the PSA for this species. Additionally, SSHCP has modeled nesting and foraging habitat within the PSA (Sacramento

Table E.1. Special-Status Wildlife with Potential to Occur within the Project Study Area

Scientific Name	Common Name	Status (Federal/State/SSHCP)	Habitat	Potential to Occur
			in grasslands, woodland, and agriculture.	County 2018). There are several known occurrences of this species that overlap with the PSA boundary, specifically throughout the entirety of the southern extent of the PSA, and several documented occurrences within the immediate vicinity (CDFW 2024). This species was documented within the PSA, west of Coyote Creek, during TRBL focused surveys conducted by Dudek in 2021. No nesting activity was observed during these surveys.
Ammodramus savannarum (nesting)	grasshopper sparrow	None/SSC/None	Nests and forages in moderately open grassland with tall forbs or scattered shrubs used for perches	**Moderate potential to occur.** This species has not been documented in the PSA. However, this species is known to occur in the Project vicinity, and suitable grassland habitat is present. There are known occurrences for this species within two miles southeast of the PSA, with the nearest known occurrence a half mile north of Latrobe Road and a half mile east of Scott Road (CDFW 2024).
Aquila chrysaetos (nesting and wintering)	golden eagle	BCC, FP/FP/None	Nests and winters in hilly, open/semi-open areas, including shrublands, grasslands, pastures, riparian areas, mountainous canyon land, open desert rimrock terrain; nests in large trees and on cliffs in open areas and forages in open habitats.	**Observed foraging.** The PSA provides marginal foraging habitat for this species, and in general habitat is either absent or of low quality. This species was observed foraging or in flight in the western vicinity of the PSA during field surveys conducted by Dudek in 2021. Based on the USFWS iPaC Report, this species has the potential to occur on or near the proposed Project area (CDFW 2024, USFWS 2024), however, there are no documented occurrences of this species within five miles of the PSA (CDFW 2024).
Athene cunicularia (burrow sites and some wintering sites)	burrowing owl (BUOW)	BCC/SSC/Covered	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows.	**High potential to occur.** The PSA contains suitable open grassland habitat with ground squirrel burrows to support this species. Additionally, SSHCP modeled habitat occurs within the PSA

Table E.1. Special-Status Wildlife with Potential to Occur within the Project Study Area

Scientific Name	Common Name	Status (Federal/State/SSHCP)	Habitat	Potential to Occur
				(Sacramento County 2018). A ground-perching BUOW was observed during protocol-level surveys by Dudek in 2021 (Dudek 2021a). Additionally, several potential burrows were discovered with BUOW sign (owl pellet, whitewash, etc.).
Buteo regalis (nesting)	ferruginous hawk	None/WL/Covered	Nests in grasslands, prairie, sagebrush steppe, scrubland, and pinyon-juniper woodland edges.	**Low potential to occur.** This species has not been documented in the PSA as suitable nesting habitat is minimal. There is a known occurrence for this species approximately three miles northeast of the PSA (CDFW 2024).
Buteo swainsoni (nesting)	Swainson's hawk (SWHA)	BCC/ST/Covered	Nests in riparian, open woodland, and savanna, and in isolated large trees; forages in nearby grasslands and agricultural areas such as wheat and alfalfa fields and pasture.	**Observed.** Numerous SWHA were observed within the PSA during reconnaissance-level surveys in 2021 and focused surveys in 2023. Additionally, SSHCP modeled habitat occurs within the PSA (Sacramento County 2018). Occurrences for this species has been recorded at the confluence of Deer Creek and Carson Creek, as well as just east of White Rock Road (CDFW 2024, USFWS 2024).
Elanus leucurus (nesting)	white-tailed kite	None/FP/None	Nests in woodland, riparian, and individual trees near open lands; forages opportunistically in grassland, meadows, scrubs, agriculture, emergent wetland, savanna, and disturbed lands.	**Known to occur.** The PSA contains suitable nesting and foraging habitat for this species. Additionally, SSHCP modeled habitat occurs within the PSA (Sacramento County 2018). Various occurrences of this species have been documented in various locations within the PSA (Dudek 2021a). Additionally, there are several known occurrences within the immediate vicinity (CDFW 2024).
Falco columbarius	merlin	None/WL/None	Forages in semi-open areas, including coastline, grassland, agriculture, savanna, woodland, lakes, and wetlands.	**Low potential to occur.** The PSA provides suitable foraging habitat for this species, within open grassland, woodland, and wetlands.. There is one documented occurrence within five miles of the PSA, approximately 4 miles northwest of the PSA (CDFW 2024).).

Table E.1. Special-Status Wildlife with Potential to Occur within the Project Study Area

Scientific Name	Common Name	Status (Federal/State/SSHCP)	Habitat	Potential to Occur
Haliaeetus leucocephalus (nesting and wintering)	bald eagle	FDL, BCC/ SE/None	Nests in forested areas adjacent to large bodies of water, including seacoasts, rivers, swamps, large lakes; winters near large bodies of water in lowlands and mountains.	**Observed foraging.** Nesting habitat for the species is either absent or of low quality, however foraging habitat for this species is present within the PSA. There are no known CNDDB occurrences of this species within five miles of the PSA (CDFW 2023, USFWS 2024), however, this species was observed in various locations throughout the PSA, specifically along or near Carson Creek during the reconnaissance-level surveys conducted by Dudek in 2021.
Laterallus jamaicensis coturniculus	California black rail	BCC/FP, ST/None	Tidal marshes, shallow freshwater margins, wet meadows, and flooded grassy vegetation; suitable habitats are often supplied by canal leakage in Sierra Nevada foothill populations.	**Low potential to occur.** Habitat for the species within the PSA is minimal and of low quality. The nearest known occurrence for this species is recorded along Blackstone Parkway, approximately one mile southeast of White Rock Road at Latrobe Road (CDFW 2024, USFWS 2024).
Nannopterum auritum	double-crested cormorant	None/WL/None	Nests in riparian trees near ponds, lakes, artificial impoundments, slow-moving rivers, lagoons, estuaries, and open coastlines; winter habitat includes lakes, rivers, and coastal areas.	**Not expected to occur.** Habitat for the species within the PSA is minimal, with there being few riparian trees near ponds for nesting and no wintering habitat. There is one known occurrences of this species within five miles of the PSA (CDFW 2024).
Riparia riparia (nesting)	bank swallow	None/ST/None	Nests in riparian, lacustrine, and coastal areas with vertical banks, bluffs, and cliffs with sandy soils; open country and water during migration.	**High potential to occur.** The PSA provides suitable migratory and foraging habitat for this species, but the site is outside of the known breeding range. There are no known occurrences of this species within five miles of the PSA (CDFW 2024). The nearest known occurrence is recorded on the Consumes River, approximately 1.5 miles southeast of Dillard Road at Latrobe Road (CDFW 2024).

Table E.1. Special-Status Wildlife with Potential to Occur within the Project Study Area

Scientific Name	Common Name	Status (Federal/State/SSHCP)	Habitat	Potential to Occur
Invertebrates				
Bombus crotchii	Crotch bumble bee	None/SCE/None	Open grassland and scrub habitats. This species is classified as a short-tongued species, whose food plants include milkweed (Asclepias sp.), pincushion (Chaenactis sp.), lupine (Lupinus sp), clover (Medicago sp.), Phacelia, and sage (Salvia sp.). Nests are often located underground in abandoned rodent nests, or above ground in tufts of grass, old bird nests, rock piles, or cavities in dead trees.	**Moderate potential to occur.** The PSA is within the known range of the species, and suitable habitat for the species is present, specifically open grassland habitat with floral resources to support this species. The nearest known occurrence for this species is within 4.7 miles west of the PSA, northwest of Douglas Boulevard at Jaeger Road, approximately three miles southeast of White Rock Road (CDFW 2024).
Branchinecta conservatio	Conservancy fairy shrimp	FE/None/None	Larger, more turbid vernal pools, playa pools.	**Not expected to occur.** Suitable habitat for the species is present within the PSA, however the PSA is not within the known range of this species. This species has not been documented within five miles of the PSA, (CDFW 2024), This species is known to occur in 10 populations; the closest two are Yolo Bypass Wildlife Area in Yolo County and Jepson Prairie in Solano County (USFWS 2012, USFWS 2024).
Branchinecta lynchi	vernal pool fairy shrimp	FT/None/Covered	Vernal pools, seasonally ponded areas within vernal swales, and ephemeral freshwater habitats.	**Known to occur.** The PSA contains suitable vernal pool habitat to support this species, and SSHCP modeled habitat is present within the PSA (Sacramento County 2018). Occurrences of this species have been recorded along the western portion of the gen-tie alignment route in the northwest vicinity of the PSA (CDFW 2024, USFWS 2024). Additionally, there are several known occurrences of this species within five miles of the

Table E.1. Special-Status Wildlife with Potential to Occur within the Project Study Area

Scientific Name	Common Name	Status (Federal/State/SSHCP)	Habitat	Potential to Occur
				PSA, several of which are in occupied pools immediately north of the PSA (CDFW 2024). The nearest DCH unit for vernal pool fairy shrimp is approximately 5 miles west of the PSA (USFWS 2024).
Danaus plexippus	Monarch butterfly	FC/None/None	Wind-protected tree groves with nectar sources and nearby water sources. Adult monarchs depend on diverse nectar sources for food. Caterpillars dependent on milkweed.	**Low potential to occur.** The PSA is within the known range of this species. There are a few stands of wind-protected tree groves for this species within the PSA, however, there are limited suitable nectar sources. Additionally, milkweed has not been observed within the PSA. This species has not been documented within five miles of the PSA (CDFW 2024, USFWS 2024).
Desmocerus californicus dimorphus	valley elderberry longhorn beetle (VELB)	FT/None/Covered	Occurs only in the Central Valley of California, in association with blue elderberry (*Sambucus nigra* ssp. *caerulea*).	**Moderate potential to occur.** The PSA is within the known range of this species. There is suitable habitat for this species within the PSA, specifically observed elderberry shrubs (*Sambucus* sp.) within riparian and upland habitats. Additionally, small patches of SSHCP modeled habitat occur within the PSA (Sacramento County 2018). This species has been documented within five miles of the PSA, west of the PSA, between White Road and Douglas Road (CDFW 2024, USFWS 2024).
Lepidurus packardi	vernal pool tadpole shrimp	FE/None/Covered	Ephemeral freshwater habitats including alkaline pools, clay flats, vernal lakes, vernal pools, and vernal swales.	**Known to occur.** The PSA contains suitable vernal pool habitat to support this species, and SSHCP modeled habitat is present within the PSA (Sacramento County 2018). Occurrences of this species have been recorded along nearly the entirety of the gen-tie alignment route in the northwest vicinity of the PSA (CDFW 2024, USFWS 2024). Additionally, there are several known occurrences of this species within five miles of the PSA, several of which are in occupied pools immediately north of the PSA (CDFW 2024). The

Table E.1. Special-Status Wildlife with Potential to Occur within the Project Study Area

Scientific Name	Common Name	Status (Federal/State/SSHCP)	Habitat	Potential to Occur
				nearest DCH unit for vernal pool tadpole shrimp is approximately 5 miles west of the PSA (USFWS 2024).
Mammals				
Antrozous pallidus	pallid bat	None/SSC/None	Grasslands, shrublands, woodlands, forests; most common in open, dry habitats with rocky outcrops for roosting, but also roosts in man-made structures and trees	**Low potential to occur.** Habitat for the species within the PSA is present within the grassland and woodland/forests, however, there are few rocky outcrops for roosting. There are a few trees within the PSA that could be suitable for roosting. There are no known occurrences of this species within five miles of the PSA (CDFW 2024).
Taxidea taxus	American badger	None/SSC/Covered	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils.	**High potential to occur.** This species has not been documented in the PSA. However, this species is known to occur in the Project vicinity, and suitable grassland habitat and SSHCP modeled habitat is present (Sacramento County 2018). The nearest known occurrence for this species is recorded a half mile east of Sunrise Boulevard, and one mile south of Douglas Road in the City of Rancho Cordova (CDFW 2024).

Sources: CDFW 2024; Cornell Lab 2022; Sacramento County 2018; USFWS 2024; USFWS 2024

Federal Status

BCC: USFWS Bird of Conservation Concern
FDL: Federally delisted
FE: Federally listed as endangered
FP: Fully Protected
FT: Federally listed as threatened
PT: Federally proposed listed as threatened

State Status

FP: fully protected
SCE: State Candidate Endangered
SE: State listed as endangered
SSC: Species of Special Concern
ST: State listed as threatened
WL: Watch List
None: No conservation status

SSHCP (South Sacramento Habitat Conservation Plan)

Covered: Currently listed as threatened or endangered under the California Endangered Species Act (ESA) or the federal ESA and covered within the Plan Area by the SSHCP.

None: Not covered under the SSHCP.

Potential for Occurrence Ranks

Known to Occur: The species has been documented in the PSA.

High Potential to Occur: The species has not been documented in the Project site but is known to occur in the vicinity and species habitat is present.

Moderate Potential to Occur: The species has not been documented in the vicinity, but the PSA is within the known range of the species, and habitat for the species is present.

Low Potential to Occur: The species has not been documented in the vicinity and the PSA is within the known range of the species, but habitat for the species is of low quality. is either absent or of low quality.

Not Expected to Occur: The Project site is outside the known range of the species, and habitat for the species is either absent or of low quality.

Appendix F

2024 Biological Resources Survey Results Assessment Report

VERSION #01

2024 Biological Resources Survey Results Assessment Report

Coyote Creek Agrivoltaic Ranch Project

JULY 2024

Prepared for:

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A Photo Record
B Updated Wildlife Compendium
C Updated Plant Compendium

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
amsl	Above mean sea level
AC	Alternating current
BCC	Birds of Conservation Concern
BESS	Battery Energy Storage System
BUOW	Burrowing owl
CBB	Crotch's bumble bee
CCAR	Coyote Creek Agrivoltaic Ranch
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
FGC	Fish & Game Code
gen-tie	Generation tie
GNSS	Global navigation satellite system
kV	kilovolt
LLC	Limited Liability Company (LLC)
MBTA	Migratory Bird Treaty Act
MW	megawatt
PER	Planning environmental review
PSA	Project Study Area
PV	photovoltaic
SCP	Scientific Collecting Permit
SDA	Solar Development Area
SMUD	Sacramento Municipal Utility District
SSC	Special Species of Concern
SSHCP	South Sacramento Habitat Conservation Plan
SVRA	Sacramento Vehicle Recreation Area
SWHA	Swainson's hawk
TRBL	Tricolored blackbird
USFWS	United States Fish and Wildlife Service
WST	Western Spadefoot Toad

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1 Executive Summary

Sacramento Valley Energy Center, LLC has contracted Dudek to prepare this 2024 Biological Resources Survey Results Assessment Report to provide an overview of biological resource surveys that were conducted within the Project Study Area (PSA) in 2024. Table 1 highlights a summary of all biological resource surveys that were conducted during 2024 along with associated survey dates.

Table 1. Summary of 2024 Biological Resources Surveys

Survey	Date
Western spadefoot toad (WST; *Spea hammondii*) Habitat Assessment	
Pass 1	February 08, 2024
Pass 2	February 09, 2024
Pass 3	February 13, 2024
WST Nocturnal Eye-Shine and Acoustic Surveys	
Pass 1	February 13, 2024 and February 21, 2024,
Pass 2	February 29, 2024 and March 11, 2024
Pass 3	March 22, 2024
Burrowing owl (BUOW; *Athene cunicularia*)	
Pass 1 (non-breeding)	February 15-16, 2024; February 28, 2024
Pass 2 (nesting)	May 29-30, 2024
Pass 3 (nesting)	June 24-25, 2024; June 28, 2024
Swainson's hawk (SWHA; *Buteo swainsoni*)	
Pass 1 (period IV)	May 29-30, 2024
Pass 2 (period V)	June 24, 2024
Crotch's bumble bee (CBB; *Bombus crotchii*)	
Pass 1	April 16, 2024
Pass 2	May 08-10, 2024
Pass 3	May 29-30, 2024; June 05, 2024; June 07, 2024
Special Status Plants Surveys	
Pass 1	May 08, 2024 and May 09, 2024
Pass 2	May 23, 2024
Pass 3	June 04, 2024

Acronyms: WST=western spadefoot toad; BUOW=burrowing owl; SWHA=Swainson's hawk; CBB=Crotch's bumblebee

This report covers the following wildlife species: Western spadefoot toad (WST; *Spea hammondii*), burrowing owl (BUOW; *Athene cunicularia*), Swainson's hawk (SWHA; *Buteo swainsoni*), and Crotch's bumble bee (CBB; *Bombus crotchii*). Additionally, special status plant species were evaluated during 2024 biological resource surveys and are discussed in this report.

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2 Introduction

Sacramento Valley Energy Center, LLC (applicant) proposes to construct, operate, and ultimately decommission an approximately 200-megawatt (MW) alternating current (AC) photovoltaic (PV) solar energy generating facility and associated 4-hour/100 MW AC battery energy storage system (BESS).

The Coyote Creek Agrivoltaic Ranch project (project) components–include an on- site substation, inverters, solar array, fencing, roads, supervisory control, data acquisition (SCADA) system, generation tie (gen-tie) line, and switchyard. The project's 230-kilovolt (kV) gen-tie line would be approximately 1.3 miles long and would parallel the boundary of the California State Parks Off-Highway Motor Vehicle Division's Prairie City State Vehicle Recreation Area (SVRA). The gen-tie line would connect with a new switchyard that would be constructed to interconnect into the Sacramento Municipal Utility District (SMUD) 230 kV powerline in proximity to the Prairie City SVRA. Following construction of the switchyard, SMUD would own and operate the switchyard facilities. Plate PD-1 shows the regional location of the project.

The project is located south of U.S. Route 50, northwest of Rancho Murieta, southeast of the Prairie City SVRA, and south of White Rock Road in the Cosumnes community. Specifically, it is located on what is known as "Barton Ranch" adjacent to 3830 Scott Road. The geographic center of the project site is at 38.576278° North - 121.132944° West, at 196 feet above mean sea level (asml). A gen-tie line would extend approximately 1.3 miles to provide an interconnection to the SMUD 230 kV powerline that runs through the Prairie City SVRA. The project site comprises numerous parcels that total the approximately 2,704-acre project site in the Consumnes community of unincorporated Sacramento County. Of the approximately 2,704-acre project site, approximately 1,412 acres of this area would be developed to support the project and is collectively referred to as the "solar development area (SDA)." The SDA includes the proposed footprint of project construction activities and development, and the remaining approximately 1,292 acres are referred to as "adjacent other lands" and would not be developed as part of the project. "Adjacent other lands" are lands within the project site but located outside of the solar development area.-The solar development area includes all locations used for temporary construction and all permanent project infrastructure. Areas denoted as adjacent other lands would be appropriately delineated with flagging and construction areas activities would be required to avoid adverse impacts within these areas.

The location of the CCAR was selected because of its proximity to the existing SMUD transmission corridor, landowners willing to lease their land and participate in the project, its previously disturbed nature in the form of agricultural grazing land, the site's access to transportation corridors and existing roads, and the site's excellent solar irradiance.

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3 Western Spadefoot Toad (WST)

Western spadefoot toad (*Spea hammondii*; WST) is proposed to be federally listed and is endemic to California and northern Baja California. WST is almost completely terrestrial, entering temporal pools and drainages only to breed. The species aestivates within rodent burrows in upland habitats near aquatic breeding sites (Stebbins 1972). WST prefers open areas with sandy or gravelly soils in a variety of habitats, including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, river floodplains, alluvial fans, playas, and alkali flats (Holland and Goodman 1998; Stebbins 2003). However, the species is most common in grasslands and vernal pools or mixed grassland/coastal sage scrub areas and is most active during periods of rain (Holland and Goodman 1998).

3.1 WST Survey Results 2021-2023

Dudek conducted upland burrow surveys for WST within potential suitable habitat for this species during protocol-level and focused BUOW surveys specifically in 2021 [April 11-15; May 09-13; June 07-11; June 21-25; July 06-08]. Additionally, Dudek conducted breeding season larval and nocturnal eye-shine surveys in potential breeding habitat in the PSA on March 19, 2022. No suitable burrows or other signs of WST were observed during the initial upland surveys; however, suitable upland burrowing habitat is present. During the 2022 larval and nocturnal eye-shine surveys, no WST were observed. The aquatic habitats surveyed were suitable for WST for potential breeding habitat (Figure 3, Western Spadefoot Toad Survey Results Compiled 2022-2024); however, known predators [e.g., American bullfrog (*Rana catesbeiana*)] were observed within these ponds, which decreases the likelihood of WST occurring within the PSA.

3.2 WST Survey 2024

Dudek conducted WST focused surveys to evaluate suitable upland and aquatic habitat within the PSA. WST surveys entailed conducting a habitat assessment to evaluate aquatic and upland habitat for species suitability. Following habitat assessment, a focused WST nocturnal-eye shine and acoustic survey occurred to evaluate areas identified as potential breeding habitats for the species. There is no established survey protocol specific for WST. Dudek followed guidance detailed in publicly available literature as well as consulting wildlife species experts. Literature that Dudek consulted entailed but is not limited to the following resources:

- Species Status Assessment for Western Spadefoot (*Spea hammondii*) (USFWS, 2023).
- Habitat Assessment Baseline Survey for the Western Spadefoot (*Spea hammondii*) and the Western Pond Turtle (Emys marmorata) on the Irvine Ranch Land Reserve (USGS, 2004)
- Distribution of the Western Spadefoot (*Spea hammondii*) in Northern Sacramento Valley of California, with Comments on Status and Survey Methodology (Shedd 2016)

3.2.1 WST Habitat Assessment Methods 2024

Dudek conducted a multi-day reconnaissance-level habitat assessment for WST within the PSA outlined in Table 2 below.

Table 2. Western Spadefoot Toad Habitat Assessment Survey Dates and Weather Conditions 2024

Survey Date	Starting Conditions	Ending Conditions
February 08, 2024	**Starting Time:** 8:03 AM **Air Temperature** 44°F **Water Temperature** 47°F **Wind Speed** 0 MPH **Cloud Cover** 30%	**Ending Time:** 4:10 PM **Air Temperature** 51°F **Water Temperature** 47°F **Wind Speed** 5 MPH **Cloud Cover** 30%
February 09, 2024	**Starting Time:** 8:31 AM **Air Temperature** 40°F **Water Temperature** 47°F **Wind Speed** 0 MPH **Cloud Cover** 30%	**Ending Time:** 4:15 PM **Air Temperature** 51°F **Water Temperature** 47°F **Wind Speed** 0 MPH **Cloud Cover** 30%
February 13, 2024	**Starting Time:** 3:30 PM **Air Temperature** 42°F **Water Temperature** 47°F **Wind Speed** 0 MPH **Cloud Cover** 70%	**Ending Time:** 11:20 PM **Air Temperature** 59°F **Water Temperature** 52°F **Wind Speed** 2 MPH **Cloud Cover** 70%

Acronyms: WST=western spadefoot toad; MPH=miles per hour; F=Fahrenheit; AM=ante meridiem; PM=post meridiem

The purpose of the WST Habitat Assessment was to evaluate aquatic resources within the PSA, solar development areas (SDA), and adjacent other lands (AOLs) for WST suitability. Aquatic resources were evaluated in the field and assigned one of three classifications based on relative suitability for WST: potential breeding habitat, marginal breeding habitat, or no potential breeding habitat. These terms are defined further below.

- **Potential breeding habitat:** aquatic resource is inundated during the breeding season (typically between October and May) for a sufficient duration (estimated to be 3-11 weeks) to support metamorphose, water temperatures are suitable (48-86°F), and upland refugia is present (e.g., friable soils, burrows) (USFWS, 2023).
- **Marginal breeding habitat:** aquatic resource may not be inundated for a sufficient duration during the breeding season to support metamorphose, water temperatures are not suitable, and upland refugia is largely absent (e.g., friable soils, burrows).
- **No potential breeding habitat:** aquatic resource not sufficiently inundated during the breeding season to support metamorphose, water temperatures may not be suitable, competitive non-native species present, and upland refugia is largely absent (e.g., friable soils, burrows).

As indicated above, habitat suitability for WST was determined by evaluating water temperature, type of aquatic feature, potential upland refugia, and assessing for presence of non-native competitive species, such as American bullfrog, that may deter WST presence. Dudek biologists evaluated aquatic features by meandering the shoreline searching the water and adjacent uplands for adult or juvenile amphibians, tadpoles, or egg masses.

3.2.2 WST Habitat Assessment Results 2024

Habitat assessment data revealed 18.47 acres of potential breeding habitat for WST, 17.61 acres of marginal breeding habitat for WST, and 86.2 acres of not breeding habitat for WST. Table 3 below displays the cumulative acres resulting from the WST Habitat Assessment.

Table 3. Western Spadefoot Toad Habitat Assessment Results 2024

Aquatic Resources										
Intermittent Channel	Ephemeral Channel	Seasonal Wetland Swale	Vernal Pool	Freshwater Emergent Wetland	Ditch	Seasonal wetland	Vernal swale	Pond	Seep	Upland Swale
Potential Breeding Habitat										
2.04 acres	1.07 acres	8.72 acres	3.98 acres	NA	0.09 acres	1.99 acres	NA	NA	NA	0.58 acres
										Total: 18.47 acres
Marginal										
3.09 acres	6.21 acres	3.80 acres	1.43 acres	0.02 acres	NA	1.15 acres	1.91 acres	NA	NA	NA
										Total: 17.61 acres
Not Breeding Habitat										
20.44 acres	9.19 acres	15.93 acres	2.64 acres	11.63 acres	1.22 acres	2.73 acres	3.55 acres	15.51 acres	0.16 acres	3.20 acres
										Total: 86.2 acres

Source: (Figure 3, Western Spadefoot Toad Survey Results Compiled 2022-2024)
Acronyms: WST=western spadefoot toad; NA=not applicable

Development of potential breeding habitat is dependent on seasonal rains that occur in winter and spring. The amount of rain annually can determine the number and depth of pools suitable for potential breeding habitat. Dudek biologists did not encounter WST species during habitat assessment.

3.2.3 WST Nocturnal Eye-Shine and Acoustic Surveys Methods 2024

Dudek biologists conducted WST nocturnal eye-shine and acoustic surveys in the PSA within aquatic features identified as potential breeding habitat during the WST habitat assessment discussed in section 3.3.1 of this report. Compiled nocturnal eye-shine and acoustic survey dates are outlined in Table 4 below.

Table 4. Compiled Western Spadefoot Toad Nocturnal Eye-Shine and Acoustic Survey Dates 2022-2024

Survey Type	Date
Survey Year- 2022	
Pass 1	March 19, 2022
Pass 2	April 19, 2022
Pass 3	May 26, 2024
Survey Year- 2024	
Pass 1	February 13, 2024 & February 21, 2024
Pass 2	February 29, 2024 & March 11, 2024
Pass 3	March 22, 2024

Acronyms: WST=western spadefoot toad
Note: Survey Year 2023 were not conducted due to- (1) abnormally dry conditions from the lack of precipitation and increased season temperature; (2) no observations of target species at previous eyeshine locations; (3) change of listing status

Nocturnal eye-shine and acoustic survey methods focused on behavior of terrestrial WST and evaluation of egg masses within aquatic features identified as potential breeding habitat. Survey methodology did not entail dip-netting of species.

Nocturnal eye-shine and acoustic surveys took place during rain events of precipitation greater than 0.20 inches and after sunset. When evaluating an aquatic feature, biologists would evaluate three hundred (300) meter transects around the impact area. Additionally, biologists would meander features identified as potential breeding habitat for WST by walking twenty (20) meter transects along the shoreline sweeping with flashlights to detect nocturnal eye-shine and audible cues for acoustic surveys for WST.

3.2.4 WST Nocturnal Eye-Shine and Acoustic Surveys Results 2024

Dudek biologists performed nocturnal eye-shine and acoustic surveys on a total of 18.47 acres of potential breeding habitat for WST. During surveys, biologists observed the following amphibians: sierran treefrog (*Pseudacris sierra*), American bullfrog, and western toad (*Anaxyrus boreas*). WST was not observed during nocturnal eye-shine and acoustic surveys for 2024. Sierran treefrog egg masses were identified on sea holly (*Eryngium* sp.) during nocturnal

eye-shine and acoustic surveys and representative photos of egg masses were captured and included in this report (Attachment A, Photo Log).

3.3 WST Survey Summary 2021-2024

Although WST has not been documented in the PSA, this species is known to occur within the PSA vicinity, the PSA presents suitable habitat. Additionally, the PSA is SSHCP modeled foraging and aestivation habitat (County of Sacramento 2018). There are known California Natural Diversity Database (CNDDB) occurrences for WST within 5 miles of the PSA, located on the west side of Grant Line Road north of Highway 16 (CDFW 2024a). CNDDB occurrence data within the project vicinity for WST was reported on March 07, 1978, within many ponds and vernal pools within the area (CDFW, 2024a). During the 2022 and 2024 surveys, no WST were identified within the PSA.

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4 Burrowing Owl (BUOW)

Burrowing owl (*Athene cunicularia*; BUOW) is a state SSC and SSHCP Covered Species known to occur near the PSA. In California, BUOW are yearlong residents of open, dry grassland and desert habitats, and in grass, forb, and open shrub stages of pinyon-juniper and ponderosa pine habitats (CDFW 2024a). Preferred habitat is typified by short, sparse vegetation with few shrubs, level to gentle topography, and well-drained soils. The presence of burrows is the most essential component of BUOW habitat, as they are required for nesting, roosting, cover, and caching prey (Poulin et al. 2011). In California, BUOW most commonly live in burrows created by California ground squirrels (*Otospermophilus beecheyi*). BUOW may also occur in human-altered landscapes such as agricultural areas, ruderal grassy fields, vacant lots, and pastures if the vegetation structure is suitable (i.e., open, and sparse), useable burrows are available, and foraging habitat occurs in proximity (Gervais et al. 2008). Debris piles, riprap, culverts, and pipes can also be used for nesting, shelter, and roosting.

4.1 BUOW Survey Results 2021-2023

Dudek conducted protocol-level and focused BUOW breeding season surveys within the PSA and 500 feet beyond the PSA in 2021 and 2022. Incidental observations/detections for presence of BUOW were recorded in 2023 through ancillary evidence (pellets and potential burrow-single). In 2021, one BUOW was observed perched west of Coyote Creek in the central northwestern portion of the PSA. Additionally, various suitable burrow locations, and other ancillary evidence of BUOW (e.g., whitewash, pellets, etc.) were observed during surveys and incidental observations in 2021, 2022, and 2023. The purpose of protocol-level and focused BUOW surveys is to assess for burrows, suitability of habitat, and foraging or other BUOW activity within 500 feet from the PSA that may be potentially subject to agency jurisdiction pursuant to regulations in MBTA, California FGC, and CEQA Guidelines. Details from the BUOW surveys are summarized in Table 5.

Table 5. Protocol-Level and Focused Burrowing Owl Survey Results Compiled 2021 - 2023

Observation Summary	Latitude	Longitude
2021 Protocol-Level Surveys		
Potential burrow- multiple	38.55764665°	-121.130841272°
Potential burrow- single; feathers; whitewash	38.55875673°	-121.123298°
Potential burrow- single	38.56043895°	-121.1286701°
Potential burrow- single	38.56044678°	-121.1286257°
Potential burrow- single	38.56049679°	-121.1290726°
Potential burrow- single	38.56050281°	-121.1289361°
Potential burrow- multiple	38.56055625°	-121.1289089°
Potential burrow- single	38.56059469°	-121.1307393°
Potential burrow- single	38.56090506°	-121.131662°
Potential burrow- single	38.56107416	-121.1317861°
Potential burrow- single	38.56151182°	-121.1302206°
Potential burrow- single	38.56153039°	-121.1301853°
Potential burrow- single	38.56153913°	-121.1298737°

Table 5. Protocol-Level and Focused Burrowing Owl Survey Results Compiled 2021 - 2023

Observation Summary	Latitude	Longitude
Potential burrow- single	38.56154681°	-121.1298594°
Potential burrow- single	38.56215157°	-121.1364657°
Potential burrow- multiple	38.56232879°	-121.1315463°
Potential burrow- multiple	38.56806576°	-121.1283403°
Potential burrow- single	38.56865684°	-121.126266°
Potential burrow- multiple	38.58272598°	-121.1241211°
Potential burrow- multiple	38.58275612°	-121.124417°
Potential burrow- multiple	38.58284671°	-121.1246297°
Pellet	38.58323986°	-121.1391347°
Individual burrowing owl– observed perched	38.58435641°	-121.1369127°
Potential burrow- multiple	38.58671282°	-121.1264552°
Potential burrow- single	38.58704478°	-121.1245913°
Potential burrow- single	38.58754027°	-121.1362788°
Pellet	38.58756136°	-121.1361834°
Potential burrow- single	38.58793779°	-121.1392949°
Pellet	38.58806051°	-121.1366349°
Pellet	38.58807545°	-121.137979°
Pellet	38.5881065°	-121.136488°
Pellet	38.58813108°	-121.1364539°
Potential burrow- multiple; feathers; pellet	38.58822419°	-121.1370972°
Potential burrow- single	38.5891079°	-121.1357626°
Potential burrow- multiple	38.59122592°	-121.1416015°
Potential burrow- multiple	38.59201705°	-121.1377893°
Potential burrow- multiple	38.5920227°	-121.1380888°
Potential burrow- single	38.59362673°	-121.1383374°
Potential burrow- multiple	38.59510712°	-121.1370225°
Potential burrow- single	38.59620896°	-121.1406741°
2022 Focused Surveys		
Potential burrow- multiple	38.56120962°	-121.1122114°
Potential burrow- single	38.56151611°	-121.1074852°
Potential burrow- single; whitewash	38.5631304°	-121.1341347°
Potential burrow- single	38.56527136°	-121.1223162°
Potential burrow- single	38.58306362°	-121.1143678°
Potential burrow- single	38.59296422°	-121.1368286°
2023 Incidental Observations		
Pellet	38.58805942°	-121.1374957°
Pellet	38.58809238°	-121.1374004°
Pellet	38.58814992°	-121.1364101°
Pellet	38.58820454°	-121.1372856°

Table 5. Protocol-Level and Focused Burrowing Owl Survey Results Compiled 2021 - 2023

Observation Summary	Latitude	Longitude
Potential burrow- single	38.59013658°	-121.1338438°

Source: (see Figure 4, Burrowing Owl Survey Results Compiled 2021-2024)

Surveys were completed in the PSA in accordance with the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012), and the *Burrowing Owl Survey Protocol and Mitigation Guidelines* (California Burrowing Owl Consortium 1993). Survey areas were focused on suitable habitats within the PSA, such as California annual grasslands, managed agricultural fields, roadside areas, and the margins of agricultural fields, as well as forested areas where tree and/or shrub canopy covered less than 30% of the ground surface. Survey transect centerlines were marked at thirty (30) feet and walked linearly. During the second, third, and fourth passes only those areas that were determined to support suitably sized burrows during the first survey pass were resurveyed. Surveys were conducted between morning civil twilight and 10:00 a.m., and two (2) hours before sunset until evening civil twilight and were limited to periods when wind speed was less than twelve (12) miles per hour and no precipitation or dense fog was observed. BUOW habitat was recorded and mapped during surveys using the ArcGIS Field Maps app for iOS. Data was reviewed in conjunction with the SSHCP modeled land cover and species models.

A summary of protocol-level and focused BUOW survey dates from 2021 through 2022 is summarized in Table 6 below.

Table 6. Protocol-Level and Focused Burrowing Owl Surveys Conducted within the Project Study Area 2021- 2023

	Completed Surveys		
Minimum Protocol Requirements	2021- Protocol-Level	2022- Focused[1]	2023
One site visit between 15 February and 15 April (pass 1)	Pass 1: April 11–15	Pass 1: None[2]	None
Three survey visits, at least three weeks apart, between April 15th through July 15th, with one at least one visit after June 15th (passes 2 – 4)	Pass 2: May 9–13 Pass 3: June 7–11 Pass 4: June 21– June 25, 2021.	Pass 3: None2 Pass 2: June 7–10 Pass 4: July 6–8	None

Source: CDFG 2012.
Notes:
1 Surveys in 2022 generally followed the protocol for breeding season surveys; however, they specifically focused on areas of suitable habitat within the PSA and up to 500 feet from the PSA.
2 None = Surveys only conducted during the last two protocol passes to comply with pre-construction protocol-level survey requirements per California Department of Fish and Wildlife (CDFW).

4.2 BUOW Survey 2024

Dudek conducted a protocol-level BUOW survey in 2024 to continue evaluating nesting and foraging BUOW within the PSA and up to 500 feet from the PSA. Surveys were completed in accordance with *Staff Report on Burrowing Owl Mitigation* (CDFG 2012) and the *Burrowing Owl Survey Protocol and Mitigation Guidelines* (California Burrowing Owl Consortium 1993). Like previous surveys, focus areas included California annual grasslands, managed agricultural fields, roadside areas, and the margins of agricultural fields, as well as forested areas where tree and/or shrub canopy covered less than 30% of the ground surface. Survey dates and conditions are outlined in Table 7.

Table 7. Protocol-Level Burrowing Owl Survey Dates and Conditions 2024

Survey Date	Pass Type[1]	Starting Conditions	Ending Conditions
Pass #1			
February 15, 2024	Non-breeding season	**Starting Time:** 6:45 AM **Air Temperature** 48°F **Wind Speed** 6 MPH **Cloud Cover** 90%	**Ending Time:** 1:25 PM **Air Temperature** 61°F **Wind Speed** 5 MPH **Cloud Cover** 70%
February 16, 2024	Non-breeding season	**Starting Time:** 7:30 AM **Air Temperature** 46°F **Wind Speed** 4 MPH **Cloud Cover** 90%	**Ending Time:** 1:30 PM **Air Temperature** 65°F **Wind Speed** 4 MPH **Cloud Cover** 50%
February 28, 2024	Non-breeding season	**Starting Time:** 9:15 AM **Air Temperature** 52°F **Wind Speed** 2 MPH **Cloud Cover** 40%	**Ending Time:** 12:50 PM **Air Temperature** 66°F **Wind Speed** 5 MPH **Cloud Cover** 10%
Pass #2			
May 29, 2024	Nesting season	**Starting Time:** 5:58 AM **Air Temperature** 53°F **Wind Speed** 0 MPH **Cloud Cover** 0%	**Ending Time:** 10:00 AM **Air Temperature** 71°F **Wind Speed** 7 MPH **Cloud Cover** 10%
May 30, 2024	Nesting season	**Starting Time:** 6:01 AM **Air Temperature** 55°F **Wind Speed** 0 MPH **Cloud Cover** 10%	**Ending Time:** 10:02 AM **Air Temperature** 73°F **Wind Speed** 3 MPH **Cloud Cover** 20 %
Pass #3			
June 24, 2024	Nesting season	**Starting Time**: 6:00 AM **Air Temperature** 66°F **Wind Speed** 2 MPH **Cloud Cover** 20%	**Ending Time:** 12:00 PM **Air Temperature** 83°F **Wind Speed** 1 MPH **Cloud Cover** 20%
June 25, 2024	Nesting season	**Starting Time**: 6:00 AM **Air Temperature** 65°F **Wind Speed** 4 MPH **Cloud Cover** 90%	**Ending Time:** 12:00 PM **Air Temperature** 91°F **Wind Speed** 3 MPH **Cloud Cover** 30%
June 28, 2024	Nesting season	**Starting Time**: 7:00 AM **Air Temperature** 68°F **Wind Speed** 0 MPH **Cloud Cover** 10%	**Ending Time:** 1:00 PM **Air Temperature** 92°F **Wind Speed** 3 MPH **Cloud Cover** 10%

Acronyms: BUOW= burrowing owl; MPH=miles per hour; F=Fahrenheit; AM=ante meridiem; PM=post meridiem

Notes:

1 Pass Types for BUOW 2024 protocol-level surveys include non-breeding surveys and nesting season surveys. Non-breeding surveys evaluate the period when wintering owls are likely to be present. Nesting season survey is to evaluate the timing of nesting activities and peak breeding activities for BUOW.

Table 7 references that Dudek completed three survey passes for BUOW during 2024 which entail the following: one (1) non-breeding survey and two (2) nesting surveys. The purpose of non-breeding surveys is to evaluate the period when wintering owls are most likely to be present. The purpose of a nesting season survey is to evaluate the timing of nesting activities and peak of breeding season for BUOW. The peak of BUOW breeding season occurs from

April 15 through July 15 (California Burrowing Owl Consortium, 1993). Dudek performed nesting season BUOW protocol-level surveys at the peak of the nesting season (see Table 7 above).

4.2.1 Protocol-Level BUOW Survey Methods 2024

Dudek biologists performed protocol-level surveys for non-breeding and nesting season for BUOW. Protocol-level surveys entailed focusing on areas of suitable habitat for the species. Methodology for survey approach aligns with previous BUOW protocol-level surveys outlined in section 4.1 of this report.

4.2.2 Protocol-Level BUOW Survey Results 2024

BUOW 2024 protocol-level survey results include new additions of the following: fifteen (15) potential burrows (single) suitable for BUOW and two (2) potential burrow (clusters) suitable for BUOW.

Table 8. Protocol Level-Burrowing Owl Survey Results 2024

Observation Summary	Latitude	Longitude
2024 Protocol Level Surveys		
Potential burrow - single	38.59691044°	-121.1413389°
Potential burrow - single	38.59700434°	-121.1413514°
Potential burrow - single	38.59730451°	-121.1415181°
Potential burrow – single (culvert)	38.55372563°	-121.1300315°
Potential burrow- single	38.5955887°	-121.1325779°
Potential burrow- cluster	38.5609465°	-121.1315921°
Potential burrow- single	38.56546276°	-121.1353531°
Potential burrow- single	38.56603763°	-121.135303°
Potential burrow- cluster	38.56681212°	-121.1356271°
Potential burrow-single	38.56489386°	-121.1350201°
Potential burrow-single	38.56422154°	-121.1343154°
Individual burrowing owl – potential burrow single, claw marks, pellets, animal remains, whitewash[1]	38.59159145°	-121.1711838°
Potential burrow-single – utilized by burrowing owl, pellets, whitewash	38.59182644°	-121.1714997°
Potential burrow- single utilized by burrowing owl, pellets, whitewash[1]	38.59265709°	-121.1717178°
Two burrowing owl(s) – observed flushing culvert, pellets, whitewash[1]	38.59285582°	-121.1718658°
Potential burrow-single (within occupied BUOW culvert system)[1]	38.59156455°	-121.1714005°
Pellets[1]	38.59188113°	-121.171338°
Potential burrow-single[1]	38.59233946°	-121.1741963°

Source: (Figure 4, Burrowing Owl Results Compiled 2021-2024)
Acronyms: BUOW= burrowing owl
Notes:
1 On February 28, 2024, Dudek biologists identified various roadside culverts that displayed occupancy of BUOW. Additionally, Dudek biologists located a piece of plywood that flushed a BUOW individual underneath. The plywood displayed claw marks, whitewash, pellets, and prey remains.

On February 13, 2024, Dudek biologists incidentally observed 1 (one) BUOW individual at coordinates (38.591815°, 121.171531) during WST habitat assessment surveys. During protocol-level non-breeding BUOW surveys that occurred on February 28, 2024, the area in which BUOW was incidentally observed was investigated and found to be occupied by multiple BUOW. Dudek biologists observed three (3) BUOW individuals on February 28, 2024, within proposed switchyard located within Prairie City SVRA. The BUOW's were found occupying roadside culverts and utilizing a plywood board for shelter during non-breeding surveys (Figure 4 Burrowing Owl Results Compiled 2021-2024). The plywood board occupied by BUOWs showed evidence of claw marks, pellets, prey remains, and whitewash. The roadside culvert system showed evidence of pellets, prey remains, and whitewash. Representative photographs of the species and the associated habitat can be viewed in this report (Attachment A, Photo Log). An additional incidental observation of one (1) BUOW individual occurred during WST nocturnal eye-shine and acoustic surveys on February 29, 2024. Dudek biologists continued to monitor activity of BUOW during subsequent BUOW protocol nesting season surveys in the location where BUOW was observed from non-breeding season surveys. No BUOW individuals were observed during nesting season BUOW protocol level surveys. Observations of fresh pellets were documented during the second pass of nesting season surveys. Additionally, Dudek biologists noted observations of fresh coyote (*Canis latrans*) scat nearby the BUOW siting location.

4.3 BUOW Survey Summary

There is suitable habitat for BUOW within the PSA and within 500-foot buffer. Observations of BUOW were recorded within the PSA in 2021 and 2024. Additionally, various suitable burrow locations and other ancillary evidence of BUOW (e.g., whitewash, pellets, prey remains, pellets, claw marks, etc) were observed during protocol-level, focused surveys, and incidental observations in 2021 through 2024. Observations of BUOW in the PSA previous to 2024 surveys were concentrated in valley grasslands in the northern and southern-most limits of the site. In 2024, observations of BUOW are concentrated to the northwestern portion of the PSA within the proposed switchyard development. Dudek biologists noted during surveys that there was absence of California ground squirrel, which aid BUOW in the development of potential burrowing habitat. It was also noted that soils distributed throughout the PSA were too compact for the development of high quantities of burrowing habitat.

The project solar development has the potential to impact BUOW suitable nesting and foraging habitat (i.e., blue oak woodland, and valley grassland; seasonal wetland and vernal pools wetlands; and ephemeral, perennial, intermittent, ditch, and swale non-wetland waters).

5 Swainson's Hawk (SWHA)

SWHA is a federal bird of conservation concern (BCC), state threatened species, and an SSHCP Covered Species. SWHA is a state threatened species and SSHCP Covered Species known to occur in the PSA. In California, this species nests in the Central Valley and smaller adjacent valleys, the Klamath Basin, the Northeastern Plateau, Lassen County, and the Mojave Desert. It breeds in riparian areas, stands of trees in agricultural environments, oak savannah, Joshua trees (*Yucca brevifolia*) in the Mojave Desert, and juniper-sage flats. In the Central Valley, it nests in riparian areas and in isolated tree clusters, often near rural residences or other areas with some human disturbance. Alfalfa fields are the favored foraging areas of SWHA in the Central Valley, but the species also forages in undisturbed grasslands, fallow agricultural fields, and some row crops.

5.1 SWHA Survey Results 2021-2023

Dudek conducted protocol-level SWHA breeding season surveys within the PSA in 2021, 2022, and 2023. Surveys included visual and aural detection and visual surveys within the PSA and up to 0.5 miles from the solar development area. The purpose of protocol-level surveys is to assess for SWHA nesting, foraging, suitability of habitat, and other activity within the PSA and vicinity that may be subject to agency jurisdiction pursuant to regulations under Migratory Bird Treaty Act (MBTA), CESA, California FGC, and CEQA Guidelines.

The protocol-level SWHA surveys were conducted in accordance with the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (SHTAC 2000). Initial surveys focused on inspection of individual and cluster trees and riparian areas for nests within the PSA. During subsequent surveys, nests and potential nest sites that were identified during the initial surveys were inspected for nesting activity, including territorial or courtship displays, brooding on the nest, presence of young on the nest, and frequent trips to the nest by adults. Survey transect centerlines were marked at 30 feet and walked linearly. SWHA habitat was recorded and mapped during surveys using a Trimble R1 GNSS Receiver with sub-meter accuracy and/or ArcGIS Collector or Field Maps app for iOS. Additionally, data was further reviewed in conjunction with the SSHCP modeled land cover and species models.

A summary of protocol-level SWHA survey dates is summarized in Table 9 below.

Table 9. Protocol-Level Swainson's Hawk Surveys Compiled 2021-2023

Minimum Protocol Requirements	Completed Survey Dates		
	2021	2022	2023
Pass 1: January – March (*optional*)	March 12 and 15	None[1]	None[1]
Pass 2: March 20 - April 5	March 25	None[1]	None[1]
Pass 3: April 5 - 20	April 11 – 15, and 22	April 19	April 7, 10, 14, 17, and 19 - 20
Pass 4: April 21 – June 10 (*monitoring known nest sites*)	May 31 – June 1	June 7 - 10	May 30 – 31
Pass 5: June 10 – July 30 (*post fledging*)	N/A[2]	July 6 - 8	June 27 - 28

Acronyms: SWHA=Swainson's Hawk; MPH=miles per hour; F=Fahrenheit; AM=ante meridiem; PM=post meridiem

SWHA were observed foraging, flying overhead, nesting, displaying and nesting behaviors within in the solar development area during protocol-level surveys conducted in 2021, 2022, and 2023.

Dudek conducted protocol-level SWHA breeding season surveys within the PSA and up to 0.5 miles from the solar development site within the PSA in 2021, 2022 and 2023. A total of 28 SWHA observations, including foraging and courting, were made during the survey passes conducted in 2021, 2022, and 2023. Two nest observations were made in 2023. Observations were made within areas that primarily provided suitable foraging habitat, as well as some nesting habitat, including both the solar development area and the adjacent other lands within the PSA Details from the SWHA surveys from 2021 through 2023 are summarized in Table 10 below, and shown on Figure 5.

Table 10. Protocol-Level Swainson's Hawk Survey Results 2021 - 2023

Observation Summary	Observation Location (decimal degrees)	
	Latitude	Longitude
2021 Protocol-Level Surveys		
Visual- flight	38.55464467°	-121.1306845°
Visual- flight/vocalizing	38.55630694°	-121.1199074°
Visual- flight	38.56178891°	-121.137722°
Perched	38.56179008°	-121.1377245°
Visual- flight	38.5620637°	-121.1347629°
Visual- flight/vocalizing	38.562064°	-121.1347634°
Visual- flight/vocalizing	38.56216543°	-121.1331622°
Foraging	38.56228299°	-121.1377026°
Courting pair	38.56228878°	-121.1376989°
Raptor nest- unoccupied	38.56227656°	-121.1355247°
Courting pair	38.56280187°	-121.13515°
Raptor nest- unoccupied	38.5629247°	-121.1359878°
Perched	38.56296795°	-121.1360126°
Raptor nest- unoccupied	38.56345317°	-121.1362199°
Raptor nest- unoccupied	38.56377597°	-121.1319261°
Raptor nest- unoccupied	38.56923366°	-121.1198936°
Raptor nest- unoccupied	38.57220785°	-121.1364895°
Raptor nest- unoccupied	38.57226743°	-121.1141066°
Mobbing	38.57924538°	-121.1191641°
Mobbing	38.58153459°	-121.1142462°
Raptor nest- unoccupied	38.58269827°	-121.1241618°
Raptor nest- unoccupied	38.58575692°	-121.1256191°
Visual- flight	38.59093086°	-121.162912°
Mobbing	38.59350289°	-121.1329388°
Visual- flight	38.59785363°	-121.1384505°
2022 Protocol-Level Surveys		
Visual- flight	38.55665822°	-121.1151318°

Table 10. Protocol-Level Swainson's Hawk Survey Results 2021 - 2023

Observation Summary	Observation Location (decimal degrees)	
	Latitude	Longitude
Raptor nest- unoccupied	38.56240148°	-121.1355688 °
Perched	38.58026382°	-121.1197949°
Raptor nest- unoccupied	38.56420383°	-121.1162091°
2023 Protocol-Level Surveys		
Visual- flight	38.5591602°	-121.118762°
Raptor nest- occupied	38.57198066°	-121.1138851°
Raptor nest- occupied	38.5763678°	-121.1317324°
Courting pair	38.5767104°	-121.1319778°
Perched	38.57916665°	-121.1312099°
Courting pair	38.57921182°	-121.1306374°
Courting pair	38.57983093°	-121.1336447°

Source: (Figure 5, Swainson's Hawk Survey Results Compiled 2021-2024)
Acronyms: SWHA= Swainson's Hawk

5.2 SWHA Survey 2024

Dudek conducted protocol level SWHA surveys during SWHA period four (IV) and period five (V), which are the two survey periods immediately prior to the Project's initiation. Period IV SWHA surveys occur from April 21 through June 10. Period V SWHA surveys occur from June 10 through July 30 (post-fledging) (SHTAC 2000). Project initiation is anticipated to begin April 2025. Survey dates and conditions are outlined in table 11 below:

Table 11. Swainson's Hawk Protocol-Level Survey Dates and Conditions 2024

Survey Date	Pass Type	Starting Conditions	Ending Conditions
Pass #2			
May 29, 2024	Period IV	**Starting Time:** 6:07 AM **Air Temperature** 53°F **Wind Speed** 0 MPH **Cloud Cover** 0%	**Ending Time:** 9:52 AM **Air Temperature** 73°F **Wind Speed** 3 MPH **Cloud Cover** 0%
May 30, 2024	Period IV	**Starting Time:** 6:20 PM **Air Temperature** 83°F **Wind Speed** 2 MPH **Cloud Cover** 10%	**Ending Time:** 8:15 PM **Air Temperature** 90°F **Wind Speed** 4 MPH **Cloud Cover** 20%
Pass #3			
June 24, 2024	Period V	**Starting Time**: 6:00 AM **Air Temperature** 66°F **Wind Speed** 2 MPH **Cloud Cover** 20%	**Ending Time:** 12:00 PM **Air Temperature** 83°F **Wind Speed** 1 MPH **Cloud Cover** 20%
June 25, 2024	Period V	**Starting Time**: 6:00 AM **Air Temperature** 65°F **Wind Speed** 4 MPH	**Ending Time:** 12:00 PM **Air Temperature** 91°F **Wind Speed** 3 MPH

Table 11. Swainson's Hawk Protocol-Level Survey Dates and Conditions 2024

Survey Date	Pass Type	Starting Conditions	Ending Conditions
		Cloud Cover 90%	Cloud Cover 30%

Acronyms: SWHA=Swainson's Hawk; MPH=miles per hour; F=Fahrenheit; AM=ante meridiem; PM=post meridiem

5.2.1 Protocol-Level SWHA Survey Methods 2024

Under period IV protocol level SWHA surveys, the female SWHA is in brood position, very low in the nest, laying eggs, incubating. Or protecting the newly hatched and vulnerable chicks; her head may not be visible. Nests during this period are often very well-hidden, build into heavily vegetated sections of trees (SHTAC 2000). Dudek biologists, examined all previously occupied nests during this period and examined the skies to locate male SWHA within the PSA along with 0.5 miles outside of the PSA through binocular assessment. Following the male to the nest is the recommended mechanism for locating nests during this period.

Under period V protocol level SWHA surveys, young SWHA are active and visible and are relatively safe without parental protection. Both female and male adult SWHA make numerous trips to the nest soaring above during this period or perched near or on the nest tree. Dudek biologists, examined all previously occupied nests during this period and examined skies to locate females and males making trips to nesting locations. Additionally, Dudek biologists examined for juvenile SWHA. Surveys were conducted within the PSA as well visually 0.5 miles outside of the PSA.

5.2.2 Protocol-Level SWHA Survey Results 2024

A summary of protocol-level SWHA survey dates is summarized in Table 12 below.

Table 12. Protocol-Level Swainson's Hawk Survey Results 2024

Observation Summary	Observation Location (decimal degrees)	
	Latitude	Longitude
2024 Protocol-Level Surveys		
Foraging	38.578332°	-121.131363°
Raptor nest – occupied by RTHA	38.55°	-121.1199074°

Source: (Figure 5, Swainson's Hawk Survey Results Compiled 2021-2024)
Acronyms: SWHA=Swainson's Hawk; RTHA=Red-Tailed Hawk

Results from 2024 SWHA protocol level surveys revealed observation of one (1) SWHA individual. The SWHA individual was an adult foraging within the PSA under period IV surveys. The adult SWHA was monitored for approximately thirty (30) minutes until it flew outside of the PSA. Biologists did not observe the SWHA retreat back to a nest. Dudek biologists also recorded an observation of one active Red-tailed hawk (RTHA; *Buteo jamaicensis*) nest during period IV SWHA surveys. The RTHA nest had one juvenile RTHA in the nest and two adults alarm calling within the vicinity of the nest.

5.3 SWHA Survey Summary

There is suitable foraging and nesting habitat for SWHA within the PSA. There are known occurrences of SWHA within the PSA. In addition, there are known CNDDB occurrences of SWHA recorded at the confluence of Deer Creek and Carson Creek, as well as just east of White Rock Road (CDFW 2024a). Dudek conducted protocol-level SWHA surveys within the PSA, and visual surveys up to 0.5 miles outside the PSA, in 2021, 2022, 2023, and 2024. Within the PSA and 0.5-mile visual buffer, twenty-five (25) SWHA individuals have been observed to date foraging, perching displaying courtship, and nesting. The majority of the SWHA observations were recorded in the southwestern portion of the PSA.

Results from 2024 SWHA surveys concluded in the observation of one (1) SWHA individual foraging within the PSA. This SWHA was observed under period VI, which is a period where nests are extremely difficult to locate. No active SWHA nests were observed under both periods.

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6 Crotch's Bumble Bee (CBB)

CBB is a short-tongued species that has very short hair dispersed evenly throughout the body. CBB queen's body size is approximately twenty-two (22) to twenty-five (25) millimeters (mm) in length. CBB worker's body size is approximately twelve (12) to twenty (20) mm in size in length. A distinguishing characteristic of CBB is the middle body (metasoma) of the species is typically yellow in color (at tergum "T" 2) but black in the middle at the front, and oftentimes has a red stripe toward the tip at Tergum "T" 5 (Williams et al. 2014). The Tergum is a plate on the dorsal upper side of the metasoma and the plates are often different colors (blacks, yellows, reds) that help distinguish/identify bumble bee species. The Tergum plates can range starting T1-6 for females and T1-7 for males (Williams et al. 2014).

The CBB is state candidate endangered with a moderate potential to occur within vegetation communities on site where nesting and floral/nectar resources may be present. CBB occurs primarily in California, including the Mediterranean region, Pacific Coast, Western Desert, and adjacent foothills throughout most of the state's southwestern region (Los Padres Forest Watch, 2013). Example food plants preferred by CBB include milkweeds (*Asclepias* sp.), pincushions (*Chaenactis* sp.), lupines (*Lupinus* sp.), clovers (*Medicago* sp.), scorpion-weed (*Phacelia* sp.), and sage (*Salvia* sp.) (Williams et al. 2014). There is one documented occurrence of CBB within 5 miles of the Project (CDFW 2024a). Based on the focused surveys conducted within the PSA, nesting and foraging/nectar resource observations were most abundant in the oak woodlands and forest, and foothill and valley grassland vegetation communities.

6.1 CBB 2023 Survey Summary

The Project solar development has the potential to impact CBB nesting and foraging/nectar suitable habitat (i.e., oak woodland and forest, and valley and foothill grasslands). Dudek conducted a CBB Habitat Assessment to evaluate foraging resources and nesting locations of this species (Figure 6, Compiled CBB Survey 2023-2024). Specifically, suitable nesting and nectar source habitat for CBB was identified and recorded throughout the solar development area during habitat assessments conducted April 11, 2023, May 9 through 11, 2023, May 23, 2023, and July 3 through July 6, 2023. The surveys focused on identifying suitable nesting site (e.g., down woody debris, burrows, tree cavities, etc.), and foraging habitat (e.g., abundant flowering plant/nectar patches). If a bumble bee were observed during these surveys, qualified biologists opportunistically attempted to identify to species-level without handling (non-capture). No individual CBB was observed or detected.

6.2 CBB 2024 Survey Results

Dudek conducted focused CBB foraging capture and non-capture surveys within the PSA. The purpose of conducting focused CBB foraging surveys was to evaluate the PSA for suitable habitat, occupancy of the species, and gain an understanding of which bumblebee species occur within the PSA. Dudek biologists followed CDFW protocol guidelines outlined in the *Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species* (CDFW, 2023a). Additionally, Dudek biologists utilized the following identification guide to identify bumble bees encountered foraging or captured: *Bumble Bees of North America: An Identification Guide* (Williams et al. 2014). Surveys that took place were spread 2-4 weeks apart from the Colony Active Period to ensure coverage of a range of dates and account for variability in resources of bumblebee species and the floral resource phenology within the site (CDFW, 2023a). Dates to which the surveys took place are outlined below in Table 13.

Table 13. Crotch's Bumble Bee Focused Survey Dates and Conditions 2024

Survey Date	Pass Type	Starting Conditions	Ending Conditions
Pass #1			
April 16, 2024	Capture Surveys	**Starting Time:** 9:43 AM **Air Temperature** 57°F **Wind Speed** 0 MPH **Cloud Cover** 30%	**Ending Time:** 3:23 PM **Air Temperature** 66.5°F **Wind Speed** 3 MPH **Cloud Cover** 30%
Pass #2			
May 08, 2024	Capture Surveys	**Starting Time:** 10:40 AM **Air Temperature** 74°F **Wind Speed** 0-10 MPH **Cloud Cover** 0%	**Ending Time:** 4:08 PM **Air Temperature** 82°F **Wind Speed** 6 MPH **Cloud Cover** 30%
May 09, 2024	Capture Surveys	**Starting Time:** 9:01 AM **Air Temperature** 73°F **Wind Speed** 2-4 MPH **Cloud Cover** 0%	**Ending Time:** 2:33 PM **Air Temperature** 90°F **Wind Speed** 0-3 MPH **Cloud Cover** 0 %
May 10, 2024	Non-Capture Surveys	**Starting Time:** 7:45 AM **Air Temperature** 66°F **Wind Speed** 4 MPH **Cloud Cover** 0%	**Ending Time:** 1:46 PM **Air Temperature** 86°F **Wind Speed** 6 MPH **Cloud Cover** 30%
Pass #3			
May 29, 2024	Non-Capture Surveys	**Starting Time**: 10:28 AM **Air Temperature** 74°F **Wind Speed** 0 MPH **Cloud Cover** 10%	**Ending Time:** 1:03 PM **Air Temperature** 83°F **Wind Speed** 0-7 MPH **Cloud Cover** 10%
May 30, 2024	Non-Capture Surveys	**Starting Time**: 7:48 AM **Air Temperature** 65°F **Wind Speed** 2 MPH **Cloud Cover** 0%	**Ending Time:** 10:00 AM **Air Temperature** 73°F **Wind Speed** 3 MPH **Cloud Cover** 0%
June 05, 2024	Non-Capture Surveys	**Starting Time:** 5:30 AM **Air Temperature** 70°F **Wind Speed** 0 MPH **Cloud Cover** 0%	**Ending Time:** 11:00 AM **Air Temperature** 90°F **Wind Speed** 3 MPH **Cloud Cover** 30%
June 07, 2024	Non-Capture Surveys	**Starting Time:** 5:30 AM **Air Temperature** 61°F **Wind Speed** 2-7 MPH **Cloud Cover** 0%	**Ending Time:** 1:00 PM **Air Temperature** 88°F **Wind Speed** 3-7MPH **Cloud Cover** 0%

Acronyms: CBB=Crotch's Bumblebee; MPH=miles per hour; F=Fahrenheit; AM=ante meridiem; PM=post meridiem

Focused survey areas were established within the PSA based on suitable floral pollinating resources for bumble bee species and nesting resources identified from CBB habitat assessment that took place in 2023. The CBB foraging survey passes that took place were distributed between non-capture surveys and capture surveys under guidance of an CDFW SCP permitted biologist and are outlined in further detail in section 6.3.1 and 6.3.2 of this report.

6.2.1 Focused CBB Foraging Capture Surveys 2024

6.2.1.1 Focused CBB Foraging Capture Methods

Dudek conducted a focused CBB foraging bumble bee capture survey to evaluate the PSA for occurrence of CBB. Capture surveys that took place were under permitted Scientific Collecting Permit (SCP; 221820002-22332-001) Biologist, Callie Amoaku. Callie's SCP covers the following bumble bee species: Western bumble bee (*Bombus occidentalis*), Crotch's bumble bee, Suckley's cuckoo bumble bee (*Bombus suckeyi*), and Franklin's bumble bee (*Bombus franklini*). Focused surveys were conducted for a minimum of one person-hour of searching per three (3) acres of suitable habitat distributed over survey grids that were identified for suitable floral resources based on the 2023 habitat assessment data as well as data collected during 2024 surveys. When a bumblebee was observed, biologists would use a bug net to capture the species and work to carefully transfer the bumblebee into a sterile plastic vile. Once the bumblebee species was placed in the sterile vile, biologists would transfer the bumblebee within the sterile vile into a cooler with crushed ice measured at 25°F. Cooling periods for bumble bee species did not exceed 120 minutes. Once the bumble bee was sufficiently cooled, biologists would remove the bumble bee from the cooler and sterile vile and place the specimen onto a solid or grided background in light shade to photograph the species to identify. Photographs captured the following angles: face including cheek length, top of head, banding on the abdomen, color pattern on the thorax, and hind leg for Psithyrus/sex diagnosis (Attachment A, Photo Log). After photographs were completed, the bumble bee was released nearby its capture site. Capture locations can be viewed Figure 6 (Compiled CBB Survey Results 2023-2024).

6.2.1.2 Focused CBB Foraging Capture Results

Bumble bee species that were caught during capture surveys include the following: Van Dyke's bumblebee (*Bombus vandykei*), yellow-faced bumblebee (*Bombus vosnesenskii*), yellow bumblebee (*Bombus fervidus*), and black-tailed bumble bee (*Bombus melanopygus*). Quantities of captured bumblebees are outlined in Table 14 below.

Table 14. Foraging Bumble Bee Species Results 2024

Van Dyke's bumblebee (*Bombus vandykei*)		Yellow-faced bumblebee (*Bombus vosnesenskii*)	Black-tailed bumble bee (*Bombus melanopygus*)	Yellow bumblebee (*Bombus fervidus*)
Capture Surveys April 16, 2024				
3 captures		5 captures	None	8 captures
Capture Survey May 08, 2024				
1 capture		2 captures	None	1 capture
Capture Survey May 09, 2024				
3 captures		2 captures	1 capture	1 capture
Totals	**7 captures**	**9 captures**	**1 capture**	**10 captures**

Source: (Figure 6, Crotch's Bumble Bee Survey Results Compiled 2023-2024; reference Foraging and Nectar Resources 2024).

Floral resources that bumblebee species were captured on include the following species: hairy vetch (*vicia villosa*), rose clover (*Trifolium hirtum*), and miniature lupine (*Lupinus bicolor*). Twenty-three (23) out of the twenty-seven (26) bumblebee individuals (88%) that were captured during the focused CBB foraging bumble bee capture surveys

were utilizing hairy vetch as a floral resource. Geo-referenced data was collected for captured bumblebees and is outlined in Table 15 below:

Table 15. Foraging Bumble Bee Capture Locations 2024

Observation Summary [1]	Observation Location (decimal degrees)		Capture Date
	Latitude	Longitude	
2024 Protocol-Level Surveys			
Foraging bumble bee	38.579987°	-121.121505°	Captured on April 16, 2024. Queen bee pollinating on hairy vetch (*Vicia villosa*) and flew into nest.
Foraging bumble bee	38.578274°	-121.122612°	Captured on April 16, 2024. Queen bee pollinating on hairy vetch
Foraging bumble bee	38.579215°	-121.126858°	Captured on April 16, 2024. Queen bee pollinating on hairy vetch
Foraging bumble bee	38.580556°	-121.125833°	Captured on April 16, 2024. Queen bee pollinating on hairy vetch
Foraging bumble bee	38.578889°	-121.125833°	Captured on April 16, 2024. Queen bee pollinating on hairy vetch
Foraging bumble bee	38.579203°	-121.125809°	Captured on April 16, 2024. Queen been pollinating on hairy vetch.
Foraging bumble bee	38.580625°	-121.125661°	Captured on April 16, 2024. Queen bee pollinating on hairy vetch
Foraging bumble bee	38.579547°	-121.126159°	Captured on April 16, 2024. Queen bee pollinating on hairy vetch
Foraging bumble bee	38.583370°	-121.127199°	Captured on April 16, 2024. Queen bee pollinating on hairy vetch
Foraging bumble bee	38.581497°	-121.121907°	Captured on April 16, 2024. Queen bee pollinating on hairy vetch
Foraging bumble bee	38.581071°	-121.120936°	Captured on April 16, 2024. Queen bee pollinating on hairy vetch
Foraging bumble bee	38.579260°	-121.121444°	Captured on April 16, 2024. Queen bee pollinating on hairy vetch
Foraging bumble bee	38.579345°	-121.125726°	Captured on April 16, 2024. Queen bee pollinating on hairy vetch
Foraging bumble bee	38.580434°	-121.122453°	Captured on April 16, 2024. Queen bee pollinating on hairy vetch
Foraging bumble bee	38.580721°	-121.124449°	Captured on April 16, 2024. Queen bee pollinating on hairy vetch
Foraging bumble bee	38.579224°	-121.126013°	Captured on April 16, 2024. Queen bee pollinating on hairy vetch.
			Total for April 16, 2024 = 16 individuals
Foraging bumble bee	38.568583°	-121.114381°	Captured on May 08, 2024. Worker bee pollinating on Rose clover (*Trifolium hirtum*).
Foraging bumble bee	38.568766°	-121.113804°	Captured on May 08, 2024. Worker bee pollinating on Rose clover.
Foraging bumble bee	38.568040°	-121.113937°	Captured on May 08, 2024. Worker bee pollinating on Rose Clover.

Table 15. Foraging Bumble Bee Capture Locations 2024

Observation Summary [1]	Observation Location (decimal degrees)		Capture Date
	Latitude	Longitude	
			Total for May 08, 2024, = 3 individuals
Foraging bumble bee	38.579445°	-121.120153°	Captured on May 09, 2024. Worker bee pollinating on miniature lupine (*Lupinus bicolor*)
Foraging bumble bee	38.573644°	-121.132606°	Captured on May 09, 2024. Worker bee pollinating on hairy vetch.
Foraging bumble bee	38.573959°	-121.133528°	Captured on May 09, 2024. Queen bee pollinating on hairy vetch.
Foraging bumble bee	38.574237°	-121.134127°	Captured on May 09, 2024. Queen bee pollinating on hairy vetch.
Foraging bumble bee	38.573789°	-121.133242°	Captured on May 09, 2024. Worker bee pollinating on hairy vetch
Foraging bumble bee	38.573692°	-121.133252°	Captured on May 09, 2024. Worker bee pollinating on hairy vetch.
Foraging bumble bee	38.572893°	-121.133463°	Captured on May 09, 2024. Worker bee pollinating on hairy vetch
			Total for May 09, 2024 = 7 individuals
			Total Foraging Habitat/Nectar Resources: 26

Source: (Figure 6, Crotch's Bumble Bee Survey Results Compiled 2023-2024)
Acronyms: CBB=Crotch's Bumblebee; MPH=miles per hour; F=Fahrenheit; AM=ante meridiem; PM=post meridiem
Notes:
[1] All foraging bumblebees were captured under an (SCP; 221820002-22332-001) permitted Biologist. CBB was not a species captured during surveys.

6.2.2 Focused CBB Foraging Non-Capture Surveys 2024

6.2.2.1 CBB Foraging Non-Capture Survey Methods

Dudek conducted focused CBB foraging non-capture surveys to evaluate the PSA for occurrence of CBB. Focused CBB foraging non-capture surveys were conducted in collaboration with capture surveys outlined in section 6.3.1. of this report. During surveys, biologists focused on areas identified with suitable floral resources from the 2023 habitat assessment and data collected during 2024 surveys. A California Endangered Species Act (CESA) SCP permitted bumblebee Biologist was not present during the focused CBB foraging non-capture surveys. Methods that biologist followed when surveying entail surveying suitable habitat grids at a minimum of three (3) acres per one (1) hour examining floral resources for foraging bumblebees. If a bumblebee was observed, biologists would record georeferenced data, obtain a photo, record floral resource, and work to identify the species.

6.2.2.2 CBB Foraging Non-Capture Survey Results

Biologists observed approximately 100 bumblebee individuals utilizing floral resources during focused CBB foraging non-capture surveys within the 2024 focused survey areas (Figure 6, Crotch's Bumble Bee Survey Results Compiled 2023-2024). Floral resources that bumblebee species would utilize changed with floral dieback of preferential

species. Floral resource hairy vetch was preferred during the first (1st) and second (2nd) focused CBB foraging surveys, however, during the later portions of the second (2nd) and third (3rd) passes this floral resource had browned out and was no longer available. As browning out occurred for hairy vetch, bumblebees began utilizing Italian thistle (*Carduus pynocephalus*), John's wort (*Hypericum perforatum*), seep monkeyflower (*Erythranthe guttata*), milk thistle (*Silybum marianum*). No CBB individuals were observed during this survey effort.

6.3 CBB Foraging Survey Summary

Crotch's Bumble Bee (CBB; *Bombus crotchii*) is state candidate endangered with a moderate potential to occur within vegetation communities on site where nesting and floral/nectar resources are present. As candidate species, they are temporarily afforded the same protections as state-listed species during the listing review process. The CBB occurs almost exclusively in California, currently primarily in the Central Valley, but has been described as having historically occupied grasslands and shrublands in southern to central California. Bumble bees are known to be generalist pollinators but have preferences based on flower color including purple, blue, and yellow. Suitable habitat may contain any of the following: 1) areas of grasslands and upland scrub that contain requisite habitat elements, such as small mammal burrows and forage plants; 2) potential nest habitat (late February through late October) containing underground abandoned small mammal burrows and ground-nesting bird nests (Kearns and Thomson 2001, McFrederick and LeBuhn 2006), logs, stumps, snags, and clumps of grass are often suitable (Devore 2009); 3) overwintering sites (November through early February) utilized by mated queens in self-excavated hibernacula potentially in soft, disturbed soil, sandy, well-drained, or loose soils, under leaf litter or other debris with ground cover requisites such as barren areas, tree litter, bare-patches within short grass in areas lacking dense vegetation. CBB emerge from their hibernaculum between February through June with a peak in March to seek new nest sites and forage for resources to establish their colony. The PSA contains limited open grassland habitat with floral resources to support this species. This species is classified as a short-tongued species, whose food plants include milkweed (*Asclepias* spp.), pincushion (*Chaenactic* spp.), lupine (*Lupinus* spp.), clover (*Medicago* sp.), scorpion-weed (*Phacelia* sp.), and sage (*Salvia* spp.). High quantities of foraging and nectar resources within the PSA were identified from surveys from 2023 through 2024 (see Figure 6, Crotch's Bumble Bee Survey Results Compiled 2023-2024). CBB was not encountered during 2024 surveys within the PSA, however, over one hundred (100) bumble bee individuals were observed during focused capture and non-capture CBB foraging survey efforts. Suitable floral resources such as hairy vetch, rose clover, miniature lupine, milk thistle, and monkeyflower are present within the PSA. Additionally, there are suitable nesting locations for bumblebee species as identified during 2023 surveys and observed in 2024 surveys (see Figure 6, Crotch's Bumble Bee Survey Results Compiled 2023-2024). CNDDB reports an occurrence for CBB within 4.7 miles west of the PSA, northwest of Douglas Boulevard at Jaeger Road, approximately 3 miles southeast of White Rock Road (CDFW 2024a).

7 Special-Status Plants

Dudek conducted protocol-level botanical surveys in the PSA in 2021, 2022, 2023, and 2024. The purpose of protocol-level botanical surveys was to identify special-status plant resources as defined under FESA, CESA, California FGC, CEQA Guidelines, and the Sacramento County General Plan. The botanical surveys were performed in accordance with the Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants (USFWS 2000), the Protocol for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018), and the Botanical Survey Guidelines (CNPS 2001). The botanical surveys were conducted during the appropriate floristic bloom period for special-status plant species known to occur within the Project region (i.e., late spring to early summer months). Reference populations were visited prior to each year's survey to ensure target species were evident and identifiable. Surveys were completed using a systematic transect approach within suitable habitats for special-status species that have the potential to occur. All plant species encountered were identified to the taxonomic level appropriate to determine species and regulatory status if needed. Botanical resources were recorded and mapped in the field. Four special-status plants were observed within the PSA during protocol-level botanical surveys, each species is discussed in the following paragraphs.

Ahart's dwarf rush (*Juncus leiospermus var. ahartii*) is a CRPR 1B.2 species (i.e., moderately threatened in California) and SSHCP Covered Species that was observed in the PSA. Ahart's dwarf rush is an annual herb that is native to California. The common blooming period for this species is April through May. This species can be found in mesic valley and foothill grassland habitat from approximately 98 to 750 feet amsl. This species has not been documented in the vicinity of the PSA, but the PSA is within the known range of the species, and habitat for this species is present. Specifically, suitable grassland habitat for this species is located within the southern and western portions of the PSA. Additionally, SSHCP modeled habitat for this species is present within the PSA (County of Sacramento 2018). Suitable habitat for this species in the PSA includes vernal pools, wetland swales, and seasonal wetlands

Pincushion navarretia (*Navarretia myersii* ssp. *myersii*) is a CRPR 1B.1 species (i.e., seriously threatened in California) and SSHCP Covered Species observed in the PSA. Pincushion navarretia is an annual herb that is native to California. The common blooming period for this species is April through May. This species can be found in often acidic vernal pools from approximately 66 to 1,080 feet amsl. The PSA is within the known range of the species, and habitat for the species is present. Specifically, the Hadselville-Pentz and Redding Gravelly Loam soil complexes within the PSA are slightly acidic, and vernal pools located in these soils provide potential suitable habitat. Additionally, SSHCP modeled habitat for this species is present within the PSA (County of Sacramento 2018). Known occurrences for this species are within 5 miles of the PSA, northwest of the PSA, within the Folsom USGS 7.5-minute quad (CDFW 2024a; CNPS 2024).

Spicate calycadenia (*Calycadenia spicata*) is a CRPR 1B.3 species observed in the PSA. Spicate calycadenia is an annual herb that is native to California. The common blooming period for this species is May through September. This species can be found in cismontane woodland valley and foothill grassland from approximately 130 to 4,595 feet amsl. The PSA is within the known range of the species, and suitable habitat for this species is located throughout the PSA within grassland habitat on site. Observations of the species were recorded approximately 1 mile north of the PSA, in 2021 (CNPS 2024).

Valley brodiaea (*Brodiaea rosea* ssp. *vallicola*) is a CRPR 4.2 species with a high potential to occur in the PSA. Valley brodiaea is an annual herb that is native to California. The common blooming period for this species is April through May. This species can be found in valley and foothill grassland and vernal pools from approximately 35 to 1,100 feet amsl. The PSA is within the known range of the species, and suitable habitat for this species is located throughout the PSA within grassland habitat and vernal pools on site. Five species observations have been recorded within the PSA, four of which were observed in 2020 (CNPS 2024).

As provided in the above paragraphs, the listing status of the special-status plants observed within the PSA are solely listed in the California Native Plant Society (CNPS) Rare Plant Program. None of the plants have a state (CDFW) or federal (USFWS) listing. Plants listed in the CNPS Rare Plant Program are considered to meet CEQA's Section 15380 criteria as well.

7.1 Special-Status Plant Survey Results 2021-2023

Dudek conducted protocol-level botanical surveys in the PSA in 2021, 2022, and 2023. A summary of protocol-level botanical surveys dates is summarized in Table 16 below.

Table 16. Summary of Protocol-Level Botanical Surveys Conducted within the Project Study Area 2021-2023

Survey Type	Date
Survey Year- 2021	
Pass 1	May 4, 2021
Pass 2	None[1]
Survey Year- 2022	
Pass 1	April 18–20
Pass 2	None[1]
Survey Year- 2023	
Pass 1	May 8–12, and 23
Pass 2	July 31–August 4

Note:

[1] Pass 2 surveys were not conducted due to- (1) abnormally dry conditions from the lack of precipitation and increased season temperature; (2) atypical phenology/bloom periods in the region; (3) no observations of target species at reference population locations.

Ahart's dwarf rush (two individuals) was observed during protocol-level botanical surveys in 2023 within the northwest portion of the Project, near the gen-tie, but was not detected in 2021 or 2022.

Pincushion navarretia was observed during protocol-level botanical surveys in 2023 but was not detected in 2021 or 2022. These individuals were observed in other adjacent lands in the northwest, western-central, and western-southern portions of the PSA.

Spicate calycadenia was observed during protocol-level botanical surveys within the solar development area and adjacent other lands in 2023, but was not observed during similar surveys in 2021 and 2022, These individuals were observed in numerous locations, ranging from the southern portion of the PSA, and extending to the northern portion of the PSA.

7.2 Special-Status Plant Survey Results 2024

7.2.1 Special-Status Plant Survey Methods 2024

Dudek conducted protocol-level botanical surveys in the PSA in 2024 (Table 17). The passes were conducted during the blooming period for the special-status plant species with potential to occur within the PSA. Surveys concentrated on suitable habitat for the target species, which included seasonal wetland, vernal pools, vernal swales, as well as the adjacent and surrounding uplands within approximately 250 feet of the aquatic habitat. See Figure 7, Special Status Plants Survey Results Compiled 2021-2024, for the mapped locations of special-status plants during the 2024 surveys.

Table 17. Summary of Protocol-Level Botanical Surveys Conducted within the Project Study Area in 2024

Survey Type	Date
Survey Year- 2024	
Pass 1	May 8 and 9
Pass 2	May 23
Pass 3	June 4

7.2.2 Special-Status Plant Surveys Results 2024

Ahart's dwarf rush was not observed during protocol-level botanical surveys in 2024. The population that had been mapped in 2023 in the northwest corner of the PSA was visited during the 2024 botanical surveys and it was not observed.

Pincushion navarretia and spicate calycadenia were observed during protocol-level botanical surveys in 2024. Spicate calycadenia was found associated with the vernal swales and intermittent channels primarily in the northwestern portion of the PSA. Spicate calycadenia was found along the western boundary of the PSA within associated primarily with vernal pool and ephemeral channels.

Valley brodiaea species was not observed during protocol-level botanical surveys in 2021, 2022, or 2023; but was observed in 2024. Valley brodiaea were observed primarily on the surrounding upland banks to ephemeral channels and swales.

7.3 Special-Status Plants Survey Summary 2021-2024

Four special status plant species have been observed within the Project during protocol-level botanical surveys (Figure 7).

AS shown in table 18 below, Ahart's dwarf rush was observed during protocol-level botanical surveys in 2023, but was not detected in 2021, 2023 or 2024. Pincushion navarretia and spicate calycadenia were found to occur in

the PSA during 2023 and 2024 surveys, but not 2021 or 2022. Valley brodiaea was observed in 2024, but not during the prior three year's surveys (2021-2023).

Table 18. Summary of Special-Status Plant Survey Results from 2021-2024 within the Project Study Area

Special-Status Plant Species	Surveys Results			
	2021	2022	2023	2024
Ahart's Dwarf Rush (*Juncus leiospermus* var. *ahartii*)	Not observed	Not observed	Observed	Not observed
Pincushion Navarretia (*Navarretia myersii* ssp. *myersii*)	Not observed	Not observed	Observed	Observed
Spicate Calycadenia (*Calycadenia spicata*)	Not observed	Not observed	Observed	Observed
Valley Brodiaea (*Brodiaea rosea* ssp. *vallicola*)	Not observed	Not observed	Not observed	Observed

Given that the climactic conditions of the area have been more favorable (outside drought condition), it is reasonable to consider that the current mapping of the three special-status plant species within the PSA represents a likely healthy (most broadly spread) population that would occur within the PSA. Further, because the area has been in a favorable climactic condition such that if the Ahart's dwarf rush population that had been previously mapped within the PSA in 2023 was able to survive given the disturbance it would have, but it may have been impacted by adjacent disturbance or changes in hydrology of the adjacent area over the past year with the area's further development.

8 Incidental Special-Status Wildlife Species Observations

Incidental observations of special-status wildlife species were noted during 2024 protocol level surveys.

8.1 Tricolored Blackbird (TRBL)

Tricolored Blackbird (*Agelaius tricolor*; TRBL) is a state threatened species and SSHCP Covered Species with known occurrences within the PSA. This species typically nests in freshwater marshes and dense growths of emergent vegetation dominated by cattails or bulrushes, but has also established colonies in willows, blackberries (*Rubus* spp.), and a variety of other types of dense, herbaceous vegetation, such as thistles (*Cirsium* and *Centaurea* spp.)and nettles (*Urtica* sp.). TRBLs forage in a variety of habitats, such as grasslands and croplands, where high densities of suitable insect prey are found.

There is suitable nesting and foraging habitat with the PSA for TRBL. SSHCP has modeled nesting and foraging TRBL habitat located within the PSA (County of Sacramento 2018). In addition, there are several known occurrences of TRBL within 5 miles of the PSA, with the nearest overlapping the southwestern portion of the PSA, west of Scott Road, approximately 1 to 2 miles north of the Deer Creek crossing (CDFW 2024a).

During protocol level surveys that took place in June 2024, Dudek Biologist observed a TRBL colony of approximately 300-500 individuals displaying breeding characteristics at (38.589241°, -121.128531°) Representative photos of this incidental observation were captured (Attachment A, Photo Log).

8.2 Branchiopods

California fairy shrimp (*Linderiella occidentalis*) is a non-listed branchiopod that was observed as an incidental observation during WST nocturnal eyeshine and acoustic surveys in March 2024. This branchiopod is a species of fairy shrimp that is native to California and is the most common fairy shrimp in the Central Valley (USFWS, 2006).
The California fairy shrimp is a small (about 0.4 inch long) crustacean that sometimes resides in the same vernal pool features as the vernal pool fairy shrimp (*Branchinecta lynchi*) (USFWS, 2006). Unlike California fairy shrimp ,vernal pool fairy shrimp are federally threatened and SSHCP Covered Species and are known to occur within the PSA. The PSA presents suitable vernal pool habitat to support branchiopod species such as the California fairy shrimp and the vernal pool fairy shrimp. The incidental observation occurred at (38.577182°, -121.145902°).
Representative photos of this incidental observation were captured (Attachment A, Photo Log).

8.3 Nesting Raptors and Migratory Birds

Section 3503 of the California FGC states that it is unlawful to take, possess, or needlessly destroy the nests or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Section 3503.5 protects all birds of prey (raptors) and their eggs and nests. Section 3511 states that fully protected birds or parts thereof may not be taken or possessed at any time. Section 3513 states that it is unlawful to take or possess any migratory nongame bird as designated in the MBTA.

The PSA provides nesting habitat for several other local species of migratory birds. The following active nests were detected incidentally during 2024 protocol level surveys: Barn owl (*Tyto alba*), Cliff swallow (*Petrochelidon pyrrhonota*), and American kestrel *(Falco sparverius*).

Table 19. Incidental Observations of Nesting and Migratory Birds 2024

Observation Summary	Observation Location (decimal degrees)		Observation Date
	Latitude	Longitude	
2024 Incidental Observation of Nesting and Migratory Birds			
Barn owl (*Tyto alba*)	38.57122°	-121.13152°	February 2024
Cliff swallow (*Petrochelidon pyrrhonota*)	38.562966°	-121. 127618°	May 2024
American kestrel (*Falco sparverius*)	38.571821°	-121.133408°	May 2024

9 Conclusion and Discussion

All biological resources known to occur and/or that may have the potential to occur within the PSA were evaluated based on federal, state, and local jurisdictional requirements and guidance for each resource.

Table 20. Summary of Biological Resource Surveys

Biological Resource	Surveys Results			
	2021	2022	2023	2024
Western spadefoot toad (WST; *Spea hammondii*)	Not observed	Not observed	Not observed	Not observed
Burrowing owl (BUOW; *Athene cunicularia*)	Observed	Not observed	Not observed	Observed
Swainson's hawk (SWHA; *Buteo swainsoni*)	Observed	Observed	Observed	Observed
Crotch's bumble bee (CBB; *Bombus crotchii*)	NA	NA	NA	Not observed
Ahart's Dwarf Rush (*Juncus leiospermus* var. *ahartii*)	Not observed	Not observed	Observed	Not observed
Pincushion Navarretia (*Navarretia myersii* ssp. *myersii*)	Not observed	Not observed	Observed	Observed
Spicate Calycadenia (*Calycadenia spicata*)	Not observed	Not observed	Observed	Observed
Valley Brodiaea (*Brodiaea rosea* ssp. *vallicola*)	Not observed	Not observed	Not observed	Observed

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Williams et al. 2014. *Bumble Bees of North America: An Identification Guide.* Princeton University Press. Princeton, NJ. 208 pp. Accessed July 2024.

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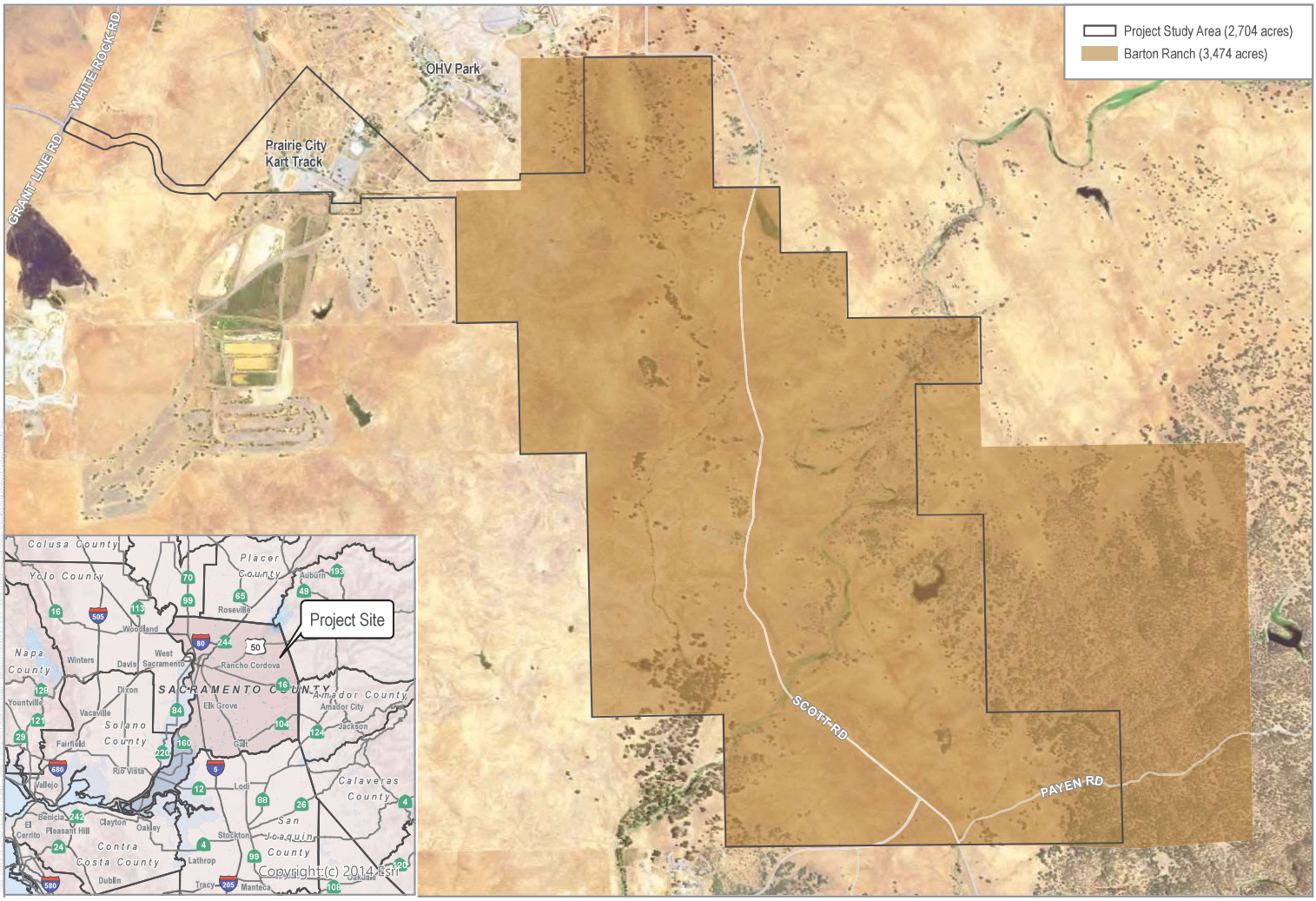

SOURCE: Esri 2024

DUDEK

0 1,000 2,000 Feet

FIGURE 1

Project Location

2024 Biological Resources Survey Results Assessment Report Coyote Creek Agrivoltaic Ranch Project

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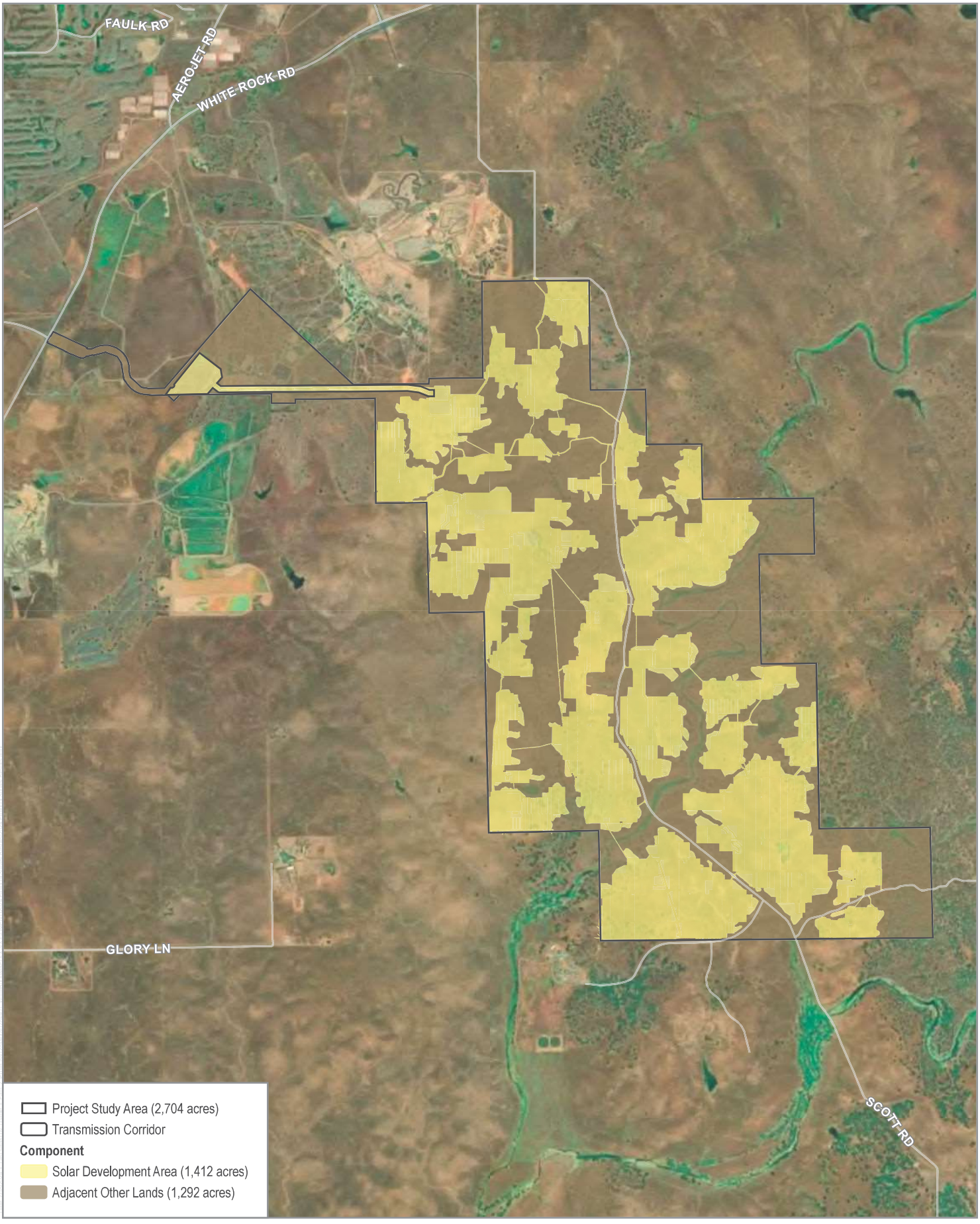

SOURCE: USGS 7.5-minute Quadrangle

DUDEK

0 1,000 2,000 Feet

FIGURE 2

Project Setting

2024 Biological Resources Survey Results Assessment Report Coyote Creek Agrivoltaic Ranch Project

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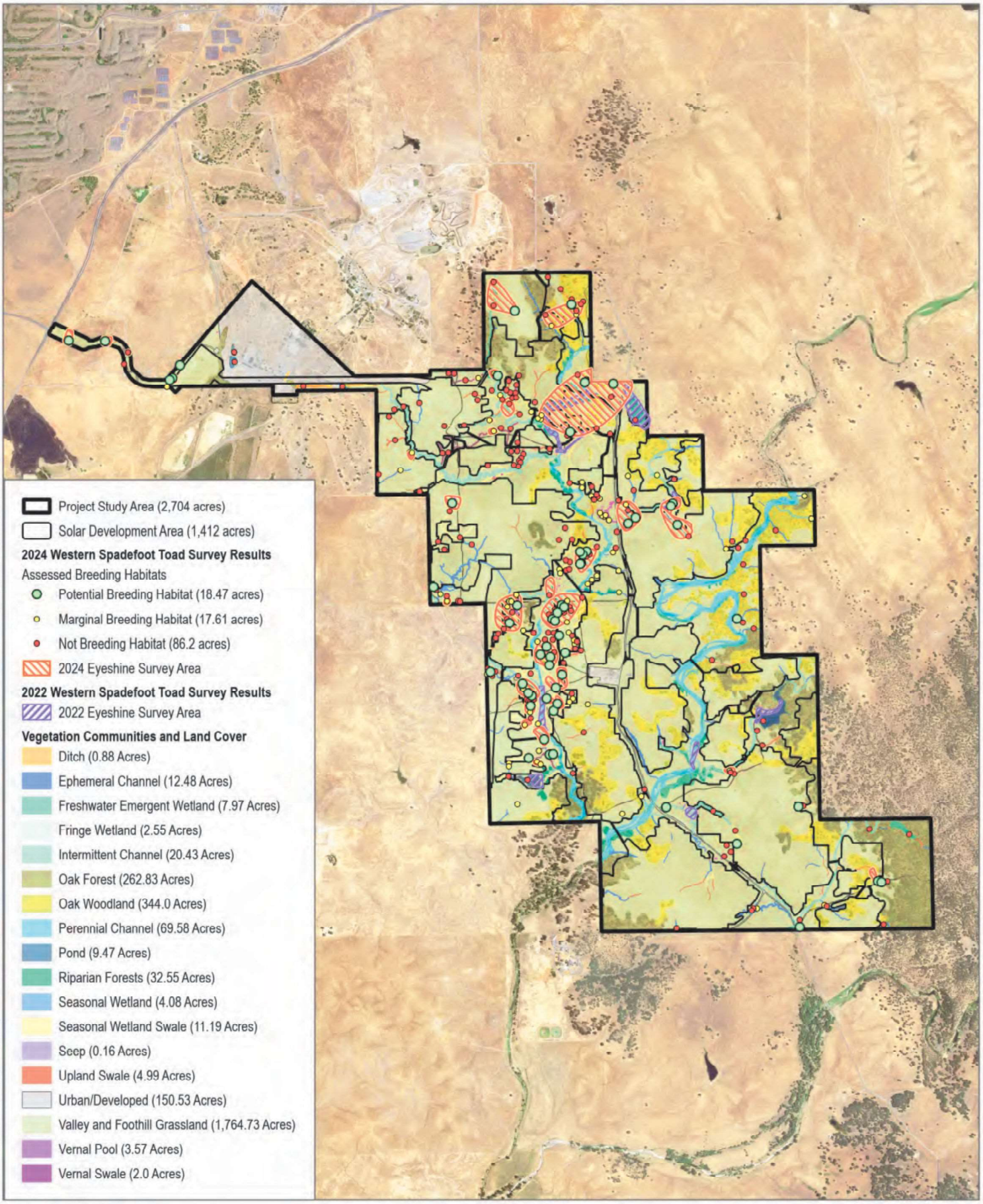

SOURCE: NAIP Imagery 2018

DUDEK

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FIGURE 3

Western Spadefoot Toad Survey Results Compiled 2022-2024

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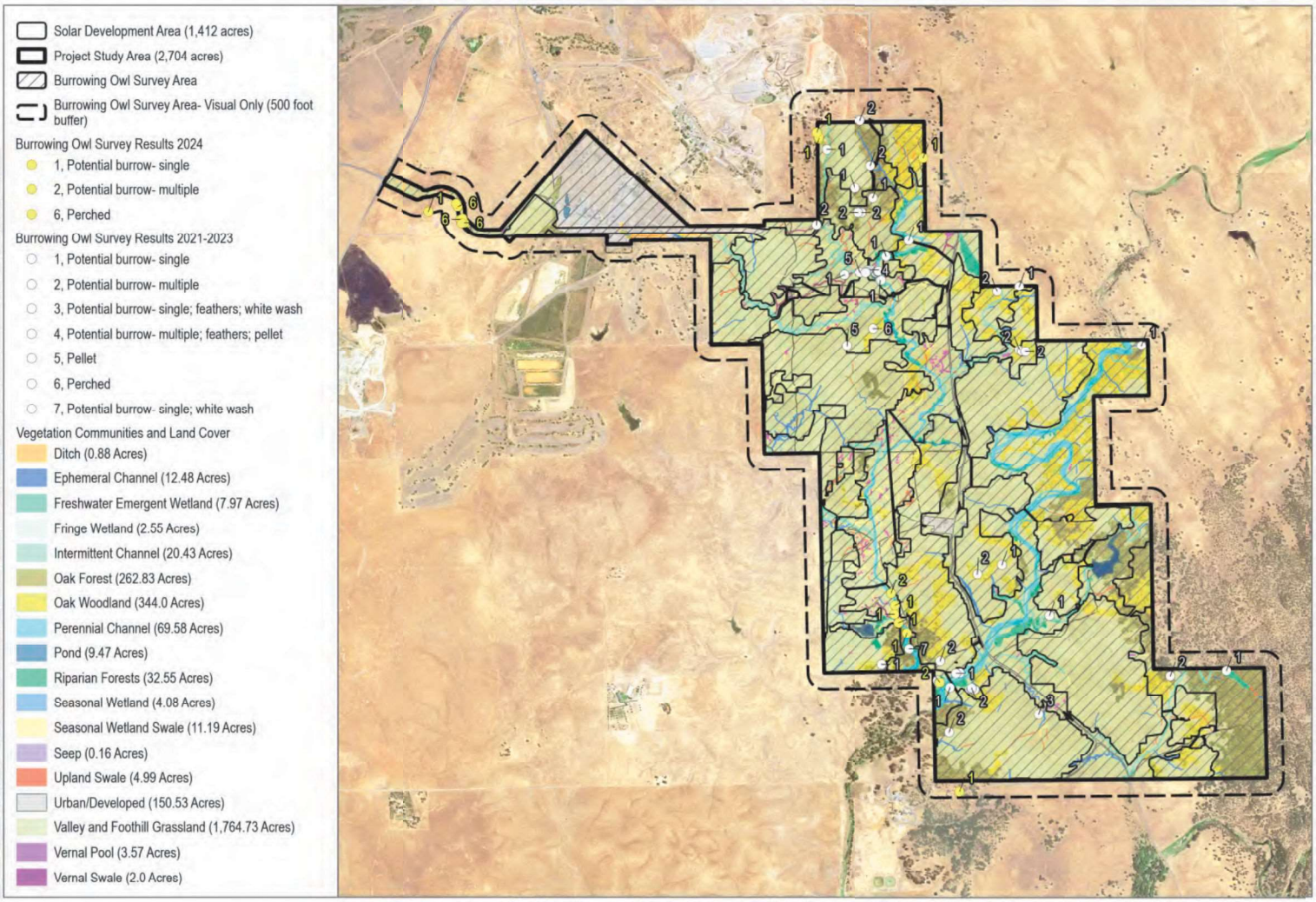

SOURCE:

DUDEK

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FIGURE 4

Burrowing Owl Survey Results Compiled 2021-2024

2024 Biological Resources Survey Results Assessment Report Coyote Creek Agrivoltaic Ranch Project

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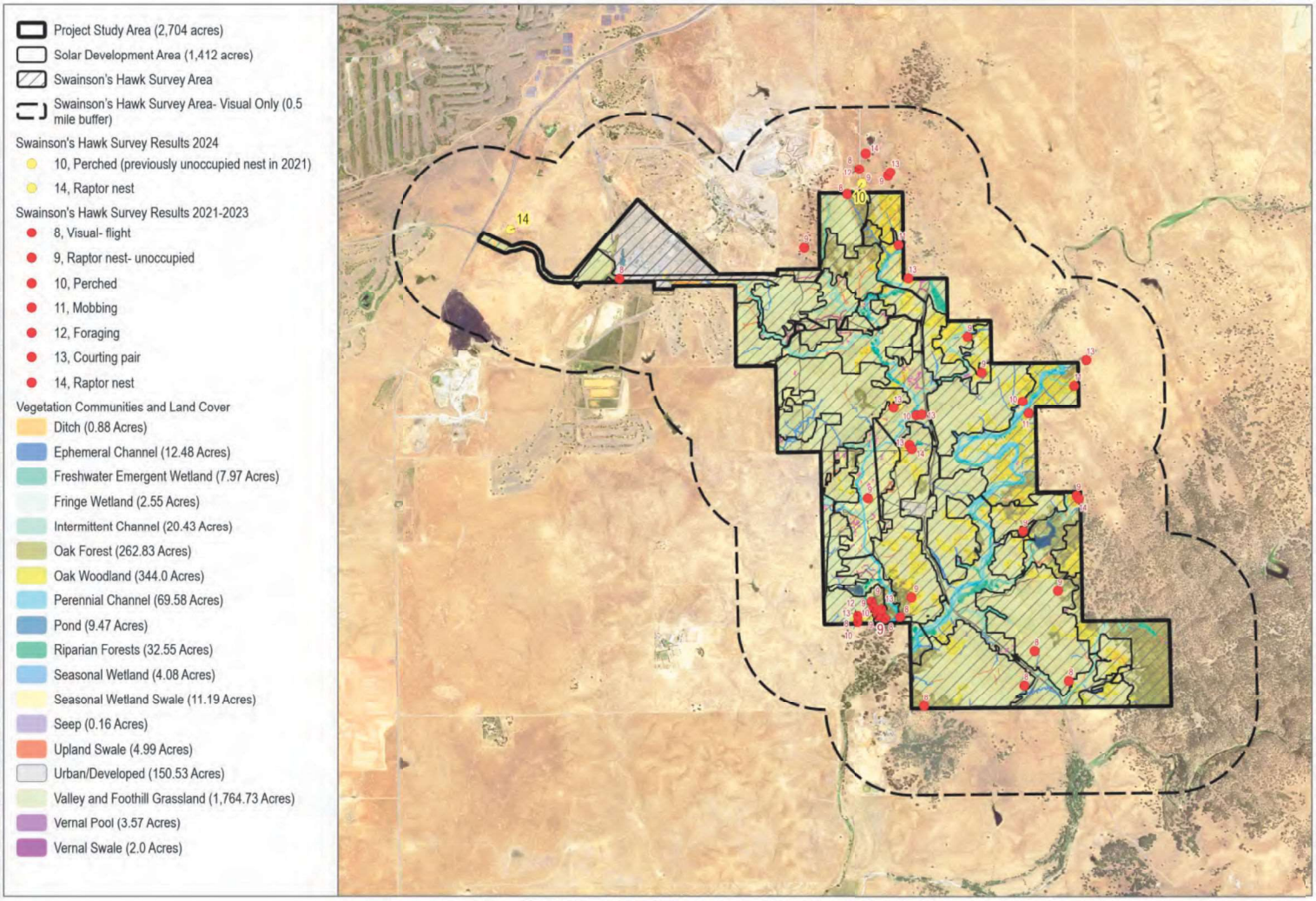

SOURCE:

DUDEK

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FIGURE 5

Swainson's Hawk Survey Results Compiled 2021-2024

2024 Biological Resources Survey Results Assessment Report Coyote Creek Agrivoltaic Ranch Project

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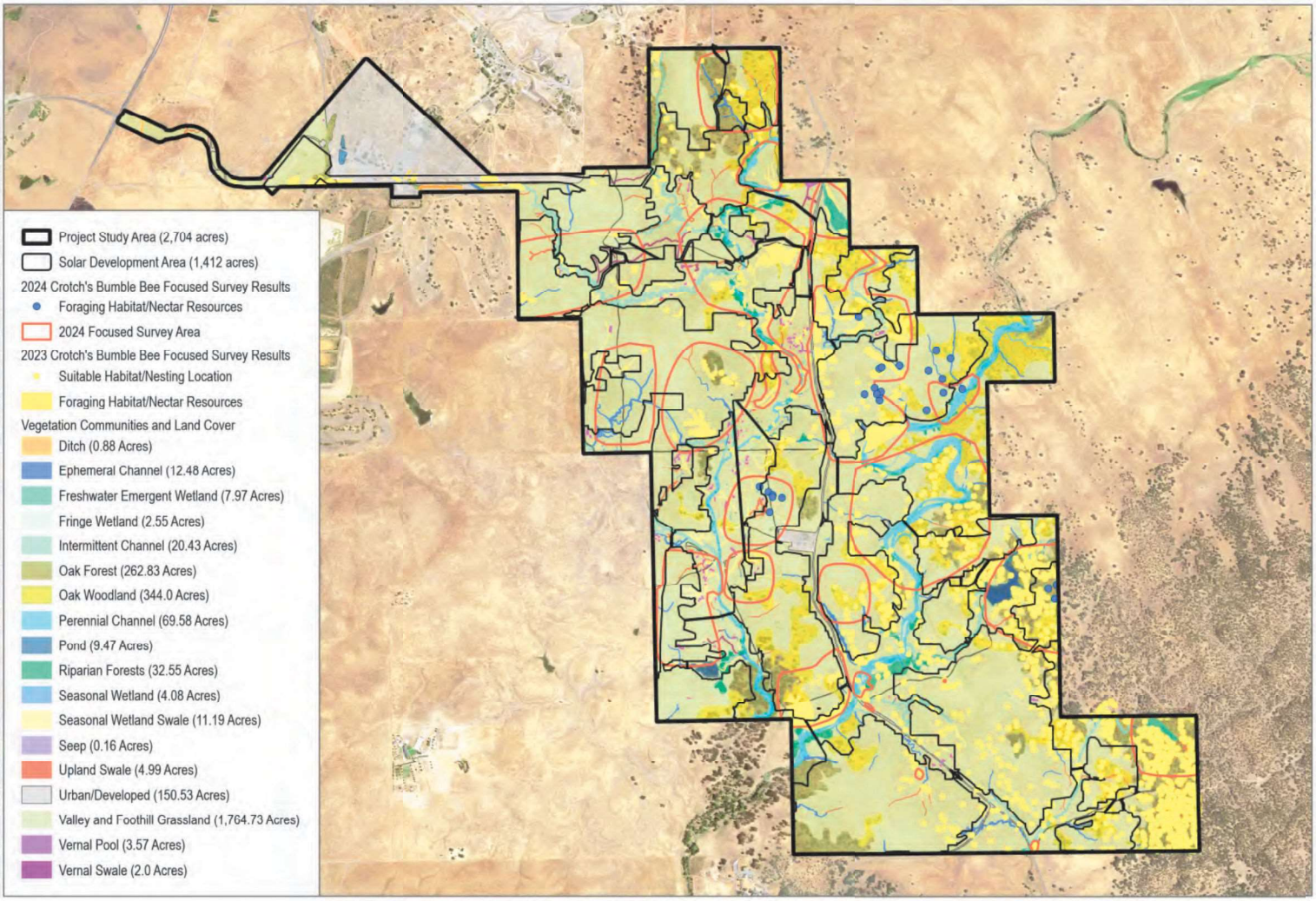

SOURCE:

DUDEK

0 1,250 2,500 Feet

FIGURE 6

Crotch's Bumble Bee Survey Results Compiled 2023-2024

2024 Biological Resources Survey Results Assessment Report Coyote Creek Agrivoltaic Ranch Project

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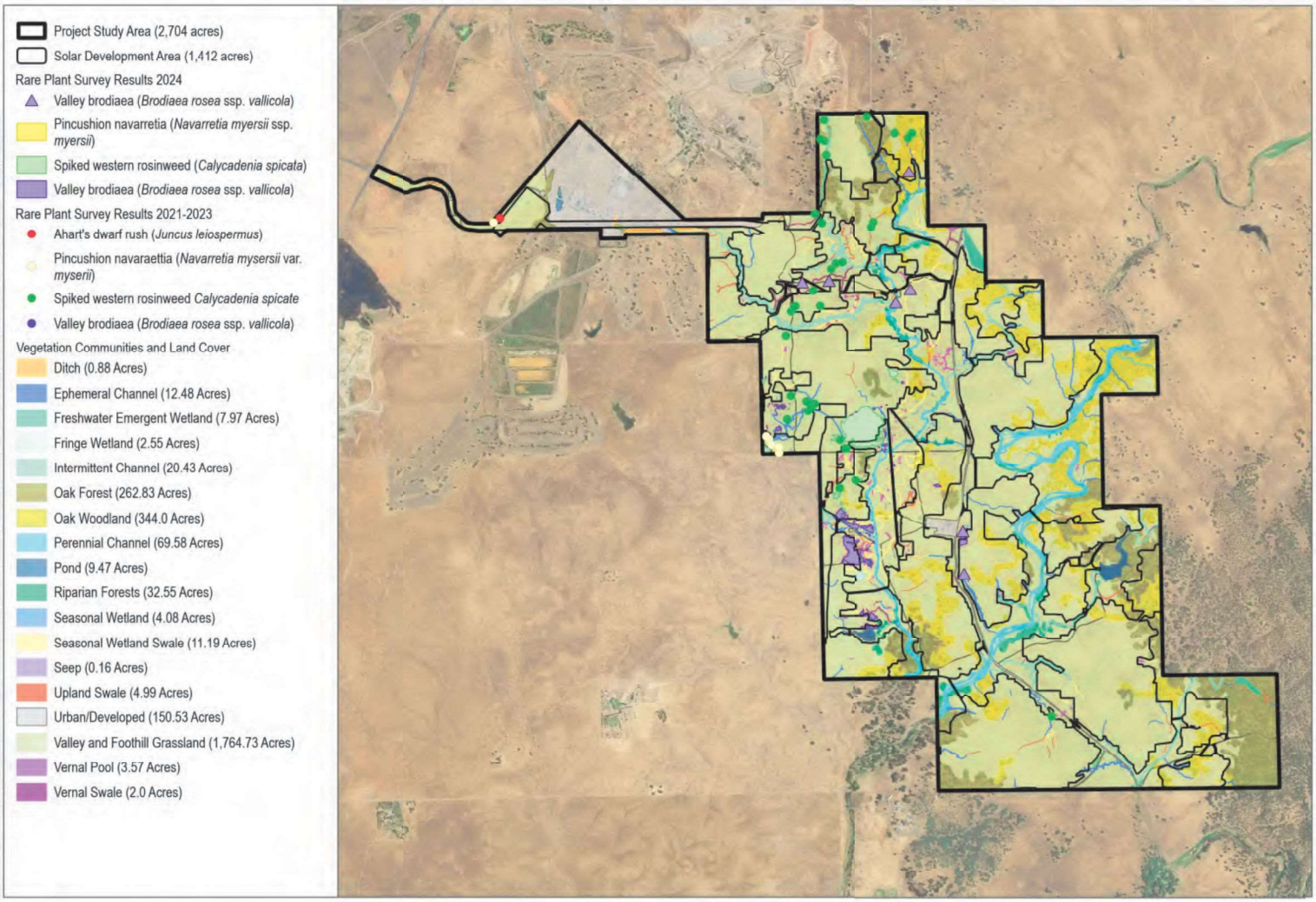

SOURCE:

DUDEK

0 1,250 2,500 Feet

FIGURE 7

Special-Status Plants Survey Results Compiled 2021-2024

2024 Biological Resources Survey Results Assessment Report Coyote Creek Agrivoltaic Ranch Project

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Appendix A
Photo Record

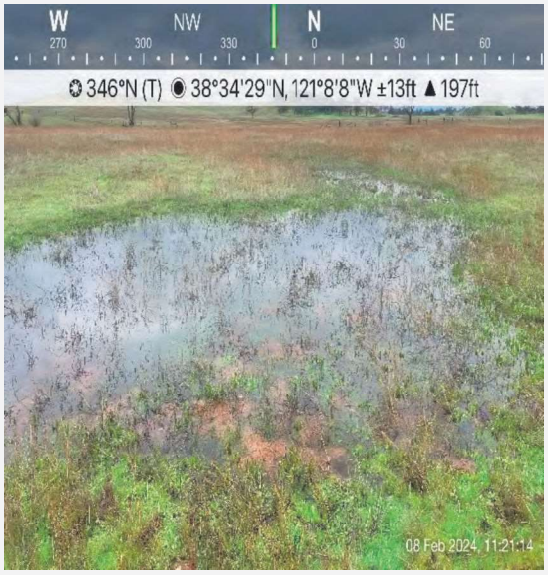

Photo 1 Dudek biologist conducted a Western spadefoot toad (*Spea hamondii*; WEST) habitat assessment of aquatic features identifying features suitable for WEST breeding.

Photo 2. During WEST habitat assessment, Dudek biologists evaluated aquatic features for presence of preadatory amphibians such as American bullfrog (*Rana catesbeiana*).

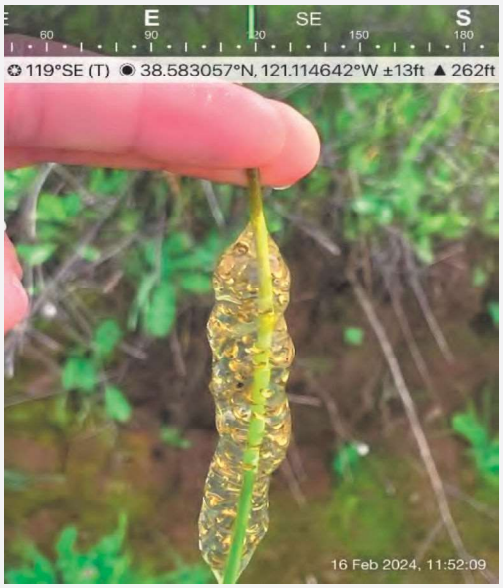

Photo 3. During WEST habitat assessment & night-eyeshine surveys, Dudek biologists evaluated for presence of egg masses. Depicted in photo is an egg mass for Sierran tree frog (*Pseudacris sierra*)

Photo 4. WEST night-eye shine survey protocol entailed biologists meandering transects along aquatics scanning for night-eye shine.

Photo 5 Dudek biologists performed a protocol level burrowing owl (*Athene cunicularia*; BUOW) by performing transects in areas of previously mapped suitable habitat. Depicted are additional burrows mapped within embankment that could support size requirements of BUOW.

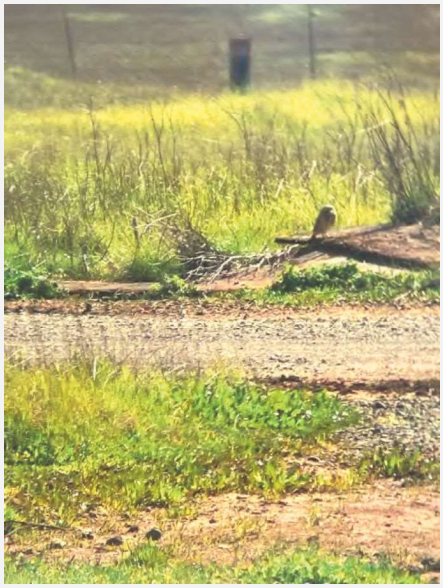

Photo 6. Dudek biologists observed active burrowing owl occupancy on February 28, 2024. BUOW utilizing plywood board and culverts. Observed three adults within the vicinity at coordinates (38.591591°N, 121.171184°W).

Photo 7. Evidence of BUOW pellets with pretty remains observed at plywood depicted in Photo 6 above.

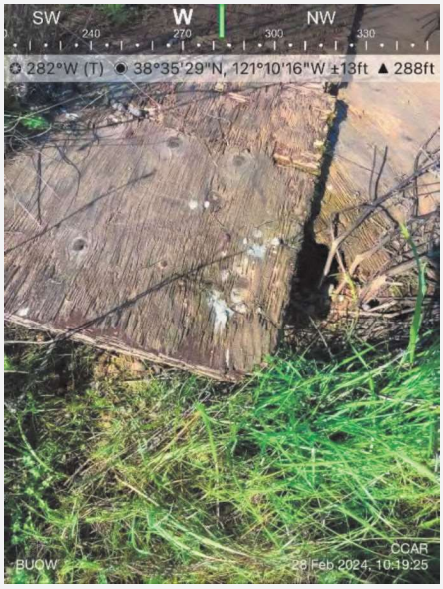

Photo 8. Claw marks and whitewash evidence depicted of active BUOW habitat during first pass survey.

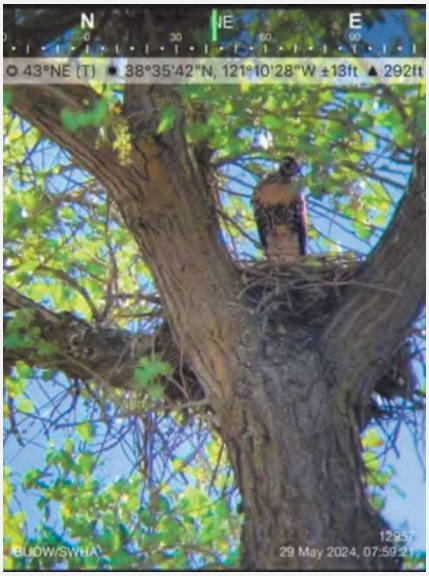

Photo 9: Dudek Biologists observed juvenile red-tailed hawk (*Buteo jamaicensis;* RTHA) nest during Swainson's hawk (*Buteo swainsoni*; SWHA) surveys. Nest outside Project area but within buffer zone.

Photo 10 Dude biologist observed RTHA pair perched on tree documented with a potential SWHA nest in 2021.

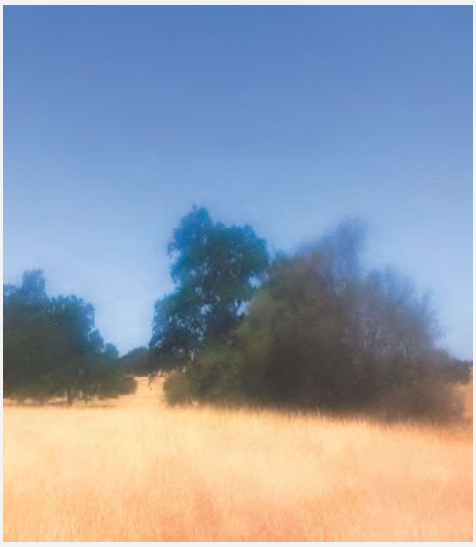

Photo 11 Dudek biologist observed 1 SWHA foraging at coordinates 38.577956°N, 121.30911°W during period 4 surveys. SWHA flew within the area for approximately 30 minutes then flew off-site.

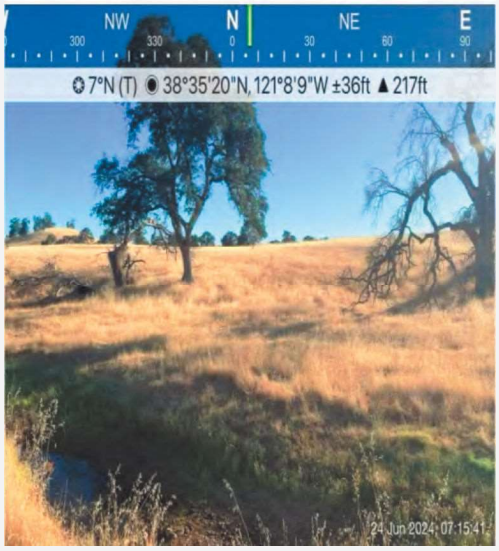

Photo 12 Dudek biologist surveyed during SWHA Period 5 to locate SWHA foraging. None observed during this period.

Photo 13: Van Dyke's bumble bee (*Bombus vandykei*) observed at coordinates 38°34'47"N, 121°7'17"W.

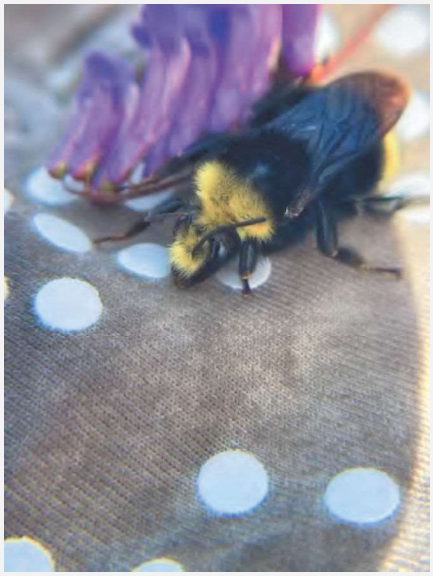

Photo 14: Van Dyke's bumble bee queen captured under SCP permitted biologist. Observed pollinating on hairy vetch (*Vicia villosa*).

Photo 15: yellow bumblebee (*Bombus fervidus*) queen captured under SCP permitted biologist. Observed pollinating on hairy vetch. Photo is displaying long cheek features.

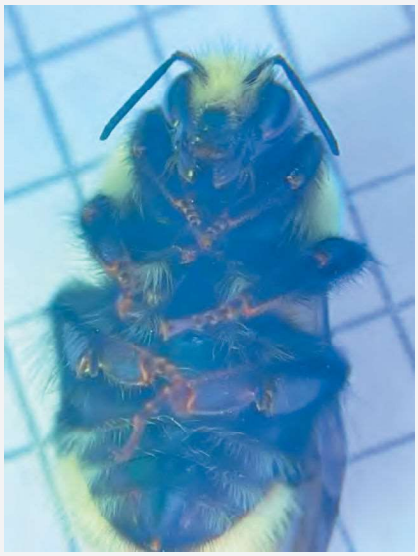

Photo 16: Black tail bumble bee (*Bombus melanopygus*) captured under SCP permitted biologist. Observed pollinating on hairy vetch.

Photo 17. Yellow-faced bumblebee (*Bombus vosnesenskii*) worker observed pollinating on hairy vetch.

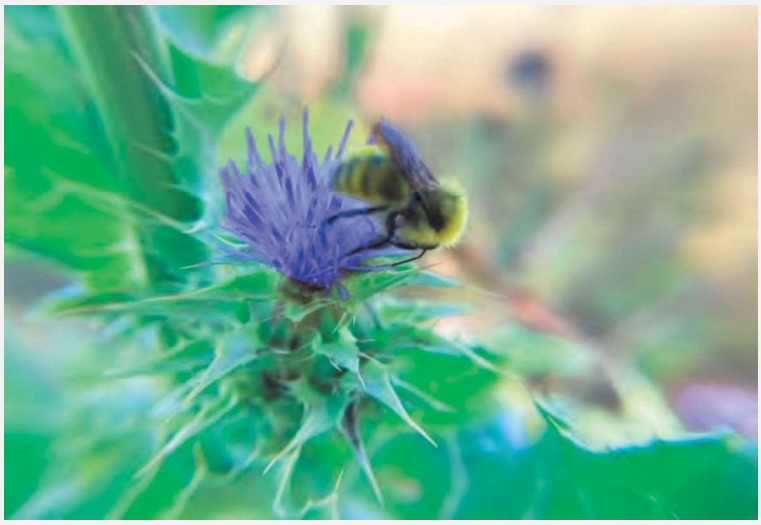

Photo 18. Third pass of CBB surveys entailed noncapture surveys. Observation of preferred pollinating resources of milk thistle (*Silybum marianum*).

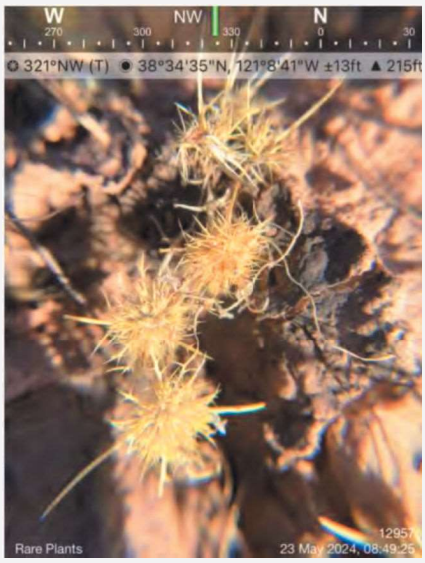

Photo 19: Dudek biologists identified *Navarettia mysersii* ssp. *myersii* within the PSA.

Photo 20: Dudek biologists identified *Calcadenia spicata* within the PSA.

Photo 21: Dudek biologists identified *Brodiaea rosea* ssp. *vallicola* within the PSA.

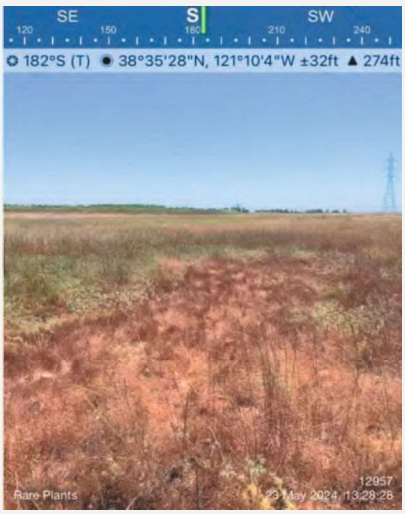

Photo 22: Dudek biologists evaluated previously mapped population of *Juncus leiospermus* var. *heckardii.* Biologists were unable to locate plant counts for 2024 of this species.

Photo 23: Dudek biologists identified tricolored blackbird (*Agelaius tricolor)* as an incidental observation during surveys that took place in June 2024.

Photo 24: Dudek biologists California fairy shrimp (*Linderiella occidentalis*) as an incidental observation during surveys that took place in March 2024.

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Appendix B
Updated Wildlife Compendium

Wildlife Species

Amphibians

FROGS

HYLIDAE – TREEFROGS

Pseudacris sierra – Sierran treefrog[1]

RANIDAE – TRUE FROGS

* *Lithobates catesbeianus* – American bullfrog

Birds

Blackbirds, Orioles and Allies

ICTERIDAE – BLACKBIRDS

Agelaius phoeniceus – red-winged blackbird

Agelaius tricolor – tricolored blackbird

Sturnella neglecta – western meadowlark

* *Molothrus ater* – brown-headed cowbird

Falcons

FALCONIDAE – CARACARAS AND FALCONS

Falco sparverius – American kestrel

Finches

FRINGILLIDAE – FRINGILLINE AND CARDUELINE FINCHES AND ALLIES

Haemorhous mexicanus – house finch

Flycatchers

TYRANNIDAE – TYRANT FLYCATCHERS

Sayornis nigricans – black phoebe

Tyrannus verticalis – western kingbird

Hawks

ACCIPITRIDAE – HAWKS, KITES, EAGLES, AND ALLIES

Buteo jamaicensis – red-tailed hawk

Buteo swainsoni – Swainson's hawk
Haliaeetus leucocephalus – bald eagle

Herons and Bitterns

ARDEIDAE – HERONS, BITTERNS, AND ALLIES

Ardea alba – great egret

Hummingbirds

TROCHILIDAE – HUMMINGBIRDS

Calypte anna – Anna's hummingbird

Jays, Magpies and Crows

CORVIDAE – CROWS AND JAYS

Aphelocoma californica – California scrub-jay
Corvus brachyrhynchos – American crow
Corvus corax – common raven

Mockingbirds and Thrashers

MIMIDAE – MOCKINGBIRDS AND THRASHERS

Mimus polyglottos – northern mockingbird

New World Vultures

CATHARTIDAE – NEW WORLD VULTURES

Cathartes aura – turkey vulture

Owls

TYTONIDAE – BARN OWLS

Tyto alba – barn owl

STRIGIDAE – TYPICAL OWLS

Athene cunicularia – burrowing owl

Pigeons and Doves

COLUMBIDAE – PIGEONS AND DOVES

Zenaida macroura – mourning dove

Quails, Pheasants and Relatives

PHASIANIDAE – PARTRIDGES, GROUSE, TURKEYS, AND OLD-WORLD QUAIL

Meleagris gallopavo – wild turkey

Pavo cristatus – Indian peafowl [1]

Shorebirds

CHARADRIIDAE – LAPWINGS AND PLOVERS

Charadrius vociferus – killdeer

Starlings and Allies

STURNIDAE – STARLINGS

* *Sturnus vulgaris* – European starling

Swallows

HIRUNDINIDAE – SWALLOWS

Petrochelidon pyrrhonota – cliff swallow

Tachycineta bicolor – tree swallow

Thrushes

TURDIDAE – THRUSHES

Turdus migratorius – American robin

Waterfowl

ANATIDAE – DUCKS, GEESE, AND SWANS

Anas platyrhynchos – mallard

Branta canadensis – Canada goose

Woodpeckers

PICIDAE – WOODPECKERS AND ALLIES

Melanerpes formicivorus – acorn woodpecker

Melanerpes lewis – Lewis's woodpecker

New World Sparrows

PASSERELLIDAE – NEW WORLD SPARROWS

Pipilo maculatus – spotted towhee

Cranes

GRUIDAE – CRANES

Antigone canadensis tabida – greater sandhill crane

Mammals

Canids

CANIDAE – WOLVES AND FOXES

Canis latrans – coyote

Hares and Rabbits

LEPORIDAE – HARES AND RABBITS

Lepus californicus – black-tailed jackrabbit

Sylvilagus audubonii – desert cottontail

Rats, Mice, and Voles

CRICETIDAE – RATS, MICE, AND VOLES

Microtus californicus – California vole

Insects

Tarantula Hawks

POMPILIDAE – SPIDER WASPS

Pepsis sp. – tarantula hawk[1]

Bees

APIDAE - BUMBLEBEES

Bombus fervidus – yellow bumble bee [1]

Bombus melanopygus – black tail bumble bee [1]

Bombus vandykei – van Dyke bumble bee [1]

Bombus vosnesenskii – yellow-faced bumble bee [1]

Bombus sp. – bumblebee

Reptiles

Lizards

PHRYNOSOMATIDAE – IGUANID LIZARDS

Sceloporus occidentalis – western fence lizard

* signifies introduced (non-native) species

1 signifies a newly observed species since previous biological resource surveys

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Appendix C
Updated Plant Compendium

Plant Species

Vascular Species

Eudicots

ADOXACEAE – MUSKROOT FAMILY

Sambucus nigra ssp. *caerulea* – blue elderberry

AIZOACEAE – FIG-MARIGOLD FAMILY

Trianthema portulacastrum – desert horsepurslane

AMARANTHACEAE – AMARANPTH FAMILY

* *Amaranthus albus* – prostrate pigweed

Amaranthus blitoides – mat amaranth

ANACARDIACEAE – SUMAC OR CASHEW FAMILY

Toxicodendron diversilobum – poison oak

Pistacia chinensis – Chinese pistache

APIACEAE – CARROT FAMILY

* *Daucus carota* – Queen Anne's lace

* *Daucus pusillus* – American wild carrot

Eryngium aristulatum – California button-celery

Eryngium castrense – Great Valley eryngo

Lomatium caruifolium – alkali desertparsley

Lomatium utriculatum – common lomatium

Osmorhiza berteroi – sweetcicely

Sanicula bipinnatifida – purple sanicle

* *Torilis arvensis* – spreading hedgeparsley

APOCYNACEAE – DOGBANE FAMILY

Asclepias fascicularis – Mexican whorled milkweed

Asclepias speciosa – showy milkweed

ASTERACEAE – SUNFLOWER FAMILY

Achillea millefolium – common yarrow

Agoseris sp. – dandelion species

* *Anthemis cotula* – stinking chamomile

* *Artemisia californica* – California sagebrush

Artemisia douglasiana – California mugwort

Baccharis pilularis – coyote brush
Bidens frondosa – devil's beggartick
Blennosperma nanum – common stickyseed
Calycadenia spicata – spiked western rosinweed
Carduus tenuiflorus – winged thistle
* *Carduus pycnocephalus* – Italian plumeless thistle
* *Carduus tenuiflorus* – slender-flowered thistle
* *Centaurea solstitialis* – yellow star-thistle
Centromadia fitchii – Fitch's tarweed
* *Chondrilla juncea* – rush skeletonweed
* *Cichorium intybus* – chicory
* *Cirsium vulgare* – bull thistle
* *Cotula coronopifolia* – brass buttons
* *Dittrichia graveolens* – stinkwort
Erigeron foliosus – leafy fleabane
Gnaphalium palustre – western marsh cudweed
Grindelia camporum – Great Valley gumweed
Helianthus annuus – common sunflower
Holocarpha virgata – yellowflower tarweed
Holozonia filipes – whitecrown
* *Hypochaeris glabra* – smooth cat's ear
* *Hypochaeris radicata* – hairy cat's ear
* *Lactuca serriola* – prickly lettuce
* *Lactuca virosa* – wild lettuce
Lagophylla glandulosa – glandular hareleaf
Lasthenia californica ssp. *californica* – California goldfields
Lasthenia fremontii – Fremont's goldfields
Lasthenia glaberrima – smooth goldfields
Layia chrysanthemoides – smooth tidytips
Layia fremontii – Fremont's tidy-tips
* *Leontodon saxatilis* – lesser hawkbit
Lessingia virgata – wand lessingia
* *Logfia gallica* – narrowleaf cottonrose
Madia elegans – common madia
Matricaria discoidea – disc mayweed
Micropus californicus var. *californicus* – q-tips
Microseris douglasii ssp. *douglasii* – Douglas' silverpuffs
Pseudognaphalium californicum – ladies' tobacco
Psilocarphus brevissimus – short woollyheads
Psilocarphus tenellus – slender woollyheads

* *Senecio vulgaris* – old-man-in-the-Spring
* *Silybum marianum* – blessed milkthistle
* *Soliva sessilis* – field burweed
* *Sonchus asper* – spiny sowthistle

Uropappus lindleyi – Lindley's silverpuffs

* *Wyethia angustifolia – California compassplant*

Xanthium strumarium – cocklebur

BORAGINACEAE – BORAGE FAMILY

Amsinckia menziesii – Menzies' fiddleneck

Amsinckia eastwoodiae - Eastwood's fiddleneck

Phacelia cicutaria var. *cicutaria* – caterpillar phacelia

Phacelia heterophylla – varileaf phacelia

Plagiobothrys bracteatus – bracted popcornflower

Plagiobothrys greenei – Greene's popcornflower

Plagiobothrys leptocladus – finebranched popcornflower

Plagiobothrys nothofulvus – popcorn flower

Plagiobothrys stipitatus var. *micranthus* – stalked popcornflower

Plagiobothrys stipitatus – stalked popcornflower

Plagiobothrys trachycarpus – roughfruit popcornflower

BRASSICACEAE – MUSTARD FAMILY

* *Brassica nigra* – black mustard
* *Brassica rapa* – field mustard
* *Capsella bursa-pastoris* – shepherd's purse

Cardamine californica – milkmaids

* *Hirschfeldia incana* – shortpod mustard

Lepidium nitidum – shining pepperweed

Nasturtium officinale – watercress

* *Raphanus raphanistrum* – wild radish

Rorippa palustris ssp. *palustris* – hispid yellowcress

* *Sisymbrium officinale* – hedgemustard

Thysanocarpus radians - fringepod

CAMPANULACEAE – BELLFLOWER FAMILY

Downingia bicornuta var. *bicornuta* - Double-horn calicoflower

Downingia cuspidate - toothed calicoflower

Downingia ornatissima var. *ornatissima* – folded calicoflower

CARYOPHYLLACEAE – PINK FAMILY

* *Cerastium glomeratum* – sticky chickweed

Minuartia cismontana – cismontane minuartia
* *Petrorhagia dubia* – hairypink
* *Silene gallica* – common catchfly
* *Spergularia rubra* – red sandspurry
* *Stellaria media* – common chickweed

CHENOPODIACEAE – GOOSEFOOT FAMILY

* *Salsola tragus* – prickly Russian thistle

CONVOLVULACEAE – MORNING-GLORY FAMILY

* *Convolvulus arvensis* – field bindweed
Cuscuta sp. – dodder species

CRASSULACEAE – STONECROP FAMILY

Crassula connata – sand pygmyweed
Dudleya cymosa – canyon liveforever
Sedella pumila – Sierra mock stonecrop

ERICACEAE – HEATHER FAMILY

Arctostaphylos sp. – manzanita

EUPHORBIACEAE – SPURGE FAMILY

Croton setiger – dove weed
Euphorbia serpyllifolia – thymeleaf sandmat
Euphorbia sp. – spurge species

FABACEAE – LEGUME FAMILY

Acmispon americanus – Spanish clover
Cercis canadensis – eastern redbud
Lupinus bicolor – miniature lupine
Lupinus microcarpus – valley lupine
* *Medicago lupulina* – black medick
* *Medicago polymorpha* – burclover
* *Melilotus indicus* – sour clover
* *Robinia pseudoacacia* – black locust
* *Trifolium campestre* – field clover
Trifolium depauperatum var. *depauperatum* – cowbag clover
Trifolium depauperatum – cowbag clover
* *Trifolium dubium* – suckling clover
* *Trifolium fragiferum* – strawberry clover
* *Trifolium glomeratum* – clustered clover
* *Trifolium hirtum* – rose clover

Trifolium macrocephalum – largehead clover
* *Trifolium repens* – white clover
* *Trifolium subterraneum* – subterranean clover
* *Trifolium tomentosum* – woolly clover
Trifolium variegatum – white-tip clover
Trifolium willdenovii – tomcat clover
Trifolium wormskioldii – cows clover
Vicia americana ssp. *americana* – American vetch
* *Vicia sativa* ssp. *sativa* – garden vetch
* *Vicia villosa* – winter vetch

FAGACEAE – OAK FAMILY

Quercus chrysolepis – canyon live oak
Quercus douglasii – blue oak
Quercus kelloggii – California black oak
Quercus lobata – valley oak
Quercus wislizeni – interior live oak

GENTIANACEAE – GENTIAN FAMILY

* *Centaurium tenuiflorum* – slender centaury
Zeltnera muehlenbergii – Muhlenberg's centaury
Zeltnera sp. – centaury species

GERANIACEAE – GERANIUM FAMILY

* *Erodium botrys* – longbeak stork's bill
* *Erodium brachycarpum* – shortfruit stork's bill
* *Erodium cicutarium* – redstem stork's bill
* *Erodium moschatum* – musky stork's bill
* *Geranium dissectum* – cutleaf geranium
* *Geranium molle* – dovefoot geranium

HYPERICACEAE – ST. JOHN'S WORT FAMILY

* *Hypericum perforatum* – common St. Johnswort

JUGLANDACEAE – WALNUT FAMILY

Juglans hindsii – Northern California black walnut
* *Juglans regia* – English walnut

LAMIACEAE – MINT FAMILY

* *Lamium amplexicaule* – henbit deadnettle
* *Mentha x rotundifolia* – apple mint
* *Mentha arvensis* – wild mint

* *Mentha pulegium* – pennyroyal
Pogogyne douglasii - Douglas' mesamint
Pogogyne zizyphoroides – Sacramento mesamint
Stachys albens – whitestem hedgenettle
Trichostema lanceolatum – vinegarweed

LENTIBULARIACEAE – BLADDERWORT FAMILY

Utricularia gibba – humped bladderwort

LIMNANTHACEAE – MEADOWFOAM FAMILY

Limnanthes douglasii ssp. *douglasii* – Douglas' meadowfoam
Limnanthes douglasii ssp. *rosea* – Douglas' meadowfoam

LINACEAE – FLAX FAMILY

Hesperolinon californicum – California dwarf-flax
* *Linum bienne* – pale flax

LINDERNIACEAE – FALSE-PIMPERNEL FAMILY

Lindernia dubia – yellowseed false pimpernel

LYTHRACEAE – LOOSESTRIFE FAMILY

* *Lythrum hyssopifolia* – hyssop loosestrife
Lythrum sp. – loosestrife species

MALVACEAE – MALLOW FAMILY

* *Malva nicaeensis* – bull mallow
Malvella leprosa – alkali mallow
Sidalcea hartwegii – Hartweg's checkbloom

MONTIACEAE – MONTIA FAMILY

Calandrinia ciliate - red maids
Claytonia perfoliata ssp. *perfoliata* – miner's lettuce

MORACEAE – MULBERRY FAMILY

* *Ficus carica* – edible fig

MYRSINACEAE – MYRSINE FAMILY

* *Lysimachia arvensis* – scarlet pimpernel
Lysimachia minima - chaffweed

OLEACEAE – OLIVE FAMILY

Fraxinus angustifolia sub sp. *oxycarpa* – raywood ash

ONAGRACEAE – EVENING PRIMROSE FAMILY

Clarkia purpurea – winecup clarkia
Clarkia unguiculata – elegant clarkia
Cordylanthus pilosus ssp. hansenii - Hansen's birds-beak
Epilobium campestre – smooth spike-primrose
Epilobium densiflorum – denseflower willowherb
Epilobium torreyi – Torrey's willowherb
* *Ludwigia hexapetala* – no common name
* *Ludwigia peploides* – floating primrose-willow

OROBANCHACEAE – BROOM-RAPE FAMILY

Castilleja attenuata – attenuate Indian paintbrush
Castilleja exserta ssp. *exserta* – exserted Indian paintbrush
Castilleja lemmonii – Lemmon's Indian paintbrush
* *Parentucellia viscosa* – yellow glandweed
Triphysaria eriantha – johnny-tuck
Triphysaria pusilla – dwarf owl's-clover

OXALIDACEAE – OXALIS FAMILY

* *Oxalis micrantha* – dwarf woodsorrel

PAPAVERACEAE – POPPY FAMILY

Eschscholzia caespitosa – tufted poppy
Eschscholzia californica – California poppy
Eschscholzia lobbii – fryingpans

PHRYMACEAE – LOPSEED FAMILY

Diplacus tricolor – tricolor monkeyflower
Erythranthe guttata – common monkey flower

PLANTAGINACEAE – PLANTAIN FAMILY

Callitriche marginata – winged water-starwort
Gratiola ebracteate – bractless hedgehyssop
* *Kickxia elatine* – sharpleaf cancerwort
* *Plantago coronopus* – buckhorn plantain
Plantago erecta – dwarf plantain
* *Plantago lanceolata* – narrowleaf plantain
* *Plantago major* – common plantain
* *Plantago* sp. – plantain species
* *Plantago virginica* – dwarf plantain
* *Platanus* × *acerifolia* – London plantree
* *Platanus racemose* – California sycamore

* *Veronica anafgallis-aquatica* – water speedwell
Veronica peregrina ssp. *xalapensis* – hairy purslane speedwell

POLEMONIACEAE – PHLOX FAMILY

Leptosiphon bicolor – true babystars
Navarretia intertexta – needleleaf navarretia
Navarretia leucocephala – whitehead navarretia
Navarretia myersii ssp. *myersii* – Pincushion navarretia
Navarretia pubescens – downy pincushionplant

POLYGONACEAE – BUCKWHEAT FAMILY

Eriogonum nudum – naked buckwheat
Persicaria amphibia – longroot smartweed
Persicaria hydropiperoides – swamp smartweed
* *Polygonum aviculare* – prostrate knotweed
* *Polygonum argyrocoleon* - Persian knotweed
* *Rumex acetosella* – common sheep sorrel
* *Rumex crispus* – curly dock
* *Rumex pulcher* – fiddle dock

PRIMULACEAE – PRIMROSE FAMILY

Primula clevelandii var. *patula* – no common name

RANUNCULACEAE – BUTTERCUP FAMILY

Delphinium variegatum ssp. *variegatum* – royal larkspur
Ranunculus aquatilis – white water crowfoot
Ranunculus bonariensis – Carter's buttercup
Ranunculus californicus – California buttercup
Ranunculus canus – Sacramento Valley buttercup
* *Ranunculus muricatus* – spinyfruit buttercup
Ranunculus occidentalis – western buttercup
Ranunculus pusillus – low spearwort

RHAMNACEAE – BUCKTHORN FAMILY

Frangula californica spp. californica – California coffeeberry

ROSACEAE – ROSE FAMILY

Heteromeles arbutifolia – toyon
Potentilla sp. – cinquefoil species
Prunus ilicifolia ssp. *ilicifolia* – holly-leaf cherry
Rosa californica – California rose
* *Rubus armeniacus* – Himalayan blackberry

RUBIACEAE – MADDER FAMILY

Cephalanthus occidentalis – button willow
Galium aparine – stickywilly
Sherardia arvensis – field madder

SALICACEAE – WILLOW FAMILY

Populus deltoides – eastern cottonwood
Populus fremontii – Fremont cottonwood
Salix exigua – sandbar willow
Salix gooddingii – Goodding's willow
Salix laevigata – red willow
Salix lasiolepis – arroyo willow

SAPINDACEAE – SOAPBERRY FAMILY

Acer saccharinum – silver maple
Aesculus californica – California buckeye

SOLANACEAE – NIGHTSHADE FAMILY

* *Solanum furcatum* – forked nightshade

TAMARICACEAE – TAMARISK FAMILY

Tamarix chinensis – five-stamen tamarisk

VALERINACEAE – HONEYSUCKLE FAMILY

Plectritis ciliosa – long-spur seablush

VERBENACEAE – VERVAIN FAMILY

Phyla nodiflora – turkey tangle fogfruit
Verbena bracteata – bigbract verbena

VITACEAE – GRAPE FAMILY

* *Vitis vinifera* – wine grape

Fern and Fern Allies

AZOLLACEAE – MOSQUITO FERN FAMILY

Azolla filiculoides – Pacific mosquitofern

MARSILEACEAE – MARSILEA FAMILY

Marsilea vestita – hairy waterclover

Monocots

AGAVACEAE – AGAVE FAMILY

Chlorogalum angustifolium – *narrow-leaved soap plant*
Chlorogalum pomeridianum – wavyleaf soap plant

ALISMATACEAE – WATER-PLANTAIN FAMILY

* *Alisma lanceolatum* – lanceleaf water plantain
Damasonium californicum – California damsonium
Sagittaria montevidensis ssp. *calycina* – hooded arrowhead

ALLIACEAE – ONION FAMILY

Allium amplectens – narrowleaf onion
Allium peninsulare var. *peninsulare* – penisula onion
Allium sp. – onion species

ARACEAE- NO COMMON NAME

Lemna sp. – duckweed species

ASPARAGACEAE – ASPARAGUS FAMILY

Dipterostemon capitatus – blue dicks

CYPERACEAE – SEDGE FAMILY

Carex. ssp. – sedge species
Cyperus eragrostis – tall flatsedge
Eleocharis macrostachya – pale spike rush
Isolepis cernua – low bulrush
Schoenoplectus acutus – hardstem bulrush

IRIDACEAE – IRIS FAMILY

Iris sp. – iris species
Sisyrinchium bellum – western blue-eyed grass

JUNCACEAE – RUSH FAMILY

Juncus balticus – no common name
Juncus bufonius var. *bufonius* – toad rush
Juncus capitatus – Leafybract dwarf rush
Juncus leiospermus var. *ahartii* – Ahart's rush
Juncus occidentalis – western rush
Juncus xiphioides – irisleaf rush

JUNCAGINACEAE – ARROWGRASS FAMILY

Triglochin scilloides – Awl-leaf lilaea

LILIACEAE – LILY FAMILY

Calochortus luteus – yellow mariposa lily

POACEAE – GRASS FAMILY

* *Aegilops triuncialis* – barbed goatgrass
* *Agrostis capillaris* – colonial bentgrass
* *Agrostis stolonifera* – creeping bentgrass
* *Aira caryophyllea* – silver hairgrass

Alopecurus saccatus – Pacific foxtail

Aristida oligantha - oldfield three-awn

* *Avena barbata* – slender oat
* *Brachypodium distachyon* – purple false brome
* *Briza maxima* – big quakinggrass
* *Briza minor* – little quakinggrass
* *Bromus diandrus* – ripgut brome
* *Bromus hordeaceus* – soft brome
* *Bromus madritensis* – compact brome
* *Crypsis schoenoides* – swamp pricklegrass
* Cynodon dactylon – Bermudagrass
* *Cynosurus echinatus* – annual dogtails

Deschampsia danthonioides – annual hairgrass

Distichlis spicata – salt grass

Echinochloa crus-galli – barnyard grass

* *Elymus caput-medusae* – medusahead
* *Festuca myuros* – rat-tail fescue
* *Festuca perennis* – perennial rye grass
* *Glyceria declinata* – low manna grass
* *Hordeum marinum* ssp. *gussoneanum* – Mediterranean barley
* *Hordeum marinum* – seaside barley
* *Hordeum murinum* – mouse barley

Koeleria macrantha – prairie Junegrass

Melica californica – California melicgrass

* *Paspalum dilatatum* – dallisgrass

Paspalum distichum – knotgrass

* *Phalaris aquatica* – Harding grass
* *Phalaris canariensis* – annual canarygrass

Pleuropogon californicus var. *californicus* – annual semaphoregrass

* *Poa bulbosa* – bulbous bluegrass
* *Poa annua* – annual bluegrass
* *Poa pratensis* – Kentucky blue grass
* *Polypogon monspeliensis* – annual rabbitsfoot grass

* *Polypogon* sp. – rabbitsfoot grass species
* *Sorghum halepense* – Johnsongrass
  Stipa cernua – nodding needlegrass

PONTEDERIACEAE – PICKEREL-WEED FAMILY

* *Eichhornia crassipes* – common water hyacinth

POTAMOGETONACEAE – PONDWEED FAMILY

Potamogeton sp. – pondweed species

TECOPHILAEACEAE – NO COMMON NAME

Odontostomum hartwegii – Hartweg's doll's-lily

THEMIDACEAE – BRODIAEA FAMILY

Brodiaea coronaria – crown brodiaea
Brodiaea elegans – harvest brodiaea
Brodiaea minor – Purdy's brodiaea
Dichelostemma volubile – twining snakelily
Dipterostemon capitatus ssp. *capitatus* – bluedicks
Dipterostemon capitatus – bluedicks
Triteleia hyacinthina – white brodiaea
Triteleia ixioides – prettyface
Triteleia laxa – Ithuriel's spear

TYPHACEAE – CATTAIL FAMILY

Typha latifolia – broadleaf cattail

Aquatic Resources Delineation Report

Coyote Creek Agrivoltaic Ranch Project

AUGUST 2023

REVISED FEBRUARY 2024 (SACRAMENTO COUNTY)

Prepared for:

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A California Department of Fish and Wildlife and Regional Water Quality Control Board Jurisdictional Resources
B Photo Record
C Observed Plant Species Compendium
D Sample Point and Transect Summary
E Antecedent Precipitation Tool Outputs
F Datasheets

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
ALTA	American Land Title Association
amsl	above mean sea level
APN	Assessor's Parcel Number
APT	Antecedent Precipitation Tool
CDFW	California Department of Fish and Wildlife
CWA	Clean Water Act
DEM	Digital Elevation Model
FAC	Facultative
FACW	Facultative Wetland
FACU	Facultative Upland
FEMA	Federal Emergency Management Agency
FGC	Fish and Game Code
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
NWW	Non-Wetland Water
OBL	Obligate
OHWM	ordinary high water mark
Porter-Cologne	Porter-Cologne Water Quality Control Act
Project	Coyote Creek Agrivoltaic Ranch Project
PSA	Project Study Area
Report	Aquatic Resources Delineation Report
RWQCB	Regional Water Quality Control Board
SMUD	Sacramento Municipal Utility District
SSHCP	South Sacramento Habitat Conservation Plan
SVRA	State Vehicular Recreation Area
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UPL	Upland

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1 Executive Summary

This Aquatic Resources Delineation Report (report) was prepared for the Coyote Creek Agrivoltaic Ranch Project (Project) in accordance with the U.S. Army Corps of Engineers (USACE) *Sacramento District Minimum Standards for Acceptance of Aquatic Resources Delineation Reports* (USACE 2016). The delineation was conducted to identify and map existing aquatic resources potentially subject to the regulatory jurisdiction of the USACE pursuant to Section 404 of the Clean Water Act (CWA). Dudek conducted a field delineation between April through August 2021 to identify aquatic resources in the approximately 2,704-acre Project Study Area (PSA) that may be potentially subject to agency jurisdiction pursuant to regulations in Section 404 of the CWA. The PSA is comprised of the Solar Development Area (1,412 acres), and the Adjacent Other Lands (1,292 acres). Specifically, the Solar Development Area. Note that no changes or physical alternation to the PSA have occurred since the delineation was performed. Table 1 summarizes all aquatic resources delineated within the PSA.

Table 1. Summary of Aquatic Resources in the Project Study Area (PSA)

Feature Type	Cowardin Code[1]	Total Aquatic Resources in the PSA[2]	
		Acres	Linear Feet
Wetlands			
Freshwater Emergent Wetland	PEM	8.00	—
Fringe Wetland	PEM	2.55	—
Pond	PEM	9.47	—
Seasonal Wetland	R6	4.10	—
Seasonal Wetland Swale	R6	11.26	38,762.39
Seep	R6	0.16	—
Vernal Pool	PEM	3.57	—
Vernal Swale	R6	2.02	6,341.94
	Total Wetlands	*41.13*	*45,104.33*
Non-Wetland Waters (NWWs)			
Ditch	U	0.89	2,227.07
Ephemeral Channel	R6	7.22	49,926.86
Intermittent Channel	R4, R5	6.13	43,985.08
Perennial Channel	R2	32.51	34,276.08
Upland Swale	U	5.0	25,099.18
	Total NWWs	*51.74*	*155,514.28*
	Total	**92.87**	**200,618.60**

Source: USFWS 2013.

Notes:

1 Cowardin Code: PEM= emergent, palustrine; R2= lower perennial, riverine; R3 = upper perennial, riverine; R4 = intermittent, riverine; R5 = unknown perennial, riverine; R6 = riverine, ephemeral (a wetland, spring, stream, river, pond, or lake that only exists for a short period); U = upland.

2 The total aquatic resources within the PSA includes all aquatic resources delineated in the PSA, including water of the United States and waters of the state. Waters of the state are summarized in Appendix A, California Department of Fish and Wildlife and Regional Water Quality Control Board Jurisdictional Resources of this report.

Disclaimer Statement

This report presents Dudek's best effort to quantify the extent of aquatic resources potentially regulated by USACE within the identified review areas using the current regulations, written policies, and guidance from these regulatory agencies. The potential jurisdictional boundaries described in this report are preliminary and subject to verification by the USACE Sacramento District. Only the USACE can make a final determination on whether the features present are subject to their jurisdiction under CWA Section 404. The report is based on the current regulations of the U.S. Army Corps of Engineers regarding the definition of "Waters of the United States" and may be modified in the event that the regulations are modified in response to the decision of the U.S. Supreme Court in *Sackett v. EPA.*

Contact Information for Site Access

Sacramento Valley Energy Center. LLC is the Project owner and will act as the primary point of contact.

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2 Introduction

This report documents the methods, results, and conclusions of the aquatic resources delineation conducted within the approximately 2,704.0-acre Project Study Area (PSA) of the Coyote Creek Agrivoltaic Ranch Project (Project) (Figure 1, Project Study Area Overview). This report does not assess impacts to aquatic resources. For an assessment of temporary, permanent, and indirect impacts to aquatic resources, please reference the Biological Technical Report. This report identifies the potentially jurisdictional aquatic resources within the PSA that may be subject to agency jurisdiction pursuant to regulations in Section 404 of the CWA. This report was produced in accordance with the USACE Sacramento District Minimum Standards for Acceptance of Aquatic Resources Delineation Reports (USACE 2016), the USACE Wetland Delineation Manual (USACE 1987), the USACE Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE 2008a), and the USACE Field Guide to the Identification of the OHWM in the Arid West Region of the Western United States (USACE 2008b). The results of this delineation are considered preliminary until verified by the Sacramento District of USACE.

Furthermore, the delineation conducted within the PSA also defined areas under the jurisdiction of California Department of Fish and Wildlife (CDFW), pursuant to Sections 1600 through 1603 of the California Fish and Game Code (FGC), and the Regional Water Quality Control Board (RWQCB), pursuant to CWA Section 401 and the Porter–Cologne Water Quality Control Act (Porter-Cologne). For additional detail regarding these state jurisdictions, see Appendix A, California Department of Fish and Wildlife and Regional Water Quality Control Board Jurisdictional Resources.

2.1 Project Description

The Project proposes to construct and operate an approximately 200-megawatt alternating current photovoltaic solar energy generating facility and include an on-site substation, inverters, fencing, roads, and a supervisory control and data acquisition system. The energy storage components would include an approximately 100-megawatt alternating current power output with approximately 400-megawatt hours of capacity energy storage system. The site of the Project, Barton Ranch, has an existing easement for access and utilities that go from Barton Ranch to the intersection of Grantline Road and White Rock Road. The Project's gen-tie is approximately 1.3 miles long, where a new switchyard will be constructed to interconnect into Sacramento Municipal Utility District's (SMUD) 230 kilovolt powerlines in proximity to the Prairie City State Vehicle Recreation Area (SVRA).

2.2 Project Location and Directions

The PSA (2,704.0 acres) is comprised of the 'Solar Development Area' (1,412.0 acres), and the 'Adjacent Other Lands (1,292.0 acres) (Figure 2, Project Setting). The PSA is located on the Barton Ranch, with the mid-point of the property being located at 3830 Scott Road, Sacramento County, California. The site is approximately 2.5 miles south of White Rock Road in the community of Cosumnes. The Project site is located approximately 4.5 miles south of U.S. Route 50, southeast of the Prairie City SVRA and is bisected by Scott Road. A gen-tie line would extend approximately 1.3 miles to the west to provide an interconnection to the SMUD 230 kilovolt powerline which runs through Prairie City SVRA.

- **County:** Sacramento
- **Public Land Survey System:** S5-8,31-32,35-36; T08-09N; R07-08E
- **U.S. Geological Survey (USGS) 7.5-Minute Quadrangle:** Buffalo Creek (west) and Folsom (east)
- **Latitude, Longitude (Decimal Degrees):** 38.577701°, -121.132232° (centroid)
- **Elevation Range:** 95 to 160 feet above mean sea level (amsl); Average Range: 128 feet amsl
- **PSA:** 2,704 acres
- **Assessor Parcel Numbers (APNs):** See Table 2 below.

Table 2. Assessors Parcels within the Project Study Area

Assessor's Parcel Number	Total Approximate Acreage
072-0100-016	2.40
072-0100-017	13.69
072-0100-018	38.56
072-0110-022	3.05
072-0110-045	7.70
072-0110-066	36.82
072-0110-067	79.87
072-0110-069	83.73
072-0110-070	80.89
072-0110-071	81.07
072-0110-069	55.22
072-0110-073	41.52
072-0110-074	27.16
072-0110-075	18.27
072-0110-076	27.97
072-3160-003	2.22
073-0010-026	0.09
073-0020-008	4.98
073-0020-015	29.75
073-0020-022	13.77
073-0020-029	11.26
073-0020-032	15.76
073-0020-033	13.19
073-0020-034	78.74
073-0020-035	38.05
073-0020-036	39.14
073-0020-037	39.19
073-0020-038	12.33
073-0020-039	73.46
073-0020-040	57.80

Table 2. Assessors Parcels within the Project Study Area

Assessor's Parcel Number	Total Approximate Acreage
073-0020-041	40.06
073-0020-042	73.57
073-0020-043	48.59
073-0020-044	52.42
073-0020-045	105.13
073-0020-046	4.17
073-0020-048	5.53
073-0020-049	41.05
073-0020-050	55.84
073-0020-051	78.46
073-0020-052	83.43
073-0020-053	33.84
073-0020-054	85.35
073-0020-055	6.14
073-0020-056	68.48
073-0020-057	40.48
073-0020-058	66.31
073-0020-059	73.36
073-0020-060	36.97
073-0020-061	80.44
073-0020-062	12.28
073-0020-063	11.57
073-0020-064	62.81
073-0020-065	17.81
073-0020-066	39.88
073-0020-067	11.84
073-0020-068	9.70
073-0020-069	17.17
073-0020-070	39.61
073-0020-071	15.33
073-0020-072	42.92
073-0020-073	5.62
073-0020-074	32.13
073-0020-075	6.37
073-0020-076	2.07
073-0020-077	29.46
073-0050-015	0.33
073-0050-040	1.96
073-0050-041	11.96

Table 2. Assessors Parcels within the Project Study Area

Assessor's Parcel Number	Total Approximate Acreage
073-0050-043	5.29
073-0050-050	10.84
072-3160-002	41.70
072-0100-027	63.41
072-0100-018	51.25
072-0110-031	6.75
072-0110-068*	45.42

Notes: * 072-0110-068 should be updated by the Assessor's Office because the portion of this Assessor's Parcel Number used by the project is currently under the legal description of another parcel.

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3 Methodology

3.1 Pre-Field Assessment

3.1.1 Database Evaluation

Prior to conducting fieldwork, Dudek reviewed the following available resources to identify portions of the PSA with a probability for containing potential jurisdictional aquatic resources:

- Antecedent Precipitation Tool (APT) (USACE 2023)
- California Aquatic Resources Inventory (SFEI 2021)
- California EcoAtlas (SFEI 2023)
- Federal Emergency Management Agency's (FEMA) National Flood Hazard Layer (FEMA 2023)
- Google Earth current and historical aerial imagery (Google Earth 2023)
- Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2023a)
- South Sacramento Habitat Conservation Plan (SSHCP) (County of Sacramento 2018)
- U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) Mapper (USFWS 2023)
- USGS Historical Topographical map data (USGS 2023a)
- USGS Historical National Hydrography Dataset (USGS 2023b)

3.1.2 Desktop Aquatic Resource Modeling

From December 7 through 16, 2020, Dudek completed American Land Title Association (ALTA) and National Society of Professional Surveyors standard land surveys for the Project site using Minimum Standard Detail Requirements for ALTA and National Society of Professional Surveyors Land Title Surveys. The surveys generated high resolution orthorectified aerial imagery.

Using a lidar-derived, hydrologically enforced digital elevation model (DEM) with a 3-foot resolution produced by Dudek during the ALTA survey, Dudek was able identify the presence of potential aquatic resource features within the PSA. The DEM models a continuous, bare land surface in which each cell represents the elevation at a given location. ESRI's Fill tool, under the Hydrology toolset in the Spatial Analyst toolbox, was then used to target potential locations of aquatic resources based on "sinks" present in the surface model. The Fill tool identifies sinks as cells within an undefined drainage, where no surrounding cell is lower. The depth of the sink is defined as the difference between this cell, and the boundary cell with the lowest elevation for the contributing area of the sink – or the" pour point". The tool will fill all sinks within the specified 'z' limit, which is the maximum allowable difference between the depth of a sink and it's pour point (ESRI 2021).

3.2 Field Delineation

Dudek conducted an aquatic resources field delineation of the approximately 2,704-acre PSA between April 2021 and August 2021 (Table 3).

Table 3. Field Survey Schedule, Personnel, and Conditions

Date	Hours	Personnel	Conditions
04/14/2021	1100 – 1527	Laura Burris, Morgan Kennedy	61°–70°F; 0-20% cc; 1–5 mph wind
04/15/2021	0800 –1700	Morgan Kennedy, Robert Valenti	51°–75°F; 0% cc; 0–5 mph wind
04/16/2021	0950 – 1631	Laura Burris, Robert Valenti, Adam Crawford	59°–81°F; 0% cc; 0–2 mph wind
04/19/2021	1000 – 1300	Morgan Kennedy, Robert Valenti	70°–76°F; 0% cc; 0–1 mph wind
04/20/2021	0800 – 1700	Anna Godinho	53°–74°F; 0% cc; 0–5 mph wind
04/21/2021	1124 – 1600	Anna Godinho, Laura Burris, Morgan Kennedy, Naomi Serratos	60°–81°F; 0% cc; 1–2 mph wind
04/22/2021	0800 – 1700	Anna Godinho, Morgan Kennedy	52°–72°F; 0% cc; 0–5 mph wind
04/23/2021	1000 - 1530	Laura Burris, Anna Godinho	60°–75°F; 0% cc; 3–5 mph wind
04/26/2021	0921 - 1630	Laura Burris, Naomi Serratos, Morgan Kennedy	54°–65°F; 20-30% cc; 4–5 mph wind
04/27/2021	0800 - 1500	Laura Burris, Naomi Serratos, Morgan Kennedy, Allie Sennett	50°–72°F; 0% cc; 3-5 mph wind
04/28/2021	0954 - 1640	Anna Godinho, Naomi Serratos	69°–91°F; 0% cc; 0 mph wind
04/29/2021	0800 - 1438	Anna Godinho, Naomi Serratos	57°–88°F; 0-20% cc; 0 mph wind
05/03/2021	0930 - 1500	Anna Godinho	69°–84°F; 0% cc; 0 mph wind
05/04/2021	0730 - 1600	Anna Godinho, Mackenzie Forgey, Paul Keating, Naomi Serratos	56°–94°F; 0% cc; 0–10 mph wind
05/05/2021	0645 - 1600	Mackenzie Forgey, Michelle Leis, Allie Sennett, Paul Keating, Naomi Serratos	60°–102°F; 0% cc; 0–2 mph wind
05/06/2021	0630 - 1600	Mackenzie Forgey, Michelle Leis, Morgan Kennedy, Naomi Serratos	58 –86°F; 0% cc; 0–3 mph wind
05/07/2021	0800 - 1700	Laura Burris, Michelle Leis, Naomi Serratos	55°–80°F; 0% cc; 0–3 mph wind
05/11/2021	0830 - 1600	Laura Burris	69°–95°F; 0% cc; 0–4 mph wind
05/12/2021	0905 - 1400	Laura Burris	65°–95°F; 0% cc; 0–2 mph wind
05/14/2021	0800 - 1700	Anna Godinho	55°–79°F; 0% cc; 10–20 mph wind
06/02/2021	0700 - 1400	Anna Godinho, Laura Burris	65°–89°F; 0% cc; 0–5 mph wind
06/03/2021	0700 - 1330	Anna Godinho, Laura Burris	63°–93°F; 0% cc; 0–5 mph wind
06/07/2021	0800 - 1400	Anna Godinho	60°–82°F; 0% cc; 0–5 mph wind
06/08/2021	0745 - 1415	Anna Godinho, Caroline Kim	56°–75°F; 0-10% cc; 0–5 mph wind
06/09/2021	0800 - 1500	Anna Godinho, Caroline Kim	55°–74°F; 0-10% cc; 0–5 mph wind
06/10/2021	0800 - 1330	Anna Godinho, Caroline Kim	55°–75°F; 0% cc; 0–5 mph wind
06/14/2021	0800 - 1700	Anna Godinho, Allie Sennett, Paul Keating	68°–86°F; 0% cc; 5–15 mph wind
06/15/2021	0730 - 1300	Anna Godinho, Paul Keating	57°–88°F; 0-10% cc; 0–5 mph wind
06/15/2021	0708 - 1428	Allie Sennett	72°–84°F; 0% cc; 5–10 mph wind
06/16/2021	0700 - 1416	Anna Godinho, Sheldon Leiker, Paul Keating	58°–98°F; 0-30% cc; 0–5 mph wind
06/17/2021	0700 - 1230	Anna Godinho, Sheldon Leiker	72°–97°F; 0% cc; 0–3 mph wind
06/18/2021	0600 - 1030	Laura Burris, Sheldon Leiker	77°–99°F; 0% cc; 0–1 mph wind

Table 3. Field Survey Schedule, Personnel, and Conditions

Date	Hours	Personnel	Conditions
06/21/2021	0810 - 1519	Kathleen Dayton, Naomi Serratos, Paul Keating, Caroline Kim	68°–92°F; 0-40% cc; 0–3 mph wind
06/22/2021	0730 - 1515	Anna Godinho, Laura Burris, Michele Laskowski	65°–85°F; 0% cc; 0–5 mph wind
06/22/2021	0719 - 1617	Callie Amoaku, Cody Schaaf, Naomi Serratos, Paul Keating	61°–90°F; 0% cc; 0–2 mph wind
06/22/2021	0930 - 1710	Kathleen Dayton, Caroline Kim	80°–90°F; 0% cc; 0–3 mph wind
06/23/2021	0625 – 1345	Kathleen Dayton, Caroline Kim	57°–89°F; 0% cc; 3–5 mph wind
06/23/2021	0700 – 1700	Anna Godinho, Laura Burris, Michele Laskowski	61°–90°F; 0% cc; 0–3 mph wind
06/23/2021	0815 – 1645	Callie Amoaku, Cody Schaaf, Naomi Serratos, Paul Keating	70°–82°F; 0% cc; 0–5 mph wind
06/24/2021	0705 – 01:00	Callie Amoaku, Cody Schaaf, Naomi Serratos, Laura Burris, Paul Keating, Caroline Kim	59°–81°F; 0% cc; 0–5 mph wind
06/25/2021	0800 – 1700	Paul Keating	62°–93°F; 0% cc; 10–15 mph wind
08/04/2021	1100 - 1600	Laura Burris	59°-97°F; 0% cc; 0–5 mph wind

Notes: F= Fahrenheit; cc= cloud cover; mph= miles per hour

Potential modeled aquatic resources (see Section 3.1.2, Desktop Aquatic Resource Modeling) were field verified and delineated based on methodology described in the USACE *Wetland Delineation Manual* (USACE 1987) and the USACE Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE 2008a). Non-Wetland Waters (NWW) of the U.S. were delineated based on the presence of an OHWM, as determined using the methodology in the USACE Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (USACE 2008b). While in the field, aquatic resources were mapped and recorded using a digital collection application (Collector) with sub-meter accuracy. All figures generated for this report follow the USACE Updated Map and Drawing Standards for the South Pacific Division Regulatory Program (USACE 2016). Representative photographs of the PSA are included in Appendix B, Photo Record.

All plant species encountered were identified to the lowest taxonomic level needed to determine wetland plant indicator status. Those species that could not be immediately identified were brought into the laboratory for further investigation. Latin names follow the Jepson Interchange "List of Currently Accepted Names of Native and Naturalized Plants of California" (Jepson Flora Project 2023), and common names follow the U.S. Department of Agriculture (USDA) National Resources Conservation Service (NRCS) "PLANTS" database (USDA 2023b). Wetland plant indicator status for each plant was determined using the Regional Wetland Plant List for the Arid West Region (USACE 2020). Appendix C, Observed Plant Species Compendium, contains a complete list of plant species observed during the field delineation.

Dudek took sample points on standardized wetland determination datasheets at resource locations to assess the potential for hydric soils, hydrology, and hydrophytic vegetation (see details in Section 3.2.1, Wetland Indicator Assessment). Data at representative stream transects were collected on standardized OHWM Datasheets to assess channel hydrology and geomorphology. A summary of wetland sample points and OHWM transects is provided in Appendix D, Sample Point and Transect Summary. In addition, the sample point Wetland Determination and OHWM Datasheets are included as Appendix F, Datasheets. Wetland sample points and

stream transects were recorded in the field using a Trimble R1 GNSS Receiver with sub-meter accuracy and ArcGIS Collector app for iOS. Results of the wetland sample points, and stream transect analyses are presented in Section 5.4, Sample Point and Transect Summary.

3.2.1 Wetland Indicator Assessment

Pursuant to the USACE protocols, key explicit environmental criteria for determining the presence of potential jurisdictional aquatic resources in the PSA are as follows:

- Soil: Soil characteristics that result from the influence of periodic or permanent inundation or soil saturation for extended periods that further affect anaerobic conditions (i.e., chemical reduction in the soils or hydric soils).
- Hydrology: The presence of inundated or saturated soil conditions resulting from permanent or periodic inundation by groundwater or surface water.
- Vegetation: A prevalence of vegetation typically adapted for life in saturated soil conditions (i.e., hydrophytic vegetation).

Positive indicators of all three parameters are normally present in wetlands. Presence of primary and secondary wetland hydrology indicators were documented for each identified aquatic resource feature in the PSA. Potential jurisdictional wetlands exhibiting atypical conditions were delineated in accordance with USACE protocols for situations involving vegetation, soil, and hydrology that may be naturally problematic and/or significantly disturbed.

3.2.2 Ordinary High Water Mark Assessment

The USACE Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States was used to provide technical guidance for delineating the OHWM, which is based on the physical and biological signatures established and maintained at the boundaries of an active channel (USACE 2008b). The OHWM guide addresses the underlying hydrologic and geomorphic concepts pertaining to the OHWM and the field indicators, methods, and additional lines of evidence used to assess and delineate the OHWM. Delineation of the active channel signature (i.e., the OHWM) is based largely on identification of three primary physical or biological indicators (USACE 2008b):

- Topographic break in slope
- Change in sediment characteristics
- Change in vegetation characteristics (species or cover)

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4 Environmental Setting

The PSA is located within eastern Sacramento County at the eastern edge of the Sacramento Valley. The PSA is approximately 4 miles north of State Route 16, and approximately 15 miles east of the City of Sacramento. The Project site is surrounded by rural residential and agricultural development, as well as open space generally composed of annual grassland and agricultural fields. Currently the PSA is being used for cattle ranching and sheep grazing (Figure 2).

4.1 Climate and Rainfall

The PSA is in a semi-arid climate where average annual temperatures range from approximately 53°F to 92°F, and the average annual precipitation is 18.15 inches. On average, the months with the highest rainfall are January and February, and July has the least precipitation (WRCC 2023).

According to data from the Prairie City weather station, the total precipitation recorded from April 2020 through August 2020 was between 12.84 and 13.63 inches, approximately 70%–75% of normal (CDEC 2023). Therefore, the PSA region had below normal hydrological conditions in the year preceding the biological resource surveys. The Sacramento WB City weather station is located approximately 20 miles west of the PSA at an elevation of approximately 25 feet amsl (CDEC 2023).

Northern California, and in particular the Sacramento Valley, experienced a drought that expanded and worsened over the course of 2020 due to below-average precipitation, weak monsoon, above-normal temperatures, and evaporative demand (NOAA and NIDIS 2023).

The USACE Antecedent Precipitation Tool was used to assess the amount of precipitation received in the review area during the aquatic resource delineation fieldwork (Dudek 2023). The tool calculated that the watersheds within the review area (sampled at Hydrologic Unit Code 8 geographic scope) experienced, on average, drier than normal antecedent precipitation conditions during the 3 months preceding the delineation fieldwork (Appendix E, Antecedent Precipitation Tool Outputs).

Table 4. Antecedent Precipitation Tool Data for the Review Area

Main Field Survey Date	PDSI Class	Season	APC Score	Antecedent Precipitation Condition
06/01/2021	Extreme drought	Late spring-early summer	7	Drier than normal

Source: USACE 2023.
Notes: PDSI = Palmer Drought Severity Index; APC = antecedent precipitation condition.

4.2 Soil and Terrain

The PSA is in an area with varied topographic relief, with general elevations of the peaks and troughs of the gently rolling hills and valleys.

According to the NRCS, 22 soil units were mapped within the PSA (USDA 2023a). Each soil unit, its proportion of hydric soils, drainage class (i.e., frequency and duration of wet periods in conditions like those in which it was

developed), and typical landform or geomorphic position within the landscape is detailed in Table 5. Figure 3, Soil and Terrain Setting provides the geographic extent of each soil unit within the PSA (USDA 2023a).

None of the 22 soil units identified within the PSA are listed as hydric soils but five are listed as partially hydric. Hydric soils are defined by the National Technical Committee for Hydric Soils as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (USDA 2023c). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation. Soils encountered during the field surveys were generally classified as loamy soils.

Table 5. Summary of Soil Units in the Project Study Area

Soil Map Unit Name	Landform	Drainage Class	Hydric Status[1]	Total Acreage
Amador-Gillender complex, 2 to 15 % slopes	Shallow loamy	Well drained	Not Hydric	29.47
Argonaut-Auburn complex, 3 to 8 % slopes	Loamy	Well drained	Not Hydric	293.63
Auburn silt loam, 2 to 30 % slopes	Shallow loamy	Well drained	Not Hydric	344.33
Auburn-Argonaut-Rock outcrop complex, 8 to 30 % slopes	Shallow loamy	Well drained	Not Hydric	261.98
Crevis Creek sandy loam, 0 to 3 % slopes	Loam stream terrace	Moderately well drained	Not Hydric	319.48
Hadselville-Pentz complex, 2 to 30 % slopes	Shallow loamy	Moderately well drained	Not Hydric	161.29
Hicksville sandy clay loam, 0 to 2 % slopes, occasionally flooded	Loam stream terrace	Moderately well drained	Partially Hydric	74.26
Mokelumne gravelly loam, 2 to 15 % slopes	Loamy (live oak/annual grass)	Well drained	Not Hydric	243.18
Mokelumne-Pits mine complex, 15 to 50 % slopes	Loamy	Well drained	Not Hydric	45.91
Mokelumne variant sandy clay loam, 2 to 8 % slopes	Loamy (blue oak/annual grass)	Well drained	Not Hydric	3.76
Pardee-Rancho Seco complex, 3 to 15 % slopes	Gravelly loamy	Well drained	Not Hydric	3.06
Pentz-Lithic Xerorthents complex, 30 to 50 % slopes	Shallow loamy	Well drained	Not Hydric	3.48
Peters clay, 1 to 8 % slopes	Shallow clayey	Well drained	Not Hydric	14.61
Pits	—	—	Not Hydric	10.37
Red Bluff-Redding complex, 0 to 5 % slopes	Loamy	Well drained	Partially Hydric	25.87
Red Bluff-Xerorthents dredge tailings complex, 2 to 50 % slopes	—	Well drained	Partially Hydric	122.88

Table 5. Summary of Soil Units in the Project Study Area

Soil Map Unit Name	Landform	Drainage Class	Hydric Status[1]	Total Acreage
Redding gravelly loam, 0 to 8 % slopes	Gravelly loamy	Moderately well drained	Partially Hydric	34.14
Vleck gravelly loam, 2 to 15 % slopes	Loamy claypan	Moderately well drained	Not Hydric	187.84
Vleck-Amador-Pits, mine complex, 15 to 50 % slopes	Loamy claypan	Moderately well drained	Not Hydric	84.43
White Rock loam, 3 to 30 % slopes	Very shallow loamy (blue oak/annual grass)	Somewhat excessively drained	Not Hydric	419.20
Xerorthents, dredge tailings, 2 to 50 % slopes	—	Somewhat excessively drained	Partially Hydric	7.72

Source: USDA 2023c.
Note: The water soil map unit (13.65 acres) is not included in Table 6.
[1] Hydric soil- defined by the USADA (i.e., formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part); if hydric conditions are present within the soil unit.

4.3 Watershed and Hydrology

The PSA occurs primarily within the Deer Creek watershed, which drains 82,990 acres of Sacramento and El Dorado counties in a southwesterly direction towards the City of Elk Grove (Hydrological Unit Code 1804001305) (CDFW 2021). A complex of seasonally inundated and intermittent aquatic features delivers flows to Carson Creek and two of its tributaries, Coyote Creek and Little Deer Creek, which drain the PSA in a southerly direction, eventually converging with Deer Creek and then the Consumnes River, a traditional navigable water, outside of the PSA. The Cosumnes River is a known jurisdictional water with perennial flows that originates in the Sierra Nevada mountains and flows approximately 50 miles into the Central Valley, emptying into the Mokelumne River in the Sacramento San Joaquin Delta. A desktop-level site-specific sub-watershed assessment was prepared depicting the of flow of sub-tributaries to primary tributaries within the PSA based on connectivity and associated biological and physical characteristics (Figure 5, Project Site Subwatershed Analysis).

While most of the PSA is located outside of the FEMA National Flood Hazard Layer 1% 100-year floodplain, the southern portions of Carson Creek and Little Deer Creek are located within a 100 year flood zone (FEMA 2023).

The NWI maps numerous aquatic resources in the PSA, including Freshwater Emergent Wetland, Freshwater Forested/Shrub Wetland, Freshwater Pond, and Riverine (USFWS 2023). The NWI dataset is based on coarse aerial mapping (Figure 4, Hydrologic Setting).

4.4 Vegetation Communities and Other Land Cover Types

Terrestrial vegetation communities and land cover types within the PSA consist of a combination of terrestrial non-vegetative land covers or natural vegetation communities. The vegetation communities and land covers within the PSA have been adapted from the Manual of California Vegetation, Online Edition (CNPS 2023). These include blue oak woodland (forest), blue oak woodland, riparian woodland/forest, urban/developed, and valley and foothill

grassland. During the delineation conducted between April 2021 and August 2021, a total of 285 species of native or naturalized plants—173 native (64%) and 112 non-natives (41%)—were recorded in the PSA during the field delineation (see Appendix C). Below, detailed descriptions are provided for each vegetation community and land cover type.

4.4.1 Vegetation Communities

Blue Oak Woodland (Forest)

Blue oak woodland/forests comprise a total of 262.83 acres within the PSA and is present throughout the site specifically concentrated in the south and eastern vicinities. This community is specifically characterized by greater than 10% tree cover formed primarily by blue oak *(Quercus douglasii*) with other foothill tree species mixed in. This community generally has a sparse shrub layer and well-developed valley and foothill grassland layer, sometimes including vernal pools and other wetland features. Other tree species that may occur in Blue Oak Woodland include foothill pine (*Pinus sabiniana*), interior live oak (*Quercus wislizenii*), valley oak (*Quercus lobata*), and California buckeye (*Aesculus californica*). The shrub layer, where present, only includes scattered individuals of poison oak, and coyote brush (*Baccharis pilularis*). Blue oak woodland/forests often have a relatively open canopy, when compared to other riparian covers (County of Sacramento 2018).

Blue Oak Woodland

Blue oak woodland comprises a total of 344.0 acres within the PSA and is present throughout the site specifically in the south and eastern vicinities. This vegetation community is characterized by a sparse (less than 10%) tree canopy structure that ranges from scattered blue oak trees, and small clusters of blue oaks, to small areas of blue oak stands, like a savanna. Like blue oak woodland/forest described above, it generally has little to no shrub layer, but has a well-developed valley and foothill grassland layer. Blue oak woodland is typically transitional between valley and foothill grasslands and blue oak woodland/forests (County of Sacramento 2018).

Riparian Woodland/Forest

Riparian woodland/forest comprises a total of 32.55 acres within the PSA and is interspersed with blue oak woodland and forest throughout the site. This vegetation community is primarily concentrated on either perennial, intermittent, or ephemeral channels within the PSA. This vegetation community consists of an open to dense shrubby thicket dominated by a mixture of sandbar willow, arroyo willow (*S. lasiolepis*), red willow (*S. laevigata*), and immature stands of mixed various other riparian woodland tree species. This vegetation community can also be a sub-canopy and understory of native and non-native species, including wild rose (*Rosa californica*), wild grape (*Vitis californica*), perennial pepperweed (*Lepidium latifolium*), Himalayan blackberry (*Rubus discolor*), curly dock (*Rumex crispus*), and various non-native grasses (County of Sacramento 2018).

Valley and Foothill Grassland

Valley and foothill grassland comprises a total of 1,764.73 acres within the PSA, making it the dominant vegetation community within the site. This vegetation community is an annual herbaceous vegetation community characterized mostly by naturalized annual grasses. Its composition varies with geographic and land use factors, such as rainfall, temperature, elevation, slope, aspect, grazing and other herbivory, and fire frequency and duration. Valley and foothill grassland is dominated by naturalized herbaceous annual forbs, and patches with relatively high proportions of native grasses and forbs. Valley and foothill grassland is associated with several natural communities including

vernal pools and occurs as an understory within blue oak woodlands and forests, and riparian areas. Valley and foothill grassland may also occur as a co-dominant with perennial grasses. For example, purple needlegrass (*Stipa pulchra*) can be found as the dominant grass (i.e., comprising greater than 20% cover) in small patches along ridgetops of low-lying hills within the PSA (County of Sacramento 2018).

Urban/Developed

Urban/Developed land cover within the PSA is comprised of a total of 150.53 acres. This land cover type is concentrated in the northwestern vicinity of the PSA, and near areas adjacent to Scott Road. This land cover type includes areas that have been completely altered by human activities and contain little to no vegetation. Specifically, such areas include low- and high-density residences and buildings, paved and gravel roadways, trails, gravel lots, recreational areas (i.e., Prairie City SVRA), and other constructed environments.

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5 Aquatic Resources Delineation

Thirteen aquatic resource types were documented in the PSA. Specifically, a total of eight wetland types were delineated within the PSA including freshwater emergent wetland, pond, seasonal wetland, vernal pool, fringe wetland, seasonal wetland swale, vernal swale, and seep. Additionally, a total of five NWWs (i.e., waters) were delineated within the PSA including ditch, ephemeral channel, intermittent channel, perennial channel, and upland swale (Figures 6A-6JJ, Aquatic Resources Delineation).

5.1 Wetlands

5.1.1 Freshwater Emergent Wetland

Thirty-four freshwater emergent wetlands comprising approximately 8.0 acres occur primarily below the OHWM of Carson Creek within the PSA (see Photo 1; all photos can be found in Appendix B). In general, these features were characterized by erect, rooted herbaceous hydrophytes and dominated by perennial plants such as hardstem bulrush (*Schoenoplectus acutus*; obligate [OBL]), pale spike rush (*Eleocharis macrostachya*; OBL), and Baltic rush (*Juncus balticus*; facultative wetland [FACW]). These wetlands contained hydric soils as indicated by a depleted matrix (Hydric Soil Indicator F3), and wetland hydrology was confirmed by the presence of surface water (Hydrology Indicator A1), saturation (Hydrology Indicator A3), inundation visible on aerial imagery (Google Earth 2023) (Hydrology Indicator B7), and/or oxidized rhizosphere along living roots (Hydrology Indicator C3). Three of these features (FEW-1, -2, and -5) located outside of Carson Creek are shallow impoundments constructed within natural drainages, generally for the purpose of supporting livestock, and one feature (FEW-3) is the result of seepage from an upslope pond.

5.1.2 Pond

There are three ponds comprising approximately 9.47 acres within the PSA. These features are natural closed depressions that have been artificially augmented by perennial water sources, generally for the purpose of supporting livestock. Pond-01 (P-01) is located within the western portion of the PSA (see Photo 2) and classified as a Freshwater Pond by the NWI (USFWS 2023). This feature receives input from ephemeral features during rain events, outlets into an intermittent channel tributary to Coyote Creek, and supports a sparse riparian zone comprised of Goodding's willow (*Salix gooddingii*; OBL). Pond-02 (P-02) located within the northern portion of the PSA adjacent to Carson Creek is largely unvegetated and receives input from ephemeral features during rain events. Pond-03 (P-03) is a large feature located within the eastern portion of the PSA that is classified as a Freshwater Pond by the NWI (USFWS 2023). This feature receives intermittent flows from a drainage to the north and outlets into a drainage tributary to Carson Creek. It supports sparse broadleaf cattail (*Typha latifolia*; OBL) and swamp smartweed (*Persicaria amphibia*; OBL) along the margins, and a berm along the west side supports a dense thicket of Himalayan blackberry (*Rubus armeniacus*; facultative [FAC]). The ponds contained hydric soils as indicated by a depleted matrix (Hydric Soil Indicator F3). Wetland hydrology was confirmed by the presence of surface water (Hydrology Indicator A1), saturation (Hydrology Indicator A3), inundation visible on aerial imagery (Hydrology Indicator B7), and/or oxidized rhizospheres along living roots (Hydrology Indicator C3).

5.1.3 Seasonal Wetland

There are 136 seasonal wetlands comprising approximately 4.10 acres throughout the PSA. These features only appear to be inundated seasonally, and some are connected via swales, ephemeral channels, and/or intermittent channels. Seasonal wetlands were characterized by a distinct change in vegetation type and cover from the surrounding grassland (see Photo 3). The seasonal wetlands contain a dominance of FAC grasses, including perennial rye grass (*Festuca perennis*) and mouse barley (*Hordeum marinum)*. The wetlands contained hydric soils as indicated by depleted matrix, redox dark surface, and redox depressions (Hydric Soil Indicators F3, F6, and F8). Wetland hydrology was confirmed by the presence of oxidized rhizospheres along living roots, surface soil cracks, and/or inundation visible on aerial imagery (Hydrology Indicators C3, B6, and B7). Saturation and deep cow hoof punches were present in many of the seasonal wetlands during the field delineation.

Two seasonal wetlands (SW-90 and -121) in the northwestern portion of the PSA appear to be remnants of historical drainages, supporting a fragmented riparian corridor comprised of Fremont's cottonwood (*Populus fremontii*; FAC) and Gooddingg's willow trees with an understory of sandbar willow (*Salix exigua*; FACW), poison oak (*Toxicodendron diversilobum*; FACU), and Himalayan blackberry. These features do not appear to have hydrologic connectivity to any other aquatic resources, and any natural hydrology in this area has been disrupted by development associated with the adjacent Prairie City SVRA.

5.1.4 Vernal Pool

There are 121 vernal pools comprising approximately 3.57 acres throughout the PSA. These features were characterized as three-parameter wetlands with an impermeable layer such as a hard pan that may fill and empty several times during the rainy season. These features may be isolated or connected to larger vernal complexes via swales. The vernal pools on site exhibited concentric rings of distinctly different vegetation cover and species composition (see Photo 4), the center of which was generally devoid of vegetation due to prolonged inundation and surrounded by a predominance of hydrophytic species such as Great Valley eryngo (*Eryngium castrense*; OBL), Fremont's goldfields *(Lasthenia fremontii*; OBL*),* short woollyheads *(Psilocarphus brevissimus;* FACW*),* and needleleaf navarretia *(Navarretia intertexta;* FACW*),* as well as facultative grasses growing along the feature margins. In general, pits were not dug within vernal pools due to the presence of a hardpan, and soils were assumed hydric due to the presence of hydrophytic vegetation and hydrology indicators. Wetland hydrology was confirmed by the presence of surface water, saturation, surface soil cracks, inundation on aerial imagery (Google Earth 2023), and biotic crust (Hydrology Indicators A1, A3, B6, B7, and B12). Cow punches and evidence of grazing were documented in many of the vernal pools on site, and some hydrology was disrupted by property fences and associated berms.

5.1.5 Fringe Wetland

Twenty-nine fringe wetlands comprising approximately 2.55 acres occur primarily along terraces of Coyote Creek and Carson Creek within the PSA (see Photos 5 and 15). Most of these features occur between the OHWM and TOB, abutting intermittent and perennial channels on site. In general, these features were characterized by their proximity to intermittent and perennial channels and dominated by hydrophytic plants such as pale spike rush, perennial rye grass, annual semaphore grass (*Pleuropogon californicus* var. *Californicus;* OBL), narrowleaf plantain *(Plantago lanceolata*; FAC*),* white-tip clover *(Trifolium variegatum;* FAC*),* and low spearwort *(Ranunculus pusilis;* OBL*).* The wetlands contained hydric soils as indicated by a depleted matrix and redox dark surface (Hydric Soil

Indicator F3, F6), and wetland hydrology was confirmed by the presence of saturation (Hydrology Indicator A3), inundation visible on aerial imagery (Google Earth 2023) (Hydrology Indicator B7), and/or oxidized rhizosphere along living roots (Hydrology Indicator C3). No surface water was present during the field delineation. One of these features abuts a pond (Pond-01) that is an impoundment of an intermittent drainage tributary to Coyote Creek.

5.1.6 Seasonal Wetland Swale

There are 61 seasonal wetland swales comprising approximately 11.26 acres (38,762.39 linear feet) within the PSA. Seasonal wetland swales on site consist of topographic depressions that would be expected to convey water when inundated, but where a defined bed and bank and typical fluvial indicators are lacking (see Photo 6). These three-parameter wetland features were generally delineated by a mild break in slope and change in vegetation type and cover. These three-parameter wetland features were dominated by facultative wetland grasses and displayed evidence of hydric soils and hydrology indicators like those described for seasonal wetlands above. Saturation was present in some swales at the time of the field delineation.

5.1.7 Vernal Swale

There are 12 vernal swales comprising approximately 2.02 acres (6,341.94 linear feet) primarily within the western portion of the PSA. These features typically function as shallow, seasonal conveyance channels connecting vernal pools or seasonal wetland swales and forming complexes (see Photo 7). The hydrophytic vegetation species composition and hydrology indicators are like those described for vernal pools above. Also as previously described for vernal pools above, pits were not dug in vernal swales due to the presence of a hardpan, and soils were assumed hydric due to the presence of hydrophytic vegetation and hydrology indicators.

5.1.8 Seep

There are three seeps comprising approximately 0.16 acre within the PSA. These features occur where groundwater flows to the soil surface, either from a clearly defined opening or from a saturated area where water percolates slowly through the soil. Seep-01 (SP-01) is in the eastern portion of the PSA and appears to be fed by the adjacent Carson Creek. Seep-02 (SP-02) occurs in the eastern portion of the PSA and appears to have been artificially augmented for the purpose of supporting livestock, as evidenced by the gated fence surrounding the feature and adjacent cattle trough and water storage infrastructure (see Photo 8). This linear feature appears to be perennial and contained standing water at the time of the field delineation, contributing flows to an intermittent channel tributary to Coyote Creek. This feature contained hydric soils as indicated by redox depressions (Hydric Soil Indicator F8). Seep-03 (SP-03) is located within an intermittent channel in the eastern portion of the PSA. All three seeps were dominated by herbaceous hydrophytic plants such as annual rabbits foot grass (*Polypogon monspeliensis*; FACW), salt grass (*Distichlis spicata*; FAC), and Pacific foxtail (*Alopecurus saccatus*; OBL). Seep-01 and –03 were saturated at the time of the field delineation (Hydrology Indicator A3), and soils were assumed hydric due to the presence of hydrophytic vegetation and hydrology indicators.

5.2 Non-Wetland Waters

5.2.1 Ditch

There are five ditches comprising approximately 0.89 acres (2,227.07 linear feet) throughout the northeastern portion of the PSA. The earthen ditches are either human-made or channelized natural features with intermittent hydrology intended for stormwater, agricultural, irrigation, runoff, or similar purposes. Evidence of an OHWM within the ditches includes a break in slope, bed and bank, and change in plant community and/or cover. Ditch-01 and -03 support facultative vegetation within their bed including perennial rye grass, mouse barley *(Hordeum marinum),* and prostrate knotweed *(Polygonum aviculare).* These ditches originate off site to the north and continue off site to the south into a large natural wetland complex with potential downstream connectivity to Morrison Creek (see Photo 10). Ditch-02 is a human-made stormwater control feature that support a mix of upland and wetland vegetation along the bed and banks including hyssop loosestrife *(Lyrhtum hyssopifolium;* OBL*),* tall flatsedge (*Cyperus eragrostis*; FACW), storksbill *(Erodium* spp.; FACU-UPL [Upland]*),* and Fitch's tarweed *(Centrodmadia fitchii;* FACU*)*. Ditch-04 supports a fragmented riparian corridor comprised of large Fremont's cottonwood trees. This feature does not appear to have hydrologic connectivity to any other aquatic resources, and any natural hydrology in this area has been disrupted by development associated with the adjacent Prairie City SVRA. Although inundation is visible on aerial imagery (Hydrology Indicator B7) (Google Earth 2023), all ditches were dry during the field delineation. There is no continuous riparian corridor associated with the features in the PSA.

5.2.2 Ephemeral Channel

There are 87 ephemeral drainages comprising approximately 7.22 acres (49,926.86 linear feet) within the PSA. Ephemeral drainages on site consist of stream channels that are naturally occurring rather than anthropogenically created, and contain flowing water during, and for a short duration after, precipitation events. Hydrology of the ephemeral drainages is dependent on inputs during rain events and runoff from the surrounding uplands, with evidence of OHWM including shelving, scour, a break in slope, sediment sorting, bed and bank, bent or absent vegetation, and a change in plant community and/or cover (see Photo 11). Where vegetation was present, the ephemeral drainages contained a dominance of hydrophytic species like those described for seasonal wetlands and vernal pools above. Many of these drainages flow downstream into intermittent and perennial channels, while others connect swales and wetlands in larger complexes or are isolated. These drainages were dry at the time of the field delineation. There are no continuous riparian corridors associated with these features in the PSA.

5.2.3 Intermittent Channel

Twenty-six intermittent drainages comprising approximately 6.13 acres (43,985.08 linear feet) occur within the PSA. Intermittent drainages generally have flowing water during certain times of the year, when groundwater provides water for stream flow, and receive supplemental water from rainfall runoff. The intermittent drainages on site, including Little Deer Creek, are all tributary to the larger, perennial channels. Evidence of an OHWM and presence of hydrophytic vegetation is like that described for ephemeral drainages above (see Photo 12); however, these features are characterized by deeper pools throughout. Inundation is visible on aerial imagery and standing water and/or saturation was present within low points or widenings of many of these features at the time of the field delineation.

5.2.4 Perennial Channel

Carson Creek and its tributary, Coyote Creek, flow from north to south throughout the PSA, comprising 32.51 acres (34,276.08 linear feet). Approximately two miles south of the PSA, Carson Creek converges with Deer Creek, a tributary to the Cosumnes River, a jurisdictional water with perennial flows that originates in the Sierra Nevada mountains and flows approximately 50 miles into the Central Valley, emptying into the Mokelumne River in the Sacramento San Joaquin Delta. Portions of the Carson Creek and Coyote Creek riverbeds consist of granite slabs and outcroppings characteristic of mine tailings and mine tailings riparian woodland described above (see Photos 13 and 16). The OHWM of these features was mapped based on the presence of one or more of the following indicators: break in slope, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, presence of litter and debris, wracking, vegetation matted down, bent, or absent, sediment sorting, scour, deposition, bed and banks, water staining, or a change in plant community and/or cover. Carson Creek contained standing and/or flowing water throughout the PSA, while Coyote Creek was mostly dry at the time of the field delineation except for standing water in deep plunge pools throughout. Open water within these features supported aquatic plants such as floating water primrose *(Ludwigia peploides;* OBL*),* Pacific mosquito fern *(Azolla filiculoides;* OBL*),* and hairy water clover *(Marsilea vestita;* OBL*).* Saturated areas below OHWM supported wetland plant species like those described for freshwater emergent wetlands, fringe wetlands, and seasonal wetlands above. Below TOB, these features supported a mix of wetland and upland species, including portions of blue oak woodland, riparian woodland, and mixed riparian scrub described above.

5.2.5 Upland Swale

There are 62 upland swales comprising approximately 5 acres (25,099.18 linear feet) within the PSA. Upland swales on site consisted of linear topographic depressions that lack a distinct OHWM. These features contain a mild break in slope and a slight change in vegetation type and cover but did not support a dominance of wetland vegetation (see Photo 9). These features contained upland grasses and facultative wetland grasses, like those described for annual grassland and seasonal wetlands above.

5.3 Uplands

During the field delineation, various sample points were taken to capture upland conditions including soils, and vegetation within the PSA. Upland data was also evaluated to determine the boundaries of aquatic resources where transitions between low terraces or sheet flow zones were potentially problematic or ambiguous. Representative upland sample points were also taken in the vicinity of wetland complexes with numerous features in proximity to each other. Lastly, unpaired upland sample points were taken within potential aquatic resources that displayed signatures of aquatic resources as interpreted by the model outputs described in Section 3.1.2 and were previously identified with the NWI and NHD datasets.

5.4 Sample Point and Transect Summary

Results from observable field indicators from 273 wetland sample points, 149 OHWM (i.e., channel) transects, and 247 upland data points (including upland swale areas) indicate that a total of approximately 149.70 acres (200,618.60 linear feet) of combined wetlands and NWWs (i.e., aquatic resources) occur on the PSA (Figures 6A-6JJ). The data collected at each sample point and transect location have been summarized in Appendix D. Additionally, complete compilation of all wetland and OHWM datasheets are compiled in Appendix F, Datasheets.

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6 Results and Conclusion

Based on all the data collected during the field delineation, Dudek determined that approximately 92.87 acres (200,618.60 linear feet) of combined wetlands and NWWs occur within the PSA that preliminarily meet the criteria of waters of the United States pursuant to current regulations of the U.S. Army Corps of Engineers adopted pursuant to Section 404 of the CWA (Table 6). The conclusions in this report regarding the identification of waters of the United States may be modified in the event that the regulations are modified in response to the U.S. Supreme Court decision in *Sackett v. EPA.* This includes the following wetland features: freshwater emergent wetland (8.0 acres), fringe wetland (2.55 acres), pond (9.47 acres), seasonal wetland (4.10 acres), vernal pool (3.57 acres), seasonal wetland swale (11.26 acres, 38,762.39 linear feet), vernal swale (2.02 acres, 6,341.94 linear feet), and seep (0.16 acre); and the following NWWs: ditch (0.89 acre, 2,227.07 linear feet), ephemeral drainage (7.22 acres, 49,926.86 linear feet), intermittent channel (6.13 acres, 43,985.08 linear feet), perennial channel (32.51 acres, 34,276.08 linear feet), and upland swale (5.00 acres, 25,099.18 linear feet) (see Table 1). The jurisdictional determinations for aquatic resources delineated in the PSA are preliminary until verified by the USACE Sacramento District.

Table 6. Preliminary Summary of Waters of the United States within the PSA

Feature Type	Total Acreage	Total Linear Feet
Wetlands		
Freshwater emergent wetland	8.00	—
Fringe wetland	2.55	—
Pond	9.47	—
Seasonal wetland	4.10	—
Seasonal wetland swale	11.26	38,762.39
Seep	0.16	—
Vernal pool	3.57	—
Vernal swale	2.02	6,341.94
Total Wetlands	*41.13*	*45,104.33*
Non-Wetland Waters (NWWs)		
Ditch	0.89	2,227.07
Ephemeral channel	7.22	49,926.86
Intermittent channel	6.13	43,985.08
Perennial channel	32.51	34,276.08
Upland swale	5.0	25,099.18
Total NWWs	*51.74*	*155,514.28*
Total Waters of the U.S.	**92.87**	**200,618.60**

Notes: PSA= Project Study Area.

Lastly, the delineation conducted within the PSA delineated all observable resources present, including potential areas under the jurisdiction of CDFW, pursuant to Sections 1600 through 1603 of the California FGC, and the RWQCB, pursuant to CWA Section 401 and the Porter–Cologne Water Quality Control Act (Appendix A).

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Figure 1 Project Study Area Overview

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Figure 2 Project Setting

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Figure 3 Soil and Terrain Setting

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Figure 4 Hydrologic Setting

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Figure 5 Project Site Subwatershed Analysis

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Figure 6-A Aquatic Resources Delineation

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Figure 6-B Aquatic Resources Delineation

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Figure 6-C Aquatic Resources Delineation

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Figure 6-JJ Aquatic Resources Delineation

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Appendix A

California Department of Fish and Wildlife and
Regional Water Quality Control Board
Jurisdictional Resources

Appendix B
Photo Record

Appendix C
Observed Plant Species Compendium

Appendix D

Sample Point and Transect Summary

Appendix E

Antecedent Precipitation Tool Outputs

Appendix F
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Biological Technical Report

Coyote Creek Agrivoltaic Ranch Project

AUGUST 2023

REVISED FEBRUARY AND DECEMBER 2024

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
AC	Alternating current
AMM	Avoidance and Minimization Measure
amsl	above mean sea level
ARD	Aquatic Resource Delineation
BAGEPA	Bald and Golden Eagle Protection Act
BCC	Bird of Conservation Concern
BESS	Battery Energy Storage System
BTR	Biological Technical Report
BUOW	Burrowing owl
CBB	Crotch's bumble bee
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CTS	California tiger salamander
CWA	Clean Water Act
DBH	diameter at breast height
DCH	Designated Critical Habitat
EFH	Essential Fish Habitat
EPC	by EnviroPlus Consulting, Inc.
ESA	Environmentally Sensitive Area
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FGC	Fish and Game Code
Gen-tie	Generation tie line
IPaC	Information for Planning and Consultation
MBTA	Migratory Bird Treaty Act
MM	Mitigation Measure
NOAA	National Oceanic Atmospheric Administration
NPPA	Native Plant Protection Act
NRCS	National Resources Conservation Service
NWI	National Wetlands Inventory
OHWM	ordinary high-water mark
OWCA	Oak Woodlands Conservation Act
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
PRC	Public Resources Code
Project	Coyote Creek Agrivoltaic Ranch Project

Acronym/Abbreviation	Definition
PSA	Project Study Area
PV	photovoltaic
quad	quadrangle
Rule	Waters of the United States" Rule (revised)
RWQCB	Regional Water Quality Control Board
SCADA	supervisory control and data acquisition
SMUD	Sacramento Municipal Utility District
SSC	Species of Special Concern
SSHCP	South Sacramento Habitat Conservation Plan
SVRA	State Vehicle Recreation Area
SWHA	Swainson's hawk
TRBL	tricolored blackbird
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VELB	valley elderberry longhorn beetle
WEAP	Worker Environmental Awareness Program
WST	western spadefoot toad

Executive Summary

Sacramento Valley Energy Center, LLC is proposing construction and operation of the Coyote Creek Agrivoltaic Ranch Project (Project), a solar photovoltaic energy-generating and storage facility located in Sacramento County, California. Sacramento Valley Energy Center, LLC has contracted Dudek to prepare this Biological Technical Report (BTR) to provide an overview of biological and aquatic resources within the Project Study Area (PSA), assess impacts to these resources within the solar development area, to identify regulatory constraints and applicable suggested avoidance and minimization measures (AMMs), and to identify proposed mitigation strategies related to these resources.

This BTR is intended to provide support for lead and responsible agency analyses, determinations, and findings pursuant to the California Environmental Quality Act (CEQA), including the preliminary impact evaluations and mitigation planning for state and federal permitting. This BTR includes a description of the Project; methods used to assess biological and aquatic resources; analysis of the literature and database review; compiled field surveys; results of the assessment of biological and aquatic resources; resource impact assessments; and recommended AMMs and/or mitigation to reduce potential impacts.

The PSA (2,704 acres) that was evaluated for this BTR is composed of the "solar development area" (1,412 acres), which includes the grading limits, generation tie (gen-tie) line, switch yard areas, and construction staging areas; plus, the remaining areas outside of the solar development area, which will be referred to herein as "adjacent other lands" (1,292 acres). The Project location was selected because of its proximity to the existing Sacramento Municipal Utility Districts (SMUD) transmission corridor, the fact that the land is actively used for grazing activities (i.e., disturbed), the site's nearby access to existing roads, and the site's excellent solar irradiance.

The Project site is approximately 2.5 miles south of White Rock Road in the Cosumnes rural residential community. The PSA is located approximately 4.5 miles south of U.S. Route 50, southeast of the Prairie City State Vehicle Recreation Area (SVRA) and is bisected by Scott Road. The gen-tie line portion of the Project would extend approximately 1.3 miles to provide an interconnection to the SMUD 230-kilovolt powerline, which runs through the Prairie City.

Further, the PSA within eastern Sacramento County at the eastern edge of the Sacramento Valley, less than 10 miles from the western foothills of the Sierra Nevada Mountains. The vegetation communities and land covers within the PSA include blue oak forest, blue oak woodland, riparian woodland/forest, urban/developed, and valley and foothill grassland. The PSA is primarily used for cattle and sheep grazing or other agricultural operations.

Dudek completed desktop reviews; protocol-level, focused, and reconnaissance-level resource surveys; and Project-specific impact analysis for the following special-status biological and aquatic resources with known occurrences and/or the potential to occur within the PSA:

Special-Status Plant Species

- Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii)*
- Boggs Lake hedge-hyssop (*Gratiola heterosepala)*
- Dwarf downingia (*Downingia pusilla)*
- Heckard's peppergrass (*Lepidium latipes* var. *heckardii)*
- Hoary navarretia (*Navarretia eriocephala)*

- Hogwallow starfish (*Hesperevax caulescens)*
- Legenere (*Legenere limosa)*
- Pincushion navarretia (*Navarretia myersii* ssp. *myersii)*
- Sacramento Orcutt grass (*Orcuttia viscida)*
- Saline clover (*Trifolium hydrophilum)*
- Sanford's arrowhead (*Sagittaria sanfordii)*
- Slender Orcutt grass (*Orcuttia tenuis)*
- Spicate calycadenia (*Calycadenia spicata)*
- Valley brodiaea (*Brodiaea rosea* ssp. *vallicola)*
- Woolly rose-mallow (*Hibiscus lasiocarpos* var. *occidentalis)*

Special-Status Wildlife Species

- American badger (*Taxidea taxus)*
- Bald eagle (*Haliaeetus leucocephalus)*
- Bank swallow (*Riparia riparia)*
- Burrowing owl (*Athene cunicularia*; BUOW)
- California black rail (*Laterallus jamaicensis coturniculus)*
- California tiger salamander (*Ambystoma californiense*; CTS*)*
- Conservancy fairy shrimp (*Branchinecta conservation)*
- Cooper's hawk (*Accipiter cooperii)*
- Crotch's bumble bee (*Bombus crotchii*; CBB)
  Ferruginous hawk (*Buteo regalis)*
- Golden eagle (*Aquila chrysaetos)*
- Grasshopper sparrow (*Ammodramus savannarum)*
- merlin (*Falco columbarius)*Swainson's hawk (*Buteo swainsoni*; SWHA)
- Tricolored blackbird (*Agelaius tricolor;* TRBL)
- Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*; VELB)
- Vernal pool fairy shrimp (*Branchinecta lynchi)*
- Vernal pool tadpole shrimp (*Lepidurus packardi)*
- Western pond turtle (*Actinemys marmorata*)
- Western spadefoot toad (*Spea hammondii*; WST)
- White-tailed kite (*Elanus leucurus)*

Aquatic Resources

- Wetlands and non-wetland waters of the U.S. and state

Sensitive Communities and Habitats

- Northern hardpan vernal pool sensitive natural community
- Valley needle grassland sensitive natural community
- U.S. Fish and Wildlife Service (USFWS) Designated Critical Habitat (DCH):
  - Sacramento Orcutt Grass and Slender Orcutt Grass
  - Vernal Pool Fairy Shrimp and Vernal Pool Tadpole Shrimp
- National Oceanic Atmospheric Administration (NOAA) Essential Fish Habitat (EFH):
  - Central Valley Steelhead, Sacramento River Winter-Run Chinook Salmon, and Central Valley Spring-Run Chinook Salmon
- Riparian zones and habitat
- Tree resources, including oak woodlands and forest

Additional Resources Applicability

- Mather Core Recovery Area
- South Sacramento Habitat Conservation Plan

The significance criteria used to evaluate impacts to the biological and aquatic resources detailed above are based on CEQA Guidelines, as well as federal, state, and local regulatory guidance pertaining to special-status biological resources and potential jurisdictional aquatic resources. The Project could have direct permanent, temporary, and/or indirect impacts to biological and/or aquatic resources within the solar development area. Impacts were evaluated within the solar development area based on Project component(s) and/or activity type(s) in conjunction with the biological or aquatic resource(s) and its applicable regulation(s) and jurisdictional authority. Specifically, the following Project components detailed in the site plan (Primoris 2023) were evaluated for resource impacts: the BESS site; earthwork limits; exclusion zones; fence posts; fenced areas; the gen-tie corridor; inside work areas; inverter locations; laydown/staging areas; overhead transmission corridors; solar module post pile; transmission pole risers; PV modules/solar panels; roads; the substation site; the switchyard site; and water crossing locations. Impacts in this BTR are generally evaluated as follows:

- Direct Permanent Impacts- direct permanent physical loss of a biological and aquatic resource typically due to clearing and grading associated with implementation of a project. Direct permanent impacts are analyzed in four ways: (1) direct permanent loss of vegetation communities and natural land cover types; (2) direct permanent loss of or harm to individuals of special-status plant and wildlife species; (3) direct permanent loss of suitable and/or occupied habitat for special-status species; and/or (4) direct permanent loss of wildlife movement and habitat connectivity in the Project vicinity.
- Temporary Impacts- temporary loss of biological and aquatic resources typically due to clearing and grading associated with implementation of the Project. Temporary impacts generally occur for a short period and would normally be reversible.
- Indirect Impacts- reasonably foreseeable effects of Project implementation on remaining or adjacent biological and aquatic resources outside the direct disturbance zone that may occur during typical grading or maintenance activities or later in time because of the Project.

Based on the resources evaluated in this BTR and the preliminary analysis of impacts, it has been concluded that the Project impacts are less than significant with avoidance, minimization, and/or mitigation.

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1 Introduction

1.1 Purpose

Dudek prepared this Biological Technical Report (BTR) for the Coyote Creek Agrivoltaic Ranch Project (Project). The purpose of this BTR is to provide a complete overview of biological and aquatic resources within the Project Study Area (PSA) and to identify regulatory constraints in relation to these resources. In addition, this BTR provides support for lead and responsible agency analyses, determinations, and findings pursuant to the California Environmental Quality Act (CEQA) and supports impact determination and mitigation planning for state and federal permitting. The PSA (2,704 acres) that was evaluated for this BTR is composed of the "solar development area" (1,412 acres, which includes the grading limits, generation tie line (gen-tie), switch yard areas, and construction staging areas) plus the remaining areas outside of the solar development area, which will be referred to herein as "adjacent other lands" (1,292 acres), per the site plan (Primoris Services Corporation 2023) (Figure 1, Project Location). This BTR includes a description of the Project; methods used to assess biological and aquatic resources, including analysis of the literature and database review; compiled field surveys; results of the assessment of biological and aquatic resources; resource impact assessments; and recommended avoidance and minimization measures (AMMs) and/or mitigation to reduce potential impacts.

1.2 Project Location

The PSA is located on Barton Ranch adjacent to 3830 Scott Road, Sacramento County, California (Figure 1). The site is approximately 2.5 miles south of White Rock Road in the Cosumnes rural residential community. The PSA is located approximately 4.5 miles south of U.S. Route 50, southeast of the Prairie City State Vehicle Recreation Area (SVRA) and is bisected by Scott Road. The gen-tie line portion of the Project (see below Section 1.3- Project Description) would extend approximately 1.3 miles to provide an interconnection to the Sacramento Municipal Utility District (SMUD) 230-kilovolt powerline, which runs through the Prairie City SVRA (Figure 2, Project Setting, and Figure 3, Site Plan).

The Project location was selected because of its proximity to the existing SMUD transmission corridor, the fact that the land is actively used for grazing activities (i.e., disturbed), the site's nearby access to existing roads, and the site's excellent solar irradiance. Land uses in the area include grazing, aggregate mining, Aerojet's currently vacant industrial lands, and the Prairie City SVRA. The main access to the Project would be from Scott Road.

- **County:** Sacramento
- **Public Land Survey System:** S5-8,31-32,35-36; T08-09N; R07-08E
- **U.S. Geological Survey (USGS) 7.5-Minute Quadrangle (quad):** Buffalo Creek (west) and Folsom SE (east)
- **Latitude, Longitude (decimal degrees):** 38.576278°, −121.132944° (Centroid)
- **Elevation Range:** 153 to 368 feet above mean sea level (amsl)
- **Average Elevation:** 261 feet amsl
- **PSA:** 2,704 acres
  - Solar Development Area: 1,412 acres
  - Adjacent Other Lands: 1,292 acres
- **Assessor's Parcel Numbers:** See Table 1 below

Table 1. Assessors Parcels within the Project Study Area

Assessor's Parcel Number	Total Approximate Acreage
072-0100-016	2.40
072-0100-017	13.69
072-0100-018	38.56
072-0110-022	3.05
072-0110-045	7.70
072-0110-066	36.82
072-0110-067	79.87
072-0110-069	83.73
072-0110-070	80.89
072-0110-071	81.07
072-0110-069	55.22
072-0110-073	41.52
072-0110-074	27.16
072-0110-075	18.27
072-0110-076	27.97
072-3160-003	2.22
073-0010-026	0.09
073-0020-008	4.98
073-0020-015	29.75
073-0020-022	13.77
073-0020-029	11.26
073-0020-032	15.76
073-0020-033	13.19
073-0020-034	78.74
073-0020-035	38.05
073-0020-036	39.14
073-0020-037	39.19
073-0020-038	12.33
073-0020-039	73.46
073-0020-040	57.80
073-0020-041	40.06
073-0020-042	73.57
073-0020-043	48.59
073-0020-044	52.42
073-0020-045	105.13
073-0020-046	4.17
073-0020-048	5.53
073-0020-049	41.05
073-0020-050	55.84
073-0020-051	78.46
073-0020-052	83.43
073-0020-053	33.84

Table 1. Assessors Parcels within the Project Study Area

Assessor's Parcel Number	Total Approximate Acreage
073-0020-054	85.35
073-0020-055	6.14
073-0020-056	68.48
073-0020-057	40.48
073-0020-058	66.31
073-0020-059	73.36
073-0020-060	36.97
073-0020-061	80.44
073-0020-062	12.28
073-0020-063	11.57
073-0020-064	62.81
073-0020-065	17.81
073-0020-066	39.88
073-0020-067	11.84
073-0020-068	9.70
073-0020-069	17.17
073-0020-070	39.61
073-0020-071	15.33
073-0020-072	42.92
073-0020-073	5.62
073-0020-074	32.13
073-0020-075	6.37
073-0020-076	2.07
073-0020-077	29.46
073-0050-015	0.33
073-0050-040	1.96
073-0050-041	11.96
073-0050-043	5.29
073-0050-050	10.84
072-3160-002	41.70
072-0100-027	63.41
072-0100-018	51.25
072-0110-031	6.75
072-0110-068	45.42

Source: County of Sacramento 2023a.

1.3 Project Description

The Project would consist of the following components:

- On-site substation and SMUD switchyard;

- Solar photovoltaic (PV) modules mounted on single axis tracking systems and power conversion station including inverters and transformers;
- Energy storage system with capacity to store approximately 100 megawatt AC/400 megawatt hours of energy;
- Meteorological towers;
- Diesel-, propane-, or battery-powered backup generators;
- Water storage tanks and groundwater wells;
- Private access roads;
- Landscaping (screening) along Scott Road;
- Agricultural-style woven-wire perimeter fencing;
- Temporary laydown yards to accommodate construction;
- Gen-tie line; and
- Operation and maintenance buildings.

The below Section 1.3.1- Solar Energy Generation System, provides an overview of the primary Project components.

1.3.1 Solar Energy Generation System

The Project would include approximately 200 megawatt AC solar power generation. The fenced solar facility would house the solar array and associated infrastructure, including solar panels, single axis tracking support structures, inverters, transformers, supervisory control and data acquisition (SCADA), and interconnection facilities (on-site substation) (Figure 1). Solar energy would be captured by PV panels mounted on a single-axis tracker system. Depending on the selected manufacturer for the PV modules, the modules would be mounted on fixed-tilt, single- or dual-axis tracking structures. The modules would be grouped in 1 to 4 megawatt alternating current (AC) arrays. Fixed-tilt arrays would be oriented in east/west rows and would face in a generally southern orientation with a tilt angle of 10 to 40 degrees to maximize the amount of solar radiation absorbed over the year. Single-axis trackers typically rotate ±60 degrees (0 degrees is horizontal) along a north/south axis to track the sun's movement throughout the day. Structural support elements would be constructed of corrosion-resistant steel, aluminum, or equivalent materials that are attached to circular piers or I-beam posts that would be direct-driven into the prepared base grade of the site. Ground disturbance would be minimized to the greatest extent feasible to retain the existing vegetation coverage and topography.

The racking system would be supported, when practical, by driven piers (piles) directly embedded into the ground and would be parallel to the ground. Each rack would hold approximately 80 to 90 panels (depending on final configuration), and at its highest edge would have a maximum height of approximately 12 feet above grade, depending on the dimensions of the chosen panel and racking technology. The minimum clearance from the lower edge of the panel to ground level would be approximately 18 inches, pending final design.

At the center of each array "block" would be a power conversion station where inverters take the direct current power output from the PV modules and convert it to AC power. The adjacent pad-mounted transformer steps the voltage up to a medium-voltage level. The inverter stations are typically open-air and approximately 12 feet in height. The medium-voltage outputs from each of the pad-mounted transformers are collected in combining switchgear located at discrete locations on the Project site. The output power from the inverter stations is then fed to the AC collection system through an aboveground or belowground collection system. This AC collection system would deliver the electricity to the 230 kilovolt on-site substation, where the voltage would be stepped up through a transformer to the interconnection voltage.

1.3.2 On-Site Substation

The Project's on-site substation would be the termination point of the collection system for 34.5 kilovolt electricity. The output of the entire field would be passed through a final interconnection step-up transformer to convert it to the grid tie voltage at 230 kilovolts. The communication system may include aboveground or belowground fiber-optic cable or microwave tower within the substation's fenced boundary. The Project would be interconnected to the regional transmission system from the on-site substation/switchyard via the gen-tie line facilities described in this Project description. Additionally, the Project's on-site substation would host the grid intertie safety equipment and switches required to interconnect to the high-voltage transmission system. The open-air on-site substation would be constructed on the western limits of the Project site. The Project's on-site substation would consist of components up to 150 feet in height, and feeders would be overhead lines constructed with 150-foot-tall and 100-foot-tall poles for the single and double circuits, respectively.

1.3.3 Battery Energy Storage System

The Project would include a centralized Battery Energy Storage System (BESS) that would be constructed adjacent to the Project substation. A BESS would help the array produce a more reliable source of electricity in the case of cloudy periods throughout the day that would decrease array production and help meet peak demand in the late afternoon and evening hours when electricity is needed most. The BESS is proposed to provide a capacity of approximately 400 megawatt hours in small modular structures similar in appearance to cargo shipping containers. The maximum height of the modular system would be approximately 25 feet. The associated inverters, transformers, and switchgear would be immediately adjacent to the BESS facilities on an outdoor pad. The Project may store energy generated by the Project and energy from the grid. Although not currently anticipated, the Project may also incorporate energy storage housed directly at the solar array inverters. Currently, it is anticipated that the centralized BESS would provide the best solution for the Project, but changing technology may allow for BESS facilities to be distributed at the inverters in the future.

The BESS equipment would have a fire rating in conformance with local fire authority and Sacramento County standards. The BESS facilities would have heating, ventilation, and air conditioning to maintain battery efficiency. Power to the heating, ventilation, and air conditioning and lighting, among others, would be provided through a connection to the on-site station service transformer. The BESS would be un-staffed and have remote operational control. Periodic inspections/maintenance would be performed as necessary.

1.3.4 Gen-Tie Line and SMUD Switchyard

The energy from the solar energy generation and energy storage systems would be transported from the on-site substation to SMUD's 230 kilovolt powerlines. The route of the gen-tie line would extend approximately 1.3 miles from the facility's on-site substation to the western terminus of the gen-tie line where it would interconnect into SMUD facilities (Figure 2). The 230 kilovolt gen-tie line would consist of one or two single-circuit structures, which could be constructed with up to 150-foot-tall wood, concrete, or steel poles. The gen-tie line would use existing dirt and paved access roads where available, but improvements and new road sections may be required for construction, operations, and maintenance, along with decommissioning activities. A lower-voltage powerline and communications line would share the same structures or share the same easement to provide power and communications to the Project. A new 230 kilovolt switchyard approximately 600 feet by 600 feet would be constructed at the point of interconnection with SMUD's existing 230 kilovolt powerlines. The new switchyard would

be owned and operate by SMUD following construction and may include restroom facilities for workers completing maintenance activities. Additionally, a retention basin would be on the south and west sides of the switchyard to control stormwater run-off. The area for the switchyard and interconnection improvements would be constructed within an easement granted over Prairie City SVRA property. Impacts to the existing Prairie City SVRA is anticipated to be minimal but may require some temporary closures or rerouting of existing Prairie City SVRA infrastructure. The applicant would continue to engage Prairie City SVRA staff to ensure that any necessary closures, reroutes, or improvements are completed as necessary to accommodate construction and operations of the gen-tie line. The switchyard would be designed to avoid or relocate existing groundwater monitoring wells. The switchyard would be in an area in which Aerojet is performing groundwater remediation.

1.3.5 Ancillary Facilities

1.3.5.1 Access Road

Access to the Project site would be from Scott Road. Access to components of the solar field would be controlled through security gates at entrances. Multiple gate restricted access points would be used during construction and operation. Access roads were designed to improve access to the Project site during construction while minimizing environmental impacts, such as crossings of aquatic resources. Access roads are anticipated to range from 12 to 20 feet in width and would consist of a gravel base. Access road widths may be reduced to further reduce environmental impacts, and access road width will be finalized in coordination with the fire department and Sacramento County prior to building permit issuance before construction. The Project access roads would connect to existing paved access roads on the perimeter of the Project site.

1.3.5.2 Security

Signage and Landscaping

To ensure the safety of the public and the facility, the Project property would be fenced, security lighting may be installed, and signs would be posted on all gates and doors. Spacing would generally be at 500-foot intervals if there are no nearby roads providing access. Signs would be placed at 75-foot intervals along roadways. Access to the site would be controlled, and gates would be installed at the roads entering the property. The fence would be monitored periodically to detect any intrusion into the property. The Project proposes to construct a 7-foot-tall agricultural woven wire fence that would be enhanced with landscaping along Scott Road.

Agricultural-style fencing in conjunction with native landscaping (primarily evergreen oaks) would be used to blend the dark profile of the array into the background for members of the public travelling along Scott Road. There are no other readily available public viewpoints (e.g., roadways, parks) that would require landscaping other than Scott Road. Temporary irrigation would ensure maximized success of proposed landscaping. The native landscaping would provide both screening of the Project and habitat for native species.

Perimeter Fence

The solar arrays and supporting facilities would be enclosed by an approximately 7-foot-tall agricultural-style woven wire fence. This type of fencing was selected as a cost-effective solution that blends with existing fencing in the area as compared to chain-link fencing. No barbed wire is anticipated at most of the facility, other than the substation, switchyard, and BESS, which are anticipated to have chain-link fencing with barbed wire or an

equivalent. Access into the Project site would be provided through drive-through gates. The main purpose of the fence is to prevent unauthorized access to the site. The total height, above grade, of the fence would be approximately 7 feet. Perimeter fencing would be installed around each solar array, BESS facilities, and substation.

Lighting

Low elevation (lower than 14 feet), controlled security lighting would be installed at primary access gates, the on-site substation, and at the entrances to the BESS facilities. The lighting would only switch on when personnel enter the area (through either motion-sensor or manual activation [switch]). The lighting would be shielded so the light is directed downward. Electrical power to supply the access gate and lighting would be obtained from SMUD. Lighting would only be in areas where it is required for safety, security, or operations. All lighting would be directed on site and would include shielding as necessary to minimize illumination of the night sky and potential impacts to surrounding viewers.

Electric Service

Permanent electric service would be obtained for auxiliary loads. Service would be provided by SMUD. Temporary electric service would be obtained for primary construction logistical areas. Generator power may be used for temporary portable construction trailer(s), construction, and/or commissioning.

Communications Systems

The Project would use telephone and internet services that would be provided via overhead or underground lines, microwave tower, or cellular service obtained from a local provider. A SCADA system would be implemented to remotely monitor the Project 24 hours per day, 7 days per week during operations to ensure safe and efficient operations.

Fire Control

The PV modules and ancillary equipment would be constructed of fire-resistant material. Landscape maintenance and/or grazing activities would help ensure control of vegetation. The applicant would continue to engage with local fire and emergency management officials to ensure that the Project is designed to comply with local requirements and expectations. During the dry season, grasses within the facility would be kept at a height of 6 inches to reduce wildfire risk. This is anticipated to be accomplish via grazing, although mowing may be supplemented on an as needed basis to ensure fire risk is mitigated. Lock boxes will be placed at all gated entrances to allow access to emergency services.

Groundwater Wells

On-site groundwater wells may be used to provide construction water needs and operational needs to support activities such as grazing and panel washing. Groundwater well options include the drilling of new wells. Up to four wells would be required to support construction activities. Off-site sources of water may also be sourced and hauled to the site. Based on the anticipated Project life of 35 years, impacts to the water table from construction and operations are anticipated to be negligible.

1.3.6 Ranching Activities

The Project would continue to use land for agricultural activities, which would consist of apiary facilities and/or grazing activities when economically viable. The land has historically been used for sheep and cattle grazing and for apiary facilities. Cattle grazing is anticipated to remain in areas outside of the solar fence line, and sheep would graze within the solar fence line.

Project grading is designed to minimize landform modification associated environmental effects. The grading plan softens the steepness of slopes only to the extent necessary to accommodate safe construction working conditions and for engineering tolerances associated with solar racking. Areas that are disturbed would be reseeded with seed mixes that are proven to thrive in the local environment.

Animal productivity on the site is dependent on the weather and the amount of forage available, and grazing would remain dependent on annual climate differences. The Project would implement the agricultural management with the goal of achieving similar animal productivity and carrying capacity to that currently existing. This would involve the establishment of seed mixes and watering troughs that would allow for sheep grazing within the fenced portions of the Project site.

1.3.7 Construction

Construction is planned to occur over approximately 18 months. Construction would include the following types of activities generally in the following sequence of activities:

- Site preparation and installation of best management practices
- Security fence installation
- Tree removal
- Site preparation and clearing/grading
- Road and utility construction
- Underground work (trenching)
- System installation
- Gen-tie line and switchyard installation
- BESS installation
- Testing and commissioning
- Site cleanup and restoration

For all phases of construction, construction equipment would be delivered to the site on "low bed" trucks unless the equipment can be driven to the site (e.g., boom trucks). Prior to site preparation, best management practices would be implemented to ensure adequate soil stabilization measures and off-site sedimentation are avoided prior to significant earth-disturbing activities. This would include measures such as silt fence installation, installation of avoidance fencing for sensitive areas, implementation of rock pads at public road entrances and exits, and more. Due to topography of the site, the construction contractor is evaluating the use of erosion-control sediment basins to reduce the potential for off-site sedimentation. The use of sediment basins has been conservatively estimated in the grading evaluation but may be reduced as construction plans are finalized. Site preparation would include the clearing of trees, removal of root balls, and backfilling of holes to accommodate

solar construction. Merchantable timber would be hauled off site for local use, and the remainder would be chipped on site and temporarily stockpiled to assist in site stabilization and revegetation efforts later in the construction sequence. The hydrology design was prioritized to protect the Project's facilities and adjacent facilities from large storm events. Grading was designed to avoid and minimize effects on aquatic resources. If the site is unable to be balanced upon final design, any excess cut material would either be used to support other construction backfill needs (e.g., filling of holes following root ball removal), would be distributed across larger swaths of the array area, or would be stockpiled and stabilized for distribution at decommissioning. No excess cut/fill material, other than potential relatively small amounts of fill associated with the proposed switchyard, is anticipated to be hauled off site during construction.

If the subsurface is too hard to excavate, blasting would be conducted. Rock blasting is the controlled use of explosives to excavate, break down, or remove rock. The result of rock blasting is often known as a rock cut and/or crushed rock. The most commonly used explosives today are ammonium nitrate/fuel oil (ANFO)–based blends due to their lower cost compared to dynamite. Blasting times would be limited to the hours permitted in the Sacramento County ordinance, and nearby residents would be notified in advance if blasting needs to occur. Blasting will be limited only to areas onsite that have hard bedrock and where grading is required. Blasting is anticipated to occur within approximately 106.41 acres of the solar development area on an as needed basis (Figure 3).

Following grading, racking installation would begin. Much of the Project would be installed via direct-driven piles to support the solar modules and racking. Some piles would require pre-drilling in areas of shallow bedrock or rocky soils. Following installation of piles, racking and torque tubes would be installed to hold the solar modules. Prior to installation, the PV modules would be off-loaded and installed using small cranes, boom trucks, forklifts, rubber-tired loaders, rubber-tired backhoes, and other small- to medium-sized construction equipment as needed.

A variety of methods would be used for installation of underground collection lines. In areas of underground collection, plowing or trenching equipment would be used that excavates the line location, places the line, and immediately backfills thereafter. This allows for a significant reduction of soil disturbing activities compared to traditional trenching. In some locations, dependent on soil conditions, more traditional trenching via backhoe may be required. In other locations, aboveground collection would be used for collection lines. These locations would place electrical pole infrastructure, likely wooden poles via direct drive or pre-drilled where necessary. Trucks with workers would follow the installation process to install the lines thereafter.

Inverters would be delivered via truck bed to their location via the gravel access roads, where they would be put in place via a boom or crane. BESS, substation, and switchyard equipment would similarly be delivered for installation to their location of installation.

Following installation of the array and interconnection facilities, commissioning and testing would occur. Commissioning would generally certify that facility equipment is certified and ready for energy delivery into the electric grid. Commissioning would be completed in close coordination with SMUD to ensure that all utility standards and expectations are met.

As commissioning of the facility progresses, site cleanup and restoration activities would be ongoing. This includes final site stabilization of exposed soils and final seeding and revegetation, cleanup of any remaining on-site refuse, final installation of Project landscaping, removal, and restoration of site laydown yards/temporary construction facilities, and more. Many site restoration activities would occur long before decommissioning to ensure that the facility remains in good working order throughout the construction period.

1.3.7.1 Construction Schedule

This Project is anticipated to be built over an approximately 18-month timeframe from the onset of security fence installation through testing and commissioning of the facility. It is anticipated that the work would be completed in 8- to 10-hour shifts, with a total of five shifts per week (Monday Friday). Overtime and weekend work would be used only as necessary to meet scheduled milestones or to accelerate the schedule and would comply with all applicable California labor laws and applicable Sacramento County rules. Typical construction work hours are expected to be from 6:00 a.m. to 4:00 p.m. However, the schedule may change based on a need to comply with various biological mitigation measures (MMs), overall construction timing, or worker safety such as avoidance of excessive midday heat. Work at night would be performed occasionally within limited areas of the site.

1.3.7.2 Temporary Construction Facilities

During construction, temporary facilities would be developed on site to facilitate the construction process. Temporary laydown yards are anticipated and may include construction trailers, temporary septic systems or holding tanks, parking areas, material receiving/storage areas, water storage ponds, construction power service, recycling/ waste handling areas, and others. These facilities would be in the areas designated on the final site plan.

1.3.8 Water Use

Water consumption during construction is estimated to be approximately 253 acre-feet for dust suppression, earthwork, and plant re-establishment over an approximately 18-month period. Construction water would be available from on-site wells. New wells may be drilled. Water may also be obtained from off-site sources. Construction-phase water demand would be greatest during site grading, which would consist of scrapers, dozers, graders, and disc and roll compaction over the site. Operational water use is described below in Section 1.3.9- Operation and Maintenance.

1.3.9 Operation and Maintenance

An operations and maintenance building are anticipated to support periodic maintenance activities necessary at the site. The location of the operations and maintenance building is still under evaluation based on regional needs of other solar facilities. An operations and maintenance building may be constructed on site. Alternatively, an off-site operations and maintenance building may be used that services other projects in the Sacramento area. It is anticipated that an on-site operations and maintenance building and any associated staging/laydown would be constructed in an upland area without impacts to sensitive resources, likely adjacent to Scott Road. An off-site location would most likely utilize existing office/warehouse space, if available for lease or purchase.

Operations would be monitored remotely through the SCADA system, and periodic inspections and maintenance activities would occur. During operations, solar panel washing is expected as performance testing, weather, and site conditions dictate. General labor (up to 10 individuals) may assist in the panel cleaning.

The operational phase water demand is anticipated to be limited to solar panel cleaning and occasional restroom use by maintenance workers. A restroom inside of the control building within the substation would accommodate occasional worker use with one toilet and one sink. Water demand for the operation and maintenance phase was estimated to be 3,376 gallons of water per megawatt. Based on the Project's estimated production of 200 megawatt, the water demand for a single panel-washing event would be approximately 2 acre-feet. Assuming

washings would be required once a year, the annual operations and maintenance water demand is estimated to be 2 acre-feet per year (note that panel washing is typically not required in average or wet water years). Water trucks would be used to deliver water for panel washing operations from a local purveyor. The water used for panel washing operations would be clean water, with no chemicals added. The restroom water demand is estimated to be an additional 0.2 acre-feet per year. Water for the agricultural component of the Project would be equivalent to or less than under existing conditions, and therefore would not represent an increase in water use over baseline conditions for that purpose.

1.3.10 Decommissioning

The planned operational life of the facility is approximately 35 years. However, if the facility continues to be economically viable, it could be operated for a longer period.

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2 Regulatory Setting

2.1 Federal

2.1.1 Clean Water Act

The Clean Water Act (CWA) is the major federal legislation governing water quality, providing guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters. Section 401 of the CWA requires an applicant for a federal license or permit that may result in a discharge of pollutants into waters of the U.S. to obtain state certification, thereby ensuring that the discharge will comply with provisions of the CWA. The State Water Resources Control Board and Regional Water Quality Control Boards (RWQCBs) administer the 401 certification program in California. Section 402 of the CWA establishes a permitting system for the discharge of any pollutant (except dredged or fill material) into waters of the U.S. Section 404 establishes a permit program administered by the U.S. Army Corps of Engineers (USACE) that regulates the discharge of dredged or fill material into waters of the U.S., including wetlands. USACE implementing regulations are found in 33 Code of Federal Regulations (CFR) Parts 320 to 332. Guidelines for implementation are referred to as the Section 404(b)(1) Guidelines, which were developed by the U.S. Environmental Protection Agency (USEPA) in conjunction with USACE (40 CFR 230). The Guidelines allow the discharge of dredged or fill material into the aquatic ecosystem only if there were no practicable alternative that would have less adverse impacts.

2.1.1.1 Section 404

The definition of waters of the U.S. establishes the geographic scope for authority under Section 404 of the CWA; however, the CWA does not specifically define" Waters of the United States," leaving the definition open to statutory interpretation and agency rulemaking. The definition of what constitutes "Waters of the United States" (provided in 33 CFR Section 328.3[a]) has changed multiple times over the past few decades starting with the United States v. Riverside Bayview Homes, Inc. court ruling in 1985. Subsequent court proceedings, rule makings, and congressional acts in 2001 (*Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers*), 2006 (*Rapanos v. United States*), 2015 (Clean Water Rule), 2018 (suspension of the Clean Water Rule), 2019 (formal repeal of the Clean Water Rule), 2020 (Navigable Waters Protection Rule), and 2021 (*Pasqua Tribe et al v. United States Environmental Protection Agency* resulting in remand and vacatur of the Navigable Waters Protection Rule and a return to "the pre-2015 regulatory regime") have attempted to provide greater clarity to the term and its regulatory implementation. A Revised Definition of "Waters of the United States" rule (Rule) (88 CFR 3004–3144) became effective on March 20, 2023, restoring federal jurisdiction over waters that were protected prior to 2015 under the CWA for traditional navigable waters, the territorial seas, interstate waters, and upstream water resources that significantly affect those waters. The Rule represented a re-expansion of federal jurisdiction over certain water bodies and wetlands previously exempt pursuant to the 2020 Navigable Waters Protection Rule. The Rule also considered various subsequent court decisions including two notable Supreme Court decisions. However, the applicability of the Rule was substantially affected by a subsequent May 2023 Supreme Court ruling as discussed further below.

The Rule reinstated the "Significant Nexus" test, which refers to waters that either alone, or in combination with similarly situated waters in the region, significantly affect the chemical, physical, or biological integrity of traditional navigable waters, interstate waters, or the territorial seas (86 FR 69372-69450). The "Significant Nexus" test attempts to establish a scientific connection between smaller water bodies, such as ephemeral or intermittent

tributaries, and larger, more traditional navigable waters such as rivers. Significant nexus evaluations take into consideration hydrologic and ecologic factors including, but not limited to, volume, duration, and the frequency of surface water flow in the resource and its proximity to a traditional navigable water, and the functions performed by the resource on adjacent wetlands. The Rule also adopts the "Relatively Permanent Standard" test. To meet the "Relatively Permanent Standard" water bodies must be relatively permanent, standing, or continuously flowing and have a continuous surface connection to such waters.

On May 25, 2023, in Sackett v. USEPA the Supreme Court issued an opinion in a case concerning the applicability of the term "Waters of the United States" in the CWA to wetlands adjacent to other waters. The Court concluded that to assert CWA jurisdiction over an adjacent wetland under the CWA, a party must establish that (1) the adjacent body of water constitutes water[s] of the United States' (i.e., a relatively permanent body of water connected to traditional interstate navigable waters) and (2) the wetland has a continuous surface connection with that water, making it difficult to determine where the water ends and the wetland begins. The USACE and the U.S. Environmental Protection Agency have announced that they are considering revisions to the Rule to address the Sackett decision. The term "wetlands" (a subset of Waters of the U.S.) is defined in 33 CFR, Section 328.3(c)(16), as "areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." In the absence of wetlands, the limits of USACE jurisdiction in non-tidal waters, such as intermittent streams, extend to the "ordinary high water mark," (OHWM) which is defined in 33 CFR 328.3(c)(7) as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas."2.1.2

2.1.1.2 Section 401

Section 401 of the CWA provides states and authorized tribes with a valuable tool to help protect the water quality of federally regulated waters within their borders (i.e., waters of the state), in collaboration with federal agencies.

On June 1, 2020, the USEPA finalized the 2020 CWA Section 401 Certification Rule (i.e., the 2020 Rule). The 2020 rule became effective on September 11, 2020. The 2020 Rule was vacated on October 21, 2021, and the vacatur was stayed on April 6, 2022, so the 2020 Rule is currently in effect (USEPA 2022).

As such, the USEPA's regulations at 40 CFR 121 address CWA Section 401 certification generally. Under Section 401 of the CWA, a federal agency may not issue a permit or license to conduct any activity that may result in any discharge into waters of the U.S. unless a CWA Section 401 water quality certification is issued, or certification is waived. States and authorized tribes where the discharge would originate are generally responsible for issuing water quality certifications. In cases where a state or tribe does not have authority, USEPA is responsible for issuing certification. In making decisions to grant, grant with conditions, or deny certification requests, certifying authorities consider whether the federally licensed or permitted activity will comply with applicable water quality standards, effluent limitations, new source performance standards, toxic pollutants restrictions, and other appropriate water quality requirements of state or tribal law. A federal agency may not issue a license or permit for an activity that may result in a discharge into waters of the U.S. without a water quality certification or waiver (USEPA 2022).

The California State Water Resources Control Board has authority over waters of the state, including wetlands, through Section 401 of the CWA, the Porter-Cologne Water Quality Control Act (Porter-Cologne Act), California Code of Regulations Section 3831(k), and the California Wetlands Conservation Policy. The CWA requires that an applicant for a Section 404 permit (to discharge dredge or fill material into waters of the U.S. first obtain certification from the appropriate state agency stating that the fill is consistent with the state's water quality standards and criteria. In California, the authority to either grant certification or waive the requirement for permits is delegated by the State Water Resources Control Board to the nine regional boards. The Central Valley RWQCB has authority for Section 401 compliance in the Project region. A request for Water Quality Certification is submitted to the RWQCB while an application is filed with USACE (USEPA 2022).

2.1.2 Federal Endangered Species Act

The Federal Endangered Species Act (FESA) of 1973, as amended (16 USC 1531 et seq.), serves as the enacting legislation to list, conserve, and protect threatened and endangered species, and the ecosystems on which they depend, from extinction. In addition, for those wildlife species listed as federally endangered, FESA provides for the ability to Designated Critical Habitat (DCH), defined as that habitat considered "essential to the conservation of the species" and that "may require special management considerations or protection."

Under FESA Section 7, if a project that would potentially result in adverse impacts to threatened or endangered species includes any action that is authorized, funded, or carried out by a federal agency, that agency must consult with the U.S. Fish and Wildlife Service (USFWS) to ensure that any such action is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of DCH for that species. FESA Section 9(a)(1)(B) prohibits the taking, possession, sale, or transport of any endangered fish or wildlife species. "Take" is defined to mean "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct" (16 USC 1532[19]). With respect to any endangered species of plant, Sections 9(a)(2)(A) and 9(a)(2)(B) prohibit the possession, sale, and import or export, of any such species, and prohibits any action that would "remove and reduce to possession any such species from areas under federal jurisdiction; maliciously damage or destroy any such species on any such area; or remove, cut, dig up, or damage or destroy any such species on any other area in knowing violation of any law or regulation of any state or in the course of any violation of a state criminal trespass law." Pursuant to FESA Section 10(a)(1)(B), USFWS may issue a permit for the take of threatened or endangered species if such taking is "incidental to, and not the purpose of, the carrying out of an otherwise lawful activity" (USFWS 2023a).

2.1.3 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) regulates or prohibits taking, killing, possession of, or harm to migratory bird species listed in CFR Title 50, Section 10.13. The MBTA is an international treaty for the conservation and management of bird species that migrate through more than one country and is enforced in the United States by the USFWS. Hunting of specific migratory game birds is permitted under the regulations listed in CFR Title 50, Section 20. The MBTA was amended in 1972 to include protection for migratory birds of prey (raptors). On December 22, 2017, the U.S. Department of Interior issued a legal opinion (M-Opinion 37050) that interpreted the above prohibitions as only applying to direct and purposeful actions of which the intent is to kill, take, or harm migratory birds; their eggs; or their active nests. Incidental take of birds, eggs, or nests that are not the purpose of such an action, even if there are direct and foreseeable results, was not prohibited. On January 7, 2021, the USFWS published a final rule (the January 7th rule) that codified the previous administration's interpretation, which after further review was determined to be inconsistent with most relevant court decisions and readings of the MBTA's

text, purpose, and history. On May 7, 2021, the USFWS published a proposed rule to revoke the January 7th rule, which would result in a return to implementing the statute as prohibiting incidental take. On July 19, 2021, the USFWS announced the availability of two revised economic analysis documents for public review that evaluate the potential for the proposed rule to impact small entities, including businesses, governmental jurisdictions, and other organizations. The public review period on these documents ended on August 19, 2021. A final rule revoking the January 7th rule was published on October 4, 2021 and went into effect on December 3, 2021. In their summary of the October 4, 2021 final rule, the USFWS explained that "the immediate effect of this final rule is to return to implementing the MBTA as prohibiting incidental take and applying enforcement discretion, consistent with judicial precedent and longstanding agency practice prior to 2017" (86 FR 54642). (USFWS 2023a).

2.1.4 Bald and Gold Eagle Protection Act

The Bald and Golden Eagle Protection Act (BAGEPA) (16 USC 668 et seq.) provides for the protection of both bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*). Specifically, the BAGEPA prohibits take of eagles, which is defined as any action that would "pursue, destroy, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb" bald and golden eagles, including parts, nests, or eggs. The term "disturb" is further defined by regulation as "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, injury to an eagle, a decrease in productivity, or nest abandonment" (50 CFR 22.3). Under the BAGEPA, it is also illegal to "sell, purchase, barter, trade, import, or export, or offer for sale, purchase, barter, or trade, at any time or in any manner, any bald eagle or any golden eagle, or the parts, nests, or eggs" of these birds. Pursuant to 50 CFR 22.26, and as of the latest amendment to the BAGEPA in December 2016, a permit may be obtained that authorizes take of bald eagles and golden eagles where the take is "compatible with the preservation of the bald eagle and the golden eagle; is necessary to protect an interest in a particular locality; is associated with, but not the purpose of, the activity; and cannot practicably be avoided" (USFWS 2023b).

2.2 State of California

2.2.1 California Environmental Quality Act

The CEQA, PRC Section 21000 et seq., requires public agencies undertaking discretionary actions to approve a project to first determine whether a project may have a significant effect on the environment, and then to prepare an environmental impact report if there is substantial evidence that the project may have a significant effect on the environment. Where an environmental impact report has been prepared, CEQA further requires public agencies to adopt findings with respect to each significant effect that "changes or alterations have been required in, or incorporated, into the project which mitigate or avoid the significant effects on the environment; that those changes are within the responsibility and jurisdiction of another public agency and have been, or can and should be, adopted by that other agency; or that specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the MMs or alternatives identified in the environmental impact report" (PRC Section 21081[a]).

The California Natural Resources Agency has adopted regulations (i.e., Guidelines) to implement CEQA. Pursuant to CEQA Guidelines Section 15380, protection is provided for federal and/or state-listed species, as well as species not listed federally or by the state that may be considered rare, threatened, or endangered. Species that meet these criteria can include candidate species, species proposed for listing, and Species of Special Concern (SSC). Plants listed in the California Native Plant Society (CNPS) Rare Plant Program are considered to meet CEQA's

Section 15380 criteria as well. Section 15380 also addresses a potential situation in which a public agency is to review a project that may have a significant effect on, for example, a candidate species, which has not yet been listed by USFWS or California Department of Fish and Wildlife (CDFW). Therefore, CEQA enables an agency to protect a species from significant project impacts until the respective government agencies have had an opportunity to list the species as protected, if warranted. Impacts to these species would therefore be considered significant, requiring mitigation (CDFW 2023a).

2.2.2 California Department of Fish and Game Code

Divisions of the California Fish and Game Code (FGC) establish the basis of fish, wildlife, and native plant protections and management in the state.

2.2.2.1 California Endangered Species Act

Under the California Endangered Species Act (CESA), the CDFW has the responsibility of maintaining a list of threatened and endangered species. CESA prohibits the take of state-listed threatened or endangered animals and plants unless otherwise permitted pursuant to CESA. "Take" under CESA is defined as any of the following: "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill" (California FGC Section 86). Species determined by the state to be candidates for listing as threatened or endangered are treated as if listed as threatened or endangered and are, therefore, protected from take. Pursuant to CESA, a state agency reviewing a project within its jurisdiction must determine whether any state-listed endangered or threatened species, or candidate species, could be potentially impacted by that project (CDFW 2023b).

2.2.2.2 Native Plant Protection Act

The Native Plant Protection Act (NPPA) was enacted in 1977 and is administered by CDFW, per California FGC Section 1900 et seq. The NPPA prohibits take of endangered, threatened, or rare plant species native to California, apart from special criteria identified in the California FGC. A "native plant" means a plant growing in a wild uncultivated state that is normally found native to the plant life of the state. A "rare" species can be defined as species that are broadly distributed but never abundant where found, narrowly distributed, or clumped yet abundant where found, and/or narrowly distributed or clumped and not abundant where found. If potential impacts are identified for a project activity, then consultation with CDFW, permitting, and/or other mitigation may be required (CLI 2021).

2.2.2.3 Fully Protected Species

Sections 3511, 4700, 5050, and 5515 of the California FGC outline protection for fully protected species of mammals, birds, reptiles, amphibians, and fish. Species that are fully protected by these sections may not be taken or possessed at any time. CDFW cannot issue permits or licenses that authorize the "take" of any fully protected species, except under certain circumstances, such as scientific research and live capture and relocation of such species pursuant to a permit for the protection of livestock. On July 10, 2023, Senate Bill 147 was signed into law and amends the California FGC to allow a 10-year permitting mechanism for a defined set of projects within the renewable energy, transportation, and water infrastructure sectors. Furthermore, it is the responsibility of the CDFW to maintain viable populations of all native species. Toward that end, the CDFW has designated certain vertebrate species as SSC, because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction.

2.2.2.4 Nesting Migratory Birds and Raptors

Section 3503 of the California FGC states that it is unlawful to take, possess, or needlessly destroy the nests or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Section 3503.5 protects all birds of prey (raptors) and their eggs and nests. Section 3511 states that fully protected birds or parts thereof may not be taken or possessed at any time. Section 3513 states that it is unlawful to take or possess any migratory non-game bird as designated in the MBTA.

2.2.2.5 Non-Game Mammals

California FGC Section 4150 states a mammal occurring naturally in California that is not a game mammal, fully protected mammal, or fur-bearing mammal is a non-game mammal. A non-game mammal may not be taken or possessed under this code. All bat species occurring naturally in California are considered non-game mammals and are therefore prohibited from take as stated in California FGC Section 4150.

2.2.2.6 Sensitive Natural Communities

Section 1940 of the California FGC requires CDFW to develop and maintain a vegetation mapping standard for the state. More than half of the vegetation communities in the state have been mapped through the Vegetation Classification and Mapping Program.

Natural vegetation communities are evaluated by CDFW and are assigned global (G), and state (S) ranks based on rarity of and threats to these vegetation communities in California. Sensitive natural communities are defined by CDFW as vegetation alliances with state ranks of S1–S3 (S1: critically imperiled, S2: imperiled, S3: vulnerable), as identified in the 2010 List of Vegetation Alliances and Associations and subsequent updates. Natural communities with ranks of S1–S3 are considered sensitive natural communities to be addressed in the environmental review processes of CEQA and its equivalents. Additionally, all vegetation associations within the alliances with ranks of S1–S3 are considered sensitive habitats. CEQA requires that impacts to sensitive natural communities be evaluated and mitigated achieve applicable resource agency permitting standards.

Sensitive natural communities are communities that have a limited distribution and are often vulnerable to the environmental effects of projects. These communities may or may not contain special-status species or their habitats. For purposes of this assessment, sensitive natural communities are considered to include vegetation communities listed in CDFW's California Natural Diversity Database (CNDDB) and communities listed in the Natural Communities List with a rarity rank of S1- S3 (CDFW 2023c).

2.2.2.7 California Oak Woodlands Conservation Act and Oak Protection

The 2005 California FGC Sections 1360–1372 outline the terms and conditions comprising the California Oak Woodlands Conservation Act (OWCA) (CLI 2016). An oak woodland is defined as an oak stand with greater than 10% canopy cover, or that may have historically supported greater than 10% canopy cover. The overall purpose of the OWCA is to provide funding for the conservation and protection of California's oak woodlands. In addition, the OWCA is designed to support and encourage voluntary, long-term private stewardship and conservation of California's oak woodlands by offering landowners financial incentives to protect and promote biologically functional oak woodlands over time, as mandated by the Wildlife Conservation Board. The Wildlife Conservation Board has established programs, including the California Oak Woodlands Conservation Program, to protect and restore oak woodlands. The OWCA encourages and defers to local jurisdictions to develop and implement oak conservations plans developed under the OWCA (WCB 2021).

Furthermore, the California Public Resources Code (PRC) Section 21083.4 defines an oak as a native tree species in the genus *Quercus*, not designated as commercial species (i.e., Groups A and B) pursuant to regulations adopted by the State of California Board of Forestry and Fire Protection (i.e., Section 4526), that is 5 inches or more in diameter at breast height (DBH) (i.e., diameter of a tree measured 4.5 feet above natural grade). In addition, the PRC defines a 10% canopy cover stipulation that pertains to an individual stand of vegetation, and not all oaks within an entire project site. PRC 21083.4 does not apply to oak woodlands dominated by black oak (*Quercus kelloggii*). As part of the determination made pursuant to PRC Section 21080.1, it is the responsibility of a county to determine if a project under its jurisdiction would result in a significant effect on the environment resulting from a conversion of an oak woodland. When a county determines that a project could result in significant impacts to oak woodlands, MMs are required and may be selected from several mitigation alternatives set forth in PRC Section 21083.4(b).

2.2.2.8 Wetlands Protection Regulations

The CDFW derives its authority to oversee activities that affect wetlands from state legislation. This authority includes California FGC Sections 1600 through1616 (lake and streambed alteration agreements), the CESA (protection of state-listed species and their habitats, which could include wetlands), and the Keene–Nejedly California Wetlands Preservation Act of 1976 (states a need for an affirmative and sustained public policy program directed at wetlands preservation, restoration, and enhancement). In general, CDFW asserts authority over wetlands within the state through any of the following: review and comment on USACE CWA Section 404 permits, review, and comment on CEQA documents, preservation of state-listed species, or lake and streambed alteration agreements.

Lake and Streambed Alteration Program

Specifically, under California FGC Sections 1600 through 1616, CDFW regulates activities that would alter the flow, bed, channel, or bank of streams and lakes. The limits of CDFW's jurisdiction are defined in the code as the "bed, channel or bank of any river, stream, or lake designated by CDFW in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit." In practice, CDFW usually marks its jurisdictional limit at the top of the stream or bank (i.e., top of bank), or at the outer edge of the riparian vegetation, whichever is wider (CDFW 2023d).

2.2.2.9 Other Special-Status Plant Species Protection Regulations

For the purposes of this analysis, special plant species are defined as plants that are legally protected or that are otherwise considered sensitive by federal, state, or local resource conservation agencies. These species fall into one or more of the following categories:

- Listed by the federal government under the FESA of 1973 or the state of California under the CESA of 1970 as endangered, threatened, or rare;
- A candidate for federal or state listing as endangered or threatened;
- Taxa that are biologically rare, very restricted in distribution, or declining throughout their range but not currently threatened with extirpation;
- Population(s) in California that may be peripheral to the major portion of a taxon's range but are threatened with extirpation in California; and/or
- Taxa closely associated with a habitat that is declining in California at a significant rate (e.g., wetlands, riparian, vernal pools, old growth forests, desert aquatic systems, native grasslands, valley shrubland habitats).

Taxa considered to be "rare, threatened, or endangered in California" as defined by CDFW are assigned a California Rare Plant Ran (CRPR). The CDFW system includes six rarity and endangerment ranks for categorizing plant species of concern, as follows:

- CRPR 1A – Plants presumed to be extinct in California.
- CRPR 1B – Plants that are rare, threatened, or endangered in California and elsewhere.
- CRPR 2A – Plants presumed to be extinct in California, but more common elsewhere.
- CRPR 2B – Plants that are rare, threatened, or endangered in California, but more common elsewhere.
- CRPR 3 – Plants about which more information is needed (a review list).
- CRPR 4 – Plants of limited distribution (a watch list).

Plants ranked as CRPR 1A, 1B, 2A, or 2B may qualify as endangered, rare, or threatened species within the definition of CEQA Guidelines Section 15380. CDFW recommends that potential impacts to CRPR 1 and 2 species be evaluated in CEQA review documents. In general, CRPR 3 and 4 species do not meet the definition of endangered, rare, or threatened pursuant to CEQA Guidelines Section 15380, but these species may be evaluated on a case-by-case basis (CNPS 2023c).

2.2.2.10 Other Species of Special Concern

The CDFW maintains a list of vertebrate animal species considered of "special concern" because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction. A SSC is a species, subspecies, or distinct population of an animal native to California that currently satisfies one or more of the following (not necessarily mutually exclusive) criteria:

- Is extirpated from the state or, in the case of birds, is in its primary seasonal or breeding role
- Is listed as threatened or endangered federally, but not by the state
- Meets the state definition of threatened or endangered but has not formally been listed
- Is experiencing, or formerly experienced, serious noncyclical population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for threatened or endangered status by the state
- Has naturally small populations exhibiting high susceptibility to risk from any factor(s) that, if realized, could lead to declines that would qualify it for threatened or endangered status by the state

Impacts to SSC are typically evaluated and mitigated within the context of an environmental impact report or other document prepared pursuant to CEQA.

2.2.3 Other State Tree Protection Regulations

Additional state laws that regulate and/or protect oaks and oak woodlands include the Professional Foresters Law, CEQA, and the Board of Forestry and Fire Protection. The Professional Foresters Law addresses oak habitat evaluations. Both the Professional Foresters Law and CEQA apply to all local jurisdictions. Since it is a state agency, the Board of Forestry and Fire Protection has regulatory authority over all of California's forested landscapes, including the authority to regulate oak woodlands at the state or local level.

2.2.4 Porter-Cologne Water Quality Control Act

As detailed above in Section 2.1.1.2- Clean Water Act: Section 401, the Porter-Cologne Act, California FGC Sections 1601 through 1607, delegates responsibility to the State Water Resources Control Board for water rights and water quality protection and directs the nine statewide RWQCBs to develop and enforce water quality standards within their jurisdiction. The Porter-Cologne Act requires any entity discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state to file a "report of waste discharge" with the appropriate RWQCB. The appropriate RWQCB then must issue a permit, referred to as a Waste Discharge Requirement. Waste Discharge Requirements implement water quality control plans and take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, and the need to prevent nuisances.

The State Water Resources Control Board defines a water of the state as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code Section 13050[e]). As of April 2019, the State Water Resources Control Board has defined "wetland" to include the following:

1. Natural wetlands,
2. Wetlands created by modification of a surface water of the state,
3. Artificial wetlands that meet any of the following criteria:
    a. Approved by an agency as compensatory mitigation for impacts to other waters of the state, except where the approving agency explicitly identifies the mitigation as being of limited duration;
    b. Specifically identified in a Water Quality Control Plan as a wetland or other water of the state;
    c. Resulted from historic human activity, is not subject to ongoing operation and maintenance, and has become a relatively permanent part of the natural landscape; or
    d. Greater than or equal to one acre in size unless the artificial wetland was constructed and is currently used and maintained, primarily for one or more of the following purposes: industrial or municipal wastewater treatment or disposal; settling of sediment; detention, retention, infiltration, or treatment of stormwater runoff and other pollutants or runoff subject to regulation under a municipal, construction, or industrial permitting program; treatment of surface waters; agricultural crop irrigation or stock watering; fire suppression; industrial processing or cooling water; active surface mining – even if the site is managed for interim wetlands functions and values; log storage; treatment, storage, or distribution of recycled water; maximizing groundwater recharge (this does not include wetlands that have incidental groundwater recharge benefits); or fields flooded for rice growing.

All waters of the U.S. are waters of the state. Wetlands, such as isolated seasonal wetlands, that are not generally considered waters of the U.S. are considered waters of the state if, "under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation."2.3

2.3 County

2.3.1 Sacramento County General Plan

The Sacramento County General Plan addresses policies to help preserve and restore vegetation, wildlife, biological habitat, and aquatic resources throughout Sacramento County, including ways to ensure that these important natural resources are given adequate attention in development projects and master planning efforts. Additionally, the Open Space Element of the General Plan describes protection measures and provides a management/ acquisition for continued preservation and protection of Sacramento County's natural resource habitats. The sections below provide an overview of General Plan Conservation Elements pertaining to biological and aquatic resources in Sacramento County (County of Sacramento 2017).

2.3.1.1 Vegetation and Wildlife

Habitat Protection and Management

Goal: Preserve and manage natural habitats and their ecological functions throughout Sacramento County.

Habitat Mitigation

Objective: Mitigate and restore for natural habitat and special-status species loss.

Policies:

- CO-58. Ensure no net loss of wetlands, riparian woodlands, and oak woodlands.
- CO-59. Ensure mitigation occurs for any loss of or modification to the following types of acreage and habitat function: (1) vernal pools, (2) wetlands, (3) riparian, (4) native vegetative habitat, and (5) special-status species habitat.
- CO-60. Mitigation should be directed to lands identified on the Open Space Vision Diagram and associated component maps.
- CO-61. Mitigation should be consistent with Sacramento County-adopted habitat conservation plans.
- CO-62. Permanently protect land required as mitigation.

Habitat Preserve and Management

Objective: Establish and manage a preserve system with large core and landscape level preserves connected by wildlife corridors throughout Sacramento County to protect ecological functions and species populations.

Policies:

- CO-64. Consistent with overall land use policies, Sacramento County shall support and facilitate the creation and biological enhancement of large natural preserves or wildlife refuges by other government entities or by private individuals or organizations.

- CO-65. Create a network of preserves linked by wildlife corridors of sufficient size to facilitate the movement of species.
- CO-66. Mitigation sites shall have a monitoring and management program including an adaptive management component including an established funding mechanism. The programs shall be consistent with Habitat Conservation Plans that have been adopted or are in draft format.
- CO-67. Preserves and conservation areas should have an established funding mechanism, and where needed, an acquisition strategy for its operation and management in perpetuity. This includes existing preserves such as the American River Parkway, Dry Creek Parkway, Cosumnes River Preserve and other plans in progress for riparian areas like Laguna Creek.
- CO-68. Preserves shall be planned and managed to the extent feasible to avoid conflicts with adjacent agricultural activities.
- CO-69. Avoid, to the extent possible, the placement of new major infrastructure through preserves unless located along disturbed areas, such as existing roadways.

Habitat Protection and Project Review

Objective: Review development plans and projects to ensure a balance between essential growth needs and the protection and preservation of natural habitats and special-status species.

Policies:

- CO-70. Community Plans, Specific Plans, Master Plans and development projects shall: 1- include the location, extent, proximity and diversity of existing natural habitats and special-status species in order to determine potential impacts, necessary mitigation and opportunities for preservation and restoration; 2- be reviewed for the potential to identify nondevelopment areas and establish preserves, mitigation banks and restore natural habitats, including those for special-status species, considering effects on vernal pools, groundwater, flooding, and proposed fill or removal of wetland habitat; and 3- be reviewed for applicability of protection zones identified in this Element, including the Floodplain Protection Zone, Stream Corridor Ordinance, Cosumnes River Protection Combining Zone and the Laguna Creek Combining Zone.
- CO-71. Development design shall help protect natural resources by: (1) Minimizing total built development in the floodplain, while designing areas of less frequent use that can support inundation to be permitted in the floodplain; (2) Ensuring development adjacent to stream corridors and vernal pools provide, where physically reasonable, a public street paralleling at least one side of the corridor with vertical curbs, gutters, foot path, street lighting, and post and cable barriers to prevent vehicular entry; (3) Projects adjacent to rivers and streams shall integrate amenities, such as trail connectivity, that will serve as benefits to the community and ecological function; (4) Siting of wetlands near residential and commercial areas should consider appropriate measures to minimize potential for mosquito habitation; and (5) Development adjacent to stream corridors and vernal pools shall be designed in such a manner as to prevent unauthorized vehicular entry into protected areas.

- CO-72. If land within river and stream watersheds in existing agricultural areas is developed for non-agricultural purposes, Sacramento County should actively pursue easement dedication for recreation trails within such development as a condition of approval.
- CO-73. Secure easement or fee title to open space lands within stream corridors as a condition of development approval.
- CO-74. Evaluate feasible on-site alternatives early in the planning process and prior to the environmental review process that reduce impacts on wetland and riparian habitat and provide effective on-site preservation in terms of minimum management requirements, effective size, and evaluation criteria.

Special-Status Species and Their Respective Habitats

Goal: Preserve, enhance, and restore special-status species habitat in Sacramento County to aid in the recovery of these species.

Protection of Special-Status Species

Objective: Protect and maintain habitat for special-status species.

Policies:

- CO-75. Maintain viable populations of special-status species through the protection of habitat in preserves and linked with natural wildlife corridors.
- CO-77. Development of open space acquisition programs within natural areas shall consider whether the area is occupied by special-status species.

Manage Lands for Special-Status Species

Objective: Manage and maintain special-status species and their respective habitat in a manner that resolves conflicts with adjacent privately owned-land and agricultural operations.

Policies:

- CO-80. Control human access to sensitive habitat areas on public lands to minimize impact upon and disturbance of special-status species.
- CO-82. Ensure that mosquito control measures have the least effect on non-target species.

2.3.1.2 Aquatic Resources

Vernal Pools

Goal: Preserve and enhance self-sustaining vernal pool habitats.

Vernal Pools Preserves

Objective: Establish vernal pool preserves that enhance and protect the ecological integrity of vernal pool resources.

Policies:

- CO-83. Preserve a representative portion of vernal pool resources across their range by protecting vernal pools on various geologic landforms, vernal pools that vary in depth and size, and vernal pool complexes of varying densities; to maintain the ecological integrity of a vernal pool ecosystem.
- CO-84. Ensure that vernal pool preserves are large enough to protect vernal pool ecosystems that provide intact watersheds and an adequate buffer, have sufficient number and extent of pools to support adequate species populations and a range of vernal pool types.
- CO-85. Utilize proper vernal pool restoration techniques as approved by the USFWS, the CDFW, and the USACE.
- CO-86. Limit land uses within established preserves to activities deemed compatible with maintenance of the vernal pool resource, which may include ranching, grazing, scientific study, and education.

Rivers and Streams

Goal: Preserve, protect, and enhance natural open space functions of riparian, stream, and river corridors.

Riparian Habitat

Objective: Manage riparian corridors to protect natural, recreational, economic, agricultural, and cultural resources as well as water quality, supply, and conveyance.

Policies:

- CO-87. Encourage private landowners to protect, enhance and restore riparian habitat.
- CO-88. Where removal of riparian habitat is necessary for channel maintenance, it will be planned and mitigated to minimize unavoidable impacts upon biological resources.
- CO-89. Protect, enhance, and maintain riparian habitat in Sacramento County.
- CO-90. Increase riparian woodland, valley oak riparian woodland and riparian scrub habitat along select waterways within Sacramento County.
- CO-91. Discourage introductions of invasive non-native aquatic plants and animals.
- CO-92. Enhance and protect shaded riverine aquatic habitat along rivers and streams.

Limitation of Fill in Floodplains

Objective: Maintain the natural character of the 100-year floodplain by limiting fill and excavation.

Policies:

- CO-93. Discourage fill in the 100-year floodplain.
- CO-94. Development within the 100-year floodplain and designated floodway of Sacramento streams, sloughs, creeks, or rivers shall be: 1- Consistent with policies to protect wetlands and riparian areas; and 2- Limited to land uses that can support seasonal inundation.
- CO-95. Development within the 100-year floodplain should occur in concert with the development of the Floodplain Protection Zone.

Bank Stabilization

Objectives: Maintain levee protection, riparian vegetation, function and topographic diversity by stream channel and bank stabilization projects. Stabilize riverbanks to protect levees, water conveyance and riparian functions.

Policies:

- CO-96. Reduce dependence on traditional levee protection methods where those methods conflict with habitat preservation efforts and where alternate methods exist which are compatible with preservation efforts and offer an acceptable level of bank stabilization.
- CO-97. Work with appropriate regulatory agencies to reduce bank and levee erosion by minimizing erosive wake activity generated by recreational and commercial boating.
- CO-98. Coordinate with federal, state, and local agencies overseeing levee and bank stabilization to investigate and, whenever possible, utilize biotechnical or nonstructural alternatives to other conventional stabilization methods.
- CO-99. Encourage habitat restoration and recreational opportunities as an integral part of bank and levee stabilization efforts.
- CO-100. Encourage construction of structures for flood control and stormwater quality purposes using currently approved scientific methods to prevent erosion and stabilize the banks.
- CO-101. Stabilize the banks of rivers and streams in a manner that increases flood protection and increases riparian habitat functions.

Protection of Rivers

Objective: Conserve and protect the Sacramento, Cosumnes, Mokelumne and American Rivers to preserve natural habitat and recreational opportunities.

Policies:

- CO-102. Promote and encourage habitat restoration efforts on and adjacent to our river floodways.
- CO-103. Protect the Cosumnes River Corridor by promoting the preservation of agriculture, natural habitat and limited recreational uses adjacent to the river channel, and when feasible by acquiring appropriate lands or easements adjacent to the river.

Channel Modifications

Objective: Protect and restore natural stream functions.

Policies:

- CO-105. Channel modification projects shall be considered for approval by the Board of Supervisors only after conducting a noticed public hearing examining the full range of alternatives, relative costs and benefits, and environmental, economic, and social benefits.
- CO-105a. Encourage flood management designs that respect the natural topography and vegetation of waterways while retaining flow and functional integrity.

- CO-106. Realigned or modified channels should retain topographic diversity including maintaining meandering characteristics, varied berm width, naturalized side slope, and varied channel bottom elevation.
- CO-107. Maintain and protect natural function of channels in developed newly developing, and rural areas.
- CO-108. Channel lowering should occur after consideration of alternatives and only when it is necessary to accommodate the gravity drainage of storm runoff and/or accommodate flood flows under existing bridge structures.
- CO-109. Channel modifications should not prevent minimum water flows necessary to protect and enhance fish habitats, native riparian vegetation, water quality, or ground water recharge.
- CO-110. Improvements in watercourses will be designed for low maintenance. Appropriate Manning's "n" 13 values will be used in design of the watercourses to reflect future vegetative growth (including mitigation plantings) associated with the low maintenance concept.
- CO-111. Channel modifications shall retain wetland and riparian vegetation whenever possible or otherwise recreate the natural channel consistent with the historical ecological integrity of the stream or river.
- CO-112. The use of concrete and impervious materials is discouraged where it is inconsistent with the existing adjacent watercourse and overall ecological function of the stream.
- CO-113. Encourage revegetation of native plant species appropriate to natural substrate conditions and avoid introduction of nonindigenous species.

Land Use Adjacent to Rivers and Streams

Objective: Land uses within and development adjacent to stream corridors are to be consistent with natural values.

Policies:

- CO-114. Protect stream corridors to enhance water quality, provide public amenities, maintain flood control objectives, preserve, and enhance habitat, and offer recreational and educational opportunities.
- CO-115. Provide setbacks along stream corridors and stream channels to protect riparian habitat functions. (1) A functional setback of at least 100 feet and measured from the outside edge of the stream bank should be retained on each side of a stream corridor that prohibits development or agricultural activity. This buffer is necessary to protect riparian functions by allowing for the filtering of sediment, pesticides, phosphorus and nitrogen, organic matter and other contaminates that are known to degrade water quality. This buffer also provides for the protection of vegetation along the stream bank which provides bank stability, erosion control and flood attenuation; (2) A transitional setback of at least 50 feet in width beyond the functional buffer should be retained along all stream corridors. This buffer is necessary to protect hydrogeomorphic functions that regulate water temperature, regulate microclimate, maintain channel complexity, and retain hydrologic flow regimes. This buffer also provides corridors to facilitate the movement of wildlife; (3) An extended setback of at least 50 feet in width beyond the transitional setback should be retained along all stream corridors. This setback will allow for recreational uses such as bike, pedestrian and/or equestrian trails and

will allow for the placement of infrastructure such as water and sewer lines; (4) Stormwater discharge ponds or other features used for improving stormwater quality may be located within the extended or transitional setback area. However, to protect stream habitat and floodplain value, the width of the setback shall not be based upon the width of the pollutant discharge pond. The ponds shall be landscaped and maintained with vegetation native to the surrounding area. Detention ponds or other features implementing pollutant discharge requirements, other than approved regional stormwater quality practices that are designed and operated to complement the corridor functionally and aesthetically, are prohibited; (5) Setback averaging within individual development projects or as otherwise specified in a Sacramento County-adopted master plan will be permitted except when riparian woodland will be lost. The minimum width of setbacks cannot fall below 50 feet; and (6) Master drainage plans may provide for other standards that meet the intent of this policy.

- CO-116. Encourage filter strips using appropriate native vegetation and substrate along riparian streambanks adjacent to irrigated croplands.
- CO-117. Public roads, parking, and associated fill slopes shall be located outside of the stream corridor, except at stream crossings and for purposes of extending or setting back levees. The construction of public roads and parking should utilize structural materials to facilitate permeability. Crossings shall be minimized and be aesthetically compatible with naturalistic values of the stream channel.
- CO-118. Development adjacent to waterways should protect the water conveyance of the system, while preserving and enhancing the riparian habitat and its function.

Maintenance of Rivers and Streams

Objective: Properly manage and fund the maintenance of rivers and streams to protect and enhance natural functions.

Policies:

- CO-120. Development projects adjacent to rivers and streams shall provide unencumbered maintenance access.
- CO-121. No grading, clearing, tree cutting, debris disposal or any other despoiling action shall be allowed in rivers and streams except for normal channel maintenance, restoration activities, and road crossings.
- CO-122. River and stream maintenance should allow natural vegetation in and along the channel to assist in removal of nutrients, pollutants, and sediment and to increase bank stabilization, while minimizing impacts on conveyance.
- CO-123. The use of native plant species shall be encouraged on revegetation plans.
- CO-124. Maintain and manage rivers and streams to encourage special-status species.

Restoration of Rivers and Streams

Objective: Restore concrete sections of rivers and streams to increase natural functions.

Policies:

- CO-125. Restore concrete sections of rivers and streams to natural or naturalized channels, where feasible for increased flood or conveyance capacity and groundwater recharge.

Fisheries

Goal: Preserve and protect fisheries in the Sacramento County waterways and water bodies.

In-Stream Functions

Objective: Provide and protect high quality in-stream habitat, water quality and water flow to support fisheries propagation, development, and migration.

Policies:

- CO-126. Prohibit obstruction or underground diversion of natural waterways.
- CO-127. Protect, preserve, and restore migratory routes for anadromous species.
- CO-128. Require screens on diversion pumps or similar bypass apparatus to reduce fish mortality. CO-129. Require screening on all public water diversion facilities.
- CO-130. Protect, enhance, and restore riparian, in-channel, and shaded riverine aquatic habitat for: (1) spawning and rearing of fish species, including native and recreational non-native, non-invasive species, where they currently spawn; (2) potential areas where natural spawning could be sustainable; and (3) supporting other aquatic species.

2.3.1.3 Terrestrial Resources

Native Vegetation Protection, Restoration, and Enhancement

Objective: Tree and native vegetation management practices to promote regeneration in designated resource conservation areas.

Policies:

- CO-132. Protect native vegetative habitats from improper grazing regimes on public lands and inform private land operators of how they may minimize impacts to these habitats.
- CO-133. Prohibit native vegetative habitat mitigation and/or other public plantings onto incompatible substrates i.e., tree planting in vernal pool hardpan.
- CO-134. Maintain and establish a diversity of native vegetative species in Sacramento County.
- CO-135. Protect the ecological integrity of California Prairie habitat.
- CO-136. Prohibit the loss of mitigated resource areas.
- CO-137. Mitigate for the loss of native trees for road expansion and development consistent with General Plan policies and/or the Sacramento County Tree Preservation Ordinance.

Landmark and Heritage Tree Protection

Objective: Heritage and landmark tree resources preserved and protected for their historic, economic, and environmental functions.

Policies:

- CO-138. Protect and preserve non-oak native trees along riparian areas if used by Swainson's Hawk, as well as landmark and native oak trees measuring a minimum of 6 inches in diameter or 10 inches aggregate for multi-trunk trees at 4.5 feet above ground.
- CO-139. Native trees other than oaks, which cannot be protected through development, shall be replaced with in-kind species in accordance with established tree planting specifications, the combined diameter of which shall equal the combined diameter of the trees removed.
- CO-140. For projects involving native oak woodlands, oak savannah, or mixed riparian areas, ensure mitigation through either of the following methods: (1) An adopted habitat conservation plan; (2) Ensure no net loss of canopy area through a combination of the following: A- preserving the main, central portions of consolidated and isolated groves constituting the existing canopy and B- provide an area on site to mitigate any canopy lost. Native oak mitigation area must be a contiguous area on site which is equal to the size of canopy area lost and shall be adjacent to existing oak canopy to ensure opportunities for regeneration; (3) Removal of native oaks shall be compensated with native oak species with a minimum of a one to one DBH replacement; (4) A provision for a comparable on-site area for the propagation of oak trees may substitute for replacement tree planting requirements at the discretion of the Sacramento County Tree Coordinator when removal of a mature oak tree is necessary; (5) If the project site is not capable of supporting all the required replacement trees, a sum equivalent to the replacement cost of the number of trees that cannot be accommodated may be paid to Sacramento County's Tree Preservation Fund or another appropriate tree preservation fund; and (6) If on-site mitigation is not possible given site limitation, off-site mitigation may be considered. Such a mitigation area must meet all the following criteria to preserve, enhance, and maintain a natural woodland habitat in perpetuity, preferably by transfer of title to an appropriate public entity. Protected woodland habitat could be used as a suitable site for replacement tree plantings required by ordinances or other mitigations. (a) Equal or greater in area to the total area that is included within a radius of 30 feet of the dripline of all trees to be removed; (b) Adjacent to protected stream corridor or other preserved natural areas; (c) Supports a significant number of native broadleaf trees; and (d) Offers good potential for continued regeneration of an integrated woodland community.
- CO-141. In 15 years, the native oak canopy within on-site mitigation areas shall be 50% canopy coverage for valley oak and 30% canopy coverage for blue oak and other native oaks.

2.3.2 Swainson's Hawk Ordinance

The CDFW requires that mitigation for foraging habitat be provided within the known foraging radius of a nesting Swainson's hawk (*Buteo swainsoni*; SWHA). In 1997, in response to the need to mitigate for the loss of SWHA foraging habitat in Sacramento County, the Board of Supervisors adopted an ordinance that established a SWHA Impact Mitigation Program (Chapter 16.130 of the Sacramento County Code). The Program has been amended

several times; the latest amendment went into effect December 2009. By adopting the Program, the Board of Supervisors found that "the most effective means of mitigation for the loss of suitable SWHA foraging habitat is the direct preservation, in perpetuity, of equally suitable foraging habitat on an acre-per-acre basis based on the Project's determined acreage impact."

Under the SWHA Impact Mitigation Program, only projects that have an impact of less than 40 acres are eligible to pay fees. Projects impacting 40 acres or more of foraging habitat must provide land acceptable to CDFW and Sacramento County. Land can be provided in fee title or through conservation easement. The Sacramento County Office of Planning and Environmental Review (PER) administers the SWHA Impact Mitigation Program and more information on lands likely to be determined as acceptable replacement habitat (County of Sacramento County 2023b).

2.3.3 Sacramento County Tree Preservation Ordinance

The Sacramento County regulates tree impacts and preservation through the Tree Preservation Ordinance (Sacramento County Code 480 Section 1, 1981). The Sacramento County Tree Preservation Ordination specifically applies to the following: (1) the planting, maintenance, protection, and preservation of public trees and landscaping; (2) helping to eliminate dangerous conditions caused by trees and shrubs that may result in injuries to persons or property; (3) the protection of all trees within Sacramento County against the spread of disease or pests; and (4) the provision for the special protection of heritage and landmark trees within the unincorporated area of Sacramento County. Chapter 19.12 of the Sacramento County Code requires a Sacramento County Tree Permit before any party shall plant, transplant, move, separate, trim, prune, cut above or below the ground, disrupt, alter, or do surgery upon any public tree located on an easement, planting easement, street, or public premises, irrespective of whether the tree is alive or dead. In addition, without a tree permit or discretionary approval by the Board of Supervisors, Sacramento County Planning Commission, Zoning Board of Appeals, the Zoning Administrator, or the Subdivision Review Committee, no person shall trench, grade, or fill within the dripline of any tree or destroy, kill, or remove any tree as defined, in the designated urban area of the unincorporated area of Sacramento County, on any property, public or private (County of Sacramento 2021). Protected trees under this ordinance include the following: valley oak (*Quercus lobat*a), interior live oak (*Quercus wislizenii*), blue oak (*Quercus douglasii*), or oracle oak (*Quercus* × *morehus).* Additionally, per Sacramento County, a "tree" shall mean any living native oak tree having at least one trunk of 6 inches or more in diameter measured at 4.5 feet above the ground, or a multi-trunked native oak tree having an aggregate diameter of 10 inches or more, measured 4.5 feet above the ground (County of Sacramento 2021).

2.3.4 South Sacramento Habitat Conservation Plan

The South Sacramento Habitat Conservation Plan (SSHCP) streamlines federal and state permitting processes for SSHCP-covered development and infrastructure projects, while protecting habitat, open space, and agricultural lands (SSHCP 2021). The SSHCP is led by a multi-jurisdiction collaborative that includes Sacramento County, the Cities of Rancho Cordova and Galt, the Sacramento County Water Agency, the Sacramento Regional County Sanitation District, and the Capital Southeast Connector Joint Powers Authority (SSHCP 2021). The SSHCP does not expressly include utility-scale solar as a potential covered activity.

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3 Methods

3.1 Database and Literature Evaluation

Dudek completed a database and literature evaluation of special-status biological and aquatic resources present or potentially present within the PSA. The database and literature evaluation assessed the PSA vicinity, which specifically includes the general and nearby areas adjacent to the PSA, not to exceed 5 miles. Resources and search parameters used during the desktop-level review include the following:

- California Aquatic Resource Inventory dataset via ArcGIS for surface waters and their riparian areas in the PSA (CARI 2016)
- CDFW CNDDB eight USGS 7.5-minute quad searches (Carmichael, Buffalo Creek, Folsom SE, Folsom, Sloughhouse, Carbondale, Clarksville, and Latrobe) and within a 5-mile buffer search for special-status species (CDFW 2024)
- CNPS Online Inventory of Rare and Endangered Plants eight USGS 7.5-minute quad searches (Carmichael, Buffalo Creek, Folsom SE, Folsom, Sloughhouse, Clarksville, and Latrobe) (CNPS 2024)
- California Tree and Landscape Consulting Preliminary Arborist Report and Tree Inventory for the Project (CalTLC 2021)
- Federal Emergency Management Agency (FEMA) National Flood Hazard Layer geospatial database (FEMA 2023)
- National Oceanic and Atmospheric Administration (NOAA) Essential Fish Habitat (EFH) West Coast Data Inventory via ArcGIS (NOAA 2023)
- Natural Resources Conservation Service Web Soil Survey (USDA 2023a)
- SSHCP (County of Sacramento 2018)
- USFWS Environmental Conservation Online System Threatened and Endangered Species Active Critical Habitat Report data via ArcGIS (USFWS 2023b)
- USFWS Information for Planning and Consultation (IPaC) Trust Resource Report for the PSA (USFWS 2024)
- USFWS National Wetlands Inventory (NWI) Mapper of historical wetland data (USFWS 2023d)
- USGS National Hydrography Dataset to assess potential surface water features occurring in the PSA vicinity (USGS 2023a)

In addition, Dudek reviewed secondary resources such as the Calflora database and the Jepson Herbarium online for vegetation and specialty soil resources occurring in Sacramento County, the CNPS Manual of California Vegetation Online for vegetation community descriptions and classification attributes (CNPS 2023b), current and historical Google Earth aerial photography to identify any potential jurisdictional aquatic resources based on aerial signatures, and climate information for the region using the Western Regional Climate Center (Calflora 2023; Google Earth 2023; Jepson eFlora 2023; WRCC 2023).

3.2 Field Study

Dudek completed various reconnaissance, focused, and protocol-level technical field studies for aquatic resources and special-status plant and wildlife species that have the potential to occur in the PSA. For a full discussion on occurrence potentials, see below Section 4.5- Special-Status Species. The methodologies for the field studies conducted are detailed in the sections below.

3.2.1 Aquatic Resources Delineation

Dudek conducted an Aquatic Resources Delineation (ARD) of the approximately 2,704-acre PSA between April 2021 and August 2021. The purpose of the ARD was to identify aquatic resources that may be subject to agency jurisdiction pursuant to regulations in Section 401 and 404 of the CWA, Porter-Cologne Act, California FGC, and CEQA Guidelines. Potential aquatic resources within the PSA were field-verified and delineated based on methodology described in the USACE Wetlands Delineation Manual (USACE 1987) and the USACE Regional Supplement for the Arid West Region (USACE 2008a). Non-wetland waters of the U.S. and/or state were delineated based on the presence of an OHWM, as determined using the methodology in the OHWM Field Guide for the Arid West Region (USACE 2008b), and/or the top of bank. Aquatic resources were recorded and mapped in the field using a Trimble R1 GNSS Receiver with sub-meter accuracy and the ArcGIS Collector app for iOS.

A complete summary of ARD results has been included below in Section 4.2.1- Aquatic Resource Delineation and can further be reviewed in the in further detail in the final ARD Report (Dudek 2023a).

3.2.2 Vegetation Community and Land Cover Mapping

Prior to conducting initial field surveys, vegetation community and land cover data was reviewed for the PSA using the SSHCP Modeled Land Cover dataset (County of Sacramento 2018; USDA 2018). Vegetation community and land cover field mapping was conducted in conjunction with the reconnaissance-level biological resource surveys in 2021, as detailed below in Section 3.2.5- Reconnaissance-Level Biological Resource Surveys. Specifically, vegetation community boundaries were differentiated in the field and mapped using a Trimble R1 GNSS Receiver with sub-meter accuracy and the ArcGIS Collector app for iOS. Following field surveys, a desktop evaluation of vegetation and land cover boundaries were reviewed and assigned vegetation community and/or land cover classifications based on the CNPS Manual of California Vegetation (CNPS 2023b).

3.2.3 Special-Status Plant Species

3.2.3.1 Botanical Protocol-Level Surveys

Dudek conducted protocol-level botanical surveys in the PSA in 2021, 2022, and 2023. The purpose of protocol-level botanical surveys was to identify special-status plant resources as defined under FESA, CESA, California FGC, CEQA Guidelines, and the Sacramento County General Plan.

The botanical surveys were performed in accordance with the Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants (USFWS 2000), the Protocol for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018), and the Botanical Survey Guidelines (CNPS 2001). The botanical surveys were conducted during the appropriate

floristic bloom period for special-status plant species known to occur within the Project region (i.e., late spring to early summer months). Reference populations were visited prior to each year's survey to ensure target species were evident and identifiable. Surveys were completed using a systematic transect approach within suitable habitats for special-status species that have the potential to occur. All special-status plant species habitat was mapped, if present, during surveys and reviewed in conjunction with the SSHCP modeled land cover and species models. All plant species encountered were identified to the taxonomic level appropriate to determine species and regulatory status if needed. Botanical resources were recorded and mapped in the field using a Trimble R1 GNSS Receiver with sub-meter accuracy and/or ArcGIS Collector or Field Maps app for iOS with an Arrow receiver for submeter accuracy, and further reviewed in conjunction with the SSHCP modeled land cover and species models.

A summary of protocol-level botanical surveys dates is summarized in Table 2 below. Complete special-status plant species profiles and botanical survey results have been included below in Section 4.5.1- Special-Status Plants.

Table 2. Summary of Protocol-Level Botanical Surveys Conducted within the Project Study Area

Survey Type	Date
Survey Year- 2021	
Pass 1	May 4, 2021
Pass 2	None[1]
Survey Year- 2022	
Pass 1	April 18–20
Pass 2	None[1]
Survey Year- 2023	
Pass 1	May 8–12, and 23
Pass 2	July 31–August 4

Note:

[1] Pass 2 surveys were not conducted due to- (1) abnormally dry conditions from the lack of precipitation and increased season temperature; (2) atypical phenology/bloom periods in the region; (3) no observations of target species at reference population locations.

3.2.4 Special-Status Wildlife Species

3.2.4.1 Western Spadefoot Toad Focused Surveys

Dudek conducted western spadefoot toad (*Spea hammondii*; WST) focused surveys within the PSA. The purpose of focused WST surveys is to assess for suitable habitat and occupancy within the PSA that may be potentially subject to agency jurisdiction pursuant to regulations in CESA, California FGC, and CEQA Guidelines.

Dudek conducted upland burrow surveys for WST within potential suitable habitat for this species during protocol-level and focused BUOW surveys specifically in 2021, see Table 3 below for survey dates. Incidental observations/detections of WST were also recorded in 2023 during other biological resource surveys. Since there are no published protocols specific to WST surveys, WST surveys were performed in accordance with the most recent published literature and recommendations from CDFW and under the guidance of Dudek species experts. Prior to field surveys, potential areas suitable for WST were reviewed using the SSHCP modeled land cover and species models. Potentially suitable habitat and potential burrow locations were recorded in the field using

ArcGIS Collector or Field Maps app for iOS with an Arrow receiver for submeter accuracy. In addition, Dudek conducted breeding season larval and night eye-shine surveys in potentially suitable aquatic habitats in the PSA on March 19, 2022.

A complete WST species profile and survey results have been included in Section 4.5.2.2.

3.2.4.2 Burrowing Owl Protocol-Level and Focused Breeding Season Surveys

Dudek conducted protocol-level and focused burrowing owl (*Athene cunicularia*; BUOW) breeding season surveys within the PSA in 2021 and 2022. Incidental observations/detections for BUOW were also recorded in 2023 during other biological resource surveys. The purpose of protocol-level and focused BUOW surveys is to assess for burrows, suitability of habitat, and foraging or other BUOW activity within and up to 500 feet from the PSA that may be potentially subject to agency jurisdiction pursuant to regulations in MBTA, California FGC, and CEQA Guidelines.

Surveys were completed in the PSA in accordance with the Staff Report on Burrowing Owl Mitigation (CDFG 2012), and the Burrowing Owl Survey Protocol and Mitigation Guidelines (California Burrowing Owl Consortium 1993). Survey areas were focused on suitable habitat within the PSA, such as California annual grasslands, managed agricultural fields, roadside areas, and the margins of agricultural fields, as well as forested areas where tree and/or shrub canopy covered less than 30% of the ground surface. Survey transect centerlines were marked at 30 feet and walked linearly. During the second, third, and fourth passes only those areas that were determined to support suitably sized burrows during the first survey pass were resurveyed. Surveys were conducted between morning civil twilight and 10:00 a.m., and 2 hours before sunset until evening civil twilight and were limited to periods when wind speed was less than 12 miles per hour and no precipitation or dense fog was occurring. BUOW habitat was recorded and mapped during surveys using ArcGIS Collector app for iOS, and/or ArcGIS Collector or Field Maps app for iOS with an Arrow receiver for submeter accuracy, and further and reviewed in conjunction with the SSHCP modeled land cover and species models.

A summary of protocol-level and focused BUOW survey dates is summarized in Table 3 below. A complete BUOW species profile and survey results have been included below in Section 4.5.2.6- Burrowing Owl (*Athene cunicularia*).

Table 3. Summary of Protocol-Level and Focused Burrowing Owl Surveys Conducted within the Project Study Area

Minimum Protocol Requirements	Completed Surveys	
	2021- Protocol-Level	2022- Focused[1]
One site visit between 15 February and 15 April (pass 1)	Pass 1: April 11–15	Pass 1: None[2]
Three survey visits, at least three weeks apart, between April 15th through July 15th, with one at least one visit after June 15th (passes 2 – 4)	Pass 2: May 9–13 Pass 3: June 7–11 Pass 4: June 21–June 25, 2021	Pass 3: None[2] Pass 2: June 7–10 Pass 4: July 6–8

Source: CDFG 2012.

Notes:

1 Surveys in 2022 generally followed the protocol for breeding season surveys; however, they specifically focused on areas of suitable habitat within the PSA and up to 500 feet from the solar development area.

2 None = Surveys only conducted during the last two protocol passes to comply with pre-construction protocol-level survey requirements per California Department of Fish and Wildlife (CDFW).

3.2.4.3 Swainson's Hawk Protocol-Level Surveys

Dudek conducted protocol-level SWHA breeding season surveys within the PSA in 2021, 2022, and 2023. Surveys included visual and aural detection and visual surveys within the PSA and up to 0.5 miles from the solar development area. The purpose of protocol-level surveys is to assess for SWHA nesting, foraging, suitability of habitat, and other activity within the PSA and vicinity that may be subject to agency jurisdiction pursuant to regulations under MBTA, CESA, California FGC, and CEQA Guidelines.

The protocol-level SWHA surveys were conducted in accordance with the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (SHTAC 2000). Initial surveys focused on inspection of individual and cluster trees and riparian areas for nests within the PSA. During subsequent surveys, nests and potential nest sites that were identified during the initial surveys were inspected for nesting activity, including territorial or courtship displays, brooding on the nest, presence of young on the nest, and frequent trips to the nest by adults. Survey transect centerlines were marked at 30 feet and walked linearly. SWHA habitat was recorded and mapped during surveys using a Trimble R1 GNSS Receiver with sub-meter accuracy and/or ArcGIS Collector or Field Maps app for iOS with an Arrow receiver for submeter accuracy, and further reviewed in conjunction with the SSHCP modeled land cover and species models.

A summary of protocol-level SWHA survey dates is summarized in Table 4 below. A complete SWHA species profile and survey results have been included below in Section 4.5.2.9- Swainson's hawk (*Buteo swainsoni*).

Table 4. Summary of Protocol-Level Swainson's Hawk Surveys Conducted within the Project Study Area

Minimum Protocol Requirements	Completed Survey Dates		
	2021	2022	2023
Pass 1: January – March *(optional)*	March 12 and 15	None[1]	None[1]
Pass 2: March 20 - April 5	March 25	None[1]	None[1]
Pass 3: April 5 - 20	April 11 – 15, and 22	April 19	April 7, 10, 14, 17, and 19 - 20
Pass 4: April 21 – June 10 *(monitoring known nest sites)*	May 31 – June 1	June 7 - 10	May 30 – 31; and June 27 - 28
Pass 5: July 10 – 30 *(post fledging)*	N/A[2]	July 6 - 8	N/A[2]

Source: SHTAC 2000.
Notes:
1 None= Only conducted the last survey pass periods required to meet California Department of Fish and Wildlife (CDFW) requirements a pre-construction surveys if the Project were to commence prior to the following years nesting bird season.
2 N/A= Not required; no known sites with active young visible.

3.2.4.4 Swainson's Hawk and Other Raptor Foraging and Land Use Study

In 2013, Estep Environmental Consulting conducted a 1-year study to assess raptor use of solar array fields at three newly developed PV solar facilities in Sacramento County (Estep Environmental Consulting 2013). The purpose of the study was to provide supplemental research that would inform impact assessment and mitigation requirements

related to the loss of SWHA foraging habitat as provided under the Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (*Buteo swainsoni*) in the Central Valley (CDFG 1994). The study sought to determine the potential for solar facilities to maintain foraging habitat for SWHA and evaluated and compared the retained on-site foraging value to other known foraging habitats. The results of this study indicated that SWHA and other raptors can use appropriately designed and managed solar array fields. Specifically, arrays should provide adequate spacing to allow foraging between arrays, and the grassland substrate should be managed to promote visibility and access to prey. The 2013 study found that foraging habitat within the solar arrays was being used by SWHAs at a greater frequency than would be expected based on habitat availability, suggesting that SWHAs were selecting the solar array habitat. Potential explanations for this included in the 2013 report included the ability of the hawks to perch on edges of solar arrays, and the management of grasslands in such a way as to benefit prey detectability as compared to other local habitat types. However, CDFW determined that a 1-year study was insufficient to draw conclusions that would support the modification of standard mitigation requirement for solar projects.

As such, in 2021 Estep Environmental Consulting was resourced to conduct an additional year (i.e., Year 2) of SWHA and other raptor foraging and land use studies at solar array sites within Sacramento County. These studies were initiated on April 12, 2021 and concluded in September 2021. Both the 2013 and 2021 studies included strip transect road surveys, stationary point counts at locations surrounding the solar sites, and habitat mapping of the solar sites and surrounding areas. Surveys were conducted twice weekly during the breeding season for a total of 20 weeks, or 40 total surveys. Following surveys, all data were compiled and analyzed, including a Chi-square analysis to assess the relationship of available habitat, and observed use of habitat to determine the relative use of different land cover, including solar array fields. Results were compiled into Swainson's Hawk and Other Raptor Foraging Use of Solar Array Fields within an Agricultural Landscape in Sacramento County, Year 2, by Estep Environmental Consulting (Appendix A). Results of the 2021 study are presented below in Section 4.5.2.9- Swainson's hawk (*Buteo swainsoni*).

3.2.4.5 Tricolored Blackbird Focused Surveys

Dudek conducted tricolored blackbird (*Agelaius tricolor*; TRBL) focused surveys within the PSA. The purpose of focused TRBL surveys is to assess for colonial breeding sites/nesting, foraging, and suitable habitat for nesting or foraging within the PSA that may be potentially subject to agency jurisdiction pursuant to regulations in MBTA, CESA, California FGC, and CEQA Guidelines.

Surveys for TRBL were conducted in accordance with the Staff Guidance Regarding Avoidance of impacts to Tricolored Blackbird Breeding Colonies on Agricultural Fields (CDFW 2015) and modified for the more natural and naturalized habitat present within the PSA. Surveys were focused on the TRBL breeding season and conducted in conjunction with the protocol-level and focused BUOW and SWHA surveys specifically in 2021 and 2022, see Tables 2 and 3 above for survey dates. Incidental observations/detections for TRBL were also recorded in 2023. Survey transect centerlines were marked at 30 feet and walked linearly. Suitable habitat for TRBL was recorded and mapped during surveys ArcGIS Collector and/or Field Maps app for iOS with an Arrow receiver for submeter accuracy, and further reviewed in conjunction with the SSHCP modeled land cover and species models.

A summary of focused TRBL survey dates is summarized in Tables 2 and 3 above. A complete TRBL species profile and survey results have been included below in Section 4.5.2.10- Tricolored Blackbird (*Agelaius tricolor*).

3.2.4.6 Crotch's Bumble Bee Focused Surveys

Dudek conducted Crotch's bumble bee (*Bombus crotchii; CBB*) focused surveys within the PSA. The purpose of the focused surveys is to assess for potential suitable nesting and foraging habitat (i.e., nectar resources) within the PSA that may be potentially subject to agency jurisdiction pursuant to regulations in CESA, California FGC, and CEQA Guidelines.

Dudek conducted CBB surveys within the PSA on April 11, 2023, May 9 through May 11, 2023, and July 3 through 6, 2023. The surveys focused on identifying suitable nesting site (e.g., down woody debris, burrows, tree cavities, etc.), and foraging habitat (e.g., abundant flowering plant/nectar patches). If bumble bees were observed present during these surveys, qualified biologists opportunistically attempted to identify to species-level without direct handling. Observations and filed notes were collected using ArcGIS Collector or Field Maps app for iOS with an Arrow receiver for submeter accuracy.

A complete CBB species profile and survey results have been included below in 4.5.2.17- Crotch's bumble bee (*Bombus crotchii)*.

3.2.4.7 Valley Elderberry Longhorn Beetle Focused Surveys

Dudek conducted focused valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*; VELB) surveys within the PSA. The purpose of focused VELB surveys is to locate elderberry shrubs (*Sambucus* spp.; VELB host plant) and survey for potential signs of VELB occupancy on the host plant within the PSA that may be potentially subject to agency jurisdiction pursuant to regulations in FESA, CESA, California FGC, and CEQA Guidelines.

First, Dudek conducted reconnaissance-level biological resources surveys in spring of 2021 to identify and map the locations of elderberry shrubs occurring within the PSA. Prior to elderberry shrub mapping, potential areas suitable for VELB were reviewed with the SSHCP modeled land cover and species models. Elderberry shrub locations were recorded in the field using ArcGIS Collector or Field Maps app for iOS with an Arrow receiver for submeter accuracy.

On March 17 and 18, 2022, Dudek used the locational data of the elderberry shrubs within the PSA to conduct focused surveys for VELB. The focused VELB surveys were performed using the Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*) (USFWS 2017), and the Conservation Guidelines for the Valley Elderberry Longhorn Beetle (USFWS 1999). The surveys focused evidence of VELB use, including eggs and/or larval galleries, bore holes, and frass. Only elderberry shrubs with stems greater than 1-inch diameter were evaluated.

A complete VELB species profile and survey results have been included below in Section 4.5.2.18- Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus)*.

3.2.5 Reconnaissance-Level Biological Resource Surveys

Reconnaissance-level biological resource surveys in the PSA were conducted in conjunction with all the 2021, 2022, and 2023 resource-specific surveys listed in the sections above. Reconnaissance-level biological resource survey observations focused on assessing and identifying common plant species to the lowest taxonomic group possible, all wildlife observations, the presence of or potential for other special-status plant and wildlife species, and vegetation communities and land cover types. Field notes, an aerial photograph with an overlay of the property boundary, a Trimble R1 GNSS Receiver with sub-meter accuracy and/or ArcGIS Collector or Field Maps app for iOS with an Arrow receiver for submeter accuracy.

Results of reconnaissance-level biological resource surveys are presented below in Section 4.4.7- Plant and Wildlife Species Observed, and Section 4.5- Special-Status Species.

3.2.6 Arborist Tree Survey and Inventory

An initial (first) tree inventory within portions of the PSA was conducted by CalTLC International Society of Arboriculture (ISA) certified arborists in April through August 2021, which was based on the initial preliminary site plan. A second tree inventory was conducted by Dudek ISDA certified arborists in May through June 2022 for the remaining trees within the proposed solar development area of the PSA, which was based on the updated preliminary site plan (Baker Williams 2021; Kimley-Horn 2021). A third and final tree inventory was conducted by EnviroPlus Consulting, Inc (EPC) ISA-certified arborists in May through June 2023. EPC conducted a final tree inventory based on the final site plan in May 2023 (Primoris Services Corporation 2023). Survey and inventory results have been included in Section 4.6- Arboricultural Resources.

- Field Tag Number - The pre-stamped tree number on the tag, which is installed at approximately 6 feet above ground level on the north side of the tree.
- Species - The species of a tree is listed by local and correct common name and scientific name.
- DBH - DBH is normally measured at 4.6 feet.
- Canopy Radius and Protection Area - The farthest extent of the crown composed of leaves and small twigs. This measurement represents the longest extension from the trunk to the outer canopy, known as the “dripline.” This measurement further defines the protection zone required for development. Sacramento County specifies this measurement as the required “Protected Root Zone.”
- Critical Root Zone - The radius of the critical root zone is a circle equal to the trunk diameter in inches converted to feet and factored by tree age, condition, and health pursuant to the industry standard.
- Arborist Rating - This rating is subject to condition and is based on both the health and structure of the tree, as outlined in Table 5 below.

Table 5. Arborist and Sacramento County Tree Rating Scale

Rating Score	Arborist Tree Rating	Sacramento County Tree Rating
5 – Excellent	No problems	Excellent
4 – Good	No apparent problems	Good
3 – Fair	Minor problems	Fair
2 – Fair to Poor	Major problems	Declining
1 – Poor	Extreme problems	Severe decline
0 – Dead	Dead	Dead

Source: EPC 2023.

4 Results

This section describes the results of desktop studies and field surveys described below in Section 3- Methods, as they relate to the entire PSA, including both the solar development area and adjacent other lands. For information specific to the solar development area, refer below to Section 5- Summary of Solar Development Area Resources.

4.1 Environmental Setting

4.1.1 Regional Setting and Land Use

The PSA is located within eastern Sacramento County at the eastern edge of the Sacramento Valley, less than 10 miles from the western foothills of the Sierra Nevada Mountains (Figure 1). The PSA is approximately 1–2 miles south and east of White Rock/Grant Line Road (planned as the Capital Southeast Connector Expressway), 4 miles north of State Route 16, 2 miles south of the city of Folsom, and approximately 15 miles east of the city of Sacramento. The PSA is surrounded by open space generally composed of annual grassland and agricultural fields, rural residences, and the Prairie City SVRA including Prairie City Kart Track. The PSA is primarily used for cattle and sheep grazing or other agricultural operations (Figure 2).

4.1.2 Climate and Rainfall

The PSA is in a semi-arid climate where average annual temperatures range from approximately 53°F to 92°F, and the average annual precipitation is 18.15 inches. On average, the months with the highest rainfall are January and February, and July has the least precipitation (WRCC 2023). According to data from the Prairie City weather station immediately adjacent to the PSA, the total precipitation recorded from April 2020 through August 2020 was between 12.84 and 13.63 inches, approximately 70% to75% of normal (CDEC 2023). Therefore, the PSA region had below normal hydrological conditions in the year preceding the biological resource surveys.

Northern California, and particularly the Sacramento Valley, experienced a drought that expanded and worsened over the course of 2020 through 2022 due to below-average precipitation, weak monsoon, above-normal temperatures, and evaporative demand (NOAA and NIDIS 2023).

Although 2022 brought slightly above average rainfall totals (20.29 inches at the Prairie City Station, or 12% above historical average), drought persisted. In 2022, Sacramento County was ranked as having D4 “Exceptional Drought” conditions, the highest category, which corresponds to an area experiencing exceptional and widespread crop and pasture losses, fire risk, and water shortages that result in water emergencies (National Drought Mitigation Center 2023). Additionally, D4 conditions in Sacramento County have been associated with fish rescue and relocation beginning, pine beetle infestation, high forest mortality, drying up of wetlands, low survival of native plants and animals, fewer native wildflowers in bloom, widespread wildlife death, and appearance of algae blooms (U.S. Drought Monitor 2023). However, 2023 was an unusually wet year with 32.34 inches (78% above historical average) recorded at the Prairie City weather station from November 2022 to June 2023, which allowed Sacramento County to exit D4 conditions. As of August 2023, Sacramento County is not ranked as being in a drought condition (National Drought Mitigation Center 2023).

The USACE Antecedent Precipitation Tool was used to assess the amount of precipitation received in the review area during the aquatic resource delineation fieldwork (Dudek 2023a). The tool calculated that the watersheds within the review area (sampled at Hydrologic Unit Code 8 geographic scope) experienced, on average, drier than normal antecedent precipitation conditions during the 3 months preceding the delineation fieldwork.

4.1.3 Soil and Terrain

The PSA is in an area of relatively flat topographic relief with scattered rolling hills. Elevations within the PSA range from 174 feet amsl to 349 feet amsl. The average elevation is 262 feet amsl.

According to the Natural Resources Conservation Service (NRCS), there are 22 soil units mapped within the PSA. Each soil unit, hydric status, and drainage class (i.e., frequency and duration of wet periods in conditions like those in which it was developed), and typical landform or geomorphic position within the landscape is detailed in Table 6. Figure 4, Soil and Terrain Setting, provides the geographic extent of each soil unit in the PSA region (USDA 2023a).

Based on the NRCS soil dataset, 5 of the 21 soil units (excluding the 'water' unit) identified within the PSA are listed as partially hydric soils.. Partially hydric soils are defined by the NRCS as soils that at least one major component listed for a given map unit is rated as hydric, and at least one other major component is not hydric (NRCS 2024). Hydric soils are defined by the National Technical Committee for Hydric Soils as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (USDA 2023b). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation. Soils encountered during the field surveys were generally classified as loamy soils.

Table 6. Summary of Soil Units within the Project Study Area

Soil Map Unit Name	Landform	Drainage Class	Hydric	Project Study Area Total Area (acres)
Amador-Gillender complex, 2% to 15% slopes	Shallow loamy	Well-drained	No	29.47
Argonaut-Auburn complex, 3% to 8% slopes	Loamy	Well-drained	No	293.63
Auburn silt loam, 2% to 30% slopes	Shallow loamy	Well-drained	No	344.33
Auburn-Argonaut-Rock outcrop complex, 8% to 30% slopes	Shallow loamy	Well-drained	No	261.98
Creviscreek sandy loam, 0% to 3% slopes	Loam stream terraces	Moderately well drained	No	319.48
Hadselville-Pentz complex, 2% to 30% slopes	Shallow loamy	Moderately well drained	No	161.29
Hicksville sandy clay loam, 0% to 2% slopes, occasionally flooded	Loam stream terrace	Moderately well drained	Partially Hydric	74.26
Mokelumne gravelly loam, 2% to 15% slopes	Loamy (live oak/annual grass)	Well drained	No	243.18
Mokelumne-Pits mine complex, 15% to 50% slopes	Loamy	Well-drained	No	45.91

Table 6. Summary of Soil Units within the Project Study Area

Soil Map Unit Name	Landform	Drainage Class	Hydric	Project Study Area Total Area (acres)
Mokelumne variant sandy clay loam, 2% to 8% slopes	Loamy (blue oak/annual grass)	Well-drained	No	3.76
Pardee-Ranchoseco complex, 3% to 15% slopes	Gravelly loamy	Well-drained	No	3.06
Pentz-Lithic Xerorthents complex, 30% to 50% slopes	Shallow loamy	Well-drained	No	3.48
Peters clay, 1% to 8% slopes	Shallow clayey	Well-drained	No	14.61
Pits	—	—	No	10.37
Red Bluff-Redding complex, 0% to 5% slopes	Loamy	Well-drained	Partially Hydric	25.87
Red Bluff-Xerorthents dredge tailings complex, 2% to 50% slopes	—	Well-drained	Partially Hydric	122.88
Redding gravelly loam, 0% to 8% slopes	Gravelly loamy	Moderately well drained	Partially Hydric	34.14
Vleck gravelly loam, 2% to 15% slopes	Loamy claypan	Moderately well drained	No	187.84
Vleck-Amador-Pits, mine complex, 15% to 50% slopes	Loamy claypan	Moderately well drained	No	84.43
Whiterock loam, 3% to 30% slopes	Very shallow loamy (blue oak/annual grass)	Somewhat excessively drained	No	419.20
Xerorthents, dredge tailings, 2% to 50 % slopes	—	Somewhat excessively drained	Partially Hydric	7.72

Source: USDA 2023a.
Note: The water soil map unit (13.65 acres) is not included in Table 6.

4.2 Hydrology and Aquatic Resources

The PSA occurs primarily within the Deer Creek watershed, which drains 82,990 acres of Sacramento and El Dorado Counties in a southwesterly direction towards the City of Elk Grove (Hydrological Unit Code 1804001305) (USGS 2023b). A complex of seasonally inundated and intermittent aquatic features delivers flows to Carson Creek and two of its tributaries, Coyote Creek, and Little Deer Creek, which drain the PSA in a southerly direction, eventually converging with Deer Creek and then the Cosumnes River outside of the PSA. The PSA also occurs within the Morrison Creek watershed (Hydrological Unit Code 1802016304) and American River watershed (Hydrological Unit Code 1802011102). While most of the PSA is located outside of the Federal Emergency Management Agency National Flood Hazard Layer 1% 100-year floodplain, the southern portions of Carson Creek and Little Deer Creek are located within a 100-year flood zone (FEMA 2023). The NWI maps numerous aquatic resources in the PSA, including freshwater emergent wetland, freshwater forested/shrub wetland, freshwater pond, and riverine (USFWS 2023d). The NWI dataset is based on coarse aerial mapping (Figure 5, Hydrologic Setting).

4.2.1 Aquatic Resources Delineation

Dudek conducted an ARD within the PSA between April 2021 and August 2021. Survey information and conditions are summarized below in Table 7.

Table 7. Aquatic Resources Delineation Survey Information Summary

Date	Hours	Personnel	Conditions
04/14/2021	1100–1527	Laura Burris, Morgan Kennedy	61°–70°F; 0%–20% cc; 1–5 mph wind
04/15/2021	0800–1700	Morgan Kennedy, Robert Valenti	51°–75°F; 0% cc; 0–5 mph wind
04/16/2021	0950–1631	Laura Burris, Robert Valenti, Adam Crawford	59°–81°F; 0% cc; 0–2 mph wind
04/19/2021	1000–1300	Morgan Kennedy, Robert Valenti	70°–76°F; 0% cc; 0–1 mph wind
04/20/2021	0800–1700	Anna Godinho	53°–74°F; 0% cc; 0–5 mph wind
04/21/2021	1124–1600	Anna Godinho, Laura Burris, Morgan Kennedy, Naomi Serratos	60°–81°F; 0% cc; 1–2 mph wind
04/22/2021	0800–1700	Anna Godinho, Morgan Kennedy	52°–72°F; 0% cc; 0–5 mph wind
04/23/2021	1000–1530	Laura Burris, Anna Godinho	60°–75°F; 0% cc; 3–5 mph wind
04/26/2021	0921–1630	Laura Burris, Naomi Serratos, Morgan Kennedy	54°–65°F; 20%–30% cc; 4–5 mph wind
04/27/2021	0800–1500	Laura Burris, Naomi Serratos, Morgan Kennedy, Allie Sennett	50°–72°F; 0% cc; 3–5 mph wind
04/28/2021	0954–1640	Anna Godinho, Naomi Serratos	69°–91°F; 0% cc; 0 mph wind
04/29/2021	0800–1438	Anna Godinho, Naomi Serratos	57°–88°F; 0%–20% cc; 0 mph wind
05/03/2021	0930–1500	Anna Godinho	69°–84°F; 0% cc; 0 mph wind
05/04/2021	0730–1600	Anna Godinho, Mackenzie Forgey, Paul Keating, Naomi Serratos	56°–94°F; 0% cc; 0–10 mph wind
05/05/2021	0645–1600	Mackenzie Forgey, Michelle Leis, Allie Sennett, Paul Keating, Naomi Serratos	60°–102°F; 0% cc; 0–2 mph wind
05/06/2021	0630–1600	Mackenzie Forgey, Michelle Leis, Morgan Kennedy, Naomi Serratos	58 –86°F; 0% cc; 0–3 mph wind
05/07/2021	0800–1700	Laura Burris, Michelle Leis, Naomi Serratos	55°–80°F; 0% cc; 0–3 mph wind
05/11/2021	0830–1600	Laura Burris	69°–95°F; 0% cc; 0–4 mph wind
05/12/2021	0905–1400	Laura Burris	65°–95°F; 0% cc; 0–2 mph wind
05/14/2021	0800–1700	Anna Godinho	55°–79°F; 0% cc; 10–20 mph wind
06/02/2021	0700–1400	Anna Godinho, Laura Burris	65°–89°F; 0% cc; 0–5 mph wind
06/03/2021	0700–1330	Anna Godinho, Laura Burris	63°–93°F; 0% cc; 0–5 mph wind
06/07/2021	0800–1400	Anna Godinho	60°–82°F; 0% cc; 0–5 mph wind
06/08/2021	0745–1415	Anna Godinho, Caroline Kim	56°–75°F; 0%–10% cc; 0–5 mph wind
06/09/2021	0800–1500	Anna Godinho, Caroline Kim	55°–74°F; 0%–10% cc; 0–5 mph wind
06/10/2021	0800–1330	Anna Godinho, Caroline Kim	55°–75°F; 0% cc; 0–5 mph wind
06/14/2021	0800–1700	Anna Godinho, Allie Sennett, Paul Keating	68°–86°F; 0% cc; 5–15 mph wind
06/15/2021	0730–1300	Anna Godinho, Paul Keating	57°–88°F; 0%–10% cc; 0–5 mph wind

Table 7. Aquatic Resources Delineation Survey Information Summary

Date	Hours	Personnel	Conditions
06/15/2021	0708–1428	Allie Sennett	72°F–84°F; 0% cc; 5–10 mph wind
06/16/2021	0700–1416	Anna Godinho, Sheldon Leiker, Paul Keating	58°F–98°F; 0%–30% cc; 0–5 mph wind
06/17/2021	0700–1230	Anna Godinho, Sheldon Leiker	72°F–97°F; 0% cc; 0–3 mph wind
06/18/2021	0600–1030	Laura Burris, Sheldon Leiker	77°F–99°F; 0% cc; 0–1 mph wind
06/21/2021	0810–1519	Kathleen Dayton, Naomi Serratos, Paul Keating, Caroline Kim	68°F–92°F; 0%–40% cc; 0–3 mph wind
06/22/2021	0730–1515	Anna Godinho, Laura Burris, Michele Laskowski	65°F–85°F; 0% cc; 0–5 mph wind
06/22/2021	0719–1617	Callie Amoaku, Cody Schaaf, Naomi Serratos, Paul Keating	61°F–90°F; 0% cc; 0–2 mph wind
06/22/2021	0930–1710	Kathleen Dayton, Caroline Kim	80°F–90°F; 0% cc; 0–3 mph wind
06/23/2021	0625–1345	Kathleen Dayton, Caroline Kim	57°F–89°F; 0% cc; 3–5 mph wind
06/23/2021	0700–1700	Anna Godinho, Laura Burris, Michele Laskowski	61°F–90°F; 0% cc; 0–3 mph wind
06/23/2021	0815–1645	Callie Amoaku, Cody Schaaf, Naomi Serratos, Paul Keating	70°F–82°F; 0% cc; 0–5 mph wind
06/24/2021	0705–0100	Callie Amoaku, Cody Schaaf, Naomi Serratos, Laura Burris, Paul Keating, Caroline Kim	59°F–81°F; 0% cc; 0–5 mph wind
06/25/2021	0800–1700	Paul Keating	62°F–93°F; 0% cc; 10–15 mph wind
08/04/2021	1100–1600	Laura Burris	59°F–97°F; 0% cc; 0–5 mph wind

Thirteen aquatic resource types were documented in the PSA (Table 8). Specifically, a total of eight wetland types were delineated within the PSA including freshwater emergent wetland, pond, seasonal wetland, vernal pool, fringe wetland, seasonal wetland swale, vernal swale, and seep. Additionally, a total of five non-wetland waters (i.e., waters) were delineated within the PSA including ditch, ephemeral channel, intermittent channel, perennial channel, and upland swale (Figure 6, Aquatic Resources Delineation).

Table 8. Summary of Aquatic Resources in the Project Study Area

Feature Type	Cowardin Code[1]	PSA	
		Acres	Linear Feet
Wetlands			
Freshwater Emergent Wetland	PEM	8.00	—
Fringe Wetland	PEM	2.55	—
Pond	R6	9.47	—
Seasonal Wetland	R6	4.10	—
Seasonal Wetland Swale	R6	11.19	38,762.39
Seep	R6	0.16	—
Vernal Pool	PEM	3.57	—
Vernal Swale	R6	2.00	6,341.94
	Total Wetlands	*41.13*	*45,104.33*

Table 8. Summary of Aquatic Resources in the Project Study Area

Feature Type	Cowardin Code[1]	PSA	
		Acres	Linear Feet
Non-Wetland Waters[2]			
Ditch	U	0.89	2,227.07
Ephemeral Channel	R6	12.50	49,926.78
Intermittent Channel	R4, R5	20.45	43,985.08
Perennial Channel	R3	69.58	34,276.08
Upland Swale	U	4.99	25,098.94
	Total Non-Wetland Waters	*108.57*	*155,514.28*
	Total	**149.70**	**200,618.60**

Source: USFWS 2013.
Notes: PSA= Project Study Area.
[1] Cowardin Code: PEM= emergent, palustrine; R3 = upper perennial, riverine; R4 = intermittent, riverine; R5 = unknown perennial, riverine; R6 = riverine, ephemeral (a wetland, spring, stream, river, pond, or lake that only exists for a short period); U = upland.
[2] Acreage of the non-wetland waters extend to ordinary high water mark (OHWM) and/or where the OHWM is equivalent to the top of bank.

4.2.1.1 Wetlands

Freshwater Emergent Wetland

Thirty-four freshwater emergent wetlands comprising approximately 8.0 acres occur primarily below the OHWM of Carson Creek within the PSA (see Photo 1 in Appendix B, Photo Record). In general, these features were characterized by erect, rooted herbaceous hydrophytes and dominated by perennial plants such as hardstem bulrush (*Schoenoplectus acutus*; obligate [OBL]), pale spike rush (*Eleocharis macrostachya*; OBL), and Baltic rush (*Juncus balticus*; facultative wetland [FACW]). These wetlands contained hydric soils as indicated by a depleted matrix (Hydric Soil Indicator F3), and wetland hydrology was confirmed by the presence of surface water (Hydrology Indicator A1), saturation (Hydrology Indicator A3), inundation visible on aerial imagery (Hydrology Indicator B7), and/or oxidized rhizosphere along living roots (Hydrology Indicator C3). Three of these features (FEW-1, FEW-2, and FEW-5) located outside of Carson Creek are shallow impoundments constructed within natural drainages, generally for the purpose of supporting livestock, and one feature (FEW-3) is the result of seepage from an upslope pond.

Pond

There are three ponds comprising approximately 9.47 acres within the PSA. These features are natural closed depressions that have been artificially augmented by perennial water sources, generally for the purpose of supporting livestock. Pond-01 (P-01) is located within the western portion of the PSA (see Photo 2 in Appendix B) and classified as a freshwater pond by the NWI (USFWS 2023d). This feature receives input from ephemeral features during rain events, outlets into an intermittent channel tributary to Coyote Creek, and supports a sparse riparian zone comprised of Goodding's willow (*Salix gooddingii*; OBL). Pond-02 (P-02) located within the northern portion of the PSA adjacent to Carson Creek is largely unvegetated and receives input from ephemeral features during rain events. Pond-03 (P-03) is a large feature located within the eastern portion of the PSA that is classified as a freshwater pond by the NWI (USFWS 2023d). This feature receives intermittent flows from a drainage to the north and outlets into a drainage tributary to Carson Creek. It supports sparse broadleaf cattail (*Typha latifolia*; OBL) and swamp smartweed (*Persicaria amphibia*; OBL) along the margins, and a berm along the west side supports a

dense thicket of Himalayan blackberry (*Rubus armeniacus*; facultative [FAC]). The ponds contained hydric soils as indicated by a depleted matrix (Hydric Soil Indicator F3). Wetland hydrology was confirmed by the presence of surface water (Hydrology Indicator A1), saturation (Hydrology Indicator A3), inundation visible on aerial imagery (Hydrology Indicator B7), and/or oxidized rhizospheres along living roots (Hydrology Indicator C3).

Seasonal Wetland

There are 136 seasonal wetlands comprising approximately 4.10 acres throughout the PSA. These features are inundated seasonally, and some are connected via swales, ephemeral channels, and/or intermittent channels. Seasonal wetlands were characterized by a distinct change in vegetation type and cover from the surrounding grassland (see Photo 3 in Appendix B). The seasonal wetlands contain a dominance of FAC grasses, including perennial rye grass (*Festuca perennis*) and mouse barley (*Hordeum marinum)*. The wetlands contained hydric soils as indicated by depleted matrix, redox dark surface, and redox depressions (Hydric Soil Indicators F3, F6, and F8). Wetland hydrology was confirmed by the presence of oxidized rhizospheres along living roots, surface soil cracks, and/or inundation visible on aerial imagery (Hydrology Indicators C3, B6, and B7). Saturation and deep cow hoof punches were present in many of the seasonal wetlands during the field delineation.

Two seasonal wetlands (SW-90 and SW-121) in the northwestern portion of the PSA appear to be remnants of historical drainages, supporting a fragmented riparian corridor comprised of Fremont's cottonwood (*Populus fremontii*; FAC) and Goodding's willow trees with an understory of sandbar willow (*Salix exigua*; FACW), poison oak (*Toxicodendron diversilobum*; Facultative Upland [FACU]), and Himalayan blackberry. These features do not appear to have hydrologic connectivity to any other aquatic resources, and any natural hydrology in this area has been disrupted by development and disturbance associated with the adjacent Prairie City SVRA.

Vernal Pool

There are 121 vernal pools comprising approximately 3.57 acres throughout the PSA. These features were characterized as three-parameter wetlands with an impermeable layer such as a hard pan that may fill and empty several times during the rainy season. These features may be isolated or connected to larger vernal complexes via swales. The vernal pools on site exhibited concentric rings of distinctly different vegetation cover and species composition (see Photo 4 in Appendix B), the center of which was generally devoid of vegetation due to prolonged inundation and surrounded by a predominance of hydrophytic species such as Great Valley eryngo (*Eryngium castrense*; OBL), Fremont's goldfields *(Lasthenia fremontii*; OBL*),* short woollyheads *(Psilocarphus brevissimus;* FACW*),* and needleleaf navarretia *(Navarretia intertexta;* FACW*),* as well as facultative grasses growing along the feature margins. In general, pits were not dug within vernal pools due to the presence of a hardpan, and soils were assumed hydric due to the presence of hydrophytic vegetation and hydrology indicators. Wetland hydrology was confirmed by the presence of surface water, saturation, surface soil cracks, inundation on aerial imagery (Google Earth 2023), and biotic crust (Hydrology Indicators A1, A3, B6, B7, and B12). Cow punches and evidence of grazing were documented in many of the vernal pools on site, and some hydrology was disrupted by property fences and associated berms.

Fringe Wetland

Twenty-nine fringe wetlands comprising approximately 2.55 acres occur primarily along terraces of Coyote Creek and Carson Creek within the PSA (see Photos 5 and 15 in Appendix B). Most of these features occur between the OHWM and top of bank, abutting intermittent and perennial channels on site. In general, these features were characterized by their proximity to intermittent and perennial channels and dominated by hydrophytic plants such as pale spike rush,

perennial rye grass, annual semaphore grass (*Pleuropogon californicus* var. *Californicus;* OBL), narrowleaf plantain *(Plantago lanceolata*; FAC*),* white-tip clover *(Trifolium variegatum;* FAC*),* and low spearwort *(Ranunculus pusillus;* OBL*).* The wetlands contained hydric soils as indicated by a depleted matrix and redox dark surface (Hydric Soil Indicator F3, F6), and wetland hydrology was confirmed by the presence of saturation (Hydrology Indicator A3), inundation visible on aerial imagery (Google Earth 2023) (Hydrology Indicator B7), and/or oxidized rhizosphere along living roots (Hydrology Indicator C3). No surface water was present during the field delineation. One of these features abuts a pond (P-01) that is an impoundment of an intermittent drainage tributary to Coyote Creek.

Seasonal Wetland Swale

There are 61 seasonal wetland swales comprising approximately 11.26 acres (38,762.39 linear feet) within the PSA. Seasonal wetland swales on site consist of topographic depressions that would be expected to convey water when inundated, but where a defined bed and bank and typical fluvial indicators are lacking (see Photo 6 in Appendix B). These three-parameter wetland features were generally delineated by a mild break in slope and change in vegetation type and cover. These three-parameter wetland features were dominated by facultative wetland grasses and displayed evidence of hydric soils and hydrology indicators like those described for seasonal wetlands above. Saturation was present in some swales at the time of the field delineation.

Vernal Swale

There are 12 vernal swales comprising approximately 2.02 acres (6,341.94 linear feet) primarily within the western portion of the PSA. These features typically function as shallow, seasonal conveyance channels connecting vernal pools or seasonal wetland swales and forming complexes (see Photo 7 in Appendix B). The hydrophytic vegetation species composition and hydrology indicators are like those described for vernal pools above. Also as previously described for vernal pools above, pits were not dug in vernal swales due to the presence of a hardpan, and soils were assumed hydric due to the presence of hydrophytic vegetation and hydrology indicators.

Seep

There are three seeps comprising approximately 0.16 acres within the PSA. These features occur where groundwater flows to the soil surface, either from a clearly defined opening or from a saturated area where water percolates slowly through the soil. Seep-01 (SP-01) is in the eastern portion of the PSA and appears to be fed by the adjacent Carson Creek. Seep-02 (SP-02) occurs in the eastern portion of the PSA and appears to have been artificially augmented for the purpose of supporting livestock, as evidenced by the gated fence surrounding the feature and adjacent cattle trough and water storage infrastructure (see Photo 8 in Appendix B). This linear feature appears to be perennial and contained standing water at the time of the field delineation, contributing flows to an intermittent channel tributary to Coyote Creek. This feature contained hydric soils as indicated by redox depressions (Hydric Soil Indicator F8). Seep-03 (SP-03) is located within an intermittent channel in the eastern portion of the PSA. All three seeps were dominated by herbaceous hydrophytic plants such as annual rabbits foot grass (*Polypogon monspeliensis*; FACW), salt grass (*Distichlis spicata*; FAC), and Pacific foxtail (*Alopecurus saccatus*; OBL). SP-01 and SP-03 were saturated at the time of the field delineation (Hydrology Indicator A3), and soils were assumed hydric due to the presence of hydrophytic vegetation and hydrology indicators.

4.2.1.2 Non-wetland Waters

Ditch

There are five ditches comprising approximately 0.89 acres (2,227.07 linear feet) throughout the northeastern portion of the PSA. The earthen ditches are either human-made or channelized natural features with intermittent hydrology intended for stormwater, agricultural, irrigation, runoff, or similar purposes. Evidence of an OHWM within the ditches includes a break in slope, bed and bank, and change in plant community and/or cover. Ditch-01 and Ditch-03 support facultative vegetation within their bed including perennial rye grass, mouse barley, and prostrate knotweed (*Polygonum aviculare*). These ditches originate off site to the north and continue off site to the south into a large natural wetland complex with potential downstream connectivity to Morrison Creek (see Photo 10 in Appendix B). Ditch-02 is a human-made stormwater control feature that supports a mix of upland and wetland vegetation along the bed and banks including hyssop loosestrife (*Lythrum hyssopifolium*; OBL), tall flatsedge (*Cyperus eragrostis*; FACW), storksbill *(Erodium* spp.; FACU-UPL [Upland]), and Fitch's tarweed (*Centromadia fitchii*; FACU). Ditch-04 supports a fragmented riparian corridor comprised of large Fremont's cottonwood trees. This feature does not appear to have hydrologic connectivity to any other aquatic resources, and any natural hydrology in this area has been disrupted by development associated with the adjacent Prairie City SVRA. Although inundation is visible on aerial imagery (Hydrology Indicator B7) (Google Earth 2023), all ditches were dry during the field delineation. There is no continuous riparian corridor associated with the features in the PSA.

Ephemeral Channel

There are 87 ephemeral drainages comprising approximately 12.50 acres (49,926.78 linear feet) within the PSA. Ephemeral drainages on site consist of stream channels that are naturally occurring rather than anthropogenically created, and contain flowing water during, and for a short duration after, precipitation events. Hydrology of the ephemeral drainages is dependent on inputs during rain events and runoff from the surrounding uplands, with evidence of OHWM including shelving, scour, a break in slope, sediment sorting, bed and bank, bent or absent vegetation, and a change in plant community and/or cover (see Photo 11 in Appendix B). Where vegetation was present, the ephemeral drainages contained a dominance of hydrophytic species like those described for seasonal wetlands and vernal pools above. Many of these drainages flow downstream into intermittent and perennial channels, while others connect swales and wetlands in larger complexes or are isolated. These drainages were dry at the time of the field delineation. There are no continuous riparian corridors associated with these features in the PSA.

Intermittent Channel

There are 26 intermittent drainages comprising approximately 20.45 acres (43,985.08 linear feet) within the PSA. Intermittent drainages generally have flowing water during certain times of the year, when groundwater provides water for stream flow, and receive supplemental water from rainfall runoff. The intermittent drainages on site, including Little Deer Creek, are all tributary to the larger, perennial channels. Evidence of an OHWM and presence of hydrophytic vegetation is like that described for ephemeral drainages above (see Photo 12 in Appendix B); however, these features are characterized by deeper pools throughout. Inundation is visible on aerial imagery and standing water and/or saturation was present within low points or widenings of many of these features at the time of the field delineation.

Perennial Channel

Carson Creek and its tributary, Coyote Creek, flow from north to south throughout the PSA, comprising 69.74 acres (34,276.08 linear feet). Approximately 2 miles south of the PSA, Carson Creek converges with Deer Creek, a tributary to the Cosumnes River, a jurisdictional water with perennial flows that originates in the Sierra Nevada mountains and flows approximately 50 miles into the Central Valley, emptying into the Mokelumne River in the Sacramento-San Joaquin Delta. Portions of the Carson Creek and Coyote Creek riverbeds consist of granite slabs and outcroppings characteristic of mine tailings and riparian woodland described above (see Photos 13 and 16 in Appendix B). The OHWM of these features was mapped based on the presence of one or more of the following indicators: break in slope, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, presence of litter and debris, wracking, vegetation matted down, bent, or absent, sediment sorting, scour, deposition, bed and banks, water staining, or a change in plant community and/or cover. Carson Creek contained standing and/or flowing water throughout the PSA, while Coyote Creek was mostly dry at the time of the field delineation except for standing water in deep plunge pools throughout. Open water within these features supported aquatic plants such as floating water primrose (*Ludwigia peploides;* OBL), Pacific mosquito fern (*Azolla filiculoides*; OBL), and hairy water clover (*Marsilea vestita;* OBL). Saturated areas below the OHWM supported wetland plant species like those described for freshwater emergent wetlands, fringe wetlands, and seasonal wetlands above. Below the top of bank, these features supported a mix of wetland and upland species, including portions of blue oak woodland, riparian woodland, and mixed riparian scrub described above.

Upland Swale

There are 62 upland swales comprising approximately 5.00 acres (25,098.94 linear feet) within the PSA. Upland swales on site consisted of linear topographic depressions that lack a distinct OHWM. These features contain a mild break in slope and a slight change in vegetation type and cover but did not support a dominance of wetland vegetation (see Photo 9 in Appendix B). These features contained upland grasses and facultative wetland grasses, like those described for annual grassland and seasonal wetlands above.

4.3 Terrestrial Vegetation Communities and Land Cover Types

Terrestrial vegetation communities and land cover types within the PSA consist of a combination of terrestrial non-vegetative land covers or natural vegetation communities. The vegetation communities and land covers within the PSA have been adapted from the Manual of California Vegetation, Online Edition (CNPS 2023b). These include blue oak forest, blue oak woodland, riparian woodland/forest, urban/developed, and valley and foothill grassland. Below, detailed descriptions are provided for each vegetation community and land cover type, as well as its relationship to land covers mapped in the SSHCP (Figure 7, Vegetation Communities and Land Cover Types, Figure 8, South Sacramento Habitat Conservation Plan Modeled Land Cover, and Table 9). For further details pertaining to aquatic communities/land cover within the PSA, see above Section 4.2.1- Aquatic Resources Delineation.

Table 9. Crosswalk of Terrestrial Vegetation Communities and Land Cover Classification Types within the Project Study Area

Vegetation Community/ Land Cover Type				PSA Total Acreage[2]
Holland[1]	MCV	WHR	SSHCP	
Blue oak woodland (forest)	Blue oak woodland and forest (*Quercus douglasii* forest and woodland alliance)	Blue oak woodland, blue oak-foothill pine	Blue oak woodland; Mine tailing riparian woodland	262.83
Blue oak woodland	Blue oak woodland and forest (*Quercus douglasii* forest and woodland alliance)	Blue oak woodland, blue oak-foothill pine	Blue oak savanna	344
Riparian woodland/forest	Blue oak woodland and forest (*Quercus douglasii* forest and woodland alliance)	Blue oak woodland, blue oak-foothill pine	Mixed riparian scrub	32.55
Urban/Developed	N/A	N/A	High density development; Low density development; Major roads; Mine Tailings Recreational/Landscaped	150.53
Valley and foothill grassland	Wild oats and annual brome grasslands (*Avena* spp.- *Bromus* spp. herbaceous semi-natural alliance)	Annual grassland	Valley grassland	1,764.73
			Total	**2,554.64**

Source: CNPS 2023b; County of Sacramento 2018; Sawyer et al. 2009; Holland 1986.
Notes: MCV= Manual of California Vegetation; WHR= Wildlife Habitat Relationship; SSHCP= South Sacramento Habitat Conservation Plan; PSA= Project Study Area.

[1] Terrestrial vegetation communities and landcover types that were specifically mapped within PSA utilize the Holand classification systems.

[2] Terrestrial vegetation communities and landcover types do not include aquatic resources, which total an additional 149.70 acres. see above Section 4.2.1- Aquatic Resources Delineation.

4.3.1 Vegetation Communities

4.3.1.1 Blue Oak Woodland (Forest)

Blue oak woodland/forest comprises a total of 262.83 acres within the PSA and is present throughout the site specifically concentrated in the south and eastern vicinities. This community is specifically characterized by greater than 10% tree cover formed primarily by blue oak *(Quercus douglasii*) with other foothill tree species mixed in. This community generally has a sparse shrub layer and well-developed valley and foothill grassland layer, sometimes including vernal pools and other wetland features. Other tree species that may occur in Blue Oak Woodland include foothill pine (*Pinus sabiniana*), interior live oak (*Quercus wislizenii*), valley oak (*Quercus lobata*), and California buckeye (*Aesculus californica*). The shrub layer, where present, only includes scattered individuals of poison oak, and coyote brush (*Baccharis pilularis*). Blue oak woodland/forests often have a relatively open canopy, when compared to riparian land covers (County of Sacramento 2018).

4.3.1.2 Blue Oak Woodland

Blue oak woodland comprises a total of 344.0 acres within the PSA and is present throughout the site specifically in the south and eastern vicinities. This vegetation community is characterized by a sparse (less than 10%) tree canopy structure that ranges from scattered blue oak trees, and small clusters of blue oaks, to small areas of blue oak stands, like a savanna. Like blue oak woodland/forest described above, it generally has little to no shrub layer, but has a well-developed valley and foothill grassland layer. Blue oak woodland is typically transitional between valley and foothill grasslands and blue oak woodland/forests and correlates to oak savanna land type in SSHCP (County of Sacramento 2018).

4.3.1.3 Riparian Woodland/Forest

Riparian woodland/forest comprises a total of 32.55 acres within the PSA and is interspersed with blue oak woodland and forest throughout the site. This vegetation community is primarily concentrated on either perennial, intermittent, or ephemeral channels within the PSA. This vegetation community consists of an open-to-dense shrubby thicket dominated by a mixture of sandbar willow, arroyo willow (*S. lasiolepis*), red willow (*S. laevigata*), and immature stands of mixed various other riparian woodland tree species. This vegetation community can also be a sub-canopy and understory of native and non-native species, including wild rose (*Rosa californica*), wild grape (*Vitis californica*), perennial pepperweed (*Lepidium latifolium*), Himalayan blackberry (*Rubus discolor*), curly dock (*Rumex crispus*), and various non-native grasses (County of Sacramento 2018).

4.3.1.4 Valley and Foothill Grassland

Valley and foothill grassland comprises a total of 1,764.73 acres within the PSA, making it the dominant vegetation community within the site. This vegetation community is an annual herbaceous vegetation community characterized mostly by naturalized annual grasses. Its composition varies with geographic and land use factors, such as rainfall, temperature, elevation, slope, aspect, grazing and other herbivory, and fire frequency and duration. Valley and foothill grassland is dominated by naturalized herbaceous annual forbs, and patches with relatively high proportions of native grasses and forbs. Valley and foothill grassland is associated with several natural communities including vernal pools and occurs as an understory within blue oak woodlands and forests, and riparian areas. Valley and foothill grassland may also occur as a co-dominant with perennial grasses. For example, purple needlegrass (*Stipa pulchra*) can be found as the dominant grass (i.e., comprising greater than 20% cover) in small patches along ridgetops of low-lying hills within the PSA (County of Sacramento 2018).

4.3.2 Land Cover Type

4.3.2.1 Urban/Developed

Urban/Developed land cover within the PSA comprises a total of 150.53 acres. This land cover type is concentrated in the northwestern vicinity of the PSA, and near areas adjacent to Scott Road. This land cover type includes areas that have been completely altered by human activities and contain little to no vegetation. Specifically, such areas include low- and high-density residences and buildings, paved and gravel roadways, trails, gravel lots, recreational areas (i.e., Prairie City SVRA), and other constructed environments.

4.4 Other Biological and Aquatic Resources

4.4.1 Sensitive Natural Communities

Sensitive natural communities are communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects. These communities may or may not contain special-status species. Specifically, sensitive natural communities are those that are listed in the CDFW CNDDB due to the rarity of the community in the state or throughout its entire range (i.e., globally). For rarity, the ranking involves the knowledge of the range and distribution of a given type of vegetation, and the proportion of occurrences that are of good ecological integrity. The conservation of sensitive natural communities is integral to maintaining biological diversity (CDFW 2023a). In addition to the sensitive habitats identified above in Section 4.3- Terrestrial Vegetation Communities and Land Cover Types, two others known CDFW sensitive natural communities occur within 5 miles of the PSA, northern hardpan vernal pool and valley needlegrass grassland. No sensitive natural communities were identified within the solar development area (CDFW 2023d).

4.4.1.1 Northern Hardpan Vernal Pool

Northern hardpan vernal pool has been identified within 5 miles of the PSA, with the closest known occurrence located approximately 1 mile to the north of the PSA (Figure 9, Known Special-Status Species Occurrences, Critical Habitat, and Sensitive Communities) (CDFW 2023e). Northern hardpan vernal pools are seasonally flooded or saturated with fresh water. Many species of plants and wildlife depend on these unique communities and are often classified as special-status, including California tiger salamander (*Ambystoma californiense*; CTS) and WST, which have a potential to occur in the PSA and are further discussed below in Section 4.5.2- Special-Status Wildlife. Vegetative species composition varies from pool to pool and from year to year. Herbs and grasses typically grow less than 1 foot high with intermediate to open cover. These pools form over areas with hardpan soils and generally have more topographic relief associated with them. CDFW tracks this rare habitat (Tulare Basin Wildlife Partners 2021). Although Northern hardpan vernal pool data is not present within the PSA, the conditions of the vernal pools and seasonal wetlands within the PSA may potentially meet the classification criteria for this sensitive natural community. Potential impacts are evaluated for the PSA in Section 4.2 above, and for the solar development area in Section 5.2 below.

4.4.1.2 Valley Needlegrass Grassland

Valley needlegrass grassland has been identified within 5 miles of the PSA, with the closest know occurrence located approximately 5 miles to the north of the PSA (Figure 9). Valley needlegrass grassland usually occur on fine-textured (often clay) soils that are moist or waterlogged during winter, but very dry in summer. Although valley needle grassland data is not present within the PSA, the vernal pools and seasonal wetlands within the PSA present soil conditions that are complimentary to this sensitive natural community. Within the PSA, only one native needlegrass species was identified, nodding needlegrass (*Stipa cernua*). Therefore, some conditions within the PSA may potentially meet the classification criteria for this sensitive natural community.

4.4.2 Riparian Habitat

A stream or other watercourse is a body of water that flows year-round or intermittently, and as such has surface and subsurface flow that supports or has supported riparian vegetation/habitat. Riparian habitat acts as a buffer between aquatic resources and uplands. Healthy riparian habitat is essential in supporting both plant and wildlife

species, as well as supporting watercourse integrity. As such, riparian habitat is considered a sensitive habitat within California pursuant to California FGC 1600-1616 and regulated through the CDFW Lake and Streambed Alteration Program. The goal of conserving riparian habitat as a sensitive natural community is to preserve these systems to maintain species and watercourse health and function. Within the PSA, riparian habitat was identified relatively small concentrations along the perennial, intermittent, and ephemeral channels. Riparian woodland/ forest is discussed above in Section 4.3.1- Vegetation Communities.

4.4.3 Designated Critical Habitat/Essential Fish Habitat

Critical habitat is designated by USFWS and is specifically defined as a geographic area that contains features essential to the conservation of species listed as threatened or endangered under FESA. The purpose of DCH is to identify areas that are essential to the species' conservation and recovery and what management requirements may be necessary to conserve the species. EFH is designated by NOAA and is specific to aquatic habitat where federally managed fish species and invertebrates live and reproduce. Discussed below are the five types of DCH and EFH occurring within the PSA and/or within 5 miles of the PSA (Figure 9).

4.4.3.1 Central Valley Steelhead, Sacramento River Winter-Run Chinook Salmon, and Central Valley Spring-Run Chinook Salmon

NOAA Fisheries has delineated eight recovery domains, or geographic recovery planning areas, for the FESA-listed salmon and steelhead populations on the western coast of California, and this includes Central Valley steelhead (*Oncorhynchus mykiss*), Sacramento River winter-run Chinook salmon (*Oncorhynchus tshawytscha*), and Central Valley spring-run Chinook salmon (*Oncorhynchus tshawytscha*). The 2014 Recovery Plan for Sacramento River Winter-run Chinook, Central Valley Spring-run Chinook, and Central Valley Steelhead domain extends from the upper Sacramento River Valley to the northern portion of the San Joaquin River Valley (NOAA 2014). This domain specifically encompasses the American River.

The American River, the nearest location where EFH for Central Valley steelhead has been identified (NOAA 2023), is located approximately 4 miles northwest of the PSA (Figure 9). The American River has no connectivity to the PSA.

4.4.3.2 Sacramento Orcutt Grass and Slender Orcutt Grass

USFWS has DCH for special-status annual grass species Sacramento Orcutt grass (*Orcuttia viscidia*) and slender Orcutt grass (*Orcuttia tenuis*). Protection and recovery requisites for these species are detailed in the Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon (USFWS 2005). The known range and habitat for these species includes swales, wetlands, and vernal pools within the Sacramento Valley. These species are distributed in a narrow zone of remnant depositional stream terraces at the base of the Sierra foothills in northern hardpan vernal pool and northern volcanic mudflow vernal pools. Most, if not all, occurrences for these species are in eastern Sacramento County in the general vicinity of the PSA. Although several occurrences are now protected under land conversion easements, impacts from surrounding land use, adjacent road widening, and other human activities continue to threaten the species (USFWS 2009).

DCH for Sacramento Orcutt grass has been designated within 5 miles of the PSA, approximately 4.8 miles northwest of the PSA (USFWS 2023e). DCH for Sacramento Orcutt grass and slender Orcutt grass has also been identified approximately 6 miles west of the PSA (Figure 9), (USFWS 2023f). Sacramento Orcutt grass and slender Orcutt grass are discussed in detail below in Section 4.5.1- Special-Status Plants.

4.4.3.3 Vernal Pool Fairy Shrimp and Vernal Pool Tadpole Shrimp

USFWS has identified DCH for special-status invertebrate species vernal pool fairy shrimp (Branchinecta lynchi) and vernal pool tadpole shrimp (Lepidurus packardi). Protection and recovery requisites for these species are detailed in the 2005 Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon (USFWS 2005). These species have an ephemeral life cycle and exist only in vernal pools or vernal pool-like habitats, such as those occurring within the PSA. The overarching recovery strategy for these species is habitat protection and management (USFWS 2005).

DCH for vernal pool fairy shrimp and vernal pool tadpole shrimp is near the PSA, approximately 5 miles to the west of the PSA (Figure 9), (USFWS 2023b). Vernal pool fairy shrimp and vernal pool tadpole shrimp are discussed in detail below in Section 4.5.2- Special-Status Wildlife.

4.4.4 South Sacramento Habitat Conservation Plan Modeled Species Habitat

The permits associated with the SSHCP provide take authorization for 28 Covered Species, of which 11 are currently listed as threatened or endangered under the CESA or the FESA (County of Sacramento 2018). The 28 species were identified through an evaluation process that began with a list of 90 species. Species were selected for coverage based on their potential to occur within the SSHCP Area, their potential to be adversely affected by Covered Activities in the SSHCP Area, the availability of information to adequately evaluate impacts to the species, and the ability to adequately protect the species. The SSHCP includes conservation actions to protect all 28 Covered Species whether they are currently listed. Projects using the SSHCP permits are extended a “no surprises” assurance from USFWS that currently non-listed covered species will not require additional conservation in the event the species becomes listed under the FESA during the SSHCP’s Permit Term (through 2069).

The SSHCP Permittees worked with local species experts and wildlife agency biologists to define and map Covered Species suitable habitat within the SSHCP Area by using the best available information about the life history and biology of each Covered Species and locations in the SSHCP Area known to support the species or where the species has been observed (County of Sacramento 2018).

Specifically, information and data concerning the species’ needs for breeding, feeding, and sheltering at each life history stage; information from SSHCP Area species-surveys; documented species occurrences within the SSHCP Area; and information on species range, including soil type associations and elevation limits, were used to build habitat models. The collected habitat data were compiled using GIS to generate a map-based model of suitable habitat within the SSHCP Area for each Covered Species. Currently, 18 SSHCP Covered Species have potential to occur within the PSA. Table 10 lists those 18 SSHCP Covered Species, how much of their modeled habitat exists within the PSA and solar development area, and how much of their modeled habitat exists within 5 miles of the PSA.

Table 10. South Sacramento Habitat Conservation Plan Modeled Habitat for Covered Species within Project Study Area

Covered Species1	Total SSHCP Modeled Habitat in PSA (acres)	Total SSHCP Modeled Habitat within 5 Miles of the PSA (acres)
Plants		
Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii*)	46.05	2,620.18
Boggs Lake hedge-hyssop (*Gratiola heterosepala*)	212.76	2,342.33
dwarf downingia (*Downingia pusilla*)	29.47	1,235.01
Legenere (*Legenere limosa*)	98.95	10,873.94
Pincushion navarretia *(Navarretia myersii* ssp. *myersii)*	295.37	11,604.65
Sacramento Orcutt grass (*Orcuttia viscida*)	76.09	9,303.49
Sanford's arrowhead (*Sagittaria sanfordii*)	178.37	9,504.95
Slender Orcutt grass (*Orcuttia tenuis*)	76.09	8,520.31
Wildlife		
American badger (*Taxidea taxus*)	2,207.99	36,920.23
burrowing owl (*Athene cunicularia*)	2,190.16	37,116.89
California tiger salamander (*Ambystoma californiense*)	0	315.37
western pond turtle *(Actinemys marmorata*)	2,487.16	30,352.67
Swainson's hawk (*Buteo swainsoni*)	1,065.70	34,537.93
tricolored blackbird (*Agelaius tricolor*)	1,080.50	35,718.31
valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	2.02	1,431.68
vernal pool fairy shrimp (*Branchinecta lynchi*)	759.14	20,242.66
vernal pool tadpole shrimp (*Lepidurus packardi*)	759.14	20,242.66
western spadefoot toad (*Spea hammondii*)	2,559.57	42,918.89

Notes: SSHCP = South Sacramento Habitat Conservation Plan; PSA = Project Study Area.

1 Covered species only include those species that are known and/or have the potential to occur within the PSA.

4.4.5 Mather Core Recovery Area

The USFWS established the Mather Core Recovery Area in the 2005 Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon (USFWS 2005). According to USFWS (2005), the "core areas are the specific sites that are necessary to recover these endangered or threatened species or to conserve sites that are necessary to recover these endangered or threatened species or to conserve the species of concern addressed in this recovery plan." USFWS (2005) also states that "the core areas were developed in part using DCH boundaries, but the two areas differ in that core areas not included in DCH have no legal mandate for protection under the Endangered Species Act and solely rely upon voluntary implementation." Approximately 568 acres of the Mather Core Recovery Area extends into the PSA. Specifically, the Mather Core Recovery Area overlaps approximately 279 acres of the preliminary solar development area, and approximately 288 acres within the adjacent other lands (USFWS 2005).

4.4.6 Wildlife Corridors and Habitat Linkages

Wildlife movement corridors have been recognized by federal and state agencies as important habitats worthy of conservation. Wildlife corridors provide migration channels seasonally (i.e., between winter and summer habitats) and provide non-migrant wildlife the opportunity to move within their home range for food, cover, reproduction, and refuge.

The existing network of fencing throughout the PSA is primarily designed to manage on-site cattle operations while providing high visibility to prevent wildlife injury and reducing natural wildlife barriers to the extent possible. The onsite fencing is comprised of either horizontal barbed wire, and/or vertical and/or horizontal woven wire or high-tensile wire. Fencing averages four to five feet in height. Therefore, the valley grassland in the PSA largely provides open space with some habitat value.

According to the California Essential Habitat Connectivity Project, the Coyote Creek corridor within the PSA is considered a potential habitat connection, providing native habitat for resident wildlife and linkages to additional native habitat in the surrounding area (Spencer et al. 2010). The California Essential Habitat Connectivity Project also identifies much of the grasslands within the PSA as "Natural Areas Small," which are areas important to maintaining ecological integrity, but not specifically identified in the Essential Connectivity Network as Essential Connectivity Areas or Natural Landscape Blocks. As discussed above in Section 4.3- Terrestrial Vegetation Communities and Land Cover Types, the valley grasslands on site provide nursery and migratory habitat for common wildlife species. Furthermore, the SSCHP recognized the Coyote Creek corridor in the vicinity as part of SSHCP Preserve Planning Unit 5 (i.e., a linkage to targeted preserve areas within the region).

4.4.7 Plant and Wildlife Species Observed

During field studies conducted in the PSA, a total of 335 species of native or naturalized plants, 212 (63%) native and 123 non-natives (37%), were recorded on the PSA. A total of 108 wildlife species were observed in the PSA, which primarily consisted of common bird species, but did include some special- status species. A compendium of observed plant and wildlife species identified during the field surveys are included as Appendix C.

4.5 Special-Status Species

4.5.1 Special-Status Plants

Results of the database searches of the USFWS IPaC Report, CDFW CNDDB, the CNPS Inventory of Rare and Endangered Plants, and the SSHCP revealed a total of 30 special-status plant species that have known occurrences within the nine USGS 7.5-minute quads and/or within 5 miles of the PSA (CDFW 2023e; CNPS 2023c). Of these special-status plant species, 15 species have a low to high potential to occur or have been documented in the PSA either during project protocol-level surveys or in database records and are discussed further below. The remaining eight special-status plant species were removed from further consideration due to lack of suitable habitat within or adjacent to the PSA, no known occurrences within 5 miles of the PSA, and/or because the PSA is outside of the species' known geographic or elevation range. The plant species with no potential to occur in the PSA can be referenced in Appendix D.

4.5.1.1 Ahart's Dwarf Rush (*Juncus leiospermus* var. *ahartii*)

Ahart's dwarf rush (*Juncus leiospermus var. ahartii*) is a CRPR 1B.2 species (i.e., moderately threatened in California) and SSHCP Covered Species that was observed in the PSA. Ahart's dwarf rush is an annual herb that is native to California. The common blooming period for this species is April through May. This species can be found in mesic valley and foothill grassland habitat from approximately 98 to 750 feet amsl. This species has not been documented in the vicinity of the PSA, but the PSA is within the known range of the species, and habitat for this species is present. Specifically, suitable grassland habitat for this species is located within the southern and western portions of the PSA. Additionally, SSHCP modeled habitat for this species is present within the PSA (County of Sacramento 2018). Suitable habitat for this species in the PSA includes vernal pools, wetland swales, and seasonal wetlands.

This species (two individuals) was observed during protocol-level botanical surveys in 2023 within adjacent other lands in the northwest portion of the Project, near the gen-tie, but was not detected in 2021 or 2022. The nearest other known occurrence is within 5 miles of the PSA, in the Buffalo Creek USGS 7.5-minute quad (CDFW 2023e).

4.5.1.2 Boggs Lake Hedge-Hyssop (*Gratiola heterosepala*)

Boggs Lake hedge-hyssop (*Gratiola heterosepala*) is a state endangered and CRPR 1B.2 species (i.e., moderately threatened in California) and SSHCP Covered Species with a moderate potential to occur in the PSA. Boggs Lake hedge-hyssop is an annual herb that is native to California. The common blooming period for this species is April through August. This species can be found in clay soils in marshes, swamps, lake margins, and vernal pools from approximately 33 to 7,790 feet amsl. The PSA is within the known range of the species, and low-quality suitable habitat for the species is present throughout the PSA within the vernal pools, wetland swales, and seasonal wetlands of the site. Additionally, SSHCP modeled habitat for this species is present within the PSA (County of Sacramento 2018).

This species was not observed during protocol-level botanical surveys in 2021, 2022, or 2023; however, suitable habitat is present. The nearest known occurrence for this species is approximately 2 miles northwest of the PSA near the intersection of Prairie City Road and White Rock Road (CDFW 2023e; CNPS 2023c).

4.5.1.3 Dwarf Downingia (*Downingia pusilla*)

Dwarf downingia (*Downingia pusilla*) is a CRPR 2B.2 species (i.e., moderately threatened in California) and SSHCP Covered Species with a high potential to occur in the PSA. Dwarf downingia is an annual herb that is native to California. The common blooming period for this species is April through May. This species can be found in mesic valley and foothill grassland and vernal pool habitat from approximately 3 to 1,455 feet amsl. The PSA is within the known range of the species, and suitable habitat for this species is located throughout the PSA within the vernal pools, wetland swales, and seasonal wetlands of the site. Additionally, SSHCP modeled habitat for this species is present within the northwest portion of the PSA (County of Sacramento 2018).

This species was not observed during protocol-level botanical surveys in 2021, 2022, or 2023; however, suitable habitat is present. The nearest known occurrence for this species is approximately 5 miles northwest of the PSA, at the Phoenix Park east of Fair Oaks (CDFW 2023e; CNPS 2023c).

4.5.1.4 Heckard's Pepper-Grass (*Lepidium latipes* var. *heckardii*)

Heckard's peppergrass (*Lepidium latipes* var. *heckardii*) is a CRPR 1B.2 species (i.e., moderately threatened in California) with a moderate potential to occur in the PSA. Heckard's peppergrass is an annual herb that is native to California. The common blooming period for this species is April through May. This species can be found in alkaline flat valley and foothill grassland from approximately 7 to 655 feet amsl. The PSA is within the known range of this species, and suitable habitat for this species is located throughout the PSA within the grassland habitats of the site.

This species was not observed during protocol-level botanical surveys in 2021, 2022, or 2023; however, suitable habitat is present. The nearest known occurrence for this species is recorded in the Florin USGS 7.5-minute quad (CNPS 2023c).

4.5.1.5 Hoary Navarretia (*Navarretia eriocephala*)

Hoary navarretia (*Navarretia eriocephala*) is a CRPR 4.3 species with a low potential to occur in the PSA. Hoary navarretia is an annual herb that is native to California. The common blooming period for this species is May through June. This species can be found in valley and foothill grassland habitats from approximately 345 to 1,310 feet amsl. The PSA is within the known range of the species, and suitable habitat for this species is located throughout the PSA within grassland habitat on site.

This species was not observed during protocol-level botanical surveys in 2021, 2022, or 2023; however, suitable habitat is present. The nearest CNPS observation was recorded 2 miles east of the PSA in 1953 (CNPS 2023a).

4.5.1.6 Hogwallow Starfish (*Hesperevax caulescens*)

Hogwallow Starfish (*Hesperevax caulescens*) is a CRPR 4.2 species with a low potential to occur in the PSA. Hogwallow starfish is an annual herb that is native to California. The common blooming period for this species is March through June. This species can be found in valley and foothill grassland and vernal pools from approximately 0 to 1,655 feet amsl. The PSA is within the known range of the species, and suitable habitat for this species is located throughout the PSA within grassland habitat and vernal pools on site.

This species was not observed during protocol-level botanical surveys in 2021, 2022, or 2023; however, suitable habitat is present. The nearest CNPS observation was recorded approximately 3 miles southwest of the PSA (CNPS 2023a).

4.5.1.7 Legenere (*Legenere limosa*)

Legenere (*Legenere limosa*) is a CRPR 1B.1 species (i.e., seriously threatened in California) and SSHCP Covered Species with a high potential to occur in the PSA. Legenere is an annual herb that is native to California. The common blooming period for this species is April through June. This species can be found in vernal pools from approximately 2 to 2,885 feet amsl. The PSA is within the known range of the species, and habitat for the species is present. Suitable habitat for this species is located throughout the PSA within the vernal pools, wetland swales, and seasonal wetlands of the site. Additionally, SSHCP modeled habitat for this species is present within the PSA (County of Sacramento 2018).

This species was not observed during protocol-level botanical surveys in 2021, 2022, or 2023; however, suitable habitat is present. There are several known occurrences for this species within 5 miles west of the PSA, with the nearest occurrence located at the north end of the Prairie City SVRA, on the south side of White Rock Road (CDFW 2023e; CNPS 2023c).

4.5.1.8 Pincushion Navarretia (*Navarretia myersii* ssp. *myersii*)

Pincushion navarretia (*Navarretia myersii* ssp. *myersii*) is a CRPR 1B.1 species (i.e., seriously threatened in California) and SSHCP Covered Species observed in the PSA. Pincushion navarretia is an annual herb that is native to California. The common blooming period for this species is April through May. This species can be found in often acidic vernal pools from approximately 66 to 1,080 feet amsl. The PSA is within the known range of the species, and habitat for the species is present. Specifically, the Hadselville-Pentz and Redding Gravelly Loam soil complexes within the PSA are slightly acidic, and vernal pools located in these soils provide potential suitable habitat. Additionally, SSHCP modeled habitat for this species is present within the PSA (County of Sacramento 2018).

This species (2,000+ individuals) was observed during protocol-level botanical surveys in 2023 but was not detected in 2021 or 2022. These individuals were observed in other adjacent lands in the northwest, western-central, and western-southern portions of the PSA. Other known occurrences for this species are within 5 miles of the PSA, northwest of the PSA, within the Folsom USGS 7.5-minute quad (CDFW 2023e; CNPS 2023c).

4.5.1.9 Sacramento Orcutt Grass (*Orcuttia viscida*)

Sacramento Orcutt grass is a federally and state endangered and CRPR 1B.1 species (i.e., seriously threatened in California) and SSHCP Covered Species with a moderate potential to occur in the PSA. Sacramento Orcutt grass is an annual herb that is native to California. The common blooming period for this species is April through July. This species can be found in vernal pools from approximately 98 to 330 feet amsl. The PSA is within the known range of the species, and habitat for the species is present. Suitable habitat for this species is located throughout the PSA within the vernal pools, wetland swales, and seasonal wetlands of the site. Additionally, SSHCP modeled habitat for this species is present within the PSA (County of Sacramento 2018). DCH is located approximately 4.8 miles northwest of the PSA and discussed further in Section 4.4.1.2, Valley Needle Grassland.

This species was not observed during protocol-level botanical surveys in 2021, 2022, or 2023; however, suitable habitat is present. Additionally, there are several known occurrences for this species within 5 miles west and southwest of the PSA, with the nearest known occurrence near Keifer Landfill, east of Grant Line Road (CDFW 2023b; CNPS 2023; USFWS 2023e).

4.5.1.10 Saline Clover (*Trifolium hydrophilum*)

Saline clover (*Trifolium hydrophilum*) is a CRPR 1B.1 species (i.e., seriously threatened in California) with a high potential to occur in the PSA. Saline clover is an annual herb that is native to California. The common blooming period for this species is April through June. This species can be found in marshes and swamps, mesic/alkaline valley and foothill grassland, and vernal pools from approximately 0 to 985 feet amsl. The PSA is within the known range of the species, and habitat for the species is present.

This species was not observed during protocol-level botanical surveys in 2021, 2022, or 2023; however, suitable habitat is present. The nearest known occurrence for this species is recorded in the Florin USGS 7.5-minute quad, approximately 3 miles away to the south of the PSA (CNPS 2023c).

4.5.1.11 Sanford's Arrowhead (*Sagittaria sanfordii*)

Sanford's arrowhead (*Sagittaria sanfordii*) is a CRPR 1B.2 species (i.e., moderately threatened in California) and SSHCP Covered Species with a low potential to occur in the PSA. Sanford's arrowhead is a perennial rhizomatous emergent herb that is native to California. The common blooming period for this species is April through October (or sometimes November). This species can be found in assorted, shallow freshwater marshes and swamps from approximately sea level to 2,130 feet amsl. The PSA is within the known range of the species and perennially inundated habitat for the species is present but is minimal and of low quality. However, SSHCP modeled habitat for this species is present within the PSA (County of Sacramento 2018).

This species was not observed during protocol-level botanical surveys in 2021, 2022, or 2023; however, suitable habitat is present, though minimal and of low quality. The nearest known occurrence for this species is within 5 miles of the PSA, northeast of the PSA, along tributaries to Carson Creek that are south of White Rock Road (CDFW 2023e; CNPS 2023c).

4.5.1.12 Slender Orcutt Grass (*Orcuttia tenuis*)

Slender Orcutt grass (*Orcuttia tenuis*) is a federally threatened, state endangered, and CRPR 1B.1 species (i.e., seriously threatened in California) and SSHCP Covered Species with a moderate potential to occur in the PSA. Slender Orcutt grass is an annual herb that is native to California. The common blooming period for this species is May through September. This species can be found in often gravelly vernal pools from approximately 115 to 5,770 feet amsl. The PSA is within the known range of the species, and suitable habitat for this species is located throughout the PSA within the vernal pools, wetland swales, and seasonal wetlands of the site. Additionally, SSHCP modeled habitat for this species is present within the PSA (County of Sacramento 2018). DCH is located approximately 4.8 miles northwest of the PSA and discussed further in Section 4.4.1.2, Valley Needle Grassland.

This species was not observed during protocol-level botanical surveys in 2021, 2022, or 2023; however, suitable habitat is present. This species has been documented within 5 miles of the PSA, southwest of the PSA, east of Mather Airport in Rancho Cordova (CDFW 2023e; CNPS 2023c; USFWS 2023b).

4.5.1.13 Spicate Calycadenia (*Calycadenia spicata*)

Spicate calycadenia (*Calycadenia spicata*) is a CRPR 1B.3 species observed in the PSA. Spicate calycadenia is an annual herb that is native to California. The common blooming period for this species is May through September. This species can be found in cismontane woodland valley and foothill grassland from approximately 130 to 4,595 feet amsl. The PSA is within the known range of the species, and suitable habitat for this species is located throughout the PSA within grassland habitat on site.

This species (500+ individuals) was observed during protocol-level botanical surveys within the solar development area and adjacent other lands in 2023, but was not observed during similar surveys in 2021 and 2022, These individuals were observed in numerous locations, ranging from the southern portion of the PSA, and extending to the northern portion of the PSA. Other species observations were recorded approximately 1 mile north of the PSA, in 2021 (CNPS 2023a).

4.5.1.14 Valley Brodiaea (*Brodiaea rosea* ssp. *vallicola*)

Valley brodiaea (*Brodiaea rosea* ssp. *vallicola*) is a CRPR 4.2 species with a high potential to occur in the PSA. Valley brodiaea is an annual herb that is native to California. The common blooming period for this species is April through May. This species can be found in valley and foothill grassland and vernal pools from approximately 35 to 1,100 feet amsl. The PSA is within the known range of the species, and suitable habitat for this species is located throughout the PSA within grassland habitat and vernal pools on site.

This species was not observed during protocol-level botanical surveys in 2021, 2022, or 2023; however, suitable habitat is present. However, five species observations have been recorded within the PSA, four of which were observed in 2020 (CNPS 2023a).

4.5.1.15 Woolly Rose-Mallow (*Hibiscus lasiocarpos* var. *occidentalis*)

Woolly rose-mallow (*Hibiscus lasiocarpos* var. *occidentalis*) is a CRPR 1B.2 species (i.e., moderately threatened in California) with a low potential to occur in the PSA. Woolly rose-mallow is a perennial rhizomatous emergent herb that is native to California. The common blooming period for this species is June through September. This species can be found in freshwater marshes and swamps, and often in riprap on sides of levees from approximately 0 to 395 feet amsl. The PSA is within the known range of this species; however, habitat is minimal and of low quality.

This species was not observed during protocol-level botanical surveys in 2021, 2022, or 2023; however, suitable habitat is present, though minimal and of low quality. The nearest known occurrence for this species is recorded in the Florin USGS 7.5-minute quad, approximately 4 miles south of the PSA (CNPS 2023c).

4.5.1.16 Protocol-Level Botanical Survey Results

Dudek conducted protocol-level botanical surveys in the PSA in 2021, 2022, and 2023, see below Table 11, and Figure 10, Rare Plant Survey Results 2021-2023.

Table 11. Summary of Special-Status Plant Species Protocol-Level Botanical Survey Results within the Project Study Area

Special-Status Plant Species	Surveys Results		
	2021	2022	2023
Ahart's Dwarf Rush (*Juncus leiospermus* var. *ahartii*)	Not observed	Not observed	Observed
Dwarf Downingia (*Downingia pusilla*)	Not observed	Not observed	Not observed
Heckard's Pepper-Grass (*Lepidium latipes* var. *heckardii*)	Not observed	Not observed	Not observed
Hoary Navarretia (*Navarretia eriocephala*)	Not observed	Not observed	Not observed
Hogwallow Starfish (*Hesperevax caulescens*)	Not observed	Not observed	Not observed
Legenere (*Legenere limosa*)	Not observed	Not observed	Not observed
Pincushion Navarretia (*Navarretia myersii* ssp. *myersii*)	Not observed	Not observed	Observed
Sacramento Orcutt Grass (*Orcuttia viscida*)	Not observed	Not observed	Not observed
Saline Clover (*Trifolium hydrophilum*)	Not observed	Not observed	Not observed
Sanford's Arrowhead (*Sagittaria sanfordii*)	Not observed	Not observed	Not observed
Slender Orcutt Grass (*Orcuttia tenuis*)	Not observed	Not observed	Not observed
Spicate Calycadenia (*Calycadenia spicata*)	Not observed	Not observed	Observed
Valley Brodiaea (*Brodiaea rosea ssp. vallicola*)	Not observed	Not observed	Not observed
Woolly Rose-Mallow (*Hibiscus lasiocarpos* var. *occidentalis*)	Not observed	Not observed	Not observed

4.5.2 Special-Status Wildlife

Results of the database searches of the USFWS IPaC Report and the CDFW CNDDB revealed 30 special-status wildlife species that have known occurrences either within the nine USGS 7.5-minute quads or within 5 miles of the PSA. Of these 30 special-status wildlife species, 21 have potential to occur in the PSA or are known to occur in the PSA. The four special-status wildlife species were removed from further consideration due to lack of suitable habitat within or adjacent to the PSA, no known occurrences within 5 miles of the PSA, and/or because the PSA is outside of the species' known geographic range. The special-status wildlife species with no potential to occur in the PSA can be referenced in Appendix E. In addition, the PSA provides habitat for nesting birds protected by the federal MBTA and the California FGC, as well as native bats protected by the California FGC.

4.5.2.1 California Tiger Salamander (*Ambystoma californiense*)

CTS is a federally and state threatened species and SSHCP Covered Species with a low potential to occur in the PSA. CTS is most associated with annual grassland habitats but may also occur within open woodland areas of low hills and valleys. Necessary habitat components for CTS include suitable underground retreats and breeding ponds. CTS spend most of their adult life within suitable underground refugia, such as the burrows of California ground squirrel (*Spermophilus beecheyi*) and pocket gopher (*Thomomys* sp.) or other small mammal burrows; occasionally CTS will occupy human-made structures. Suitable underground refugia for CTS provides cover from predators, protection from desiccation during the dry season, and foraging habitat (Stebbins and McGinnis 2012; USFWS 2005). Suitable breeding sites include vernal pools, seasonal wetlands, and stock ponds that do not support fish species. They will rarely use slow-moving streams that do not support fish. This species may use permanent human-made ponds if predatory species (e.g., fish, crayfish) are absent (Fisher and Shaffer 1996).

CTS have been reported to migrate up to 1.3 miles between breeding ponds and upland habitat (Orloff 2007); however, only a small number of individuals likely travel this distance (Orloff 2011). The estimated average migration distance is estimated to be 1,844 feet (Searcy and Shaffer 2011). Several studies have indicated that, depending on habitat and life stage, the majority of CTS (between 50% and 95% of adults) travel between 0.09 to 0.5 miles; adult captures declined with increased distance from the breeding pond (Orloff 2011; Trenham and Shaffer 2005).

There are no known occurrences of CTS within 5 miles of the PSA (CDFW 2023e), and the site is at the extreme northern extent of the presumed species range due to the Cosumnes River, located south of the PSA, provides a barrier to movement. There is no SSHCP suitable upland and aquatic modeled habitat in the PSA (County of Sacramento 2018). No CTS or suitable burrows were observed during reconnaissance-level biological resource surveys. However, the PSA does provide some suitable aquatic and upland habitat.4.5.2.2 Western Spadefoot Toad (*Spea hammondii*)

WST is proposed to be federally listed, a state SSC and SSHCP Covered Species with a high potential to occur in the PSA. WST is almost completely terrestrial, entering temporal pools and drainages only to breed. The species aestivates within rodent burrows in upland habitats near aquatic breeding sites (Stebbins 1972). The species prefers open areas with sandy or gravelly soils in a variety of habitats, including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, river floodplains, alluvial fans, playas, and alkali flats (Holland and Goodman 1998; Stebbins 2003). However, the species is most common in grasslands with vernal pools or mixed grassland/coastal sage scrub areas and is most active during periods of rain (Holland and Goodman 1998).

Although WST has not been documented in the PSA, this species is known to occur in the PSA vicinity, and suitable habitat, as well as SSHCP modeled foraging and aestivation habitat, is present in the PSA (County of Sacramento 2018). In addition, there are known occurrences for WST within 5 miles of the PSA, located on the west side of Grant Line Road north of Highway 16 (CDFW 2023e). The nearest known occurrence for this species is recorded in an area that is bordered by Sunrise Boulevard, State Route 16, Grant Line Road, and Douglas Road in the City of Rancho Cordova (CDFW 2023e).

Western Spadefoot Toad Focused Survey Results

Dudek conducted upland burrow surveys for WST within potential suitable habitat for this species during protocol-level and focused BUOW surveys specifically in 2021, see Table 2 above for survey dates. In addition, Dudek conducted breeding season larval and night eye-shine surveys in potentially suitable aquatic habitats in the PSA on

March 19, 2022. No suitable burrows or other signs of WST were observed during the initial upland surveys; however, suitable upland burrowing habitat is present. During the 2022 larval and night eye-shine surveys, no WST were observed. The aquatic habitats surveyed were suitable for WST; however, known predators (i.e., American bullfrogs) were observed within these ponds, therefore decreasing the likelihood for presence.

4.5.2.3 Western Pond Turtle (*Actinemys marmorata*)

Western pond turtle is a state SSC and SSHCP Covered Species that is known to occur within the PSA. This species is found in rivers, lakes, streams, ponds, wetlands, ephemeral creeks, reservoirs, agricultural ditches, estuaries, and brackish waters. Western pond turtles prefer areas that provide cover from predators, such as vegetation and algae, as well as basking sites for thermoregulation. Adults tend to favor deeper, slow-moving water, whereas hatchlings search for slow and shallow water that is slightly warmer. Terrestrial habitats are used for wintering and usually consist of burrows in leaves and soil. Western pond turtles also lay their eggs in terrestrial habitats normally near water. Although nesting sites should contain deep soils (at least 4 inches deep), the type of soil can vary from sandy to very hard.

There are known occurrences for western pond turtle within 2 miles south of the PSA, located within Deer Creek (CDFW 2023e). SSHCP modeled aquatic and upland habitat is present within the PSA (County of Sacramento 2018). During reconnaissance-level biological resource surveys in 2021, a total of approximately 10 individual western pond turtles were observed along Carson Creek, specifically in areas where there were deeper fringe wetlands with slower moving water.

4.5.2.4 Bald Eagle (*Haliaeetus leucocephalus*)

Bald eagle is a federally delisted species and state endangered and fully protected species that is known to occur within the PSA. In California, most nesting bald eagles are found in the northern part of the state, but pairs nest locally south through the Sierra Nevada, in coastal counties in Central and Southern California, and on the Channel Islands. Bald eagles typically nest in large conifers or on rock outcrops near aquatic features, but also occasionally in large hardwoods, such as sycamores and oaks (Anthony et al. 1982; USFWS 1986). They usually nest in one of the largest trees available in proximity of water and generally situated with a prominent overview of the surrounding area (Buehler 2000). Bald eagles preferentially forage on fish and waterfowl, but their diet varies regionally and seasonally in response to locally available resources, and often includes a variety of mammals as well as carrion, especially in winter (Todd et al. 1982; Stalmaster 1987; Ewins and Andress 1995; Buehler 2000).

Although nesting habitat throughout the PSA is generally absent to limited, bald eagles may forage within the PSA from time to time. There are no known CNDDB occurrences of this species within 5 miles of the PSA (CDFW 2023e). However, this species was observed in various locations throughout the PSA, specifically along or near Carson Creek during the reconnaissance-level biological resource surveys conducted by Dudek in 2021.

There are no known occurrences of bald eagle within 5 miles of the PSA (CDFW 2023e). Nesting habitat throughout the PSA is generally absent to limited; however, bald eagles may forage within the PSA from time to time. During reconnaissance-level biological resource surveys, a total of approximately five individual bald eagles were observed foraging along Carson Creek.

4.5.2.5 Bank Swallow (*Riparia riparia*)

Bank swallow (*Riparia riparia*) is a state threatened species with a high potential to occur in the PSA. In California, this species is found primarily west of deserts in riparian and other lowland habitats during the spring–fall period. In summer, bank swallows are restricted to riparian, lacustrine, and coastal areas with vertical banks, bluffs, and cliffs with fine textured sandy soils, into which they dig nesting holes. Approximately 75% of the breeding population in California occurs along banks of the Sacramento and Feather Rivers in the northern Central Valley. Breeding colonies can have between 10 and 1,500 nesting pairs, but typically have between 100 and 200 nesting pairs (CDFW 2023e).

The PSA provides suitable migratory habitat for bank swallow but is located outside the breeding range for this species. There are no known occurrences of bank swallow within 5 miles of the PSA (CDFW 2023e). The nearest known occurrence is recorded on the Cosumnes River, approximately 1.5 miles southeast of Dillard Road at Latrobe Road (CDFW 2023e). No bank swallows were observed during reconnaissance-level biological resource surveys.

4.5.2.6 Burrowing Owl (*Athene cunicularia*)

BUOW is a state SSC and SSHCP Covered Species known to occur near the PSA. In California, BUOW are yearlong residents of open, dry grassland and desert habitats, and in grass, forb, and open shrub stages of pinyon-juniper and ponderosa pine habitats (CDFW 2023e). Preferred habitat is typified by short, sparse vegetation with few shrubs, level to gentle topography, and well-drained soils. The presence of burrows is the most essential component of BUOW habitat, as they are required for nesting, roosting, cover, and caching prey (Poulin et al. 2011). In California, BUOW most commonly live in burrows created by California ground squirrels. BUOW may also occur in human-altered landscapes such as agricultural areas, ruderal grassy fields, vacant lots, and pastures if the vegetation structure is suitable (i.e., open, and sparse), useable burrows are available, and foraging habitat occurs in proximity (Gervais et al. 2008). Debris piles, riprap, culverts, and pipes can also be used for nesting, shelter, and roosting.

Although BUOW has not been previously documented in the PSA, this species is known to occur in the PSA vicinity, and suitable habitat, as well as SSHCP modeled nesting and foraging habitat, is present in the PSA (CDFW 2023e; County of Sacramento 2018).

Protocol-Level Burrowing Owl Breeding Season Survey Results

Dudek conducted protocol-level and focused BUOW breeding season surveys within the PSA and 500 feet beyond the PSA in 2021 and 2022. Incidental observations/detections for BUOW were also recorded in 2023. In 2021, one BUOW was observed perched west of Coyote Creek in central northwestern portion of the PSA. Additionally, various suitable burrow locations, and other ancillary evidence of BUOW (e.g., whitewash, pellets, etc.) were observed during surveys and incidental observations in 2021, 2022, and 2023. Details from the BUOW surveys are summarized in Table 12 below, and Figure 11, Burrowing Owl Survey Results 2021-2023.

Table 12. Protocol-Level and Focused Burrowing Owl Survey Results Summary

Observation Summary	Latitude	Longitude
2021 Protocol-Level Surveys		
Potential burrow- multiple	38.55764665°	-121.130841272°
Potential burrow- single; feathers; whitewash	38.55875673°	-121.123298°

Table 12. Protocol-Level and Focused Burrowing Owl Survey Results Summary

Observation Summary	Latitude	Longitude
Potential burrow- single	38.56043895°	-121.1286701°
Potential burrow- single	38.56044678°	-121.1286257°
Potential burrow- single	38.56049679°	-121.1290726°
Potential burrow- single	38.56050281°	-121.1289361°
Potential burrow- multiple	38.56055625°	-121.1289089°
Potential burrow- single	38.56059469°	-121.1307393°
Potential burrow- single	38.56090506°	-121.131662°
Potential burrow- single	38.56107416	-121.1317861°
Potential burrow- single	38.56151182°	-121.1302206°
Potential burrow- single	38.56153039°	-121.1301853°
Potential burrow- single	38.56153913°	-121.1298737°
Potential burrow- single	38.56154681°	-121.1298594°
Potential burrow- single	38.56215157°	-121.1364657°
Potential burrow- multiple	38.56232879°	-121.1315463°
Potential burrow- multiple	38.56806576°	-121.1283403°
Potential burrow- single	38.56865684°	-121.126266°
Potential burrow- multiple	38.58272598°	-121.1241211°
Potential burrow- multiple	38.58275612°	-121.124417°
Potential burrow- multiple	38.58284671°	-121.1246297°
Pellet	38.58323986°	-121.1391347°
Individual burrowing owl– observed perched	38.58435641°	-121.1369127°
Potential burrow- multiple	38.58671282°	-121.1264552°
Potential burrow- single	38.58704478°	-121.1245913°
Potential burrow- single	38.58754027°	-121.1362788°
Pellet	38.58756136°	-121.1361834°
Potential burrow- single	38.58793779°	-121.1392949°
Pellet	38.58806051°	-121.1366349°
Pellet	38.58807545°	-121.137979°
Pellet	38.5881065°	-121.136488°
Pellet	38.58813108°	-121.1364539°
Potential burrow- multiple; feathers; pellet	38.58822419°	-121.1370972°
Potential burrow- single	38.5891079°	-121.1357626°
Potential burrow- multiple	38.59122592°	-121.1416015°
Potential burrow- multiple	38.59201705°	-121.1377893°
Potential burrow- multiple	38.5920227°	-121.1380888°
Potential burrow- single	38.59362673°	-121.1383374°
Potential burrow- multiple	38.59510712°	-121.1370225°
Potential burrow- single	38.59620896°	-121.1406741°
2022 Focused Surveys		
Potential burrow- multiple	38.56120962°	-121.1122114°
Potential burrow- single	38.56151611°	-121.1074852°

Table 12. Protocol-Level and Focused Burrowing Owl Survey Results Summary

Observation Summary	Latitude	Longitude
Potential burrow- single; whitewash	38.5631304°	-121.1341347°
Potential burrow- single	38.56527136°	-121.1223162°
Potential burrow- single	38.58306362°	-121.1143678°
Potential burrow- single	38.59296422°	-121.1368286°
2023 Incidental Observations		
Pellet	38.58805942°	-121.1374957°
Pellet	38.58809238°	-121.1374004°
Pellet	38.58814992°	-121.1364101°
Pellet	38.58820454°	-121.1372856°
Potential burrow- single	38.59013658°	-121.1338438°

4.5.2.7 California Black Rail (*Laterallus jamaicensis coturniculus*)

California black rail *(Laterallus jamaicensis coturniculus*) is a state threatened species with a low potential to occur in the PSA. This species nests and forages in tidal marshes, shallow freshwater margins, wet meadows, and areas of flooded, grassy vegetation. California black rail also appears in suitable habitats that are often supplied by canal leakage within the Sierra Nevada foothill populations (CDFW 2023e).

Habitat for the species within the PSA is minimal and of low quality. The nearest known occurrence for this species is recorded along Blackstone Parkway, approximately 1 mile southeast of White Rock Road at Latrobe Road, approximately 0.25 miles northeast of the PSA (CDFW 2023e). No California black rail were observed during reconnaissance-level biological resource surveys.

4.5.2.8 Grasshopper Sparrow (*Ammodramus savannarum*)

Grasshopper sparrow (*Ammodramus savannarum*) is a state SSC with a moderate potential to nest in the PSA. This species nests and forages in moderately open grassland with tall forbs or scattered shrubs used for perches.

The PSA provides suitable nesting and foraging habitat for this species within the grassland habitats of the study area. This species has been documented within 2 miles of the PSA, specifically 1.5 miles southeast of the PSA, within the Deer Creek Hills Preserve, 0.5 miles north of Latrobe Road and 0.5 miles east of Scott Road (CDFW 2023e). No grasshopper sparrows were observed during reconnaissance-level biological resource surveys.

4.5.2.9 Swainson's Hawk (*Buteo swainsoni*)

SWHA is a state threatened species and SSHCP Covered Species known to occur in the PSA. In California, this species nests in the Central Valley and smaller adjacent valleys, the Klamath Basin, the Northeastern Plateau, Lassen County, and the Mojave Desert. It breeds in riparian areas, stands of trees in agricultural environments, oak savannah, Joshua trees (*Yucca brevifolia*) in the Mojave Desert, and juniper-sage flats. In the Central Valley, it nests in riparian areas and in isolated tree clusters, often near rural residences or other areas with some human disturbance. Alfalfa fields are the favored foraging areas of SWHA in the Central Valley, but the species also forages in undisturbed grasslands, fallow agricultural fields, and some row crops.

The PSA provide suitable nesting and foraging habitat for SWHA. There is SSHCP modeled foraging habitat within the PSA, but the SSHCP did not map any nesting habitat within the PSA (Sacramento County 2018). (Sacramento County 2018). In addition, there is one documented nesting occurrence of SWHA recorded at the confluence of Deer Creek and Carson Creek, as well as just east of White Rock Road (CDFW 2023e), on the northwest border of the PSA (Figure 9).

Protocol-Level Swainson's Hawk Survey Results

Dudek conducted protocol-level SWHA breeding season surveys within the PSA and up to 0.5 miles from the solar development site within the PSA in 2021, 2022 and 2023. A total of 28 SWHA observations, including foraging and courting, were made during the survey passes conducted in 2021, 2022, and 2023. Two raptor nest observations were made in 2023. Observations were made within areas that primarily provided suitable foraging habitat, as well as some nesting habitat, including both the solar development area and the adjacent other lands within the PSA Details from the SWHA surveys are summarized in Table 13 below, and Figure 12, Swainson's Hawk Survey Results 2021-2023.

Table 13. Protocol-Level Swainson's Hawk Survey Results Summary

Observation Summary	Observation Location (decimal degrees)	
	Latitude	Longitude
2021 Protocol-Level Surveys		
Visual- flight	38.55464467°	-121.1306845°
Visual- flight/vocalizing	38.55630694°	-121.1199074°
Visual- flight	38.56178891°	-121.137722°
Perched	38.56179008°	-121.1377245°
Visual- flight	38.5620637°	-121.1347629°
Visual- flight/vocalizing	38.562064°	-121.1347634°
Visual- flight/vocalizing	38.56216543°	-121.1331622°
Foraging	38.56228299°	-121.1377026°
Courting pair	38.56228878°	-121.1376989°
Raptor nest- unoccupied	38.56227656°	-121.1355247°
Courting pair	38.56280187°	-121.13515°
Raptor nest- unoccupied	38.5629247°	-121.1359878°
Perched	38.56296795°	-121.1360126°
Raptor nest- unoccupied	38.56345317°	-121.1362199°
Raptor nest- unoccupied	38.56377597°	-121.1319261°
Raptor nest- unoccupied	38.56923366°	-121.1198936°
Raptor nest- unoccupied	38.57220785°	-121.1364895°
Raptor nest- unoccupied	38.57226743°	-121.1141066°
Mobbing	38.57924538°	-121.1191641°
Mobbing	38.58153459°	-121.1142462°
Raptor nest- unoccupied	38.58269827°	-121.1241618°
Raptor nest- unoccupied	38.58575692°	-121.1256191°
Visual- flight	38.59093086°	-121.162912°
Mobbing	38.59350289°	-121.1329388°
Visual- flight	38.59785363°	-121.1384505°

Table 13. Protocol-Level Swainson's Hawk Survey Results Summary

Observation Summary	Observation Location (decimal degrees)	
	Latitude	Longitude
2022 Protocol-Level Surveys		
Visual- flight	38.55665822°	-121.1151318°
Raptor nest- unoccupied	38.56240148°	-121.1355688 °
Perched	38.58026382°	-121.1197949°
Raptor nest- unoccupied	38.56420383°	-121.1162091°
2023 Protocol-Level Surveys		
Visual- flight	38.5591602°	-121.118762°
Raptor nest- occupied	38.57198066°	-121.1138851°
Raptor nest- occupied	38.5763678°	-121.1317324°
Courting pair	38.5767104°	-121.1319778°
Perched	38.57916665°	-121.1312099°
Courting pair	38.57921182°	-121.1306374°
Courting pair	38.57983093°	-121.1336447°

Swainson's Hawk and Other Raptor Foraging and Land Use Study Results

As noted above in Section 3.2.4.4- Swainson's Hawk and Other Raptor Foraging and Land Use Study, Estep Environmental Consulting conducted two 1-year studies in 2013 and 2021 to assess raptor use of solar array fields in Sacramento County, including the Dillard Road solar array that is approximately 8 miles south of the Project site (Estep Environmental Consulting 2013; Appendix A). Refer to Appendix A for the report findings of the 2013 and 2021 studies. The studies indicate that raptors including SWHA continued to use moderately sized solar array fields following conversion from cultivated uses. Results of the strip transect road survey indicate raptor use of solar array fields in general, and specifically by SWHA and American kestrel (*Falco sparverius*), exceeds the expected use based on the availability of land covers within the agricultural landscape. This suggests that solar array fields are not avoided by these species and may be selected at a greater frequency than many cultivated land cover types. The stationary observation point surveys confirmed use within solar array fields, including foraging or potential foraging use by all species. The study suggested that management of a grassland substrate to promote rodent populations and maintaining this substrate at a height that promotes visibility and access to prey is favorable to continued raptor usage. Unlike most crop types, these grassland conditions are available in solar fields throughout the spring and summer breeding season, and thus can provide a consistent and available source of prey.

4.5.2.10 Tricolored Blackbird (*Agelaius tricolor*)

TRBL is a state threatened species and SSHCP Covered Species with known foraging occurrences within the PSA. This species typically nests in freshwater marshes with dense growths of emergent vegetation dominated by cattails or bulrushes, but has also established colonies in willows, blackberries (*Rubus* spp.), and a variety of other types of dense, herbaceous vegetation, such as thistles (*Cirsium and Centaurea* spp.) and nettles (*Urtica* sp.). TRBLs forage in a variety of habitats, such as grasslands and croplands, where high densities of suitable insect prey are found.

There is suitable nesting and foraging habitat with the PSA for TRBL. SSHCP has modeled nesting and foraging TRBL habitat located within the PSA (County of Sacramento 2018). In addition, there are several known occurrences of TRBL within 5 miles of the PSA, with the nearest overlapping the southwestern portion of the PSA, west of Scott Road, approximately 1 to 2 miles north of the Deer Creek crossing (CDFW 2023e).

Tricolored Blackbird Focused Survey Results

Dudek conducted focused TRBL surveys within the PSA in 2021 and 2022. Incidental observations/detections for TRBL were also recorded in 2023. TRBL were both individually observed and heard vocalizing within numerous areas of the PSA; however, most observations were concentrated west of Scott Road and on the east side central side of Coyote Creek. No nesting colonies were observed. Details from the TRBL surveys are summarized in Table 14 below. Point locations of individuals observed, vocalization, and/ or suitable habitat are provided in Figure 13, Tricolored Blackbird Survey Results 2021-2023.

Table 14. Focused Tricolored Blackbird Survey Results Summary

Observation Summary	Latitude	Longitude
2021 Focused Surveys		
Vocalizing	38.56056513°	-121.1271852°
Perched	38.56603987°	-121.1247452°
Vocalizing	38.56750379°	-121.1250432°
Vocalizing	38.56785672°	-121.1184583°
Vocalizing	38.56908644°	-121.1367916°
Vocalizing; Perched	38.57158305°	-121.1327033°
Vocalizing	38.59263251°	-121.1405041°
2022 Focused Surveys and 2023 Incidental Observations		
Potential nest	38.56758122°	-121.1234615°
Potential nest	38.56773187°	-121.1235159°
Potential nest	38.57043746°	-121.1248478°
Potential nest	38.57046873°	-121.1248839°
Potential nest	38.57390447°	-121.1202042°
Potential nest	38.57749238°	-121.122333°

4.5.2.11 White-Tailed Kite (*Elanus leucurus*)

White-tailed kite (*Elanus leucurus*) is a state fully protected species known to occur in the PSA. White-tailed kites occur in grasslands, marshes, and lowland scrub habitats, and nest in dense foliage in taller- to medium-size trees near foraging habitat. This species may also forage in meadows, agricultural fields, other types of emergent wetlands, and disturbed lands. White-tailed kites feed principally on rodents, especially voles (CDFW 2023e).

There are several known occurrences for white-tailed kite in or adjacent to the PSA (CDFW 2023e). The nearest CNDDB occurrence is approximately 0.2 miles north of the PSA, on the north side of Scott Road, north of Coyote Creek (CDFW 2023e). There is SSHCP modeled foraging habitat for white-tailed kite within the PSA (County of Sacramento 2018). During the reconnaissance-level biological resource surveys conducted by Dudek in 2021, 2022, and 2023 various observations of white-tailed kite were made within the PSA. Observations specifically included foraging, hovering, perching, and flight.

4.5.2.12 Cooper's Hawk (*Accipiter cooperii*)

Cooper's hawk (*Accipiter cooperii*) is a state Watch List species and SSHCP Covered Species with known occurrences within the PSA. Cooper's hawk nest in mixed and deciduous forests, open woodlands, small woodlots, riparian woodlands, open and pinyon woodlands, and forested mountainous regions. This species may also forage in meadows, agricultural fields, and disturbed lands. Cooper's hawk feed principally on other birds, rodents, and small mammals (CDFW 2023e).

Suitable nesting habitat within the PSA in minimal for Cooper's hawk. There is one known occurrence for Cooper's hawk, approximately 2 miles west of the PSA (CDFW 2023e). There is SSHCP modeled foraging habitat within the PSA (County of Sacramento 2018). No observations or detections of Cooper's hawk were documented during reconnaissance-level biological resource surveys.

4.5.2.13 Ferruginous Hawk (*Buteo regalis*)

Ferruginous hawk (*Buteo regalis*) is a state Watch List species and SSHCP Covered Species with known occurrences within the PSA. Ferruginous hawks' nest in grasslands, prairie, sagebrush steppe, scrubland, and pinyon-juniper woodland edges. This species may also forage in meadows, agricultural fields, and disturbed lands. Ferruginous hawk feed principally on other birds, rodents, and small mammals (CDFW 2023e).

Suitable nesting habitat within the PSA in minimal for Ferruginous hawk. There is one known occurrence for Ferruginous hawk, approximately 3 miles northeast of the PSA (CDFW 2023e). There is SSHCP modeled foraging habitat within the PSA (County of Sacramento 2018). No observations or detections of ferruginous hawk were documented during reconnaissance-level biological resource surveys.

4.5.2.14 Conservancy Fairy Shrimp (*Branchinecta conservatio*)

Conservancy fairy shrimp (*Branchinecta conservatio*) is a federally endangered species with a moderate potential to occur in the PSA. Conservancy fairy shrimp inhabit large, more turbid vernal pools and playa pools.

The PSA is within the known range of the species, and suitable habitat for the species is present. This species is known to occur in 10 populations; the closest two are Yolo Bypass Wildlife Area in Yolo County and Jepson Prairie in Solano County (USFWS 2023b, 2023c). Based on the USFWS IPaC Report, this species has the potential to occur on or near the PSA (CDFW 2023e; USFWS 2023b). Therefore, presence for Conservancy fairy shrimp is assumed within the PSA.

4.5.2.15 Vernal Pool Fairy Shrimp (*Branchinecta lynchi*)

Vernal pool fairy shrimp is a federally threatened species and SSHCP Covered Species that is known to occur in the PSA. This species is known to occupy vernal pools or other areas of similar hydrology that pool continuously for enough time to support its average reproductive period of 43 days (Helm 1998). Vernal pool fairy shrimp does not occupy perennial waters or creeks. They are most frequently found in small vernal pools (less than 0.05 acres), especially pool and swale complexes where they can move between individual pools (USFWS 2005).

Occurrences of this species have been recorded along the western portion of the gen-tie alignment route in the northwest vicinity of the PSA (CDFW 2023e; USFWS 2023c). Additionally, there are several known occurrences of this species within 5 miles of the PSA, several of which are in occupied pools immediately north of the PSA (CDFW 2023e). Suitable habitat and SSHCP modeled habitat are present in the PSA, which include vernal pools (County of Sacramento 2018). The nearest DCH unit for vernal pool fairy shrimp is approximately 6.5 miles southwest of the PSA (USFWS 2023c). Therefore, presence for vernal pool fairy shrimp is assumed within the PSA.

4.5.2.16 Vernal Pool Tadpole Shrimp (*Lepidurus packardi*)

Vernal pool tadpole shrimp is a federally endangered species and SSHCP Covered Species that is known to occur in the PSA. This species occupies vernal pools and seasonally ponded areas within vernal swales. Aquatic habitat for vernal pool tadpole shrimp is typically mud or grass-bottomed with clear to tea-colored or highly turbid water. These species are common in depressional pools within grassland habitat (County of Sacramento 2018).

Occurrences of this species have been recorded along nearly the entirety of the gen-tie alignment route in the northwest vicinity of the PSA (CDFW 2023e; USFWS 2023c). Additionally, there are several known occurrences of this species within 5 miles of the PSA, several of which are in occupied pools immediately north of the PSA (CDFW 2023e). Suitable habitat, as well as SSHCP modeled habitat is present, including vernal pools, within the PSA (CDFW 2023e; County of Sacramento 2018). The nearest DCH unit for vernal pool tadpole shrimp is approximately 6.5 miles southwest of the PSA (USFWS 2023c). Therefore, presence for vernal pool tadpole shrimp is assumed within the PSA.

4.5.2.17 Crotch's Bumble Bee

CBB is state candidate endangered with a moderate potential to occur within vegetation communities on site where nesting and floral/nectar resources are present. The CBB occurs almost exclusively in California, currently primarily in the Central Valley, but has been described as having historically occupied grasslands and shrublands in southern to central California. Bumble bees are known to be generalist pollinators but have preferences based on flower color including purple, blue, and yellow. Suitable habitat may contain any of the following: 1) areas of grasslands and upland scrub that contain requisite habitat elements, such as small mammal burrows and forage plants; 2) potential nest habitat (late February through late October) containing underground abandoned small mammal burrows and ground-nesting bird nests (Kearns and Thomson 2001, McFrederick and LeBuhn 2006), logs, stumps, snags, and clumps of grass are often suitable (Devore 2009); 3) overwintering sites (November through early February) utilized by mated queens in self-excavated hibernacula potentially in soft, disturbed soil, sandy, well-drained, or loose soils, under leaf litter or other debris with ground cover requisites such as barren areas, tree litter, bare-patches within short grass in areas lacking dense vegetation. CBB emerge from their hibernaculum between February through June with a peak in March to seek new nest sites and forage for resources to establish their colony.

The PSA contains limited open grassland habitat with floral resources to support this species. This species is classified as a short-tongued species, whose food plants include milkweed (*Asclepias* spp.), pincushion (*Chaenactic* spp.), lupine (*Lupinus* spp.), clover (*Medicago* sp.), *Phacelia* species, and sage (*Salvia* spp.). The nearest known occurrence for this species is within 4.7 miles west of the PSA, northwest of Douglas Boulevard at Jaeger Road, approximately 3 miles southeast of White Rock Road (CDFW 2023e).

Crotch's Bumble Bee Focused Surveys

Dudek conducted CBB surveys within the PSA on April 11, 2023, May 9 through May 11, 2023, and July 3 through 6, 2023. No CBB individuals were opportunistically observed or detected; however, suitable nesting habitat (e.g., existing burrows, down woody debris, tree cavities, etc.), and foraging nectar sources were mapped during the habitat assessments. Nectar resources are concentrated in the lower lying areas of the annual grasslands through the PSA. See Figure 14, Crotch's Bumble Bee Habitat and Foraging Survey Results 2023.

4.5.2.18 Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*)

VELB is a federally threatened species and SSHCP Covered Species with Moderate potential to occur in the PSA. VELB is completely dependent on its host plant, elderberry (*Sambucus* spp.), which occurs in riparian and other woodland communities in California's Central Valley and the associated foothills. Female beetles lay their eggs in crevices on the stems or on the leaves of living elderberry plants. When the eggs hatch, larvae bore into the stems. The larval stages last for one to two years. The fifth instar larvae create emergence holes in the stems and then plug the holes and remain in the stems through pupation. Adults emerge through the emergence holes from late April through June. The short-lived adult beetles forage on leaves and flowers of elderberry shrubs.

There are several known occurrences of this species west and northwest of the PSA, with the nearest documentation between White Road and Douglas Road (CDFW 2023e). The PSA contains suitable habitat for this species, specifically observed elderberry shrubs (*Sambucus* sp.), with 1- observed within the solar development area and 46 within the adjacent other lands. Additionally, the PSA contains SSHCP modeled habitat for VELB (County of Sacramento 2018).

Valley Elderberry Longhorn Beetle Focused Survey Results

Dudek conducted VELB focused surveys, which included the 10 elderberry shrubs within 165 feet (i.e., typical avoidance buffer area) of the solar development area within the PSA on March 17 and 18, 2022. No VELB, egg/larval galleries, or frass were observed on any of the shrubs. Potential bore and/or exit holes were observed on three of the 10 shrubs, specifically on Shrub ID 6, 9 and 10. Shrub ID 6 is in good condition and located within riparian habitat. Shrub ID 9 is in fair condition and located in an upland area approximately 443 feet from riparian habitat. Shrub ID 10 is also in fair condition and is also located within upland habitat, approximately 188 feet from riparian habitat. The condition of the bore holes observed reflect potential past use of boring insects and are not conclusive to VELB occupancy. No other elderberry shrub observations relevant to VELB were made during focused surveys. Details from the VELB surveys are summarized in Table 15 below, and Figure 15, Valley Elderberry Longhorn Beetle Results 2021-2022.

Table 15. Focused Valley Elderberry Longhorn Beetle Survey Results Summary

Shrub ID (Shrub-Stem)	Dead/ Alive[1]	General Condition[2]	Approx. no. of Stems	Approx. no. of Stems ≥1 in. DBH	Beetle Observed[3]	Eggs/ Larval Gallery [3]	Bore Holes[3]	Frass[3]	Other	Location (Decimal degrees)	Habitat	Land Use	Approx. Distance from Riparian Habitat (Feet)	Approx. Distance from SDA (Feet)	Notes
1	A	G	18	11	N	N	N	N	—	38.590699°, −121.162522°	Upland	Urban/ Developed	424	Outside Approx 30’ from SDA	—
2	A	G	14	9	N	N	N	N	—	38.590701°, −121.153481°	Upland	Ephemeral Channel/ Urban/ Developed	3	Outside Approx 35’ from SDA	—
3	A	G	25	9	N	N	N	N	—	38.390718°, −121.153599°	Riparian	Ephemeral Channel/ Urban/ Developed	0, Within	Outside Approx 10’ from SDA	—
4	A	G	9	4	N	N	N	N	—	38.550808°, −121.153741°	Riparian	Ephemeral Channel/ Urban/ Developed	0, Within	Within	—
5	A	G	5	0	N	N	N	N	—	38.590814°, −121.153741°	Riparian	Ephemeral Channel/ Urban/ Developed	0, Within	Within	—
6	A	G	30	27	N	N	Y	N	—	38.590737°, −121.153679°	Riparian	Ephemeral Channel/ Urban/ Developed	0, Within	Outside Approx 10’ from SDA	Counts were estimated as elderberry shrub was surrounded by poison oak (*Toxicodendron diversilobum*). Evidence of potential bore holes
7	A	G	17	5	N	N	N	N	—	38.581259°, −121.135038°	Upland	Urban/ Developed	403	Outside Approx 25’ from SDA	—
8	A	G	26	3	N	N	N	N	—	38.591074°, −121.155473°	Upland	Urban/ Developed	494	Within	—
9	A	F	28	15	N	N	Y	N	—	38.591012°, −121.155305°	Upland	Urban/ Developed	443	Within	Evidence of potential bore holes
10	A	F	27	18	N	N	Y	N	—	38.550791°, −121.156633°	Upland	Ditch	188	Within	Evidence of potential bore holes

Notes:
1 A = Alive; D = Dead
2 G = Good; F = Fair; P = Poor
3 N = No, Y = Yes
4 PSA= Project Study Area; Locations; SDA = solar development area.

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4.5.2.19 American Badger (*Taxidea taxus*)

American badger (*Taxidea taxus*) is a state SSC and SSHCP Covered SSC with a high potential to occur within the PSA. This species is most abundant in drier open stages of most shrub and forest habitat, as well as open herbaceous habitats, including grasslands, meadows, and savannahs. Suitable habitat for American badger typically contains loose soils for denning and hunting, ample prey, and uncultivated land. American badgers are elusive, mostly nocturnal mammals with expansive home ranges (CDFW 2023e).

This species is known to occur in the vicinity of the PSA, and suitable habitat, as well as SSHCP modeled habitat is present (County of Sacramento 2018). The nearest known occurrence for this species is recorded 0.5 miles east of Sunrise Boulevard, and 1 mile south of Douglas Road in the City of Rancho Cordova (CDFW 2023e).

4.5.2.19 Monarch butterfly (*Danaus plexippus*)

American badger (*Danaus plexippus*) is a federal candidate species with a low potential to occur within the PSA (USFWS 2024). This species Wind-protected tree groves with nectar sources and nearby water sources. Adult monarchs depend on diverse nectar sources for food. Caterpillars dependent on milkweed. (CDFW 2024).

The PSA is within the known range of this species. There are a few stands of wind-protected tree groves for this species within the PSA, however, there are limited suitable nectar sources. Additionally, milkweed has not been observed within the PSA. This species has not been documented within five miles of the PSA (CDFW 2024).

4.5.2.20 Other Special-Status Wildlife

Native Bats

Trees and structures in or adjacent to the PSA provide roosting habitat the pallid bat, a state SSC, and for native bats protected by the California FGC. Specifically, trees with exfoliating bark, crevices, and/or sufficient foliage and barns (or similar structures) in the PSA provide potential bat roosting habitat. Roosting habitat in the PSA consists of scattered trees throughout the blue oak savanna and blue oak woodland communities present throughout the PSA and isolated trees near seasonal ponds or other aquatic habitat that provide nearby foraging opportunities. Nearby bridges and building awnings also provide ample habitat for bats. No active bat roosts or signs of occupation, such as guano or staining, were detected during the reconnaissance-level biological resource surveys.

Nesting Raptors and Migratory Birds

In addition to the special-status birds discussed above, the PSA provides nesting habitat for several other local and migratory bird species. Native birds of prey are protected by California FGC Section 3503.5 and migratory bird species are protected by the federal MBTA. Red-tailed hawk (*Buteo jamaicensis*) and western meadowlark (*Sturnella neglecta*) nests were detected during the field surveys and numerous common migratory birds and raptors were recorded (Appendix C).

4.6 Arboricultural Resources

The tree inventory and assessment conducted within the PSA identified a total of 7,475 individual trees within the PSA (2,479 by CalTLC in 2021; 3,364 by Dudek in 2022; and 1,632 by EPC in 2023). Table 16 summarizes all

arborist survey results within the PSA, as well as the trees' provided protection assignments according to the Sacramento County Tree Preservation Ordinance. See Figure 16, Arborist Survey Results, and Figure 17, Canopy Analysis Results.

Table 16. Preliminary Summary of Trees Inventoried within the Project Study Area

Tree Species		Total Trees Inventoried	Protected by Sacramento County Tree Preservation Ordinance	Total Trees Proposed for Removal
Common Name	Scientific Name			
black walnut	*Juglans* sp.	1	1	0
blue oak	*Quercus douglasii*	6,834	6,391	4,544
California buckeye	*Aesculus californica*	22	8	3
California sycamore	*Platanus racemosa*	6	0	0
Chinese pistache	*Pistacia chinensis*	4	0	0
Coulter pine	*Pinus coulteri*	14	0	0
elderberry sp.	*Sambucus* sp.	67	0	5
Fremont cottonwood	*Populus fremontii*	77	23	6
fruit tree species	*Prunus* sp.	3	1	3
interior live oak	*Quercus wislizeni*	102	88	41
oak sp.	*Quercus sp.*	31	26	24
Pacific willow	*Salix lasiandra*	1	0	0
silver maple	*Acer saccharinum*	1	1	1
toyon	*Heteromeles arbutifolia*	5	0	0
valley oak	*Quercus lobata*	168	163	80
willow sp.	*Salix spp.*	67	44	1
unknown sp.	*Unknown* sp.	72	50	69
	Total	**7,475**	**6,795**	**4,787**

Source: CalTLC 2021; Dudek 2022; EPC 2023.

5 Solar Development Area Resource Summary

In the summary of findings section below, the results provided above in Section 4- Results, have been further summarized to be explicit to the solar development area of the PSA (i.e., excluding the adjacent other lands within the PSA). See Appendix F. 2024 Biological Resources Survey Results Assessment Report for the details on surveys conducted within the SDA in 2024.

Representative photographs of resource findings can be referenced in Appendix B.

5.1 Soil and Terrain

All 21 soil units mapped within the PSA are also within the solar development area, including five of the partially hydric soils. Partially hydric soils are defined by the NRCS as soils that at least one major component listed for a given map unit is rated as hydric, and at least one other major component is not hydric (NRCS 2024). National Technical Committee for Hydric Soils as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (USDA 2023b). Soils encountered during the field surveys were generally classified as clay to clay loam soils (Table 3; Figure 4).

5.2 Hydrology and Aquatic Resources

The solar development area occurs within the Upper Cosumnes River watershed. The entire solar development area is outside of the 500-year FEMA flood zone (i.e., determined to be outside the 1 and 0.2% flood zones), apart from areas surrounding the primary tributaries on site (i.e., Coyote, Carson, and Deer Creek), which are within the FEMA 100-year flood zone (FEMA 2023).

During the ARD conducted for the Project, 10 aquatic resource types were documented within the solar development area including: ditch, ephemeral drainage, intermittent drainage, perennial channel, seasonal wetland, seasonal wetland swale, seep, upland swale, vernal pool, and vernal swale (Figures 5 and 6).

Aquatic resources delineated within the solar development area have the potential to be waters of the U.S. and/or waters of the state based on an analysis of the three parameters (i.e., soils, hydrology, and vegetation), as well as the relatively permanent and/or significant nexus standards. A preliminary jurisdictional assessment of aquatic resources known to occur in the solar development area was completed to evaluate total acreages and linear feet of resources for each known regulatory authority that may require compliance (i.e., permitting), see Table 17 below.

Table 17. Summary of Aquatic Resources in the Solar Development Area

Feature Type	Total Aquatic Resources in the Solar Development Area	
	Acres	Linear Feet
Wetlands		
Fringe Wetland	0.01	—
Pond	0.01	—

Table 17. Summary of Aquatic Resources in the Solar Development Area

Feature Type	Total Aquatic Resources in the Solar Development Area	
	Acres	Linear Feet
Seasonal Wetland	0.10	–
Seasonal Wetland Swale	0.73	5,865.49
Seep	0.01	–
Vernal Pool	0.01	–
Vernal Swale	0.04	131.65
Total Wetlands	*0.91*	*5,997.15*
Non-Wetland Waters		
Ditch	0.02	79.96
Ephemeral Channel	5.46	24,344.31
Intermittent Channel	0.28	794.33
Perennial Channel	0.38	261.36
Upland Swale	1.94	11,965.92
Total NWWs	*8.07*	*37,445.58*
Total	**8.98**	**43,442.73**

Source: Dudek 2023a.
Notes: WOTUS= waters of the U.S.; NWW= non-wetland waters.
[1] All aquatic resources within the solar development area are preliminarily considered to meet criteria as waters of the US and waters of the state of California.
[2] Acreage of the non-wetland waters extend to ordinary high water mark (OHWM) and/or where the OHWM is equivalent to the top of bank.

5.3 Terrestrial Vegetation Communities and Land Cover Types

Terrestrial vegetation communities and land cover types within the solar development area consist of a combination of terrestrial non-vegetative land covers or natural vegetation communities. This includes blue oak forest (101 acres); blue oak woodland (186.27 acres); riparian woodland/forest (4.19 acres); valley and foothill grassland (1,073.73 acres); and urban/developed (20.86 acres).

5.4 Sensitive Natural Communities

No sensitive terrestrial natural communities were identified within the solar development area; however, riparian habitat (riparian forest) is present within the solar development area, including riparian habitat. Two CDFW sensitive natural communities, Northern Hardpan Vernal Pool and Valley Needlegrass Grassland community were identified within 5 miles of the solar development area (Figure 9). Aquatic communities, including vernal pools, were identified within the solar development area of the PSA.

5.5 Designated Critical Habitat and Essential Fish Habitat

NOAA EFH was identified within the solar development area for chinook salmon; however, suitable habitat is absent, and the species is not expected to occur. No USFWS DCH was identified within the solar development area (Figure 9) (USFWS 2023b).

5.6 South Sacramento Habitat Conservation Plan

Using the compiled habitat model data within the SSHCP Area for each Covered Species. There are 18 Covered Species that have the potential to occur within the solar development area. Table 28 in Section 6.2 below lists those Covered Species, how much of their modeled habitat exists within the solar development area, and how much of their modeled habitat exists within each preserve planning unit (i.e., 1 and 5).

5.7 Mather Core Recovery Area

The USFWS designated Mather Core Recovery Area extends into the solar development area and comprises a total of approximately 568 acres (USFWS 2005).

5.8 Special-Status Plant Species

A total of 31 special-status plant species that have known occurrences either within the nine USGS 7.5-minute quads and/or within 5 miles of the PSA were identified (CDFW 2023e; CNPS 2023a). Of these special-status plant species, 15 species have a low to high potential to occur or were observed on the Project site, eight are Covered Species under the SSHCP. The remaining 16 special-status plant species were removed from further consideration due to lack of suitable habitat within the solar development area, no known occurrences within 5 miles of the PSA, and/or because the PSA is outside of the species' known geographic or elevation range. Dudek conducted protocol-level botanical surveys in the solar development area in April 2021, June 2021, April 2022, May 2023, and July 2023, and detected one special-status plant species (*Spicate calycadenia*) (Figure 10) and discussed further below in Section 5.8.1- Spicate Calycadenia. Species with the potential to occur within the solar development area of the PSA are summarized below.

Observed or High Potential for Occurrence or Observed within the Solar Development Area

- Dwarf downingia – No federal status, state moderately threatened (CRPR 1B.2), , SSHCP Covered Species.
- Ahart's dwarf rush – No federal status, state moderately threatened (CRPR 1B.2), SSHCP Covered Species.
- Legenere – No federal status, state seriously threatened (CRPR 1B.1), SSHCP Covered Species.
- Valley brodiaea – No federal status, state limited distribution/ watch list (CRPR 4.2).
- Pincushion navarretia – No federal status, state seriously threatened (CRPR 1B.1), SSHCP Covered Species.
- Spicate calycadenia – No federal status, state low threatened (CRPR 1B.3). *This species was observed during 2023 protocol-level surveys within solar development area*.

Moderate Potential for Occurrence within the Solar Development Area

- **Boggs Lake hedge-hyssop** – No federal status, state moderately threatened (CRPR 1B.2), SSHCP Covered Species.
- **Heckard's pepper-grass** – No federal status, state moderately threatened (CRPR 1B.2).
- **Sacramento Orcutt grass** – Federally endangered, state endangered, state moderately threatened (CRPR 1B.2). DCH for this species is present within 5 miles of the solar development area, SSHCP Covered Species.
- **Slender Orcutt grass** – Federally endangered, state endangered, state seriously threatened (CRPR 1B.1). DCH for this species is present within 5 miles of the solar development area, SSHCP Covered Species.
- Low Potential for Occurrence within the Solar Development Area
- **Sanford's arrowhead** – No federal status, state moderately threatened (CRPR 1B.2), SSHCP Covered Species.
- **Hogwallow starfish** – No federal status, state limited distribution/ watch list (CRPR 4.2).
- **El Dorado County mule ears** – No federal status, state limited distribution/ watch list (CRPR 1B.2)
- **Hernandez bluecurls** – No federal status, state limited distribution/ watch list (CRPR 4.3)
- **Stinkbells** – No federal status, state limited distribution/ watch list (CRPR 4.2)
- **Coast iris** – No federal status, state limited distribution/ watch list (CRPR 4.3)

5.8.1 Spicate Calycadenia

There was 500+ individuals observed during protocol-level botanical surveys within the solar development area and adjacent other lands in 2023. These individuals were observed in numerous locations, ranging from the southern portion of the PSA, and extending to the northern portion of the solar development area.

5.9 Special-Status Wildlife Species

A total of 30 special-status wildlife species have known occurrences either within the nine USGS 7.5-minute quads or within 5 miles of the PSA. Of these 30 special-status wildlife species, 23 have potential to occur in the solar development area and/or are known to occur in the solar development area, and of these, 12 are Covered Species under the SSHCP (County of Sacramento 2018). In addition, the solar development area provides suitable habitat for nesting birds protected by the federal MBTA and California FGC and native bats protected by the California FGC. The remaining seven special-status wildlife species were removed from further consideration due to lack of suitable habitat within or adjacent to the PSA, no known occurrences within 5 miles of the PSA, and/or because the PSA is outside of the species' known geographic range. Dudek conducted protocol-level surveys in the solar development area for BUOW, SWHA, TRBL, WST, CBB, and VELB during the appropriate survey period(s) in 2021, 2022, and 2023. The following special-status wildlife species were observed during protocol-level and reconnaissance-level surveys and are discussed further in Sections 5.8.1 through 5.8.4 below. Species with the potential to occur within the solar development area of the PSA are summarized below.

Special-status wildlife species including bald eagle, BUOW, SWHA, TRBL, and white-tailed kite were observed during field studies (Figures 11-15). Species with the potential to occur within the solar development area of the PSA are summarized below.

Known to Occur/Observed/Detected within the Solar Development Area

- SWHA – Federal Bird of Conservation Concern (BCC), state threatened, SSHCP Covered Species. Species was observed within solar development area during protocol-level surveys.
- Vernal pool tadpole shrimp – Federally endangered, no state status. There is DCH for this species within 7 miles of the solar development area, SSHCP Covered Species. Species has assumed presence in areas where aquatic resources are found within the solar development area.
- Vernal pool fairy shrimp – Federally threatened, no state status. There is DCH for this species within 7 miles of the solar development area, SSHCP Covered Species. Species has assumed presence in areas where aquatic resources are found within the solar development area.
- White-tailed kite – No federal status, state fully protected. Species was observed within solar development area during focused surveys.
- TRBL – Federal BCC, state threatened and SSC, SSHCP Covered Species. Species was detected within the solar development area during focused surveys.
- Bald eagle – Federal BCC, state endangered. Species was detected within the solar development area during focused surveys.
- Golden eagle – Federal BCC, state fully protected. Species was detected within the solar development area during focused surveys.
- Western pond turtle – Federal candidate species, SSC, SSHCP Covered Species. Species was detected within the solar development area during focused surveys.

High Potential for Occurrence within the Solar Development Area

- American badger – No federal status, state SSC, SSHCP Covered Species.
- WST – No federal status, SSC, SSHCP Covered Species.
- BUOW – Federal BCC, no state status, SSHCP Covered Species.
- Bank swallow – No federal status, state threatened.

Moderate Potential for Occurrence within the Solar Development Area

- Grasshopper sparrow – no federal status, SSC.
- Conservancy fairy shrimp – Federally endangered, no state status.
- Valley elderberry longhorn beetle – Federally threatened, no state status, SSHCP Covered Species.

Low Potential for Occurrence within the PSA

- CTS – Federally threatened, state threatened and on state watchlist, SSHCP Covered Species.
- Merlin – State Watch List.
- California black rail – Federal BCC, state fully protected, and state threatened.
- Crotch's bumble bee – No federal status, state endangered (candidate).
- Cooper's hawk – No federal status, state Watch List, SSHCP Covered Species.
- Ferruginous hawk - No federal status, state Watch List, SSHCP Covered Species.

Results of protocol-level and focused surveys for selected special-status wildlife species within the solar development area of the PSA are provided below.

5.9.1 Burrowing Owl

There is suitable foraging and nesting habitat for BUOW within the solar development area. The solar development area contains suitable open grassland habitat with ground squirrel burrows to support this species. From 2021 – 2023, several indicators of BUOW signs were observed and recorded. During protocol-level surveys, multiple suitable burrows, and other ancillary indicators (e.g., feathers, whitewash, and pellet) were observed within the solar development area. Specifically, the southern portion and northern portion of the solar development area is where these resources were recorded (Figure 11).

5.9.2 Swainson's Hawk

There is suitable foraging and nesting habitat for SWHA within the solar development area. There are known occurrences of SWHA within the solar development area. Dudek conducted protocol-level SWHA surveys within the solar development area, and visual surveys up to 0.5 miles outside of the solar development area, in 2021, 2022, and 2023. Within the solar development area, 24 SWHA individuals were observed foraging, perching, and displaying courtship. The majority of the SWHA observations were recorded in the southwestern portion of the solar development area (Figure 12).

5.9.3 Tricolored Blackbird

There is suitable foraging and nesting habitat for TRBL within the solar development area. There are several known occurrences of this species that overlap with the solar development area boundaries, specifically throughout the entirety of the central-southern extent of the solar development area, and several documented occurrences within the immediate vicinity. This species was documented within the solar development area, west of Coyote Creek, during TRBL focused surveys conducted by Dudek in 2021. No nesting activity or nesting colonies were observed during these surveys (Figure 13).

5.10 Arborist Inventory

Based on the tree inventory results, a total of and 4,787 trees were inventoried within the solar development area of the PSA. Of the total trees inventoried in the solar development area, a maximum total of 4,450 fall under Sacramento County Tree Preservation Ordinance protections criteria (i.e., 4,394 protected; 1,792 heritage; and 173 riparian) (CalTLC 2021; Dudek 2022; EPC 2023). This inventory equates to 54.61 acres contiguous canopy of oak woodlands and forest within the solar development area (CalTLC 2021; Dudek 2022; EPC 2023) (Figure 16 and 17).

6 Resources Impact Assessment for the Solar Development Area

This section addresses potential impacts to biological and aquatic resources that have the potential to be affected by the implementation of the Project and provides preliminary analysis of impacts, as well as recommendations to avoid and minimize potential impacts. **For this BTR, this resource impact assessment explicitly addresses only the impacts to resources occurring within the solar development area of the PSA** (i.e., not entire PSA/adjacent other lands).

6.1 Definition of Impact Types

The Project could have direct permanent, temporary, and/or indirect impacts to biological and/or aquatic resources within the solar development area. A general definition of each of the impact types is summarized below. Impacts were evaluated within the solar development area based on the Project component and/or activity type in conjunction with the biological or aquatic resource(s) and its applicable regulation(s) and jurisdictional authority. Specifically, the following Project components detailed in the site plan (Primoris 2023) were evaluated for resource impacts: the BESS site; earthwork limits; exclusion zones; fence posts; fenced areas; the gen-tie corridor; inside work areas; inverter locations; laydown/staging areas; overhead transmission corridors; solar module post pile; transmission pole risers; PV modules/solar panels; roads; the substation site; the switchyard site; and water crossing locations.

6.1.1 Direct Permanent Impacts

Direct permanent impacts refer to the direct permanent physical loss of a biological and aquatic resource typically due to clearing and grading associated with implementation of a project. Direct permanent impacts are analyzed in four ways: (1) direct permanent loss of vegetation communities and natural land cover types (excluding anthropogenic/disturbed land covers), as well as general wildlife and their habitat; (2) direct permanent loss of or harm to individuals of special-status plant and wildlife species; (3) direct permanent loss of suitable and/or occupied habitat for special-status species; and/or (4) direct permanent loss of wildlife movement and habitat connectivity in the Project vicinity. For purposes of this BTR, direct permanent impacts included an evaluation of fence posts, solar array pole risers, overhead transmission poles, inverter pads, roads, BESS, collector substation, and the switchyard to determine if they impacted the known aquatic and/or biological resource within the solar development area.

6.1.2 Temporary Impacts

Temporary impacts refer to a temporary loss of biological and aquatic resources typically due to clearing and grading associated with implementation of the Project. Temporary impacts generally occur for a short period (e.g., up to approximately 1 year) and would normally be reversible (e.g., temporary removal of vegetation after which no direct permanent impacts would occur). For the purposes of this BTR, temporary impacts included an evaluation of areas that are temporarily impacted during construction to determine if they intersect the known aquatic and/or biological resources within the solar development area. These areas shall be revegetated and/or restored following construction. This includes much of the inside work which will contain active construction activities (i.e.,

construction equipment), general grading activities, and proposed blasting. Blasting times shall be limited to the hours permitted in the Sacramento County ordinance to reduce overall noise impacts. To reduce displacement or impacts to biological resources, similar strategies will be utilized for blasting as for other onsite temporary impacts such as pile driving or grading; areas where blasting may occur shall be surveyed by an approved biological monitor prior to the impact to assess for biological resources within the blasting footprint and buffer area, depending on the habitat type and potential for specific biological resources to occur. Furthermore, blasting locations will avoid aquatic resources. Avoidance buffer areas have been implemented to the extent feasible to reduce the effects of vibration and sound pressure to aquatic habitats and associated species. Lastly, as the array is mounted on racking above risers, and the area beneath the array will be revegetated per the specification of the Agricultural Resources Management Plan following construction to allow for grazing. The solar array (other than pole risers), laydown/staging areas, the gen-tie corridor limits, inside work areas (including exclusion zones), and earthworks are considered as temporary impacts (Figure 3).

6.1.3 Indirect impacts

Indirect impacts are reasonably foreseeable effects of Project implementation on remaining or adjacent biological and aquatic resources outside the direct disturbance zone that may occur during typical grading or maintenance activities (i.e., short-term construction-related indirect impacts) or later in time because of the Project (i.e., long-term, or operational, indirect impacts). Short-term indirect impacts can include dust, human activity, pollutants (e.g., potential erosion), and noise that extend beyond the identified construction area. Long-term indirect impacts can include changes to hydrology, introduction of invasive species, dust, and noise that are operations related or persist after construction is complete. For the purposes of this BTR, indirect impacts evaluated include the areas underneath transmission lines (i.e., transmission corridor), including in the gen-tie corridor. Note that depending on the biological and/or aquatic resource (e.g., listed branchiopods) under evaluation, in some instances shading from solar modules would be considered an indirect impact (not temporary).

6.1.4 Design to Avoid Resource Impacts

The Project has the potential to influence both biological and aquatic resources. The Project assessed a PSA of 2,704 acres to allow for flexibility in the solar development design to avoid biological and aquatic resources to the maximum extent possible. Following the completion of studies, additional detailed siting measures were undertaken that accounted of study results. As such, the Project is designed in such a manner that impacts to resources will be avoided and reduced to the extent feasible.

6.1.5 Avoidance, Minimization, and Mitigation

Suggested AMMs and MMs include those measures that would avoid, minimize, or otherwise mitigate potential impacts to biological and aquatic resources. Based on the results in this BTR, preliminary AMMs and MMs have been provided where applicable in the resource impact assessment sections below.

6.2 Preliminary Analysis of Impacts

The significance criteria used to evaluate impacts to biological and aquatic resources is based on CEQA Guidelines, as well as federal, state, and local regulatory guidance pertaining to potential jurisdictional resources and features occurring only within the solar development area of the PSA.

Table 18. Preliminary Resource Impact Analysis Checklist for the Project Study Area

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
BIOLOGICAL RESOURCES – Would the Project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Source: 14 CCR 15000 et seq.

a) ***The Project would have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW and or USFWS.***

A total of 11 special-status plant species and 15 special-status wildlife species are known to occur in the solar development area, were observed or detected during field surveys, or have a moderate to high potential to occur in the solar development area and could therefore be impacted by eventual Project implementation. Species-specific impacts and recommended avoidance, minimization, and mitigation are included below.

a.1 Special-Status Plant Species

Eleven special-status plant species have a moderate to high potential to occur or are known to occur within the solar development area including: dwarf downingia, Ahart's dwarf rush, legenere, saline clover, Boggs Lake hedge-hyssop, Heckard's peppergrass, pincushion navarretia, Sacramento Orcutt grass, slender Orcutt grass, spicate calycadenia, and valley brodiaea. Suitable habitat for these species includes valley grasslands and various types of aquatic resources (e.g., vernal pools, creek margins, mesic areas), like those identified within the solar development area. Of these 11 special-status species, Sacramento Orcutt grass and slender Orcutt are federally, and state listed. The remaining nine special-status plant species are not federally listed but all are state listed and/or have a CNPS CRPR rank of a 1 or 2, including- Ahart's dwarf rush, Boggs Lake hedge hyssop, Dwarf downingia, legenere, saline clover, Heckard's peppergrass, spicate calycadenia, valley brodiaea and pincushion navarretia. Of the 11 special-status plant species with a moderate to high potential to occur in the solar development area, one was observed during protocol-level botanical surveys in 2023, spicate calycadenia. Note that 2022 was slightly above average for precipitation in the region, and 2023 was exceptionally wet, with rainfall amounts approximately 175% of average. The 2022 and 2023 years therefore provided sufficient inundation of aquatic resources and overall soil moisture to cause special-status plants to germinate and be detectable. Negative survey results during one field season does not constitute evidence that a plant occurrence is absent from a location (CDFW 2018). Approximately 500 plus individuals of spicate calycadenia were observed the solar development area and surrounding vicinity of the PSA. These individuals were observed in numerous locations, ranging from the southern portion of the PSA, and extending to the northern portion of the solar development area. Special-status plant resources may be subject to agency jurisdiction pursuant to regulations under FESA, CESA, California FGC, CEQA Guidelines, and the Sacramento County General Plan.

Recommended Avoidance, Minimization, and Mitigation. The following measures are recommended to avoid, minimize, and/or mitigate impacts to special-status plant species:

- A Worker Environmental Awareness Program (WEAP) shall be prepared that will educate staff on the presence of all special-status plant species, sensitive natural communities, and protected wetlands with potential to occur, or that are known to occur, within the solar development area. The program shall describe their identification, habitat requirements, and penalties for species impacts, as well as immediate steps to take should special-status plant species be observed by staff on site. This WEAP shall include biological resource AMMs from the Project's CEQA Mitigation Monitoring and Reporting Program (MMRP), resource permits or agreements, and any species-specific plans. The WEAP can be provided in the form of a handout and/or video presentation. Staff that attend the training shall fill out a sign-in sheet indicating that they completed the training.
- Pre-construction surveys shall be conducted by a qualified botanist a maximum of 2 weeks prior to Project activity initiation, in accordance with CDFW and CNPS Guidelines.
- If no special-status plant species are observed, then no further AMMs or mitigation is required.
- If special-status plant species are observed, then the following measures are additionally recommended to avoid the species:
  - Special-status plant species shall be mapped and flagged within the solar development area.
  - Project activities shall be modified to avoid impact If special-status plant species have been detected in proximity. A buffer may be implemented by the biological monitor to avoid impacts to species.
  - Environmentally sensitive area (ESA) fencing and appropriate signage shall be installed at a minimum of 20 feet from the edge of special-status plant populations. The Project shall avoid performing any construction-related activities within the ESA. A biological monitor shall be present when Project activities are adjacent or near ESAs to avoid impacts.

- If impacts to special-status plant species would occur from Project development, and impacts cannot be avoided, transplantation and/or compensatory mitigation would occur to ensure no net loss of special-status plant species. Prior to development in the area of the special-status plant species, the applicant shall prepare and implement a Botanical Mitigation Plan. The plan will include performance standards for transplantation, including requirements for transplant destinations, methods to minimize damage of plants during transplantation, and irrigation or other treatments required to improve chance of transplantation success. The plan would also include monitoring requirements to demonstrate transplantation success and no net loss of special-status plant species. If monitoring demonstrates transplantation is not fully successful in achieving no net loss of habitat functions and values, compensatory mitigation would be required. The mitigation ratios would vary depending on the level of transplantation success but would ensure no net loss of special-status plant species from direct permanent, indirect, and/or temporary Project impacts.

a.2 Western Spadefoot Toad

WST is proposed to be federally listed, state SSC, and SSHCP Covered Species with a high potential to occur in the solar development area. Vernal pools, seasonal wetlands swales, and other aquatic resources in the solar development area provide habitat for WST. To assist the Project design in understanding areas to avoid, Dudek conducted upland burrow surveys for WST within potential suitable habitat in 2021, and breeding season larval and night eye-shine surveys breeding season larval and night eye-shine surveys in potentially suitable aquatic habitats in the solar development area on March 19, 2022.

Although WST has not been observed in the solar development area, there is both suitable upland burrowing habitat and aquatic breeding habitat within the solar development area. The Project solar development has the potential to impact WST suitable aquatic habitat (i.e., ephemeral, intermittent, perennial, ditch, and swale non-wetland waters), and upland habitat (i.e., blue oak woodland and forest, and valley and foothill grassland). Table 19 below summarizes potential impacts associated with WST. Development could impact WST through removal of habitat or injury if this species is present within the solar development area prior to ground-disturbing activities. In addition, Project operation and maintenance could disrupt activities if any WST within or near the solar development area through human presence, noise, and light. Direct, indirect, and/or temporary impacts to this species and its associated habitat would likely be considered a potentially significant impact under CEQA.

Table 19. Summary of Potential Impacts to Western Spadefoot Toad Suitable Aquatic and Upland Habitat within the Project Solar Development Area

Species Suitable Habitat[1]	Impacts Type (acres)[2]			
	Direct Permanent	Indirect	Temporary	Total (acres)
Upland Habitat	62.38	9.91	1,303.19	*1,375.48*
Aquatic Habitat	0.42	0.55	7.99	*8.97*
Total (acres)	**62.80**	**10.46**	**1,311.18**	**1,384.45**

Notes:

1 WST Suitable Habitat= aquatic habitat: ephemeral, fringe wetland, pond, seasonal wetland, seasonal wetland swale, intermittent, perennial, ditch, seep, vernal pool, vernal swale, and upland swale; upland habitat: blue oak woodland and forest, and valley and foothill grassland.

2 Project Components Intersecting Suitable Habitat= Direct permanent impact project components: fence posts, solar array pole risers, overhead transmission poles, roads, and switchyard; Indirect impact project components: gen-tie corridor transmission, and overhead transmission line corridors; Temporary impact project components: general grading, inside work areas (staging), fencing, and solar array placement.

To reduce impacts to WST and habitat to less than significant with mitigation incorporated, the measures below are recommended.

Recommended Avoidance, Minimization, and Mitigation. The following measures are recommended to avoid, minimize, and/or mitigate impacts to WST:

- Project ground-disturbance activities within WST suitable habitat shall occur outside the combined breeding and dispersal season (i.e., after May 15 and before October 15). In the event ground disturbance activities cannot occur outside the breeding and dispersal seasons, a qualified biologist with valid collecting permits shall be retained, to perform a pre-construction survey for WST within suitable habitat, including breeding habitat. If WST are encountered during the survey, individuals will be safely relocated to suitable habitat outside of the solar development area. The survey shall include searches for small mammal burrows, crevices, and other potential refugia, as well as dip-netting or seining suitable breeding habitat. Additionally, if WST is documented within the solar development area, adult and larval WST and egg masses shall be collected and relocated to suitable habitat (i.e., to be preserved in perpetuity).
- WST shall be hand-captured and relocated outside the construction area to suitable habitat by a qualified biologist with a valid collecting permit or with proper agency authorization as determined during coordination with CDFW. All relocation areas shall be identified and approved by CDFW prior to the pre-construction survey. Relocated WST shall be monitored until they have escaped into upland refugia or aquatic habitat with sufficient water. Project construction activities will be suspended in a 100-foot radius of the WST until the WST leaves the Project site on its own or is located by a CDFW approved qualified biologist. If Project ground-disturbing activities must commence in or within 250 feet of suitable WST upland habitat during the breeding and dispersal season, exclusion fencing will be installed around the Project footprint and must be monitored by a qualified biologist following rain events. Temporary high-visibility construction fencing will be installed along the edge of work areas, and silt fencing will be installed immediately behind the temporary high-visibility construction fencing to exclude WST from entering the construction area. Fencing will remain in place until all construction activities within the construction area are completed.
- At the end of each working day, open trenches and holes must be covered or installed with wildlife ramps to avoid wildlife entrapment overnight.
- If WST are determined to be present within the solar development area, then on-going monitoring during initial ground disturbing activities, and subsequent weekly monitoring site checks, by a qualified biologist will be employed to ensure there are no impacts to this species and its habitat during construction.
- This species shall be included in the WEAP, as described above for special-status plant species, and shall also educate staff on the presence of special-status wildlife species and ways to avoid and minimize impacts.

a.3 Western Pond Turtle

Western pond turtle is proposed to be federally listed as threatened, a state SSC, and SSHCP Covered Species that was observed during reconnaissance-level biological resource surveys. Development could impact western pond turtle through removal of habitat or injury if this species is present within the solar development area prior to ground-disturbing activities. In addition, Project operation and maintenance could disrupt activities of any western pond turtle within or near the solar development area through human presence, noise, and light. To assist the Project design in understanding areas to avoid, Dudek conducted reconnaissance-level biological resource surveys in 2021, 2022, and 2023.

The solar development area has suitable habitat for western pond turtle, and a total of approximately 10 individual western pond turtles were observed along Carson Creek during reconnaissance-level biological resource surveys. Upland wintering sites and aquatic resources are present within the solar development area of the PSA, and development could impact this species if turtles are present within the construction footprint during ground disturbance. The Project solar development has the potential to impact western pond turtle suitable aquatic habitat (i.e., stream/creek land cover and freshwater marsh and open water land covers within 400 meters [0.25 miles] of all stream/creek land cover), and upland habitat (i.e., blue oak woodland and forest, and valley and foothill grassland). Table 20 below summarizes potential impacts to western pond turtle. Development could impact western pond turtle through removal of habitat or injury if this species is present within the solar development area prior to ground-disturbing activities. In addition, Project operation and maintenance could disrupt activities of any western pond turtle within or near the solar development area through human presence, noise, and light. Direct or indirect impacts to this species would likely be considered a potentially significant impact under CEQA.

Table 20. Summary of Potential Impacts to Western Pond Turtle Aquatic and Upland Suitable Habitat within the Project Solar Development Area

Species Suitable Habitat[1]	Impacts Type (acres)[2]			
	Direct Permanent	Indirect	Temporary	Total (acres)
Upland Habitat	47.10	10.15	1,306.18	*1,363.44*
Aquatic Habitat	0.34	0.39	5.40	*6.13*
Total (acres)	**62.73**	**10.30**	**1,309.32**	**1,382.35**

Notes:

1 Western Pond Turtle Suitable habitat= aquatic habitat: ephemeral, intermittent, perennial, pond and ditch non-wetland waters; upland habitat: blue oak woodland and forest, mixed riparian woodland, and valley grassland within 0.25 miles of aquatic habitat.

2 Project Component Intersecting Suitable Habitat= Direct permanent impact project components: fence posts, solar array pole risers, overhead transmission poles, roads, and switchyard; Indirect impact project components: gen-tie corridor transmission, and overhead transmission line corridors; Temporary impact project components: general grading, inside work areas (staging), fencing, and solar array placement.

To reduce impacts to western pond turtle to and habitat are less than significant with mitigation incorporated, the measures below are recommended.

Recommended Avoidance, Minimization, and Mitigation. The following measures are recommended to avoid, minimize, and/or mitigate impacts to western pond turtle:

- For any project-related activities that occur within 300 feet of suitable habitat (e.g., any adjacent riparian woodland), project ground-disturbing activities shall be conducted outside of western pond turtle's active season (i.e., work to occur after May 1 and before September 15). If project activities must be implemented during the breeding and dispersal season, they shall not start until 30 minutes after sunrise and must be completed 30 minutes prior to sunset.
- A qualified biologist shall conduct a pre-construction survey for western pond turtle within 48 hours prior to the start of construction activities within 300 feet of suitable habitat (e.g., ponds, freshwater emergent wetlands, and adjacent riparian woodland). Concurrently with the pre-construction survey, assessments for nesting pits and/or wintering site (e.g., burrows) shall be conducted and any identified sites shall be delineated with high visibility flagging or fencing and avoided during construction activities. If avoidance is not possible, the nest and/or turtle shall be removed by a qualified biologist and relocated to an appropriate location.

- If turtles, nesting pits, and/or wintering sites are encountered during the pre-construction survey, a qualified biologist shall be present during grubbing and clearing activities in suitable habitat (aquatic) to monitor for western pond turtle. If a turtle is observed in the active construction zone, construction shall cease within a 100-foot buffer, and a qualified biologist will be notified. Construction may resume when the qualified biologist has either hand-captured and relocated the turtle to nearby suitable habitat outside the construction zone, or, after thorough inspection, determined that the turtle has moved away from the construction zone.
- On-site personnel will observe a 20-mile-per-hour speed limit within western pond turtle suitable habitat.
- This species shall be included in the WEAP described above for Special-Status Plant Species, that will also educate staff on the presence of special-status wildlife species and ways to avoid and minimize impacts.

a.4 Burrowing Owl

BUOW is an SSC and an SSHCP Covered Species. There is suitable habitat for BUOW in the solar development area and the species was observed during protocol-level surveys in 2021. Additionally, various suitable burrow locations, and other ancillary evidence of BUOW (e.g., whitewash, pellets, etc.) were observed during protocol-level and focused surveys and incidental observations in 2021, 2022, and 2023. Observations of burrowing owl in the solar development areas were concentrated in the valley grasslands in the northern and southern-most limits of the site.

The solar development area has suitable nesting and foraging habitat for burrowing owl, specifically in open areas such as valley grasslands. The Project solar development has the potential to impact BUOW suitable nesting and foraging habitat (i.e., blue oak woodland, and valley grassland; seasonal wetland and vernal pools wetlands; and ephemeral, perennial, intermittent, ditch, and swale non-wetland waters). Table 21 below summarizes potential impacts associated with BUOW. Development could impact BUOW through removal of habitat or injury if this species is present within the solar development area prior to ground-disturbing activities. In addition, Project operation and maintenance could disrupt activities of any BUOW within or near the solar development area through human presence, noise, and light.

Table 21. Summary of Potential Impacts to Burrowing Owl Nesting and Foraging Suitable Habitat within the Project Solar Development Area

Species Suitable Habitat[1]	Impacts Type (acres)[2]			
	Direct Permanent	Indirect	Temporary	Total (acres)
Nesting and Foraging Habitat	57.71	9.52	1,201.32	*1,268.55*

Notes:

1 Burrowing Owl Nesting and Foraging Habitat= mapped Dudek habitats: oak woodland, and foothill valley grassland; seasonal wetland and vernal pools wetlands; and ephemeral, intermittent, ditch, and swale non-wetland waters.

2 Project Component Intersecting Suitable Habitat= Direct permanent impact project components: fence posts, solar array pole risers, overhead transmission poles, roads, and switchyard; Indirect impact project components: gen-tie corridor transmission, and overhead transmission line corridors; Temporary impact project components: general grading, inside work areas (staging), fencing, and solar array placement.

To reduce impacts to BUOW and habitat to less than significant with mitigation incorporated, the measures below are recommended.

Recommended Avoidance, Minimization, and Mitigation. The following measures are recommended to avoid, minimize, and/or mitigate impacts to BUOW:

- A qualified biologist shall conduct surveys for BUOW within 30 days prior to ground-disturbing activities within suitable habitat for the species. The survey shall cover the limits of ground disturbance and potentially suitable nesting habitat within 500 feet. If ground-disturbing activities are delayed, then additional surveys shall be conducted such that no more than 7 days elapse between the survey and ground-disturbing activities.
- If BUOW is encountered during the pre-construction survey, the qualified biologist shall prepare a Special-Status Species Avoidance, Minimization, and Relocation Plan for special-status species occurring in the solar development area, including BUOW. The plan shall include a performance standard of no net loss of BUOW within the solar development area.
- If non-nesting BUOWs are observed in or adjacent to the construction footprint during the survey, construction shall be postponed until the qualified biologist can fully implement a Burrowing Owl Passive Relocation Plan (to be prepared by the qualified biologist). The plan shall be prepared in accordance with the Staff Report on Burrowing Owl Mitigation (CDFG 2012). Once owls have been successfully excluded and unoccupied burrows evacuated, construction in the area may proceed.
- If nesting BUOWs are observed during the survey, construction activities within a minimum of 50 meters and up to 500 meters of occupied burrows shall be delayed until young owls have fledged and are independent of the burrow, as determined by a qualified biologist. The qualified biologist may reduce the buffer based on the type, timing, extent, and intensity of the construction activity and other factors such as site topography and vegetation cover between the construction activity and the burrow consistent with CDFW's 2012 Staff Report guidelines. Once all young have fledged and are no longer dependent upon the nest burrow, the same burrow exclusion (i.e., ESA) procedure described above shall be implemented prior to resuming construction activities in the area.
- If BUOW is determined present within the solar development area, then on-going monitoring by a qualified biologist may be required to ensure there are no impacts to this species and its habitat during construction and operation and maintenance activities for the Project.
- This species shall be included in the WEAP described above for Special-Status Plant Species, that will also educate staff on the presence of special-status wildlife species and ways to avoid and minimize impacts.
- Compensatory mitigation would be required if potential impacts cannot be avoided or minimized to ensure no net loss of BUOW or its habitat function and value. Mitigation ratios for BUOW are determined by the regulatory agency based on status and the total of direct permanent, indirect, and/or temporary impacts of the species. Generally, BUOW mitigation for foraging habitat can be stacked with SWHA mitigation upon agency approvals and would be at a ratio of between 0.5 to 1 acre preserved per 1 acre impacted.

a.5 Swainson's Hawk

SWHA is a federal BCC, state threatened species, and an SSHCP Covered Species. SWHA were observed foraging, flying overhead, nesting, displaying and nesting behaviors within in the solar development area during protocol-level surveys conducted in 2021, 2022, and 2023.

Large trees within the solar development area and up to 0.5 miles outside of the site provide potential nesting habitat for SWHA. Open areas, such as grasslands, in the solar development area and vicinity provide foraging habitat for this species. Suitable SWHA nesting habitat was mapped within the same type of vegetation community as was used for the SSHCP habitat mapping (mixed Riparian Woodland and Mixed Riparian Scrub) utilizing the vegetation community boundaries mapped within the PSA in 2021. The Project solar development has the potential to impact SWHA suitable nesting habitat (i riparian forest), and foraging habitat (i.e., valley and foothill grassland; seasonal wetlands, vernal pool, and swale wetlands; ephemeral, intermittent, and swale non-wetland waters). Note that aquatic land covers provide only seasonal foraging habitat when the aquatic land covers are dry in the summer and fall. Table 22 below summarizes potential impacts associated with SWHA. Construction activities, including grading and grubbing, near suitable nesting habitat (e.g., individual trees or riparian woodland habitats) within the solar development area or within 0.5 miles of the PSA could disturb an active SWHA nest. If trees within 0.5 miles of the solar development area become occupied by nesting SWHA prior to construction, then activities could result in the incidental loss of adults, juveniles, nestlings, or fertile eggs. In addition to the potential to remove a tree with an active nest, construction-generated disturbances also have the potential to indirectly affect SWHAs if the species is nesting within 0.5 miles of Project activities. Increased levels of noise and human activity within 0.5 miles of an active nest could result in nest abandonment or forced fledging and subsequent loss of fertile eggs, nestlings, or juveniles. These construction-generated disturbances could also cause SWHA to temporarily avoid foraging on some or all the solar development area.

Table 22. Summary of Potential Impacts to Swainson's Hawk Suitable Nesting and Foraging Habitat within the Project Solar Development Area

Species Suitable Habitat	Impacts Type (acres)			
	Direct Permanent	Indirect	Temporary	Total (acres)
Nesting	0.04	0.36	3.79	*4.19*
Foraging	53.01	8.63	1,013.83	*1,075.47*
Total (acres)	**5305**	**8.99**	**1,017.62**	**1,079.6**

Notes:

1 Swainson's Hawk Suitable Habitat= Nesting: riparian forest; Foraging: valley and foothill grassland; seasonal wetlands, vernal pool, and swale wetlands;, and swale non-wetland waters.

2 Project Component Intersecting Suitable Habitat= Direct permanent impact project components: fence posts, solar array pole risers, overhead transmission poles, roads, and switchyard; Indirect impact project components: gen-tie corridor transmission, and overhead transmission line corridors; Temporary impact project components: general grading, inside work areas (staging), fencing, and solar array placement.

The results of studies conducted by Estep Environmental Consulting (i.e., 2013, and 2021 findings) indicate that properly designed and managed solar arrays can provide suitable SWHA foraging habitat. As noted in Section 3.2.4.3- Swainson's Hawk Protocol-Level Surveys, and 4.5.2.9- Swainson's Hawk (*Buteo swainsonii*), solar arrays will be spaced to allow for foraging by SWHA between array rows. The solar arrays are proposed to be 6 feet above ground level when at a level position (e.g., mid-day), though distances will vary depending on the panel tilt of 60 degrees to each side. Although the area under the solar arrays would likely be unavailable for aerial foraging, it would still provide habitat for rodents and large insects that form the SWHA prey base. SWHA may also pursue prey under the panels by hopping short distances, especially when the tracking panels are tilted in early morning and late afternoon to better expose the area on each side of the post. SWHA would also likely perch on the solar arrays, potentially enhancing their foraging efficiency within the remaining foraging habitat.

To reduce impacts to SWHA and habitat to less than significant with mitigation incorporated, the measures below are recommended.

Recommended Avoidance, Minimization, and Mitigation. The following measures are recommended to avoid, minimize, and/or mitigate impacts to SWHA:

- If nesting SWHA are determined present within the solar development area or within 0.5 miles of the solar development area during construction of the Project, on-going monitoring by a qualified biologist may be required to ensure there are no impacts to this species and its habitat. The requirement for monitoring will be determined in consultation with CDFW qualified biologists after they are notified of the nesting SWHA.
- SWHA shall be included in the WEAP described above for Special-Status Plant Species, that will also educate staff on the presence of special-status wildlife species and ways to avoid and minimize impacts.
- A SWHA Management Plan shall be developed and implemented by the Project to ensure that the solar development area and adjacent suitable SWHA foraging habitat achieve a performance standard of no net loss of SWHA habitat function and value following Project completion. The SWHA Management Plan shall include at a minimum: (1) requirements for timing of vegetation management and vegetation height to maximize SWHA access to prey species; (2) procedures to be followed in the event SWHA are present in an area, especially during nesting season; (3) eliminate interior fencing within the site and maximize visibility of perimeter fencing through flagging or other techniques to allow freedom of movement by SWHA and avoid collision; and (4) measures to minimize impact on and potentially enhance prey populations (e.g., burrowing rodents) such as avoiding rodenticide use or vegetation management. The SWHA Management Plan and its metric for determining SWHA habitat function and value will be reviewed and approved by CDFW and implemented for the Project duration, until decommissioning.
- Compensatory mitigation shall be provided for the acreage of nesting and foraging habitat impacted by Project infrastructure and that cannot be maintained to support continued foraging habitat for SWHA. The Project may achieve the performance standard through the County of Sacramento Swainson's Hawk Mitigation Program or other compensatory programs (e.g., mitigation banks, conservation easements). Under the County of Sacramento's program, mitigation would be the difference between the existing habitat value (75% of foraging habitat value remaining based on the AG-80 zoning) and the post-Project habitat value (35%, see above justification). Because the impacted area would be larger than 40 acres, the Sacramento County Swainson's Hawk Mitigation Program would require the Project to provide mitigation lands. Compensatory mitigation may be provided through acquisition of mitigation bank credits from authorized mitigation banks, on-site mitigation or conservation measures, and/or off-site mitigation or conservation measures.

a.6 Bald Eagle and Golden Eagle

Bald eagle and golden eagle are both federal BCC species, while their state protection is state endangered and state fully protected, respectively. A bald eagle and golden eagle individual were both observed flying overhead during reconnaissance-level surveys in the solar development area. Large trees within the and outside the solar development area, and within 0.5 miles provide potential nesting habitat for these two species. Additionally, open areas in the solar development area provide foraging habitat for this species.

Construction activities, including grading and grubbing, near suitable nesting habitat (e.g., individual trees or woodland habitats) within the solar development area or within 0.5 miles of the PSA could disturb an active nest. If trees within 0.5 miles of the solar development area become occupied by nesting bald or golden eagles prior to construction, then activities could result in the incidental loss of adults, juveniles, nestlings, or fertile eggs. In addition to the potential to remove a tree with an active nest, construction-generated disturbances also have the potential to indirectly affect bald and golden eagles if the species is nesting within 0.5 miles of Project activities. Increased levels of noise and human activity within 0.5 miles of an active nest could result in nest abandonment or forced fledging and subsequent loss of fertile eggs, nestlings, or juveniles. These construction-generated disturbances could also cause bald or golden eagles to temporarily avoid foraging on some or all the solar development area.

As a state-listed species, impacts to bald and golden eagle may be considered "take" under CESA if the project causes injury or death of an eagle. If "take" of SWHA is anticipated, the Project would require consultation and subsequent authorization (i.e., in the form of an Incidental Take Permit) from CDFW pursuant to Section 2081 of CESA.

To reduce impacts to bald eagle and golden eagle and habitat to less than significant with mitigation incorporated, the measures below are recommended.

Recommended Avoidance, Minimization, and Mitigation. The following measures are recommended to avoid, minimize, and/or mitigate impacts to bald and golden eagles:

- If nesting bald or golden eagles are determined present within the solar development area or within 0.5 miles of the solar development area during construction of the Project, on-going monitoring by a qualified biologist may be required to ensure no impacts to this species and its habitat. The requirement for monitoring will be determined in consultation with CDFW qualified biologists after they are notified of the nesting SWHA.
- A buffer may also be implemented around an active bald or golden eagle nest to alleviate any impacts (e.g., noise, dust).
- Bald and golden eagles shall be included in the WEAP described above for Special-Status Plant Species, that will also educate staff on the presence of special-status wildlife species and ways to avoid and minimize impacts.

a.7 Tricolored Blackbird

TRBL is a federal BCC, state threatened species, an SSC, and an SSHCP Covered Species. Dense stands of emergent vegetation, willows, thistle, Himalayan blackberry and/or similar in the solar development area, provide nesting habitat for TRBL, and open grassland and cultivated land provide foraging habitat for this species. Dudek conducted focused TRBL surveys within the PSA in 2021 and 2022. Incidental observations/detections for TRBL were also recorded in 2023. TRBL were observed throughout the entirety of the central-southern extent of the solar development area, and several documented occurrences within the immediate vicinity. Most primary and secondary observation (e.g., potential nests) were concentrated west of Scott Road and on the east side central side of Coyote Creek. No nesting colonies were observed.

There is suitable foraging and nesting habitat for TRBL within the solar development area. The Project solar development has the potential to impact TRBL suitable nesting and foraging habitat (i.e., valley and foothill grasslands; and freshwater emergent wetlands, ponds, fringe wetlands, seasonal wetlands, vernal pools, and swale wetlands). Table 23 below summarizes potential impacts associated with TRBL. Given the minimal habitat available for TRBL nesting in the solar development area, the primary impact of development would be from the removal or degradation of potential foraging habitat for colonies elsewhere in the solar development area or vicinity. Specifically, development could impact TRBL through removal of habitat or injury if this species is present within the solar development area prior to ground-disturbing activities. In addition, Project operation and maintenance could disrupt activities of any TRBL within or near the solar development area through human presence, noise, and light. Direct or indirect impacts to this species would likely be considered a potentially significant impact under CEQA.

Table 23. Summary of Potential Impacts to Tricolored Blackbird Nesting and Foraging Suitable Habitat within the Project Solar Development Area

Species Suitable Habitat	Impacts Type (acres)			
	Direct Permanent	Indirect	Temporary	Total (acres)
Nesting and Foraging Habitat	53.02	8.65	1,014.90	*1,076.57*

Notes:

1 Tricolored Blackbird Nesting and Foraging Habitat= valley and foothill grasslands, seep, freshwater emergent wetlands, ponds, fringe wetlands, seasonal wetlands, vernal pool, vernal swale, upland swale, and vernal swale.

2 Project Component Intersecting Suitable Habitat= Direct permanent impact project components: fence posts, solar array pole risers, overhead transmission poles, roads, and switchyard; Indirect impact project components: gen-tie corridor transmission, and overhead transmission line corridors; Temporary impact project components: general grading, inside work areas (staging), fencing, and solar array placement.

To reduce impacts to TRBL and habitat to less than significant with mitigation incorporated, the measures below are recommended.

Recommended Avoidance, Minimization, and Mitigation. The following measures are recommended to avoid, minimize, and/or mitigate impacts to TRBL:

- A qualified biologist shall conduct a pre-construction survey for nesting TRBL approximately 2 days prior to vegetation or tree removal or ground-disturbing activities during the nesting season (April through August). The survey shall cover the limits of construction and suitable nesting habitat within 500 feet.
- If any active nests are observed during surveys, a qualified biologist shall establish a suitable avoidance buffer from the active nest. The buffer distance for TRBL will be 500 feet and shall be determined based on factors such as topographic features, intensity and extent of the disturbance, timing relative to the nesting cycle, and anticipated ground disturbance schedule. Limits of construction to avoid active nests shall be established in the field with flagging, fencing, or other appropriate barriers and shall be maintained until the chicks have fledged and the nests are no longer active, as determined by the qualified biologist.
- If vegetation removal activities are delayed, additional nest surveys shall be conducted such that no more than 7 days elapse between the survey and vegetation removal activities. It is recommended that disturbing potential nesting habitat (i.e., trimming and/or vegetation removal) be performed outside of the nesting season (September through April) to avoid impacts to nesting birds.

- If an active nest is identified within 50 feet of the construction zone after construction has started, work within 50 feet of the nest shall be halted until the qualified biologist can provide appropriate AMMs to ensure that the nest is not disturbed by construction. Appropriate measures may include a no-disturbance buffer until the birds have fledged (with periodic checks by the biological monitor), limitations on construction activities that generate substantial vibration and/or noise levels less than 60 dBA (decibels), and/or full-time monitoring by a qualified biologist during construction activities conducted near the nest.
- This species shall be included in the WEAP described above for Special-Status Plant Species, that will also educate staff on the presence of special-status wildlife species and ways to avoid and minimize impacts.

a.8 Grasshopper Sparrow, Bank Swallow, and White-tailed Kite

Grasshopper sparrow, bank swallow, and white-tailed kite are SSC, SSC, state threatened, and state fully protected species. Numerous habitats and vegetation communities within the solar development area provide suitable nesting and foraging habitat for these three species (e.g., blue oak woodland and forest, and valley and foothill grasslands).

During reconnaissance-level surveys, both song sparrow and white-tailed kite were documented in various locations within the solar development area. If present, construction activities within the solar development area could remove or degrade foraging habitat, reduce nesting success and survival of nestlings, or cause nest abandonment. Ongoing operations and maintenance activities could discourage nesting within the solar development area and vicinity through human presence, noise, and lighting effects. As a state-listed species, impacts resulting in injury or death to grasshopper sparrow may be "take" under CESA. If "take" of grasshopper sparrow, bank swallow is anticipated, this Project action would require consultation and subsequent authorization in the form of a CDFW Incidental Take Permit pursuant to Section 2081 of CESA. As a state Fully Protected species, white-tailed kite cannot be permitted for incidental take and impacts must be avoided.

To reduce impacts to song sparrow, grasshopper sparrow, bank swallow, and white-tailed kite and habitat to less than significant with mitigation incorporated, the measures below are recommended.

Recommended Avoidance, Minimization, and Mitigation. The following measures are recommended to avoid, minimize, and/or mitigate impacts to grasshopper sparrow, bank swallow, and white-tailed kite:

- A qualified biologist shall conduct a pre-construction survey for nesting song sparrow, grasshopper sparrow, bank swallow, and white-tailed kite approximately 2 days prior to vegetation or tree removal or ground-disturbing activities during the nesting season. The survey shall cover the limits of construction and suitable nesting habitat within 500 feet.
- If any active nests are observed during surveys, a qualified biologist shall establish a buffer distance that will range from 50 to 300 feet per the discretion of the qualified biologist. The buffer determined by the qualified biologist will be based on factors such as topographic features, intensity and extent of the disturbance, timing relative to the nesting cycle, and anticipated ground disturbance schedule. Limits of construction to avoid active nests shall be established in the field with flagging, fencing, or other appropriate barriers and shall be maintained until the chicks have fledged and the nests are no longer active, as determined by the qualified biologist.

- If vegetation removal activities are delayed, additional nest surveys shall be conducted such that no more than 7 days elapse between the survey and vegetation removal activities. It is recommended that disturbing potential nesting habitat (i.e., trimming and/or vegetation removal) be performed outside of the nesting season (September through April) to avoid impacts to nesting birds.
- If an active nest is identified within 50 to 300 feet of the construction zone after construction has started, work within 50 to 300 feet of the nest shall be halted until the qualified biologist can provide appropriate AMMs to ensure that the nest is not disturbed by construction. Appropriate measures may include a no-disturbance buffer until the birds have fledged, limitations on construction activities that generate substantial vibration and/or noise levels less than 60 dBA, and/or full-time monitoring by a qualified biologist during construction activities conducted near the nest.
- This species shall be included in the WEAP described above for Special-Status Plant Species, that will also educate staff on the presence of special-status wildlife species and ways to avoid and minimize impacts.

a.9 Crotch's Bumble Bee

CBB is state candidate endangered with a moderate potential to occur within vegetation communities on site where nesting and floral/nectar resources may be present. Specifically, suitable nesting and nectar source habitat for CBB was identified and recorded throughout the solar development area during habitat assessments conducted April 11, 2021, May 9 through 11, 2023, May 23, 2023, and July 3 through July 6, 2023. No individual CBB was observed or detected. Based on the focused surveys conducted within the solar development area, nesting and foraging/nectar resource observations were most abundant in the oak woodlands and forest, and foothill and valley grassland vegetation communities.

The Project solar development has the potential to impact CBB nesting and foraging/nectar suitable habitat (i.e., oak woodland and forest, and valley and foothill grasslands). Within the solar development area there is 287.27 acres of oak woodlands and forest, and 1,088.42 acres of valley and foothill grassland that have the potential to be permanently, indirect, and/or temporarily impacted during Project development. Note the habitat suitability for this species is variable and not explicitly dependent to these specific habitats. Direct, indirect, and/or temporary impacts to this species and its associated habitat would likely be considered a potentially significant impact under CEQA.

To reduce impacts to CBB to less than significant with mitigation incorporated, the measures below are recommended.

Recommended Avoidance, Minimization, and Mitigation. The following measures are recommended to avoid, minimize, and mitigate impacts to Crotch's bumble bee:

- A pre-construction survey shall be conducted for CBB including 1) a habitat assessment and 2) focused surveys. The habitat assessment shall include historical and current species occurrences; document potential habitat on site including foraging, nesting, and/or overwintering resources; quantify which plant species are in bloom and their percent cover, and other items described in "Survey Considerations for CESA Candidate Bumble Bee Species" (CDFW 2023f).
- The pre-construction survey will be performed by a qualified biologist with expertise in surveying for bumble bees and include at least three survey passes that are not on sequential days or in the same week, preferably spaced 2 to 4 weeks apart. The timing of these surveys shall coincide with the Colony Active Period (April through August for Crotch's bumble bee). Surveys shall occur at least 1

hour after sunrise and 2 hours before sunset. Surveys will not be conducted during wet conditions (e.g., foggy, raining, or drizzling) and surveyors will wait at least 1 hour following rain. Optimal surveys are when there are sunny to partly sunny skies that are greater than 60° Fahrenheit. Surveys may be conducted earlier if other bees or butterflies are flying. Surveys shall not be conducted when it is windy (i.e., sustained winds greater than 8 mph). Within non-developed habitats, the qualified biologist shall look for nest resources suitable for bumble bee use. Ensuring that all nest resources receive 100% visual coverage, the qualified biologist shall watch the nest resources for up to 5 minutes, looking for exiting or entering worker bumble bees. Worker bees should arrive and exit an active nest site with frequency, such that their presence would be apparent after 5 minutes of observation. If a bumble bee worker is detected, then a representative shall be identified to species. Qualified biologists shall be able view several burrows at one time to sufficiently determine if bees are entering/exiting them depending on their proximity to one another. It is up to the discretion of the qualified biologist regarding the actual survey viewshed limits from the chosen vantage point that would provide 100% visual coverage; this could include a 30- to 50-foot-wide area. If a nest is suspected, the surveyor can block the entrance of the possible nest with a sterile vial or jar until nest activity is confirmed (no longer than 30 minutes).

- Identification will include qualified biologists netting/capturing the representative bumble bee in appropriate insect nets, per the protocol in U.S. National Protocol Framework for the Inventory and Monitoring of Bees. The bee shall be placed in a clear container for observation and photographic documentation if able. The bee will be photographed using a macro lens from various angles to ensure recordation of key identifying characteristics. If bumble bee identifying characteristics cannot be adequately captured in the container due to movement, the container will be placed in a cooler with ice until the bumble bee becomes inactive (generally within 15 minutes). Once inert, the bumble bee shall be removed from the container and placed on a white sheet of paper or card for examination and photographic documentation. The bumble bee shall be released into the same area from which it was captured upon completion of identification. Based on implementation of this method on a variety of other bumble bee species, they become active shortly after removal from the cold environment, so photography must be performed quickly. If CBB nests are not detected, no further mitigation would be required. The mere presence of foraging Crotch's bumble bees would not require implementation of additional minimization measures because they can forage up to 10 kilometers from their nests.
- If nest resources occupied by CBB are detected within the construction area, no construction activities shall occur within 100 feet of the construction zone, or as determined by a qualified biologist through evaluation of topographic features or distribution of floral resources. The nest resources will be avoided for the duration of the CBB nesting period (February 1 through October 31). Outside of the nesting season, it is assumed that no live individuals would be present within the nest as the daughter queens (gynes) usually leave by September, and all other individuals (original queen, workers, males) die. The gyne is highly mobile and can independently disperse to outside of the construction footprint to proposed open space (see MM-WCSP-BIO-5) or other suitable areas beyond that have suitable hibernacula resources. Because construction will have occurred in the area outside of the occupied nesting resources, no suitable habitat will be present in the impact area, and it is assumed that new queens will disperse to habitat outside of the construction area.
- A written survey report will be submitted to CDFW within 30 days of the pre-construction survey. The report will include survey methods, weather conditions, and survey results, including a list of insect species observed and a figure showing the locations of any CBB nest sites or individuals observed. If CBB nests are observed, the survey report will also include the qualifications/resumes of the surveyor

and qualified biologists for identification of photo vouchers, detailed habitat assessment, photo vouchers, recommendations for avoidance, and the location information will be submitted to the CNDDB at the time of, or prior to, submittal of the survey report.

- In the event an Incidental Take Permit is needed, mitigation for direct impacts to CBB will be fulfilled through compensatory mitigation at a minimum 1:1 nesting habitat replacement of equal or better functions and values to those impacted by the Project, or as otherwise determined through the Incidental Take Permit process. Mitigation will be accomplished either through off-site conservation or through a CDFW-approved mitigation bank. If mitigation is not purchased through a mitigation bank, and lands are conserved separately, a cost estimate will be prepared to estimate the initial start-up costs and ongoing annual costs of management activities for the management of the conservation easement area(s) in perpetuity. The funding source will be in the form of an endowment to help the qualified natural lands management entity that is ultimately selected to hold the conservation easement(s). The endowment amount will be established following the completion of a Project-specific Property Analysis Record to calculate the costs of in-perpetuity land management. The Property Analysis Record will consider all management activities required in the Incidental Take Permit to fulfill the requirements of the conservation easement(s), which are currently in review and development.

a.10 Valley Elderberry Longhorn Beetle

VELB is a federally threatened species and an SSHCP Covered Species. As a federally listed species, impacts to VELB resulting in injury or death would be considered take under the FESA. Suitable habitat for VELB has been identified within the solar development area (i.e., elderberry plants within riparian and adjacent non-riparian areas). Specifically, a total of 10 elderberry plants were identified in and/or within 165 feet (i.e., distance of typical avoidance buffer) of the solar development area. Dudek conducted focused surveys of elderberry plants within the PSA on March 17 and 18, 2022. The focused surveys found that three elderberry plants, shrub IDs 6, 9, and 10, exhibited potential relict bore/exit holes from a burrowing insect, and no observations of VELB were recorded. These three elderberry plants have the potential to be indirectly impacted by Project activities, see Table 24 below. If the Project affects VELB and/or VELB habitat (i.e., elderberry shrubs), then the Project may require consultation and subsequent incidental take authorization (in the form of a Biological Opinion or Letter of Concurrence) from USFWS pursuant to Section 7 of the FESA.

Table 24. Summary of VELB Focused Survey Results, Impacts, andProposed Mitigation

ID	Location	Focused Survey Results	Impact Type [a]	Mitigation
1	Upland	No presence observed	No impact	None
2	Upland	No presence observed	No impact	None
3	Riparian	No presence observed	No impact	None
4	Riparian	No presence observed	Indirect	AMMs
5	Riparian	No presence observed	No impact	None
6	Riparian	Relict bore/exit holes, no presence observed	Indirect	AMMs
7	Upland	No presence observed	No impact	None
8	Upland	No presence observed	Indirect	AMMs
9[b]	Upland	Relict bore/exit holes, no presence observed	Indirect	AMMs
10[b]	Upland	Relict bore/exit holes, no presence observed	Indirect	AMMs

Notes: VELB= valley elderberry longhorn beetle; ID= elderberry shrub identification number; AMM= avoidance and minimization measure.

[a] Impact Type: Indirect- reasonably foreseeable effects of a project implementation on remaining or adjacent resources outside the direct disturbance zone that may occur during typical grading or maintenance activities or later in time because of a project; None- no associated impacts.
[b] Cluster of more than one elderberry plant in one location.

To reduce impacts to VELB and habitat to less than significant with mitigation incorporated, the measures below are recommended.

Recommended Avoidance, Minimization, and Mitigation. The following measures are recommended to avoid, minimize, and/or mitigate impacts to VELB:

Indirect impacts (i.e., plants between 20 to 100 feet of solar development construction) will be avoided and are subject to the implementation of the following AMMs:

- Avoidance and Fencing. Project activities that may damage or kill an elderberry plant (e.g., trenching, paving, etc.) shall be avoided or shall achieve the following performance standard: Compensated through transplanting existing elderberry shrubs and/or planting new seedling elderberry plants in areas not subject to project disturbance at a ratio of 1:1. All areas to be avoided during construction activities will be fenced and/or flagged as close to the Project solar development area. Temporary construction fencing and flagging shall be installed at least 165 feet outside the edge of the driplines of the elderberry plants. ESA signs shall be erected along the edge of the avoidance area. In areas where encroachment on the 165-foot buffer has been approved by USFWS, a minimum setback of at least 20 feet from the dripline of each elderberry plant shall be provided, as well as documentation of USFWS setback approval.
- Timing. All activities that could occur within 165 feet of an elderberry plant will be conducted outside of the flight season of the VELB (i.e., March through July) to the extent feasible.
- Trimming. If necessary, trimming may remove or destroy VELB eggs and/or larvae and may reduce the health and vigor of the elderberry plant. Therefore, to avoid and minimize direct impacts to VELB, trimming will occur between November and February and will avoid the removal of any branches or stems that are greater than 1 inch in diameter. Measures to address regular and/or large-scale maintenance (trimming) shall be established and approved by USFWS.
- Mowing. Mechanical weed removal within the dripline of any elderberry plant will be limited to the season when adult VELB are not active (i.e., August through February) and will avoid damage to the elderberry plant.
- Construction Monitoring. A qualified biologist will monitor the Project solar development area if work is approved to occur within the 165-foot avoidance buffer to assure that all AMMs are implemented. The amount and duration of monitoring will depend on the project specifics and shall comply with USFWS Section 7 minimization standards.
- WEAP. A qualified biologist will provide training for all contractors, work crews, and any on-site personnel on the status of the VELB, its host plant and habitat, the need to avoid damaging the elderberry shrubs, and the possible penalties for not complying with these requirements.

a.11 Conservancy Fairy Shrimp, Vernal Pool Fairy Shrimp, and Vernal Pool Tadpole Shrimp

Conservancy fairy shrimp are a federally endangered species. Suitable habitat for the species is present within the PSA, however the PSA is not within the known range of this species. The species is not expected to occur within the solar development area. This species has not been documented within five miles of the

PSA (CDFW 2023e). This species is known to occur in 10 populations; the closest two are Yolo Bypass Wildlife Area in Yolo County and Jepson Prairie in Solano County.

Vernal pool fairy shrimp are a federally threatened species, and vernal pool tadpole shrimp are a federally endangered species. Both species are SSHCP Covered Species that have been documented in the northwest region of the PSA. There are known occurrences of this species along the western portion of the gen-tie alignment route in the northwest vicinity of the solar development area (CDFW 2023e, USFWS 202b). Additionally, there are several known occurrences of this species within 5 miles of the PSA, several of which are in occupied pools immediately north of the PSA (CDFW 2023e). The nearest DCH unit for vernal pool fairy shrimp and vernal pool tadpole shrimp is approximately 5 miles west of the PSA (Figure 9) (USFWS 2023b).

The Project assumes presence of listed branchiopods in the solar development due to the level of known occurrences and DCH in the area, as well as suitable habitat presence within the solar development area. Development within or adjacent to aquatic resources within the solar development area could impact listed branchiopods and their habitat. Direct permanent impacts may occur due to the permanent modification (i.e., dredge and/or fill) of suitable aquatic resource habitat (i.e., wetlands and non-wetland waters excluding perennial and intermittent channels, ditches, and upland swales) from the development of the Project switchyard, roads and associated waters crossings, fence post installation, solar array post piles, and utility poles. Aquatic resource impacts outside the direct permanent disturbance area may be subject to temporary or indirect impacts listed brachiopods and their associated habitat. Of note, areas shaded by the solar array to be an indirect effect to Branchiopod Habitat, which differs from other resources evaluated in this BTR (i.e., upland areas in a vegetated state have generally similar function beneath the solar array). Thus, for Branchiopods, indirect impacts may occur due to long or short-term indirect shading from solar modules and/or overhead transmission lines. Temporary impacts would be considered those impacts that could be restored to pre-existing Project conditions (i.e., earthworks, inside work areas, exclusion zones, fenced areas, and portions of the gen-tine corridor). Table 25 below summarizes potential impacts associated with aquatic resource impacts suitable for listed branchiopods in the solar development area, as well as notes providing resource impacts within the Mather Core Recovery area of the solar development area. Vernal pool tadpole shrimp and vernal pool tadpole shrimp species and their habitat are subject to agency jurisdiction pursuant to regulations under FESA, CESA, California FGC, CEQA and additional CWA Guidelines. Measures to avoid, minimize, and mitigate impacts to jurisdictional wetlands and waters that provide potential large listed branchiopod habitat are provided in Section 6.2(c).

Table 25. Summary of Potential Impacts to Aquatic Resources Suitable for Listed Branchiopods within the Project Solar Development Area

Species Suitable Habitat[1]	Impacts Type (acres)[2]			
	Direct Permanent	Indirect	Temporary	Total (acres)
Wetlands	0.07	0.28	0.69	*0.91*
Non-Wetland Waters	0.25	0.84	7.28	*7.69*
Total (acres)[3]	*0.32*	*0.31*	*7.96*	*8.59*

Notes:

1 Listed Branchiopod Suitable Habitat= Aquatic resource suitable habitat within the solar development area excludes perennial channels.

2 Project Component Intersecting Aquatic Resources for Branchiopods= Direct permanent: switchyard, roads and associated waters crossings, fence post installation, solar array post piles, and utility poles; Indirect impacts: shading from solar modules and/or overhead transmission lines; Temporary impacts: earthworks, inside work areasfenced areas, and portions of the gen-tine corridor.

3 Subset of permanent impacts to aquatic resources suitable for listed branchiopods specific to the Mather Core Recovery Area that extends into the solar development area includes the following: 0.04 acres of wetlands, and 0.11 acres of suitable aquatic habitat.

To reduce Project effects on vernal pool fairy shrimp, vernal pool tadpole shrimp to less than significant with mitigation incorporated, the measures below are recommended.

Recommended Avoidance, Minimization, and Mitigation. The following measures are recommended to avoid, minimize, and/or mitigate impacts to listed branchiopods:

- Unless a smaller buffer is approved through formal consultation with USFWS, construction fencing shall be installed a minimum of 250 feet from the delineated wetland edge of any potentially suitable aquatic habitats for listed branchiopods. All construction and operations activities are prohibited within this buffer area. If total avoidance is achieved, no further action is required.
- If avoidance, as described above, is not feasible, to achieve the performance standard of no net loss jurisdictional wetlands and non-wetland waters, impacts shall be mitigated. Direct and indirect effects to on-site suitable aquatic habitats that may support listed branchiopods shall be offset through mitigation options that may include one or a combination of purchasing mitigation credits from an agency-approved wetlands mitigation bank, paying an agency-approved in-lieu fee, and/or on-site and/or off-site conservation measures to compensate impacts to aquatic resources. A Project-specific Compensatory Mitigation Plan and/or a Restoration and Revegetation Plan that includes aquatic resource will be prepared to mitigate impacts that are not avoided to achieve the applicable regulatory permitting standards. The mitigation ratios shall, at minimum, comply with applicable mitigation ratios in terms and conditions of biological opinion issued by USFWS pursuant to Section 7 of the FESA.

a.12 American Badger

American badger is a state SSC and SSHCP Covered Species with a high potential to occur in the solar development area. Grasslands in the solar development area provide habitat for American badger. Although American badger has not been documented within the solar development area, there are known occurrences of American badger within 5 miles of the PSA. In addition, this species has SSHCP modeled habitat is present (County of Sacramento 2018).

There is suitable habitat, Eventual solar development area for American badger including loose soils for denning and hunting, ample prey, and uncultivated land. Development could impact American badger through removal of habitat or injury if this species is present within the solar development area prior to ground-disturbing activities. In addition, this species is also largely nocturnal and avoids areas of human presence, so the operations and maintenance of the Project could continue to impact the habitat quality of the solar development area and vicinity. The Project solar development has the potential to impact American badger suitable aquatic habitat (i.e., ephemeral, intermittent, perennial, ditch, and swale non-wetland waters), and upland habitat (i.e., blue oak woodland and valley grasslands; seasonal wetlands, and vernal pool wetlands). Note, that some ephemeral aquatic resource types are listed as upland habitat during when not inundated. Table 26 below summarizes potential impacts associated with American badger. Development could impact WST through removal of habitat or injury if this species is present within the solar development area prior to ground-disturbing activities. Direct or indirect impacts to this species would likely be considered a potentially significant impact under CEQA.

Table 26. Summary of Potential Impacts to American Badger Suitable Habitat within the Project Solar Development Area

Species Suitable Habitat[1]	Impacts Type (acres)[2]			
	Direct Permanent	Indirect	Temporary	Total (acres)
Upland and Aquatic	57.80	9.26	1,208.16	*1,274.82*

Notes:

1 American Badger Suitable Habitat= Upland: blue oak woodland and valley grasslands; Aquatic: seasonal wetlands, and vernal pool wetlands.

2 Project Component Intersecting Suitable Habitat= Direct permanent impact project components: fence posts, solar array pole risers, overhead transmission poles, roads, and switchyard; Indirect impact project components: gen-tie corridor transmission, and overhead transmission line corridors; Temporary impact project components: general grading, inside work areas (staging), fencing, and solar array placement.

To reduce impacts to American badger to less than significant with mitigation incorporated, the measures below are recommended.

Recommended Avoidance, Minimization, and Mitigation. The following measures are recommended to avoid, minimize, and mitigate impacts to American badger:

- A qualified biologist shall conduct focused surveys for American badger dens within 2 weeks prior to ground-disturbing activities in undeveloped grassland. The survey shall cover the limits of ground disturbance and a 100-foot buffer. Any winter or natal American badger dens located during the survey shall be evaluated (typically with remote cameras) to determine activity status.
- If American badger is identified, then prior to construction, the qualified biologist shall establish a 100-foot no-disturbance buffer (e.g., mesh exclusion fencing, flagging, or similar) around any active American badger natal dens identified during the survey. The buffer shall be maintained until the qualified biologist determines that the den is no longer active, and the young are no longer dependent upon the den for survival.
- If construction occurs during the non-breeding period (i.e., typically from June through February) and an active non-natal den is found in or adjacent to the construction footprint, a qualified biologist shall attempt to trap or flush the individual and relocate it to suitable habitat away from construction. If no dens are observed, and/or after a trapping or flushing effort is completed, and/or after it is confirmed that a natal den is no longer active, the vacated or unoccupied den can be excavated, and construction can proceed.
- If American badger is determined present within the solar development area, then coordination with the appropriate regulatory agencies will be conducted and avoidance will be employed by a qualified biologist to ensure there are minimal to no impacts to this species and its habitat during construction and operation and maintenance activities for the Project.
- This species shall be included in the WEAP described above for Special-Status Plant Species, that will also educate staff on the presence of special-status wildlife species and ways to avoid and minimize impacts.

a.13 Native Bats

Native bat roosting habitat in the solar development area is limited to isolated trees near seasonal ponds or other aquatic habitat that provide nearby foraging opportunities, as well as bridges and/or culvert adjacent to the development area. No active bat roosts or signs of occupation, such as guano or staining,

were detected during the reconnaissance-level field surveys or incidentally during the other surveys conducted on site. If bats are roosting in or adjacent to the solar development area, impacts could result from the permanent removal of roosting sites, such as trees and snags, or from Project-related noise disturbance to an occupied roosting site in the vicinity of construction. Native bat species are protected by the state under the California FGC Section 4150 for non-game mammals (including bats). Should bats be roosting during construction activities, removal of active roost sites that would result in the injury or mortality of native bats and may be considered a violation of the "take" provisions of Section 4150 of the California FGC.

To reduce impacts to native bats species to less than significant with mitigation incorporated, the measures below are recommended.

Recommended Avoidance, Minimization, and Mitigation. The following measures are recommended to avoid, minimize, and/or mitigate impacts to native bats:

- A qualified biologist shall conduct a habitat assessment for roosting bats within the solar development area. The habitat assessment shall include a visual inspection of potential roosting features (bats need not be present) and presence of guano within the solar development area, access routes, and 300 feet around these areas. The qualified biologist shall survey these areas no less than 30 days prior to the start of work. Potential roosting features found during the survey shall be flagged or marked.
- Removal of potential roost habitat identified during the assessment (described above) shall be avoided during the bat maternity season (i.e., May 1 through August 15). If removal of potential roost habitat occurs outside of the maternity season, no further mitigation shall be required.
- If a bat roosting or maternity colony cannot be completely avoided, the individuals shall be safely evicted under the direction of the qualified biologist. If individuals cannot be safely evicted due to factors such as lack of alternative roosting sites or the young still being reliant on adults, as determined by the qualified biologist, ground-disturbing activities within 50 feet of the roost (specified distance to be determined by the qualified biologist, based on surroundings and vulnerability of roost site, etc.) shall be postponed or halted until conditions are suitable for safe eviction or the roost has vacated naturally.
- If native bats are determined present within the solar development area, then on-going monitoring by a qualified biologist may be required to ensure there are minimal to no impacts to this species and its habitat during construction and operation and maintenance activities for the Project.
- If native bats are identified in the solar development area, prior to Project initiation, a Bat and Avian Protection Plan (with eviction and performance standard details) will be prepared in coordination with CDFW and USFWS to reduce/eliminate impacts to bat and avian species to minimize impacts.
- Native bats shall be included in the WEAP described above for Special-Status Plant Species, that will also educate staff on the presence of special-status wildlife species and ways to avoid and minimize impacts.

a.14 Nesting Raptors and Migratory Birds

Potential nesting habitat for migratory bird species within the solar development area is generally limited to that for ground-nesting species. Bald eagles and white-tailed kites were observed within the solar development area, but nesting habitat for the species is not present in the solar development area. Bank swallows have low to no potential to occur within the solar development area and there are known occurrences within 5 miles of the solar development area. Construction within the solar development

area could involve removal of vegetation and isolated trees, which has the potential to impact nesting birds protected by the federal MBTA and California FGC. To avoid impacting active nests, it is recommended conducting tree or vegetation removal be constructed outside of the nesting season (i.e., February through August).

To reduce impacts to nesting bird species to less than significant with mitigation incorporated, the measures below are recommended.

Recommended Avoidance, Minimization, and Mitigation. The following measures are recommended to avoid, minimize, and/or mitigate impacts to nesting raptors and migratory birds:

- A qualified biologist shall conduct a survey for nesting birds with 1 week prior to vegetation removal or ground-disturbing activities during the nesting season within suitable habitat (i.e., February through August). The survey shall cover the limits of construction and accessible suitable nesting habitat within 150 feet.
- If any active nests are observed during surveys, a qualified biologist shall establish a suitable avoidance buffer from the active nest. The qualified biologists will be responsible for monitoring all nests that are found within the Project survey area once construction work is initiated. Nests will be monitored within the following distances until the final nest outcome is determined (i.e., fledged or failed):
  - 150 feet for passerines and other non-raptors,
  - 500 feet for raptors and owls,
  - 250 feet for occupied burrowing owl burrows,
  - 500 feet for federally and/or state-listed species, and
  - 0.25 miles for SWHA.
- If the qualified biologists determine that the recommended buffer may not avoid disturbance that could cause a nest failure, the qualified biologists will recommend additional measures (e.g., increased buffer width, noise or visual barriers, work intervals, stopping work as needed, or allowing only specific work types). These measures may be implemented on a case-by-case basis to minimize impacts to nesting birds and may be based on site-specific conditions and work requirements. The qualified biologists will use behavioral cues that indicate nest disturbance (e.g., time off the nest, hesitation approaching the nest, incessant chattering, bill swiping, or other unusual behavior) to determine the buffer's effectiveness. All potential sources of nest disturbance will be assessed and documented, including non-construction activities (e.g., interspecific, and conspecific interactions and depredation) and non-Project-related activities (e.g., traffic and recreational activities). Limits of construction to avoid active nests shall be established in the field with flagging, fencing, or other appropriate barriers and shall be maintained until the chicks have fledged and the nests are no longer active, as determined by the qualified biologist.
- Vegetation or trees planned for removal shall be removed during the period of September through January, to avoid the nesting season. If the season cannot be avoided, measures shall be implemented to avoid take of birds or nests prohibited by the MBTA and the FGC. Any trees that are to be removed during the nesting season, which is February through August, will be surveyed by a qualified biologist and will only be removed if no nesting migratory birds are found. If vegetation removal activities are delayed, additional nest surveys shall be conducted such that no more than 7 days elapse between the survey and vegetation removal activities. If vegetation removal activities are delayed, additional nest surveys shall be conducted such that no more than 7 days elapse between the survey and vegetation removal activities.

- If an active nest is identified in or adjacent to the construction zone after construction has started, work in the vicinity of the nest shall be halted as-needed until the qualified biologist can provide appropriate AMMs to ensure that the nest is not disturbed by construction. Appropriate measures may include a no disturbance buffer until the nest has fledged and/or full-time monitoring by a qualified biologist during construction activities conducted near the nest.
- Nesting birds shall be included in the WEAP described above for Special-Status Plant Species, that will also educate staff on the presence of special-status wildlife species and ways to avoid and minimize impacts.

b) The Project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS.

b.1 Riparian Habitat and Sensitive Natural Communities

Sensitive natural communities, including riparian habitat, may fall under the jurisdiction of the CDFW pursuant to CESA and Section 1600 of the California FGC, and USFWS pursuant to FESA. These communities are habitats that have a limited distribution and are often vulnerable to the environmental effects of projects. In addition, riparian habitat may also be subject to Sacramento County tree permits and fees for the removal of protected tree species within the riparian habitat zone (i.e., *Quercus* spp.). These communities may or may not contain special-status species or their habitats.

No sensitive terrestrial natural communities were identified within the solar development area; however, riparian habitat (riparian forest) is present within the solar development area. In additional, two CDFW sensitive natural communities, Northern Hardpan Vernal Pool, and Valley Needlegrass Grassland communities were also identified within 5 miles of the solar development area.

Impacts to Northern Hardpan Vernal Pool sensitive natural community is addressed in the aquatic resource analysis of impacts in Section 6.2(c), below.

Valley needle grasses with the potential to occur within the solar development area include slender Orcutt grass and Sacramento Orcutt grass. Present habitat within the solar development area for these species includes valley and foothill grassland vegetation communities, as well wetlands and swales within the grasslands. Impacts to wetlands are addressed in the aquatic resource analysis of impacts in Section 6.2(c), below. The Project has the potential to permanently, indirectly, and temporary impacts 1, 088.21 acres of valley and foothill grassland suitable to valley needle grasses. AMMs to address no net loss of special-status plants are addressed in Section 6.2(a) above.

Riparian habitat is present along the intermittent channels (i.e., Coyote Creek), and perennial channels (i.e., Carson Creek), and well as around ponds, within the solar development area. Standard BMPs would be implemented during all Project activities to avoid riparian habitat; however, there are specific areas where individual riparian tree removal may be required. The Project proposes to remove approximately 173 trees within riparian areas within the solar development area. Riparian corridors will remain intact during and after Project development activities. AMMs relating to tree removal are detailed in Section 6.2(e) below.

c) The Project would not have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

c.1 State and Federally Protected Wetlands and Non-Wetland Waters

Dudek conducted an ARD of the approximately 2,704-acre PSA between April 2021 through August 2021. During the ARD, it was determined that there are approximately 8.97 acres of aquatic resources within the solar development area that meet the criteria of waters of the U.S. and/or waters of the state by the USACE, RWQCB, and CDFW. A preliminary jurisdictional determination has not yet been verified by the regulatory agencies for the Project, therefore all waters of the state are also considered waters of the U.S. CDFW jurisdiction extends to the top of bank or edge of wetland or riparian vegetation (if present) rather than the OHWM of applicable aquatic resources. Table 27 below provides a summary of aquatic resource impacts within the solar development area by jurisdictional authority (i.e., USACE, RWQCB, CDFW).

Table 27. Summary of Aquatic Resources Impacts in the Solar Development Area by Jurisdiction

Resource Agency	USACE	CDFW	RWQCB
Direct Permanent Impact (acres)[1]			
Wetlands	0.07	0.07	0.07
Non-Wetland Waters	0.17	0.35	0.17
Total Direct Permanent Impacts	*0.24*	*0.42*	*0.24*
Indirect Impact (acres)[2]			
Wetlands	0.15	0.15	0.15
Non-Wetland Waters	0.16	0.40	0.16
Total Indirect Impacts	*0.31*	*0.55*	*0.31*
Temporary Impact (acres)[3]			
Wetlands	1.57	1.57	1.57
Non-Wetland Waters	5.87	8.16	5.87
Total Temporary Impacts	*6.06*	*8.00*	*6.06*
Total Overall Impacts	**7.99**	**8.98**	**7.99**

Source: Dudek 2023a.
Notes: USACE = U.S. Army Corps of Engineers; CDFW = California Department of Fish and Wildlife; RWQCB = Regional Water Quality Control Board.

1 Direct permanent impact project components intersecting aquatic features: fence posts, solar array pole risers, overhead transmission poles, roads, and switchyard.
2 Indirect impact project components intersecting aquatic features: gen-tie corridor transmission, and overhead transmission line corridors.
3 Temporary impact project components intersecting aquatic features: general grading, inside work areas (staging), fencing, and solar array placement.

Project implementation would result in the direct permanent loss of a maximum of 0.42 acres wetlands and non-wetland waters (i.e., with the limits being the greater of the top of bank and/or OHWM). These direct permanent impacts would occur due to the permanent modification (i.e., dredge and/or fill) of aquatic resources because of the development of the Project switchyard, roads and associated waters crossings, fence post installation, solar array post piles, and utility poles. Aquatic resources outside the direct

permanent disturbance area that may occur during typical grading or maintenance activities (i.e., short-term construction-related indirect impacts) or later in time because of the Project (i.e., long-term, or operational, indirect impacts total a maximum of 0.55 acres. Indirect impacts would specifically be a result from the gen-tie corridor and installation of new overhead transmission lines. Temporary impacts that could be restored to pre-existing Project conditions include general grading, fencing, and installation of solar modules. Temporary impacts would total a maximum of 8.00 acres for the Project.

To reduce impacts to state and federally protected wetlands and waters to less than significant with mitigation incorporated, the measures below are recommended.

Recommended Avoidance, Minimization, and Mitigation. The following measures are recommended to avoid, minimize, and or mitigate impacts to aquatic resources:

- Direct permanent, indirect, and temporary impacts to jurisdictional aquatic resources will require prior authorization from the applicable resource agencies within their associated jurisdiction in the form of waters and/or aquatic resource habitat permitting (e.g., CWA 404 Nationwide or Individual Permit, CWAA 401 Water Quality Certification, California FGC Code 1600 Lake or Streambed Alteration Agreement, FEMA Floodplain Encroachment Permit, USFWS Section 7 biological assessment, etc.), as well as compensatory mitigation to ensure no net loss resources, habitat function, and value to comply with the permitting standards of the applicable permitting agency . Potential mitigation options include one or a combination of purchasing mitigation credits from an agency-approved wetlands mitigation bank, paying an agency-approved in-lieu fee, and/or on-site and/or off-site conservation measures to compensate impacts to aquatic resources. A Project-specific Compensatory Mitigation Plan and/or a Restoration and Revegetation Plan that includes aquatic resource will be prepared to mitigate impacts that are not avoided to achieve the applicable regulatory permitting standards.
- The Project is assuming all waters within the solar development area are both water of the state and waters of the U.S. Therefore, the Project will be seeking and approval of a preliminary jurisdictional determination. An approved preliminary jurisdictional delineation request and ARD Report from the USACE must be completed prior to and/or in conjunction with permit submittals with the USACE, CDFW, and RWQCB.
- Jurisdictional waters that may provide habitat to special-status species (e.g., large-listed branchiopods, WST, western pond turtle, etc.), may require additional compensatory mitigation for Project impacts. Compensatory mitigation requirements and ratios will ensure a minimum of no net loss of habitat value and to otherwise comply with USFWS and CDFW permitting standards.
- Aquatic resources shall be included in the WEAP as described above, that will also educate staff on the aquatic resources and water quality and ways to avoid and minimize impacts.

d) The Project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.

d.1 Wildlife Corridors

As stated above, the undeveloped grasslands in the solar development area provide nursery and migratory habitat for common wildlife species. Additionally, the Coyote Creek corridor in the central-southern vicinity of the solar development area provides a habitat connection, providing native habitat for resident wildlife,

as well as linkages to additional native habitat in the surrounding area. Riparian corridors will remain intact during and after Project development activities. Proposed fencing around the solar development area of the Project may limit wildlife permeability for certain species. Species such as birds, small to medium sized mammals (e.g., coyote, racoon) and reptiles (e.g., snakes, lizards) would be able to pass through or over the proposed fencing and their movement through the solar development area would not be impeded.

According to the California Essential Habitat Connectivity, grasslands within the solar development area are not specifically identified as Essential Connectivity Areas or Natural Landscape Blocks. In addition, there is ample similar open land available in the Project vicinity and many thousands of acres of habitat for migrating birds. The Project site plan and recommended AMMs ensure this impact is less than significant. Therefore, the Project would have a less-than-significant impact on wildlife movement or nursery sites.

To reduce impacts to wildlife corridors to less than significant with mitigation incorporated, the measures below are recommended.

Recommended Avoidance, Minimization, and Mitigation. The following measures are recommended to avoid, minimize, and or mitigate impacts to wildlife corridors and linkages:

- The Project will avoid placement of fencing, inverters, and solar array in primary riparian corridors that provide linkages/connectivity to adjacent preserves, open spaces, and primary tributaries (e.g., Carson Creek and Coyote Creek) within the solar development area. On average, the solar development area will maintain a 120 foot buffer from the top of bank of primary tributaries.
- Open, split rail, or other open fencing will be installed at designated locations in coordination with a qualified biologist. These measures shall be employed only where they do not conflict with the need to prevent public access to the Project for health and safety, and in locations where it does not conflict with on-going cattle and livestock operations.

e) The Project would conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

e.1 Local Biological Resources, Including Tree Preservation

Protected tree species are primarily located within the blue oak woodlands and forest, as well as riparian areas, within the solar development area. Within the solar development area, of the 4,787 trees inventoried, a total of a maximum of 4,394 trees are protected by Sacramento County Tree Preservation Ordinance (i.e., 4,394 protected oaks; 1,792 heritage species; and 173 riparian). This inventory equates to 54.61 acres contiguous canopy of oak woodlands and forest within the solar development area (CalTLC 2021; Dudek 2022; EPC 2023).

The Project has the potential to directly impact (i.e., removal) and/or otherwise indirectly impact (i.e., root damage from construction equipment) oak species with greater than 6 inches DBH (4,394 individual trees, total of 78,028.8 diameter inches), heritage and landmark species with greater than 16 inches DBH (1,762 individual trees, total of 48,829.7 diameter inches), and oak woodlands and forest (54.61 acres contiguous canopy).

To reduce impacts to local biological resource ordinances and policies to less than significant with mitigation incorporated, the measures below are recommended.

Recommended Avoidance, Minimization, and Mitigation. The following measures are recommended to avoid, minimize, and or mitigate impacts to local biological resource ordinances and policies:

- The Project arborist shall review the final issue for construction drawings prior to submittal to Sacramento County and identify the impacts to each tree and recommend actions regarding implementation of the AMMs below to increase the likelihood of long-term survival post-construction:
  - Identify the root protection zones and show the placement of tree protection fencing pursuant to the Project arborists recommendations or Sacramento County requirements.
  - Include on the final issue for construction drawings an "arborist inspection schedule" to monitor the site during (and after) construction to ensure AMMs are employed.
  - Clearly designate an area on within the Project site outside the dripline of all trees where construction materials may be stored, including where parking can take place. No materials or parking shall take place within the root protection zones of protected trees.
  - All work to be performed inside the root protection zone shall have fencing (i.e., exclusion fencing) installed and supervised by the Project arborist.
  - The Project arborist shall inspect the exclusion fencing prior to grading and/or grubbing for compliance with the recommended protection areas.
  - The Project arborist shall directly supervise the clearance pruning, irrigation, fertilization, placement of mulch and chemical treatments.
  - Prior to any grading, or other work with the Project site that will come within 50 feet of any tree to be preserved, the Project arborist shall determine whether irrigation needs to be installed from April through September and/or placement of a 4- to 6-inch layer of chip mulch over the root protection zone of all trees that will be impacted.
  - Trenching inside the root protection zone shall be by a hydraulic or air spade, placing pipes underneath the roots, or boring deeper trenches underneath the roots.
  - No grade cuts greater than 1 foot shall occur within the driplines of oak trees to be preserved, and no grade cuts whatsoever shall occur within 5 feet of their trunks.
  - No fill greater than 1 foot shall be placed within the driplines of oak trees to be preserved and no fill whatsoever shall be placed within 5 feet of their trunks.
  - No irrigation system shall be installed within the driplines of oak tree(s) to be preserved that may be detrimental to the preservation of the oak tree(s) unless specifically authorized by the approving body or the Director of Public Works.
  - Clearance pruning shall include removal of all the lower foliage that may interfere with equipment prior to having grading or other equipment on site. The Project arborist shall approve the extent of foliage elevation and oversee the pruning to be performed by a contractor.
  - Grading beneath trees to be saved shall be given special attention. The Project arborists shall identify efforts to avoid creating conditions adverse to the tree's health. The natural ground within the driplines of protected trees shall remain undisturbed as determined by the Project arborist as necessary to increase the likelihood of survival of the protected trees. Grading within the driplines of oak trees shall not be permitted unless specifically authorized by the approving body or by the Director of Public Works.
  - Major roots 2 inches or greater in diameter encountered within the tree's dripline during excavation from beneath trees that are not to be removed shall not be cut and shall be kept moist and covered

with earth as soon as possible. Roots 1 inch to 2 inches in diameter that are severed shall be trimmed and treated with pruning compound and covered with earth as soon as possible. Support roots that are inside the dripline of the tree shall be protected. The Project is required to hand-dig in the vicinity of major trees to prevent root cutting and mangling that may be caused by heavy equipment.

- All stumps within the root protection zone to be preserved shall be ground out using a stump router or left in place. No trunk within the root protection zone of other trees shall be removed using a backhoe or other piece of grading equipment.

- If tree removal and/or work within the dripline is not avoided, then the Sacramento County Tree Preservation Ordinance requires a tree removal permit for the removal will be required. This ordinance also prohibits grading, trenching, or filling any area within the area of a protected tree without being issued a permit. Potential impacts to trees must be mitigated in accordance with the Sacramento County Tree Preservation Ordinance.
- Mitigation of tree resources can be achieved through the following methods: (1) Mitigation for individual oaks less than 18 inches in DBH would require a mitigation ratio of 1:1 per diameter inch and heritage and landmark oak species with a DBH greater than 18 inches would require a mitigation ratio of 2:1 per diameter inch; (2) Mitigation at 1:1 ratio per contiguous acre loss of oak woodland/forest canopy cover. Mitigation for tree resources can be achieved through one or a combination of approaches: (1) on-site or off-site preservation and mitigation, (2) payment into in lieu fee program (e.g., Sacramento County Tree Preservation Fund), and (3) preservation bank credit purchase.

f) The Project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

f.1 Habitat Conservation Plan(s)

Sacramento County adopted the SSHCP in 2019, which established a regional habitat conservation program for the South Sacramento area. The SSHCP provides simplified permitting for the impacts of identified covered activities to certain special-status covered species and wetlands. Most SSHCP covered activities are located within Sacramento County's Urban Services Boundary and the Urban Development Area defined in the SSHCP. The Project land is outside of those areas. Solar development outside the Urban Development Area is not a covered activity, is not subject to the SSHCP permitting process, and is not otherwise subject to regulation under the SSHCP.

The Project has reviewed and processed a SSHCP Consistency Analysis for solar development activities (Dudek 2023b). While the Project is not considered a covered activity under the SSHCP, the SSHCP "does not preclude activities from occurring … provided they obtain the legally required local, state, and federal permits and approvals otherwise and customarily required, including mitigation for impacts caused by those activities" (County of Sacramento 2018). The SSHCP acknowledges that the Sacramento County General Plan provides for land uses that are not SSHCP covered activities, but that are within the SSHCP plan area. Thus, while not a covered activity, the Project utilized the SSHCP to develop a mitigation approach for the Project that is consistent with the SSHCP.

The SSHCP contemplates those activities that are not covered activities, and therefore are not regulated by the SSHCP, may nevertheless occur within the Plan Area of the SSHCP with the approval of the applicable state and federal environmental agencies. For example, the SSHCP acknowledges that the

Sacramento County General Plan provides for land uses that are not covered activities, but that are within the Plan Area of the SSHCP. The SSHCP recognizes that land uses outside of the Plan Area that are not covered activities may be permitted through separate federal and state authorization. While mitigation banks in the Plan Area are not a covered activity, the SSHCP provides for the acquisition of mitigation bank credits by the South Sacramento Conservation Agency to meet certain of the SSHCP goals and objectives (County of Sacramento 2018).

The Project will obtain applicable permits and other approvals from the USFWS, USACE, CDFW, and RWQCB, and will further minimize and mitigate impacts on natural resources to achieve comply with the regulatory standards of these agencies. These are the same regulatory standards applied by the USFWS and the other environmental agencies in their review and approval of the SSHCP. Therefore, the Project mitigation strategy is designed to achieve the mitigation standards applicable to covered activities under the SSHCP.

During the 30-year life of the Project, the lands within the solar development area would not be available for acquisition by the South Sacramento Conservation Agency and inclusion within the SSHCP Preserve System. The solar development area will continue to provide some habitat value for SSHCP Covered Species, but the lands in the solar development area could not be acquired and considered for inclusion in the SSHCP preserve System prior to the decommissioning of the Project.

The Project will provide compensatory mitigation for impacts to aquatic resources and specific SSHCP covered species through the acquisition of credits from existing mitigation banks and other compensatory mitigation.

The SSHCP included an inventory of undeveloped potential habitat for SSHCP Covered Species in the SSHCP Plan Area and in each Preserve Planning Unit. The Project is mostly located outside of Preserve Planning Units, but a small portion in the southeast is in Preserve Planning Unit 5 and a few portions of the Project in the west are in Preserve Planning Unit 1. That inventory is excerpted below and compared with the acres of land cover proposed within only the solar development area for the Project.

As Table 28 indicates, The Project impacts a small percentage of the SSCHP modeled habitat in SSHCP Preserve Planning Unit 1 and 5. For example, during the 30-year life of the Project, approximately 1.0% of swales and 0.20% of vernal pools in Planning Unit 5 and 0.002% of vernal pools in Preserve Planning Unit 1 would not be available for acquisition by the South Sacramento Conservation Agency. The SSHCP has no specific preservation goals or objectives for areas outside Preserve Planning Units, so development of those area would not conflict with implementation of the SSHCP Conservation Strategy.

Although the Project site includes a range of natural land covers including wetlands and a riparian corridor, most of the Project site is located outside of the SSHCP Preserve Planning Units and outside the UDA, which is an area that is inside the SSHCP area but where the SSHCP did not envision land acquisition. The Project site is adjacent to an existing preserve area on the east. The SSHCP design focus in Preserve Planning Unit 5 is primarily to provide habitat linkages among existing and future preserves both outside and inside the Urban Development Area, primarily along the Cosumnes River/Deer Creek Corridor.

Existing fencing around and inside the Project site will not restrict movement of medium-to large sized mammals (e.g., deer). Small to medium-sized mammals such as coyotes, raccoons, and possums likely have no issue moving through the site, either digging under the existing fencing or passing through gaps.

Coyote was observed several times during visits to the site. Scott Road does not carry a high traffic volume[1] and the undeveloped lands to the west and east of the property make transit possible from the Cosumnes/Deer Creek corridor through the subject property to the existing preserve east of the site. In addition to terrestrial mammals, the open grassland of the subject property can provide a movement corridor for bird species that are less likely to move through a developed area, including the red-tailed hawk and northern harrier.

The Project site will allow for continued wildlife movement through the Cosumnes River/Deer Creek corridor and across the Project lands for common species and SSHCP covered species. Project fencing may impair some wildlife movement through the Project site by larger mammals (e.g., deer). However, based on the extended analysis conducted regarding SWHA space use of solar PV facilities in Sacramento County (Appendix A), areas with solar panels can continue to provide foraging habitat for raptor species if appropriate vegetation is maintained under and between solar arrays (Appendix A).

The impacts to SSHCP land cover types from Project development are a very small percentage of the inventory of those lands in Preserve Planning Unit 1 and 5, and most of the Project is proposed to occur outside of Preserve Planning Units and outside the UDA where the SSHCP did not envision preservation. Mitigation for the Project would include incorporating the applicable AMMs from the SSHCP. This mitigation would ensure that Project effects on SSHCP Covered Species, if present, would be avoided and minimized in the same way as if the SSHCP permits applied to the Project.

[1] Measured 24-hour traffic volumes on Scott Road at White Rock Road (combined northbound and southbound) ranged from 2,621 to 2,860 daily vehicles during measurements taken from 2015 through 2019. No measurements are available that specify the time of day for traffic levels. However, if it assumed that 75% of this traffic happens during the hours of 6:00 a.m.–6:00 p.m., that daily traffic amounts to 1.5 cars per minute during the day (including both directions) and 0.5 cars per minute during the evening (again, including both directions).

Table 28. South Sacramento Habitat Conservation Plan Special-Status Species Baseline Modeled Habitat and Land Cover within the Plan Area, the Undeveloped Lands in the Plan Area, and the Project Solar Development Area

SSHCP Modeled Habitat Land Cover Types	SSHCP PLAN AREA	SSCHP PPU 1		SSCHP PPU 5		SSHCP OUTSIDE PPUs AND UDA	
	SSHCP Plan Area- Total Baseline Modeled Habitat Potentially Available (acres)	Total Baseline Modeled Habitat Potentially Available in the SSHCP Plan Area (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)	Total Baseline Modeled Habitat Potentially Available in the SSHCP Plan Area (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)	Total Baseline Modeled Habitat Potentially Available (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)
Wildlife							
California tiger salamander (*Ambystoma californiense*) – upland habitat							
Blue oak savanna	3,322	0	0	242	0	0	0
Blue oak woodland	3,774	0	0	992	0	0	0
Valley grassland[1]	78,274	0	0	13,897	0	0	0
California tiger salamander – aquatic habitat							
Seasonal wetland	1,391	0	0	355	0	0	0
Vernal pool	3,033	0	0	277	0	0	0
Western spadefoot (*Spea hammondii*) – upland habitat							
Blue oak savanna	5,637	0	0	692	0	1,847	576
Blue oak woodland	9,132	0	0	5,864	19	475	82
Valley grassland[1]	135,094	14,840	156	27,463	129	5,964	427
Western spadefoot – aquatic habitat							
Open water	2,344	92	0	365	0	24	0
Seasonal wetland	2,600	17	0	446	0	31	0
Streams/Creeks	2,674	15	0	481	0	63	2
Streams/Creeks (VPIH)	73	39	0	0	0	0	0

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Swale	1,252	204	1	89	0	36	1
Vernal pool	4,536	432	0	0	0	53	0
Western pond turtle (*Actinemys marmorata*) –upland habitat							
Blue oak savanna	4,825	0	0	519	0	1,841	574
Blue oak woodland	7,610	0	0	4,983	19	442	101
Mine tailing riparian woodland	306	41	0	59	0	0	0
Mixed riparian scrub	1,178	2	0	170	0	4	0
Mixed riparian woodland	5,347	0.07	0	1,152	0	11	0
Valley grassland[1]	91,580	3,932	135	22,373	129	5,739	555
Western pond turtle – aquatic habitat							
Freshwater marsh	2,240	9	0	122	0	4	0
Open water	1,441	43	0	205	0	24	0
Stream/Creeks	2,674	15	0	480	0	63	2
Tricolored blackbird (*Agelaius tricolor*) – nesting and foraging habitat							
Cropland	47,905	411	0	2,549	0	0	0

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Freshwater marsh	2,922	19	0	159	0	4	0
Seasonal wetland	2,600	17	0	446	0	31	0
Valley grassland[1]	135,112	14,846	156	27,463	129	5,964	555
Tricolored blackbird – foraging habitat							
Irrigated pasture-Grassland	15,991	8	0	2,203	0	0	0
Open water	2,344	92	0	365	0	24	0
Swale	1,222	204	1	89	0	36	1
Vernal pool	4,536	432	0	339	0	53	0
Burrowing owl (*Athene cunicularia*) – nesting and foraging habitat							
Blue oak savanna	5,637	0	0	692	0	1,847	576
Cropland	47,905	411	0	2,549	0	0	0
Irrigated pasture-Grassland	15,991	8	0	2,203	0	0	0
Valley grassland[1]	135,112	14,846	156	27,463	129	5,964	555
Burrowing owl – foraging habitat							
Seasonal wetland	2,600	17	0	446	0	31	0
Stream/Creek (VPIH)	73	39	0	0.4	0	0	0
Swale	1,252	204	0	89	0	36	0

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Vernal pool	4,536	432	0	339	0	53	0
Swainson's hawk (*Buteo swainsoni*) – nesting habitat							
Mixed riparian scrub	1,449	3	0	173	0	4	0
Mixed riparian woodland	5,785	2	0	1,169	0	11	0
Swainson's hawk – foraging habitat							
Cropland	47,905	411	0	2,549	0	0	0
Irrigated pasture-Grassland	15,991	8	0	2,203	0	0	0
Seasonal wetland	2,600	17	0	446	0	31	0
Swale	1,252	204	1	89	0	35	1
Valley grassland[1]	133,705	14,846	156	26,503	129	5,518	555
Vernal pool	4,536	432	0	339	0	53	0
White-tailed kite (*Elanus leucurus*) – nesting and foraging habitat							
Blue oak savanna	5,637	46	0	692	0	1,949	576
Blue oak woodland	9,132	0	0	5,871	19	503	101
Cropland	47,905	411	0	2,591	0	0	0

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	SSHCP Plan Area- Total Baseline Modeled Habitat Potentially Available (acres)	Total Baseline Modeled Habitat Potentially Available in the SSHCP Plan Area (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)	Total Baseline Modeled Habitat Potentially Available in the SSHCP Plan Area (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)	Total Baseline Modeled Habitat Potentially Available (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)
Irrigated pasture-Grassland	15,991	8	0	2,221	0	0	0
Mine tailing riparian woodland	641	881	1	59	0	0	0
Mixed riparian scrub	1,452	3	0	173	0	4	0
Mixed riparian woodland	5,785	2	0	1,69	0	11	0
Seasonal wetland	2,600	20	0	446	0	31	0
Swale	1,252	235	1	89	0	37	1
Valley grassland	135,112	17,045	156	27,531	129	6,957	555
Vernal pool	4,536	496	0	339	0	56	0
Vernal pool fairy shrimp (*Branchinecta lynchi*) and vernal pool tadpole shrimp (*Lepidurus packardi*)							
Streams/Creeks (VPIH)	73	39	0	0.4	0	0	0
Swale	1,252	204	1	89	0	36	1
Valley grassland[1]	97,349	14,729	156	13,028	0	2,239	320
Vernal pool	4,536	432	0	339	0	53	0

Table 28. South Sacramento Habitat Conservation Plan Special-Status Species Baseline Modeled Habitat and Land Cover within the Plan Area, the Undeveloped Lands in the Plan Area, and the Project Solar Development Area

SSHCP Modeled Habitat Land Cover Types	SSHCP PLAN AREA	SSCHP PPU 1		SSCHP PPU 5		SSHCP OUTSIDE PPUs AND UDA	
	SSHCP Plan Area- Total Baseline Modeled Habitat Potentially Available (acres)	Total Baseline Modeled Habitat Potentially Available in the SSHCP Plan Area (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)	Total Baseline Modeled Habitat Potentially Available in the SSHCP Plan Area (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)	Total Baseline Modeled Habitat Potentially Available (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)							
Mine tailing riparian woodland	641	881	1	1,401	0	0	0
Mixed riparian scrub	1,451	3	0	173	0	4	1
Mixed riparian woodland	5,785	2	0	1,169	0	11	0
American badger (*Taxidea taxus*)							
Blue oak savanna	5,637	46	2	692	0	1,949	576
Seasonal wetland	2,600	20	0	446	0	31	0
Swale	1,252	235	1	89	0	37	1
Valley grassland	135,112	17,045	156	27,531	129	6,957	555
Vernal pool	4,536	496	0	339	0	56	0
Plants							
Dwarf downingia (*Downingia pusilla*)							
Swale	359	16	0	17	0	1	0
Valley grassland	22,241	943	9	2,327	0	61	7
Vernal Pool	1,539	20	0	79	0	0	0
Boggs Lake hedge hyssop (*Gratiola heterosepala*)							
Seasonal wetland	354	4	0	76	0	0	0

Table 28. South Sacramento Habitat Conservation Plan Special-Status Species Baseline Modeled Habitat and Land Cover within the Plan Area, the Undeveloped Lands in the Plan Area, and the Project Solar Development Area

SSHCP Modeled Habitat Land Cover Types	SSHCP PLAN AREA	SSCHP PPU 1		SSCHP PPU 5		SSHCP OUTSIDE PPUs AND UDA	
	SSHCP Plan Area- Total Baseline Modeled Habitat Potentially Available (acres)	Total Baseline Modeled Habitat Potentially Available in the SSHCP Plan Area (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)	Total Baseline Modeled Habitat Potentially Available in the SSHCP Plan Area (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)	Total Baseline Modeled Habitat Potentially Available (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)
Valley grassland	35,113	20,383	64	4,507	0	430	80
Vernal Pool	1,532	395	0	132	0	18	0
Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii*)							
Swale	314	134	0	16	0	2	0
Valley grassland	23,885	9,295	21	1,857	0	127	0
Valley grassland	814	363	0	42	0	8	0
Legenere (*Legenere limosa*)							
Seasonal wetland	886	4	0	30	0	0	0
Valley grassland	47,526	11,203	21	4,087	0	323	15
Vernal pool	2,437	416	0	127	0	20	0
Pincushion navarretia (*Navarretia myersii* ssp. *myersii*)							
Swale	627	155	1	39	0	9	0
Valley grassland	54,967	10,793	96	4,990	0	585	62
Vernal pool	1,721	297	0	84	0	19	0
Slender Orcutt grass (*Orcuttia tenuis*) and Sacramento Orcutt grass (*Orcuttia viscida*)							
Valley grassland	33,265	9,644	27	2,170	0	317	4
Vernal pool	1,226	368	0	43	0	13	0
Sanford's arrowhead (*Sagittaria sanfordii*)							
Freshwater marsh	2,044	11	0	62	0	3	0

Table 28. South Sacramento Habitat Conservation Plan Special-Status Species Baseline Modeled Habitat and Land Cover within the Plan Area, the Undeveloped Lands in the Plan Area, and the Project Solar Development Area

SSHCP Modeled Habitat Land Cover Types	SSHCP PLAN AREA	SSCHP PPU 1		SSCHP PPU 5		SSHCP OUTSIDE PPUs AND UDA	
	SSHCP Plan Area- Total Baseline Modeled Habitat Potentially Available (acres)	Total Baseline Modeled Habitat Potentially Available in the SSHCP Plan Area (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)	Total Baseline Modeled Habitat Potentially Available in the SSHCP Plan Area (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)	Total Baseline Modeled Habitat Potentially Available (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)
Open water	1,086	42	0	53	0	3	0
Seasonal wetland	1,425	4	0	91	0	0	0

Table 28. South Sacramento Habitat Conservation Plan Special-Status Species Baseline Modeled Habitat and Land Cover within the Plan Area, the Undeveloped Lands in the Plan Area, and the Project Solar Development Area

SSHCP Modeled Habitat Land Cover Types	SSHCP PLAN AREA	SSCHP PPU 1		SSCHP PPU 5		SSHCP OUTSIDE PPUs AND UDA	
	SSHCP Plan Area- Total Baseline Modeled Habitat Potentially Available (acres)	Total Baseline Modeled Habitat Potentially Available in the SSHCP Plan Area (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)	Total Baseline Modeled Habitat Potentially Available in the SSHCP Plan Area (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)	Total Baseline Modeled Habitat Potentially Available (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)
Streams/Creeks	894	10	0	54	0	14	1
Valley grassland	47,375	10,963	21	6,450	0	1,043	72

Source: County of Sacramento 2018.

Notes: PPU= Preserve Planning Unit; SSHCP= South Sacramento Habitat Conservation Plan; UDA= Urban Development Area; VPIH= Vernal Pool Invertebrate Habitat.

[1] Valley Grassland is synonymous with California Annual Grassland.

- No SSHCP Valley Grassland landcover was modeled within the solar development area of the Project Study Area (PSA); however, approximately 361.91 acres of SSHCP California Annual Grassland landcover, a similar vegetation community, was mapped within the solar development area of the PSA.
- For this table, the aquatic resource acreages are based on the total of SSHCP modeled landcover and differs from the final acreages defined by the aquatic resource delineation conducted for the Project, as analyzed further within this document.

7 Conclusion

All biological and aquatic resources known to occur and/or that may have the potential to occur with the solar development area of the PSA were evaluated based on federal, state, and local jurisdictional requirements and guidance for each resource. Impacts were evaluated based on the Project development activities that have the potential to directly/permanently, indirect, or indirectly impact each resource. Based on the resources evaluated in this BTR and the preliminary analysis of impacts, it can be concluded that the Project impacts are less than significant with avoidance, minimization, and/or mitigation. A complete summary of resource and AMMs to reduce the significance of impacts is detailed in Table 29 below.

Table 29. Aquatic and Biological Resource Impacts and Avoidance, Minimization, and Mitigation Summary for the Project

Resource	Maximum Impacts	Significance Before AMM	Significance After AMM
Special-status plant species	Approximately 500 individuals of spicate calycadenia identified within the solar development area.	Significant	LTS with AMMs, and/or mitigation
Western spadefoot toad	▪ Upland: Direct permanent- 62.38 acres; Indirect- 9.91 acres; Temporary- 1,303.19 acres. ▪ Aquatic: Direct permanent - 0.35 acres; Indirect- 0.40 acres; Temporary- 8.90 acres.	Significant	LTS with AMMs, and/or mitigation
Western pond turtle	▪ Upland: Direct permanent - 62.38 acres; Indirect- 9.91 acres; Temporary- 1,303.19 acres. ▪ Aquatic: Direct permanent - 0.35 acres; Indirect- 0.39 acres; Temporary- 6.87 acres.	Significant	LTS with AMMs, and/or mitigation
Burrowing owl	▪ Nesting and foraging: Direct permanent - 57.82 acres; Indirect- 9.77 acres; Temporary- 1,217.56 acres.	Significant	LTS with AMMs, and/or mitigation
Swainson's hawk	▪ Nesting: Direct permanent - 9.48 acres; Indirect- 1.78 acres; Temporary- 280.20 acres. ▪ Foraging: Direct permanent - 52.27 acres; Indirect- 8.79 acres; Temporary- 1,036.72 acres.	Significant	LTS with AMMs, and/or mitigation
Bald eagle and golden eagle	▪ Nesting: See 'Swainson's hawk' above. ▪ Foraging: See 'Swainson's hawk' above, and 'state and federally protected wetlands and non-wetland waters', and 'local biological resources, including tree preservation' below for impact or equitable impacts.	Significant	LTS with AMMs, and/or mitigation

Table 29. Aquatic and Biological Resource Impacts and Avoidance, Minimization, and Mitigation Summary for the Project

Resource	Maximum Impacts	Significance Before AMM	Significance After AMM
Tricolored blackbird	Nesting and foraging: Direct permanent - 53.01 acres; Indirect- 8.64 acres; Temporary- 1,028.33 acres.	Significant	LTS with AMMs, and/or mitigation
Grasshopper sparrow, bank swallow, and white-tailed kite	Nesting and foraging: See 'Swainson's hawk' above.	Significant	LTS with AMMs, and/or mitigation
Crotch's bumble bee	▪ Nesting and foraging/nectar sites: Direct permanent, indirect, and/or temporary impacts: 287.27 acres of oak woodlands and forest; 1,088.42 acres of valley and foothill grassland.	Significant	LTS with AMMs, and/or mitigation
Valley elderberry longhorn beetle	▪ Indirect: Five (5) total elderberry shrubs.	Significant	LTS with AMMs, and/or mitigation
Vernal pool fairy shrimp, vernal pool tadpole shrimp	▪ Wetlands: Direct permanent - 0.07 acres; Indirect- 0.15 acres; Temporary- 1.57 acres. ▪ Non-Wetland Waters: Direct permanent - 0.35 acres; Indirect- 0.40 acres; Temporary- 8.16 acres.	Significant	LTS with AMMs, and/or mitigation
American badger	▪ Upland and Aquatic Suitable Habitat: Permanent- 57.80 acres; Indirect- 9.26 acres; Temporary- 1,208.16 acres.	Significant	LTS with AMMs, and/or mitigation
Native bats	▪ Suitable habitat limited isolated trees near seasonal ponds or other aquatic habitat that provide nearby foraging opportunities. See 'state and federally protected wetlands and non-wetland waters', and 'local biological resources, including tree preservation' below for impact or equitable impacts.	Significant	LTS with AMMs, and/or mitigation
Nesting raptors and migratory birds	▪ See 'Swainson's hawk' above, and 'state and federally protected wetlands and non-wetland waters', and 'local biological resources, including tree preservation' below for impact or equitable impacts.	Significant	LTS with AMMs, and/or mitigation
Riparian habitat and sensitive natural communities	▪ See 'Swainson's hawk' above, and 'state and federally protected wetlands and non-wetland waters', and 'local biological resources, including tree preservation' below for impact or equitable impacts. ▪ The Project proposes to remove 173 trees within riparian habitat.	Significant	LTS with AMMs, and/or mitigation

Table 29. Aquatic and Biological Resource Impacts and Avoidance, Minimization, and Mitigation Summary for the Project

Resource	Maximum Impacts	Significance Before AMM	Significance After AMM
State and federally protected wetlands and non-wetland waters	▪ USACE/RWQCB: Direct permanent - 0.24 acres; Indirect- 0.42 acres; Temporary- 7.44 acres. ▪ CDFW: Direct permanent - 0.72 acres; Indirect- 0.55 acres; Temporary 10.74 acres.	Significant	LTS with AMMs, and/or mitigation
Wildlife corridors	▪ Riparian corridors will remain intact during and after Project development activities.	LTS	LTS plus AMMs
Local biological resources, including tree preservation	▪ Direct and/or indirect oak species impacts: ▪ With greater than 6 inches DBH- 4,394 individual trees, total of 78,028.8 diameter inches; and ▪ Heritage and landmark species with greater than 16 inches DBH- 1,762 individual trees, total of 48,829.7 diameter inches; or ▪ Oak woodlands and forest canopy- 54.61 acres contiguous canopy.	Significant	LTS with AMMs, and/or mitigation
Habitat conservation plans	▪ Project impacts AMMs and mitigation are consistent with those defined in the SSHCP. The Project will obtain applicable permits from resource agencies to achieve SSHCP standards and comply with the regulatory requirements of these agencies.	LTS	LTS plus AMMs,

Notes: LTS= less than significant; AMM= avoidance and minimization.

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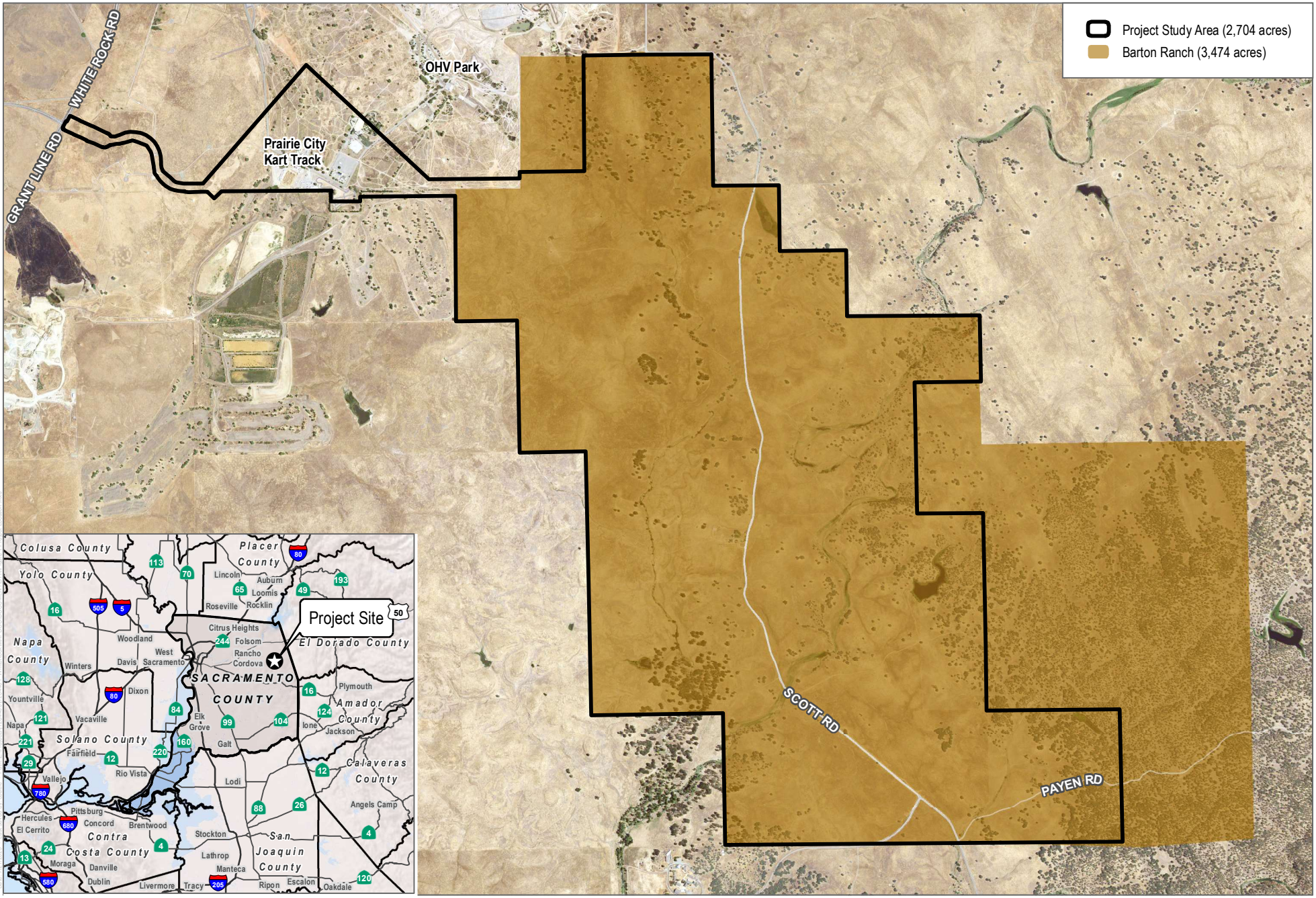

SOURCE: DigitalGlobe 2017

DUDEK

0 1,000 2,000 Feet

FIGURE 1

Project Location

Biological Technical Report for the Coyote Creek Agrivoltaic Ranch Project

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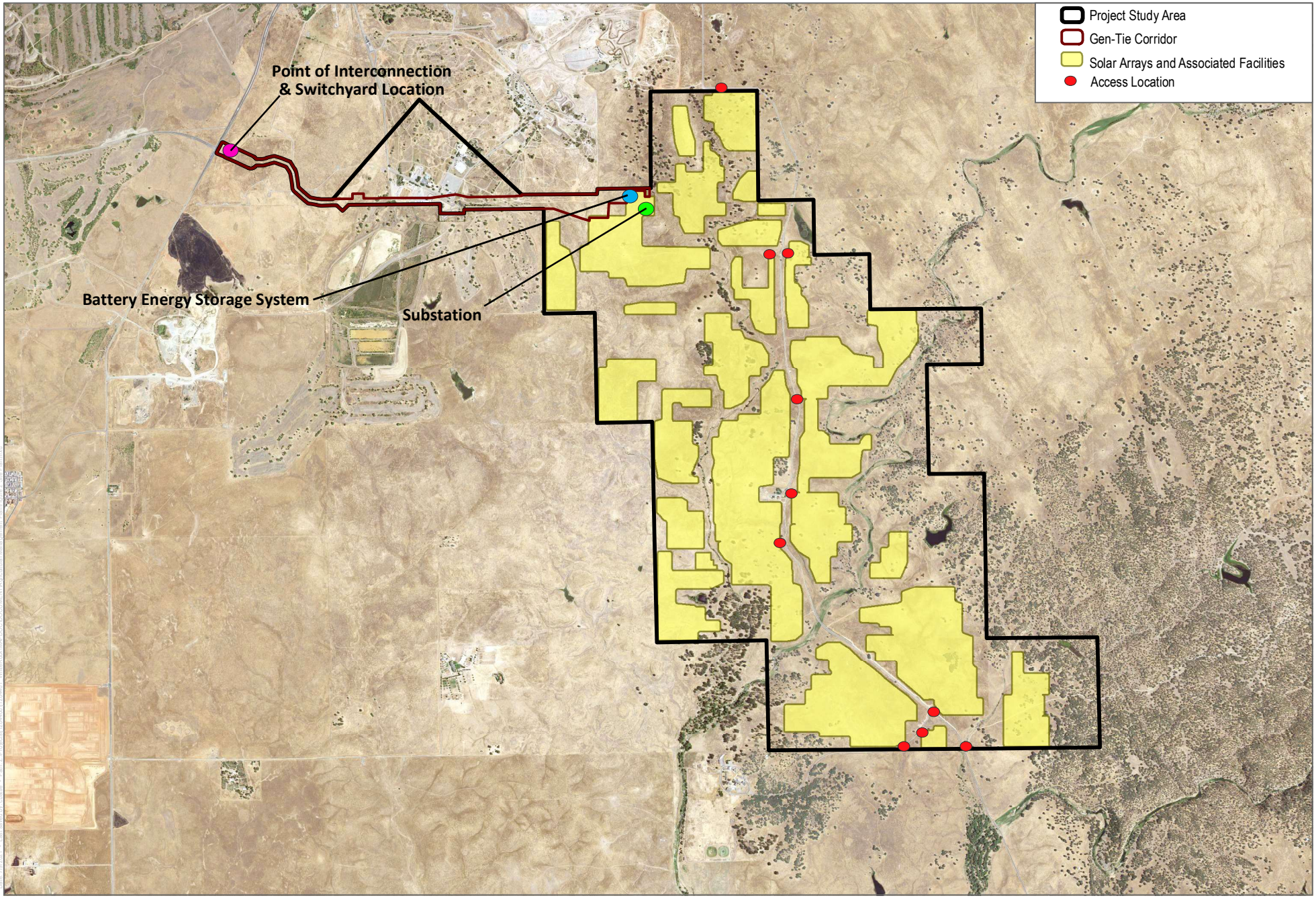

SOURCE: USDA 2018

DUDEK

0 1,550 3,100 Feet

FIGURE 2

Project Setting

Biological Technical Report for the Coyote Creek Agrivoltaic Ranch Project

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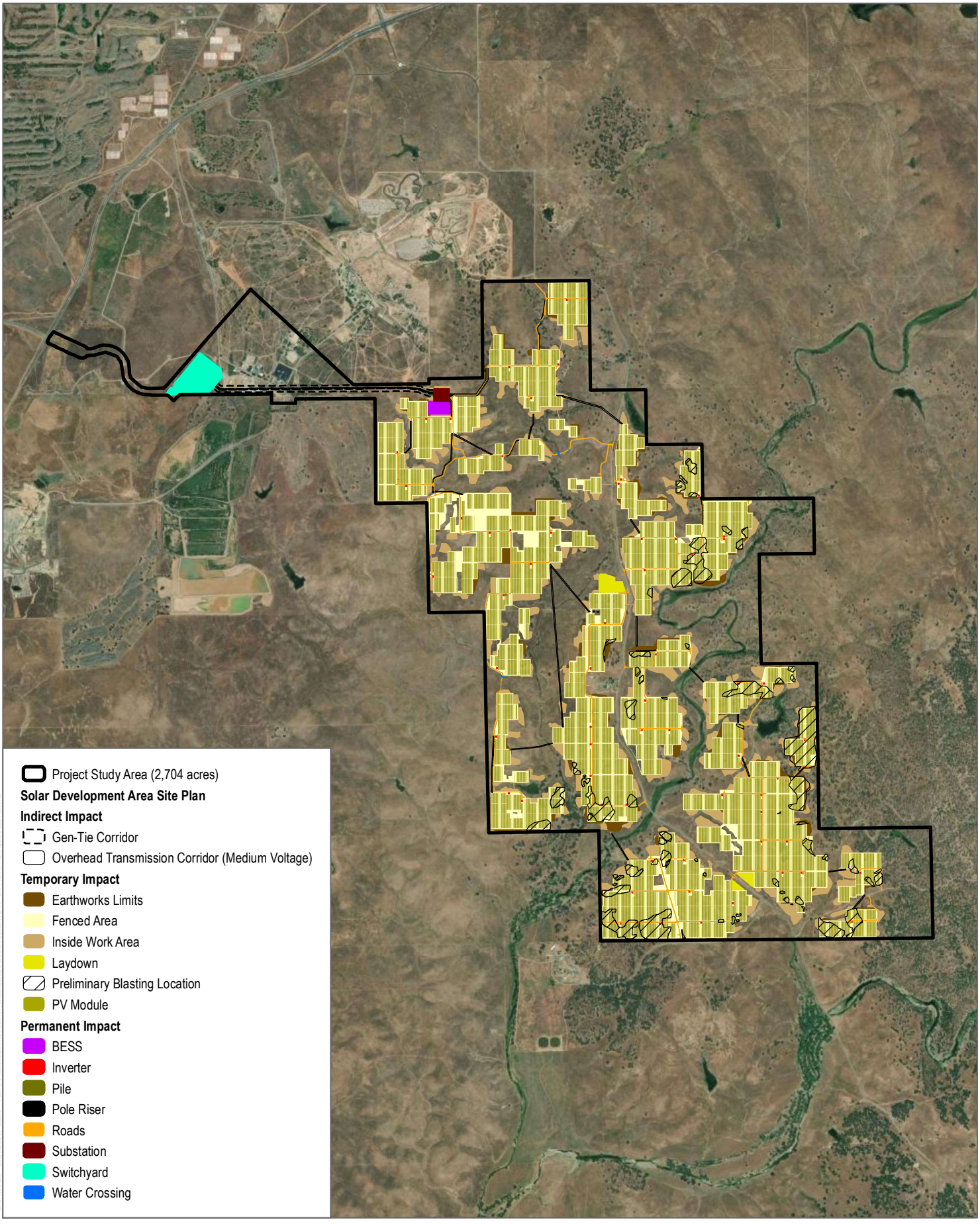

SOURCE: ESRI 2023

DUDEK

0 1,500 3,000 Feet

FIGURE 3

Site Plan

Biological Technical Report for the Coyote Creek Agrivoltaic Ranch Project

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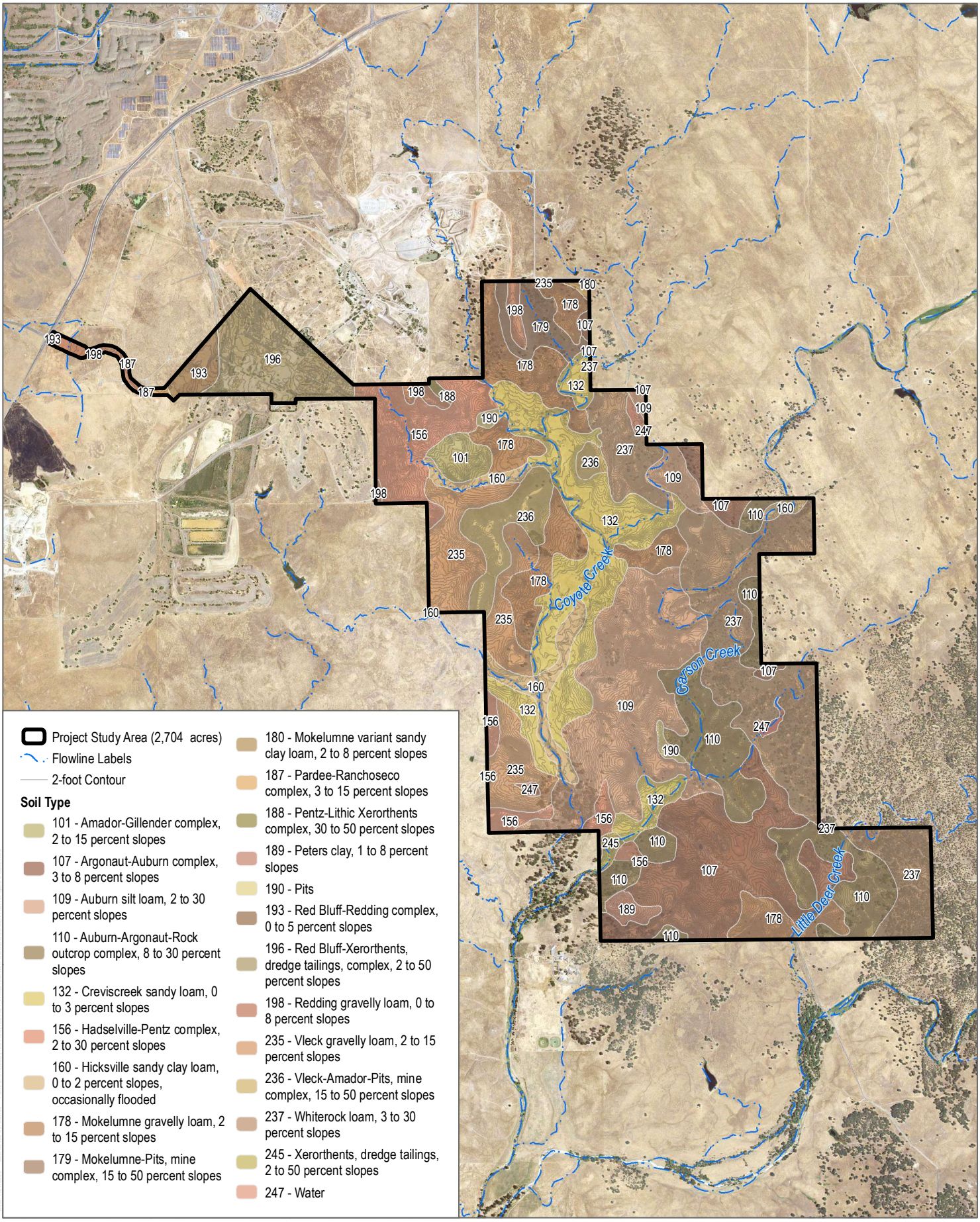

SOURCE: USDA 2020

FIGURE 4

Soil and Terrain Setting

Biological Technical Report for the Coyote Creek Agrivoltaic Ranch Project

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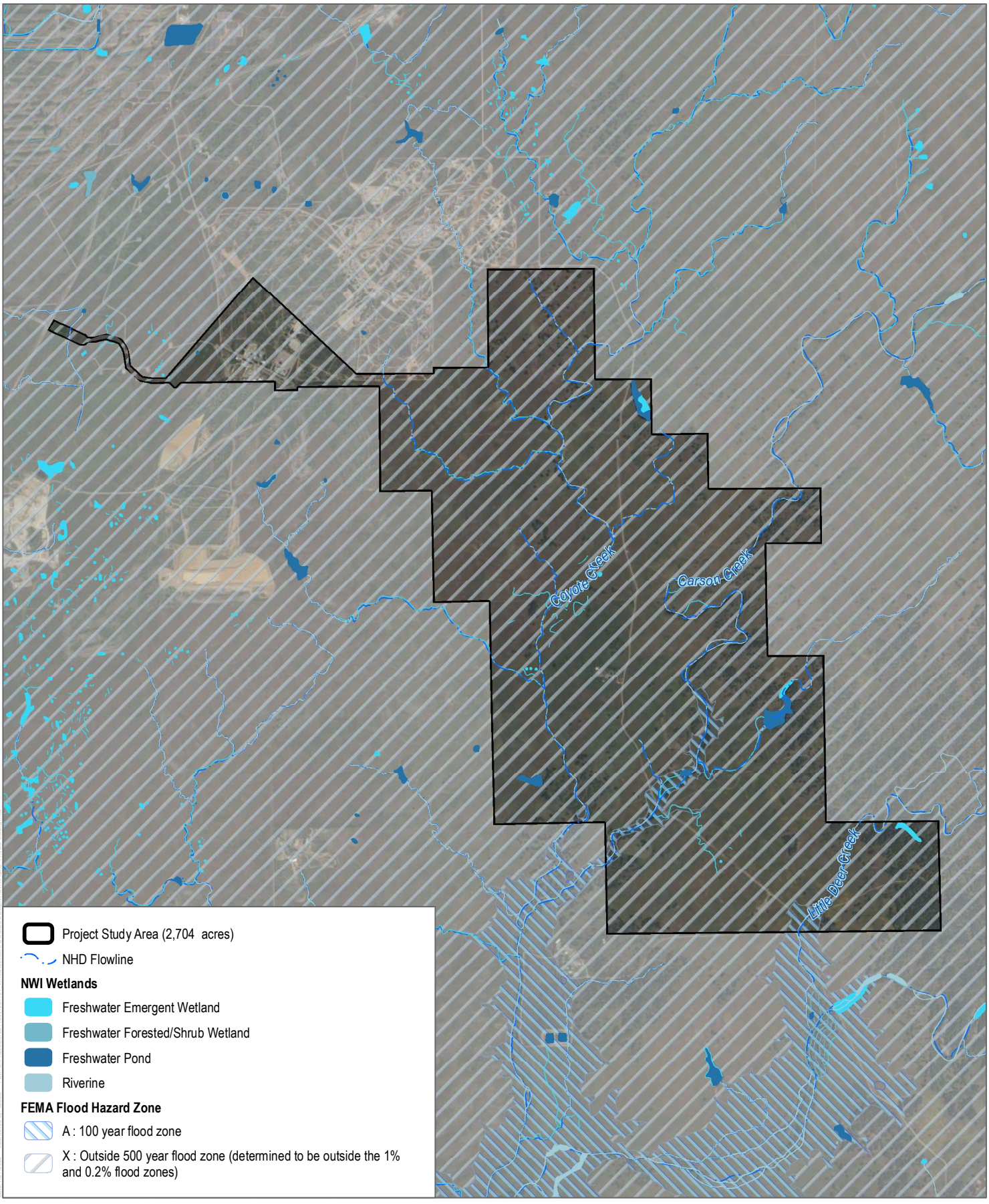

SOURCE: Bing Maps 2020, NHD 2019, Sacramento County 2019, USFWS 2020, FEMA 2019

DUDEK

0 750 1,500 Feet

FIGURE 5

Hydrologic Setting

Biological Technical Report for the Coyote Creek Agrivoltaic Ranch Project

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Project Study Area (2,704 acres)

Component

Solar Development Area (1,412 acres)

Adjacent Other Lands (1,292 acres)

HUC 8 Watershed

AquaticResources

Wetlands *(41.17 acres) (45,104 linear feet)*

Freshwater Emergent Wetland *(8 acres)*

Fringe Wetland *(2.55 acres)*

Pond *(9.47 acres)*

Seasonal Wetland *(4.1 acres)*

Seasonal Wetland Swale *(11.3 acres) (38,762 linear feet)*

Seep *(0.16 acres)*

Vernal Pool *(3.47 acres)*

Vernal Swale *(2.02 acres) (6,341 linear feet)*

Waters (Non-Wetland) *(108.56 acres) (153,286 linear feet)*

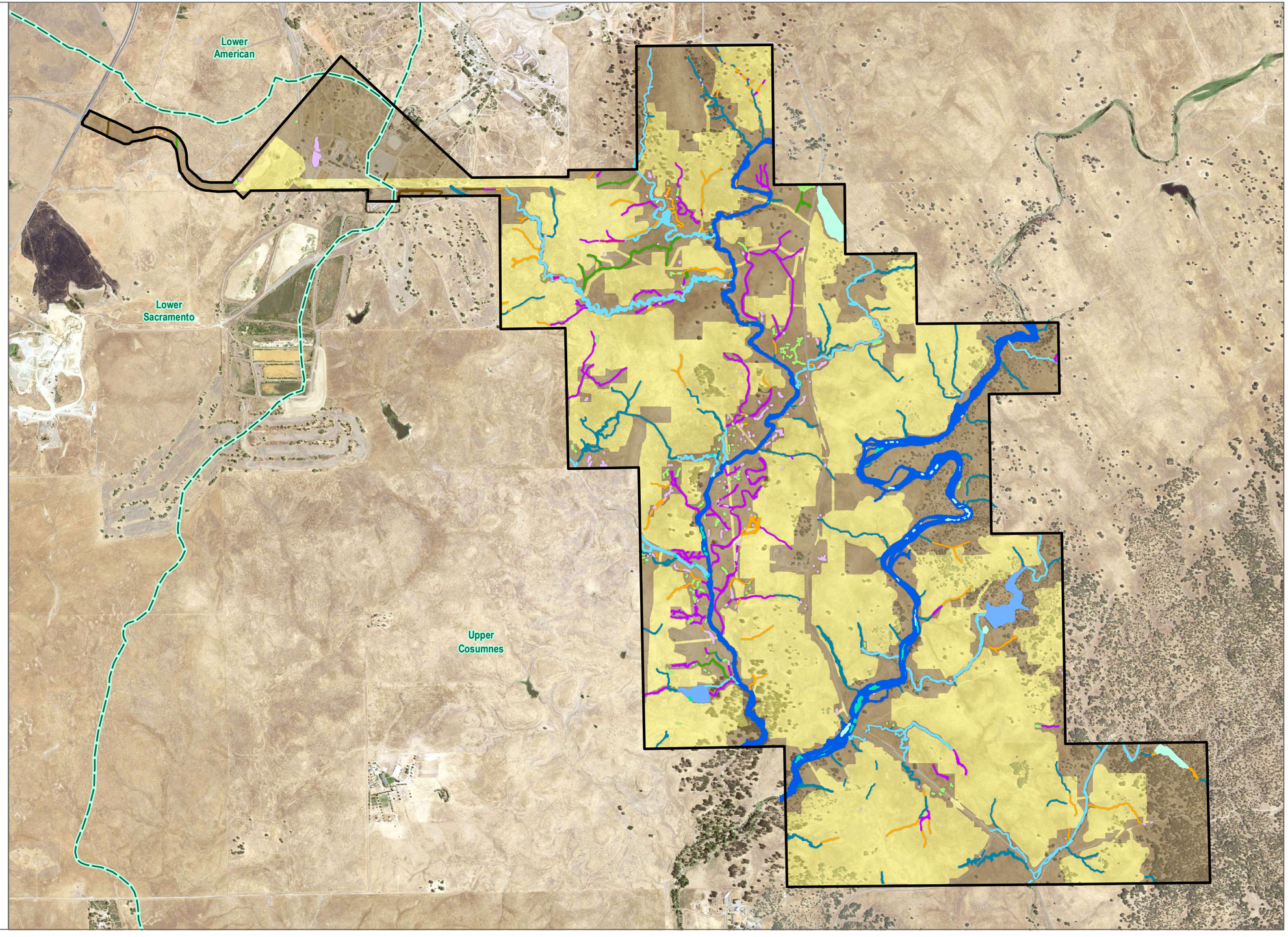
Ditch *(0.88 acres)*

Ephemeral Channel *(12.49 acres) (49,926 linear feet)*

Intermittent Channel *(20.45 acres) (43,985 linear feet)*

Perennial Channel *(69.74 acres) (34,276 linear feet)*

Upland Swale *(5 acres) (25,098 linear feet)*



Coordinate System: NAD 1983 CA State Plane (Zone II)
Projection: Lambert Conformal COnic
Datum: North American 1983
Vertical Datum: NAVD 88, U.S. Feet
1 inch = 200 feet

Created on September 2rd, 2021

Made in accordance with the
Updated Map and Drawing Standards for the South Pacific Division Regulatory Program,
as amended on February 10, 2016, by:
Jason Deters, Project Manager
Enforcement and Special Projects Unit
U.S. Army Corps of Engineers
South Pacific Division
Sacramento District, Regulatory Division
1325 J Street, Room 1350
Sacramento, California 95814-2922

SOURCE: USDA 2018

DUDEK

0 2,000 Feet

FIGURE6

Aquatic Resources Delineation

Biological Technical Report for the Coyote Creek Agrivoltaic Ranch Project

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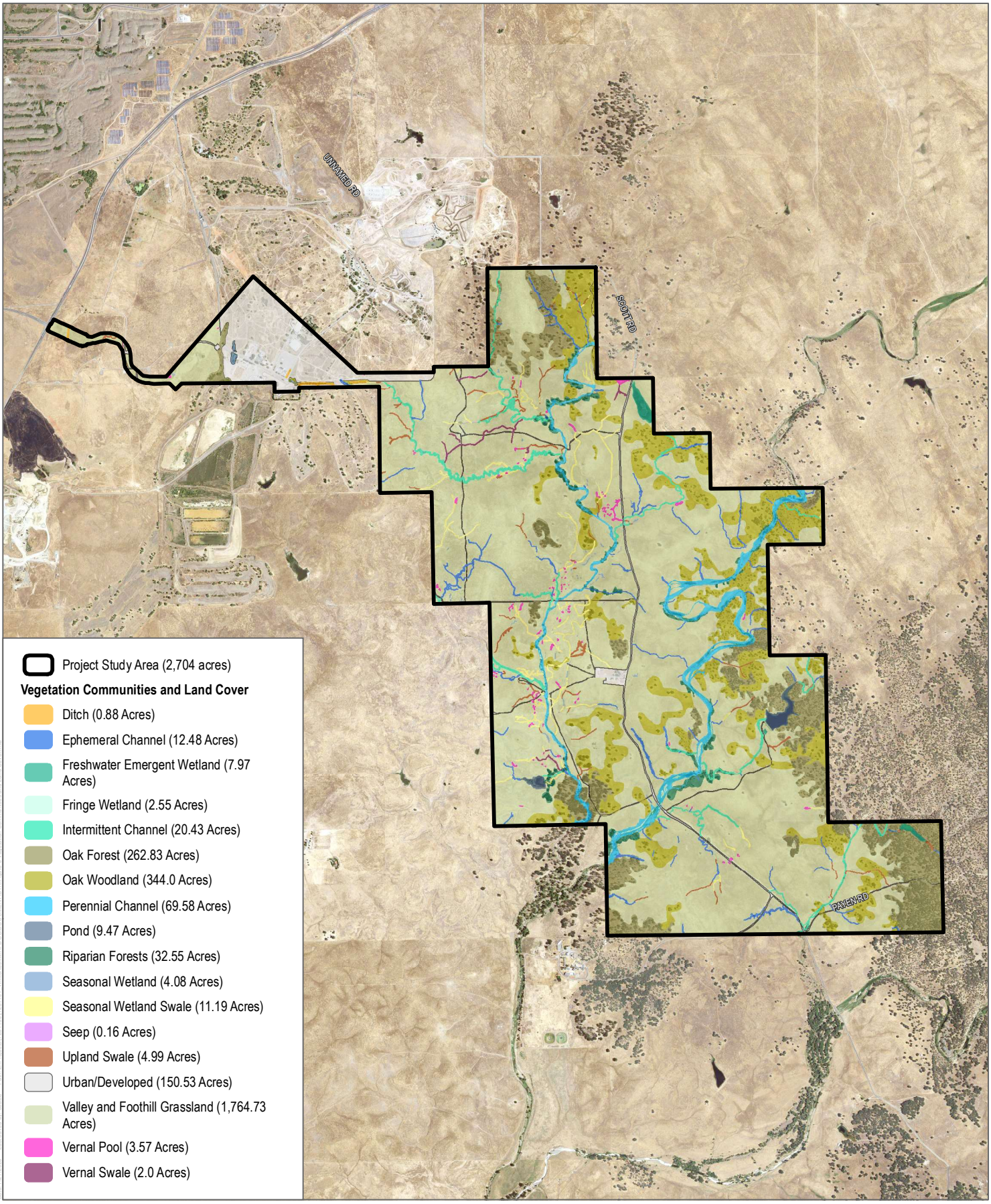

SOURCE: USGS 2018

DUDEK

0 1,000 2,000 Feet

NAD1983, CA State Plane Zone II

FIGURE 7

Vegetation Communities and Land Cover Types

Biological Technical Report for the Coyote Creek Agrivoltaic Ranch Project

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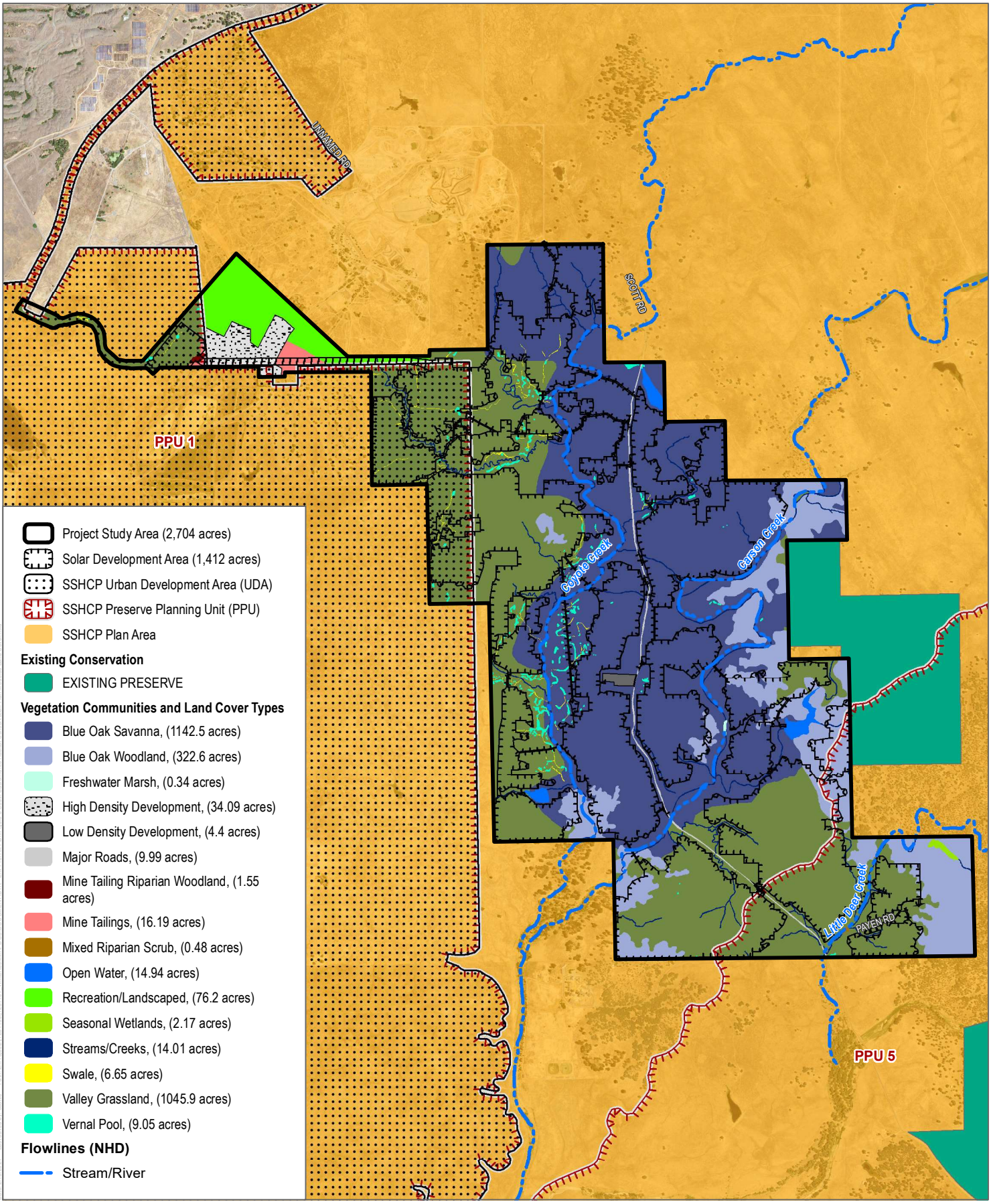

SOURCE: USGS 2018; SSHCP

DUDEK

0 1,000 2,000 Feet

NAD1983, CA State Plane Zone II

FIGURE 8

South Sacramento Habitat Conservation Plan Modeled Land Cover

Biological Technical Report for the Coyote Creek Agrivoltaic Project

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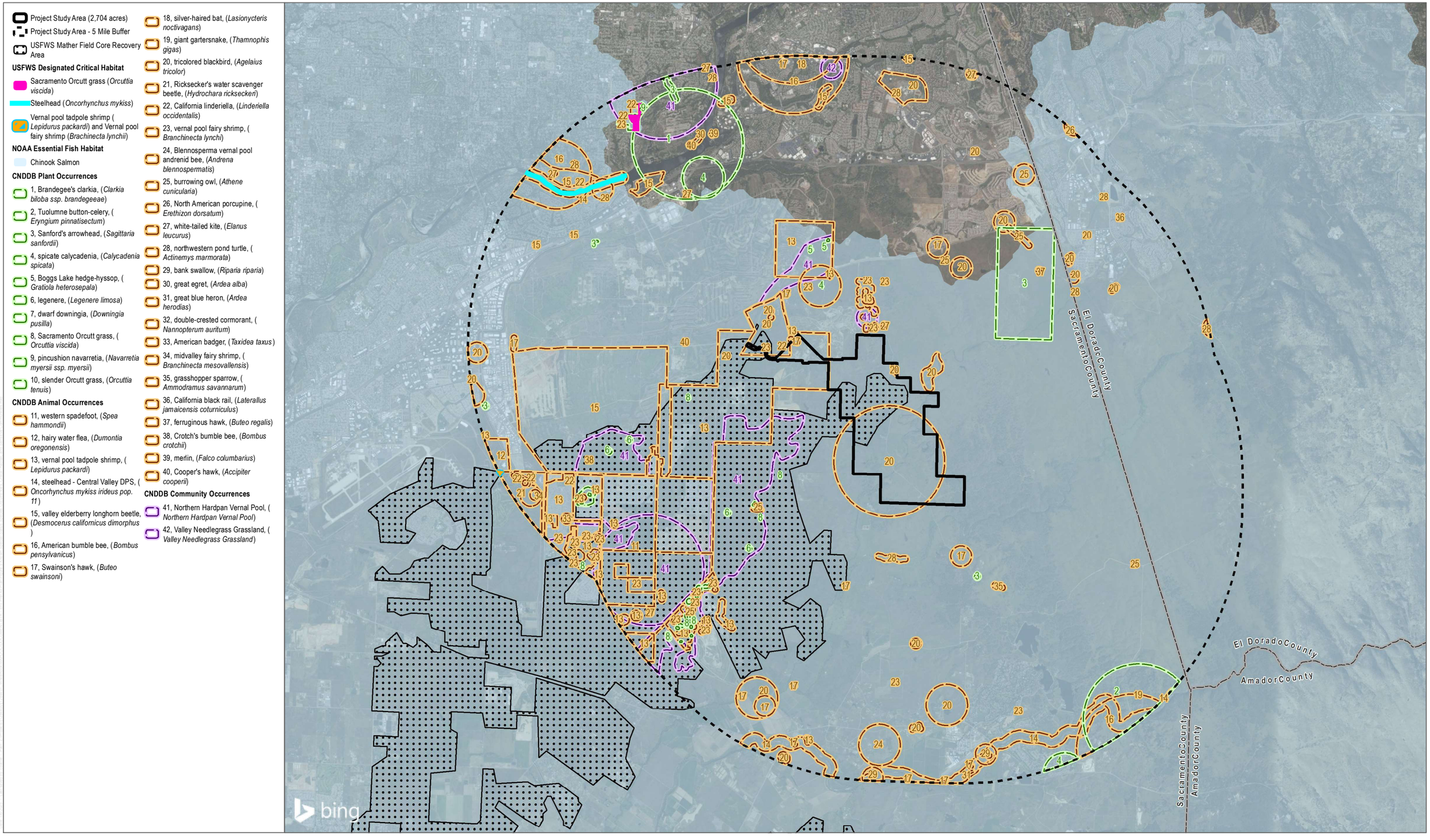

SOURCE: Bing Maps 2024; CA Dept. of Fish and Wildlife 2024; USFWS 2024

DUDEK

0 4,200 8,400 Feet

FIGURE 9

Known Special-Status Species Occurrences, Critical Habitat, and Sensitive Communities

Biological Technical Report for the Coyote Creek Agrivoltaic Ranch Project

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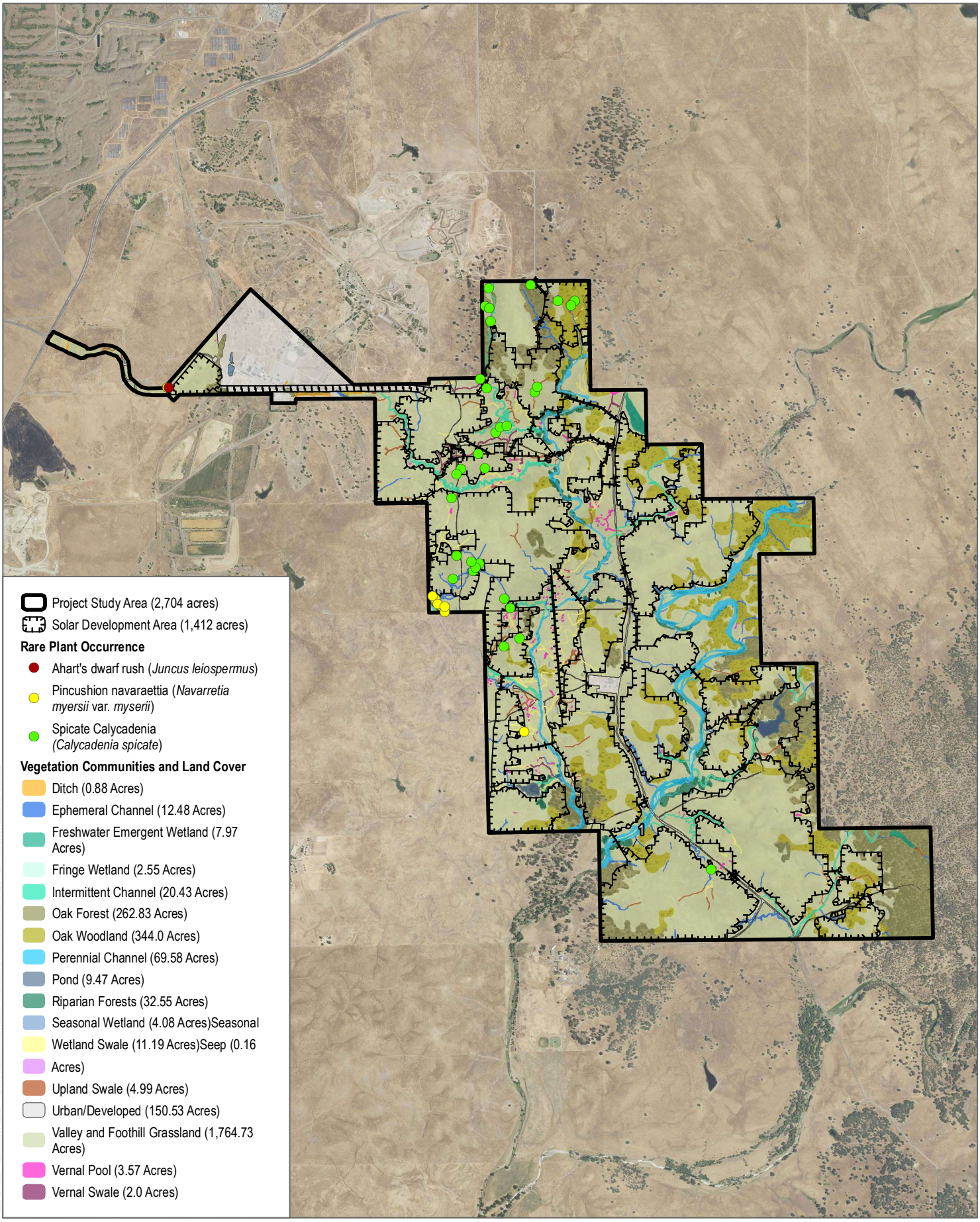

SOURCE: USDA 2020

DUDEK

0 1,000 2,000 Feet

FIGURE10

Rare Plant Survey Results 2021-2023

Biological Technical Report for the Coyote Creek Agrivoltaic Ranch Project

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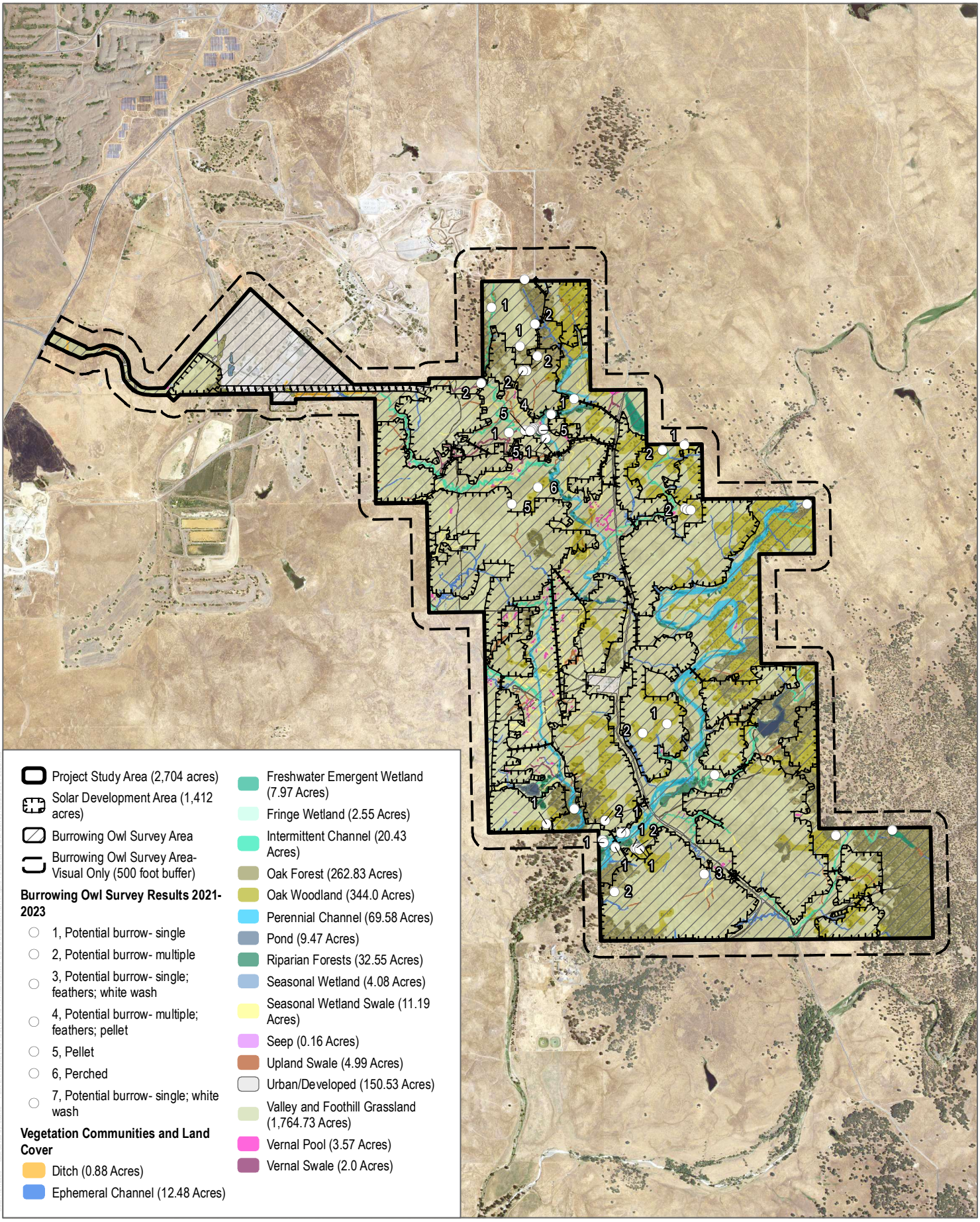

SOURCE: USDA 2020

DUDEK

0 1,000 2,000 Feet

FIGURE 11

Burrowing Owl Survey Results 2021-2023

Biological Technical Report for the Coyote Creek Agrivoltaic Ranch Project

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Project Study Area (2,704 acres)
Solar Development Area (1,412 acres)
Swainson's Hawk Survey Area
Swainson's Hawk Survey Area- Vvsual Only (0.5 mile buffer)

Swainson's Hawk Survey Results 2021-2023

- 8, Visual- flight
- 9, Raptor nest- unoccupied
- 10, Perched
- 11, Mobbing
- 12, Foraging
- 13, Courting pair
- 14, Raptor nest

Vegetation Communities and Land Cover

- Ditch (0.88 Acres)
- Ephemeral Channel (12.48 Acres)
- Freshwater Emergent Wetland (7.97 Acres)
- Fringe Wetland (2.55 Acres)
- Intermittent Channel (20.43 Acres)
- Oak Forest (262.83 Acres)
- Oak Woodland (344.0 Acres)
- Perennial Channel (69.58 Acres)
- Pond (9.47 Acres)
- Riparian Forests (32.55 Acres)
- Seasonal Wetland (4.08 Acres)
- Seasonal Wetland Swale (11.19 Acres)
- Seep (0.16 Acres)
- Upland Swale (4.99 Acres)
- Urban/Developed (150.53 Acres)
- Valley and Foothill Grassland (1,764.73 Acres)
- Vernal Pool (3.57 Acres)
- Vernal Swale (2.0 Acres)

SOURCE: USDA 2020

DUDEK

0 1,200 2,400 Feet

FIGURE 12

Swainson's Hawk Survey Results 2021-2023

Biological Technical Report for the Coyote Creek Agrivoltaic Ranch Project

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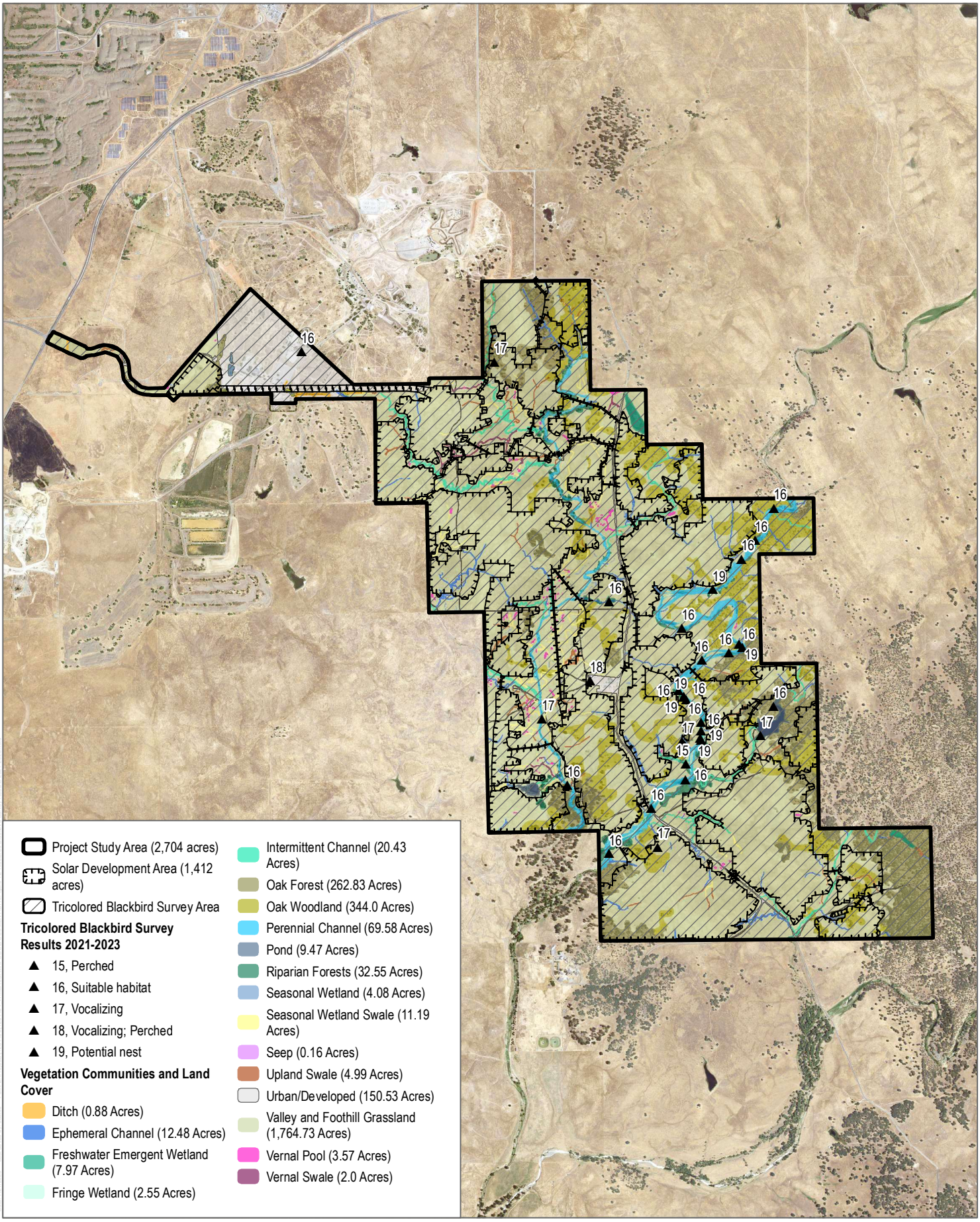

SOURCE: USDA 2020

DUDEK

0 1,000 2,000 Feet

FIGURE 13

Tricolored Blackbird Survey Results 2021-2023

Biological Technical Report for the Coyote Creek Agrivoltaic Ranch Project

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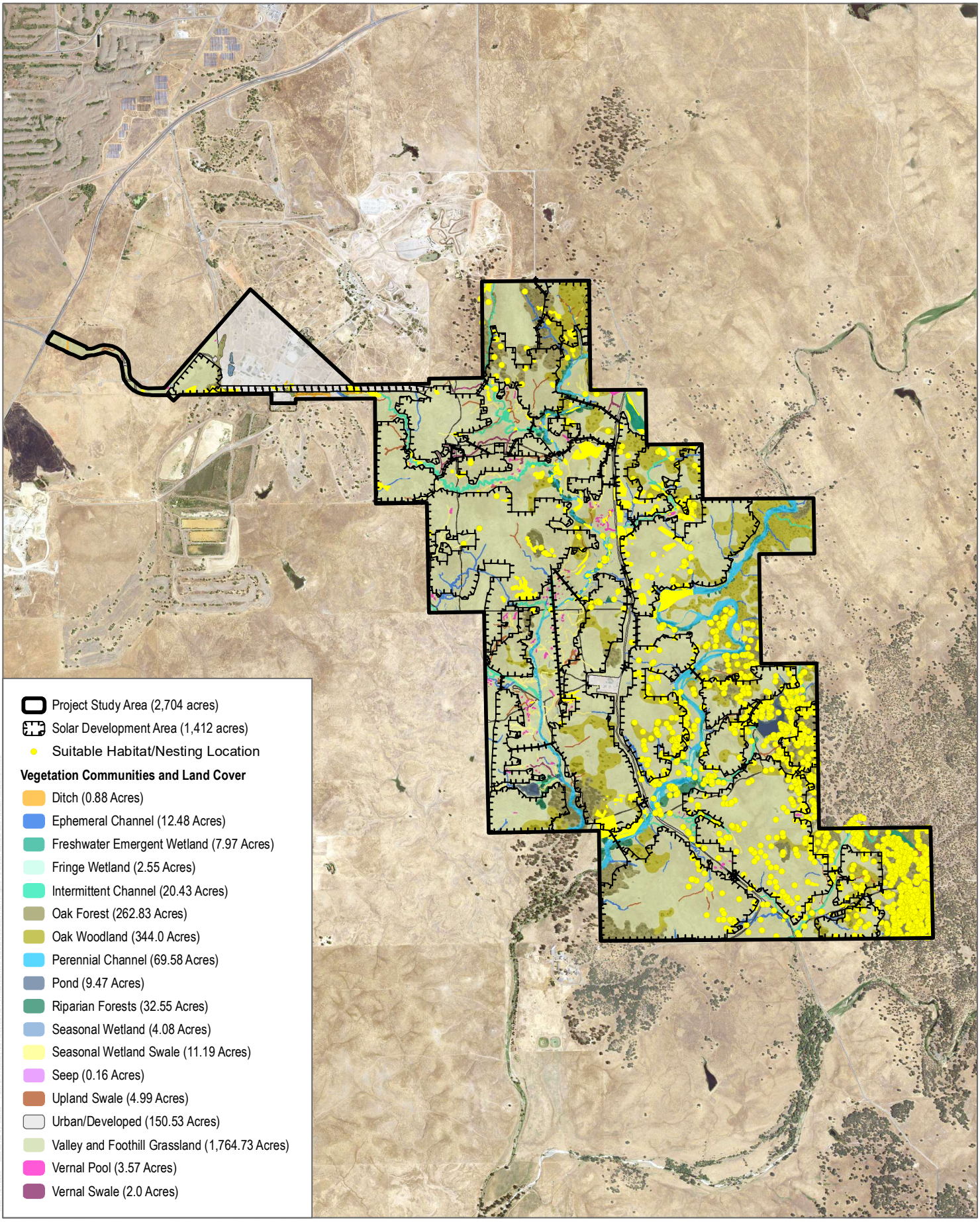

SOURCE: USDA 2020

DUDEK

0 1,000 2,000 Feet

FIGURE 14

Crotch's Bumble Bee Habitat and Foraging Resource Survey Results 2023

Biological Technical Report for the Coyote Creek Agrivoltaic Ranch Project

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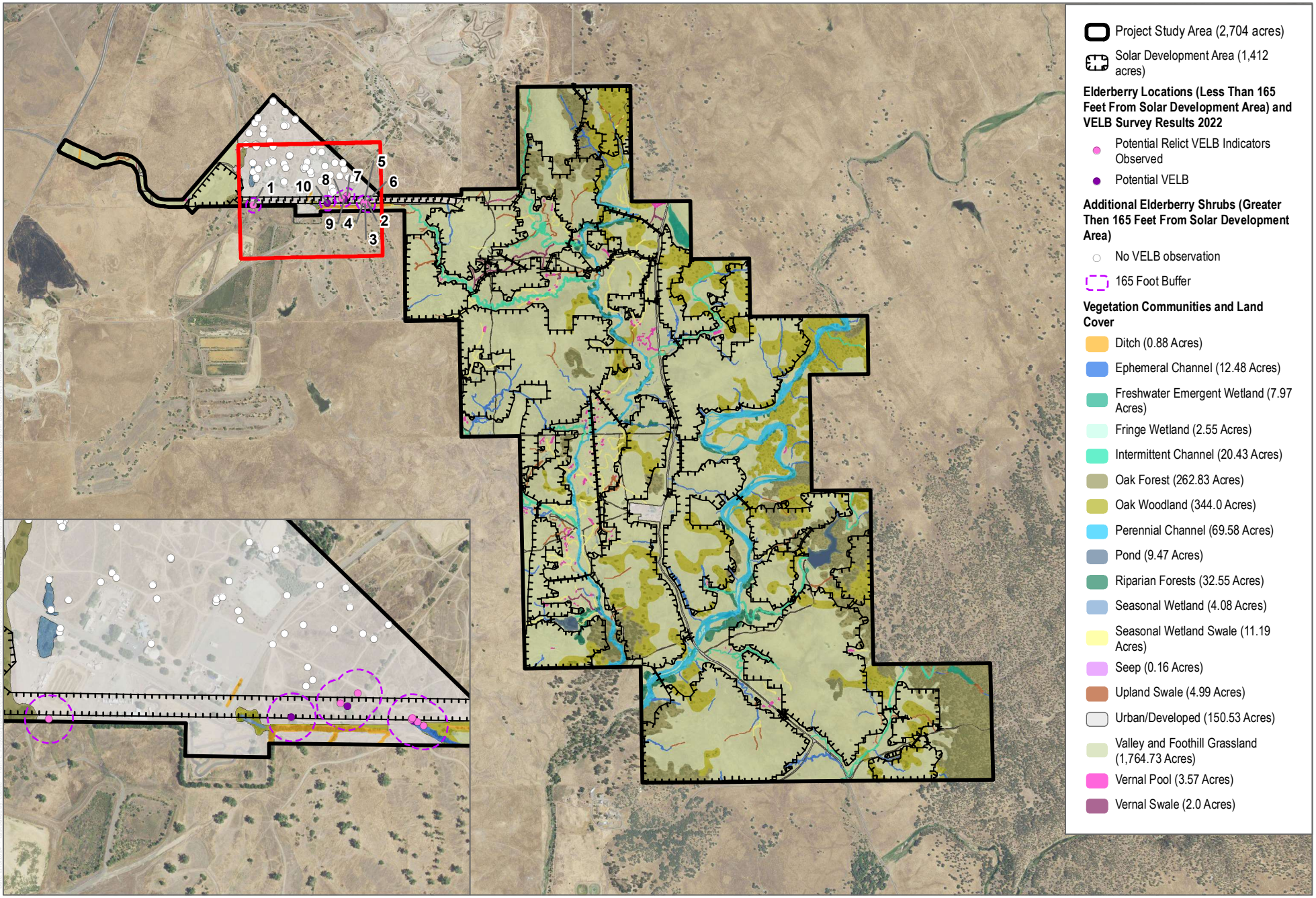

SOURCE: USDA 2020

DUDEK

0 1,450 2,900 Feet

FIGURE 15

Valley Elderberry Longhorn Beetle Survey Results 2021-2023

Biological Technical Report for the Coyote Creek Agrivoltaic Project

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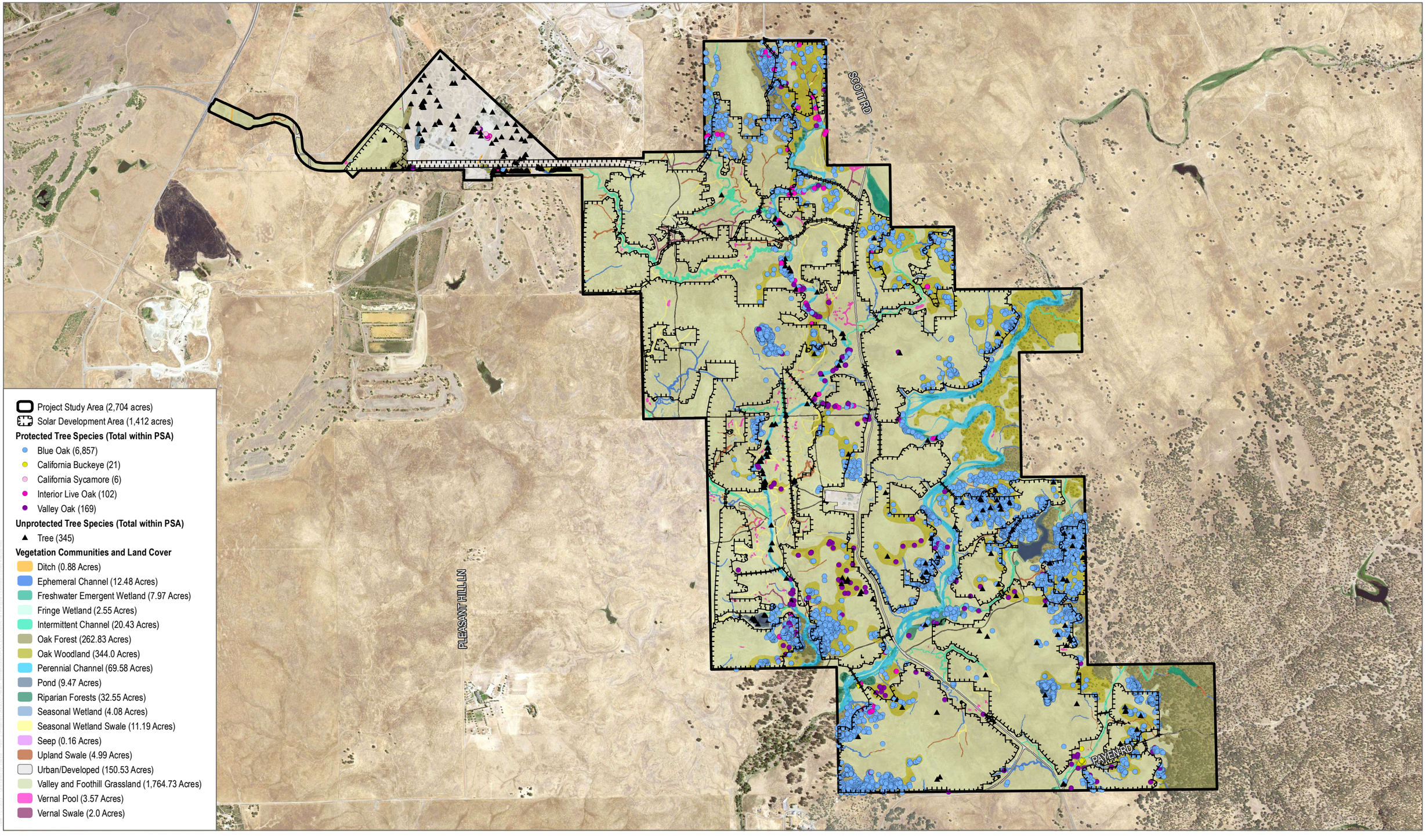

SOURCE: USGS 2018; CalTLC 2021

DUDEK

0 900 1,800 Feet

FIGURE 15

Preliminary Arborist Inventory

Biological Technical Report for the Coyote Creek Agrivoltaic Project

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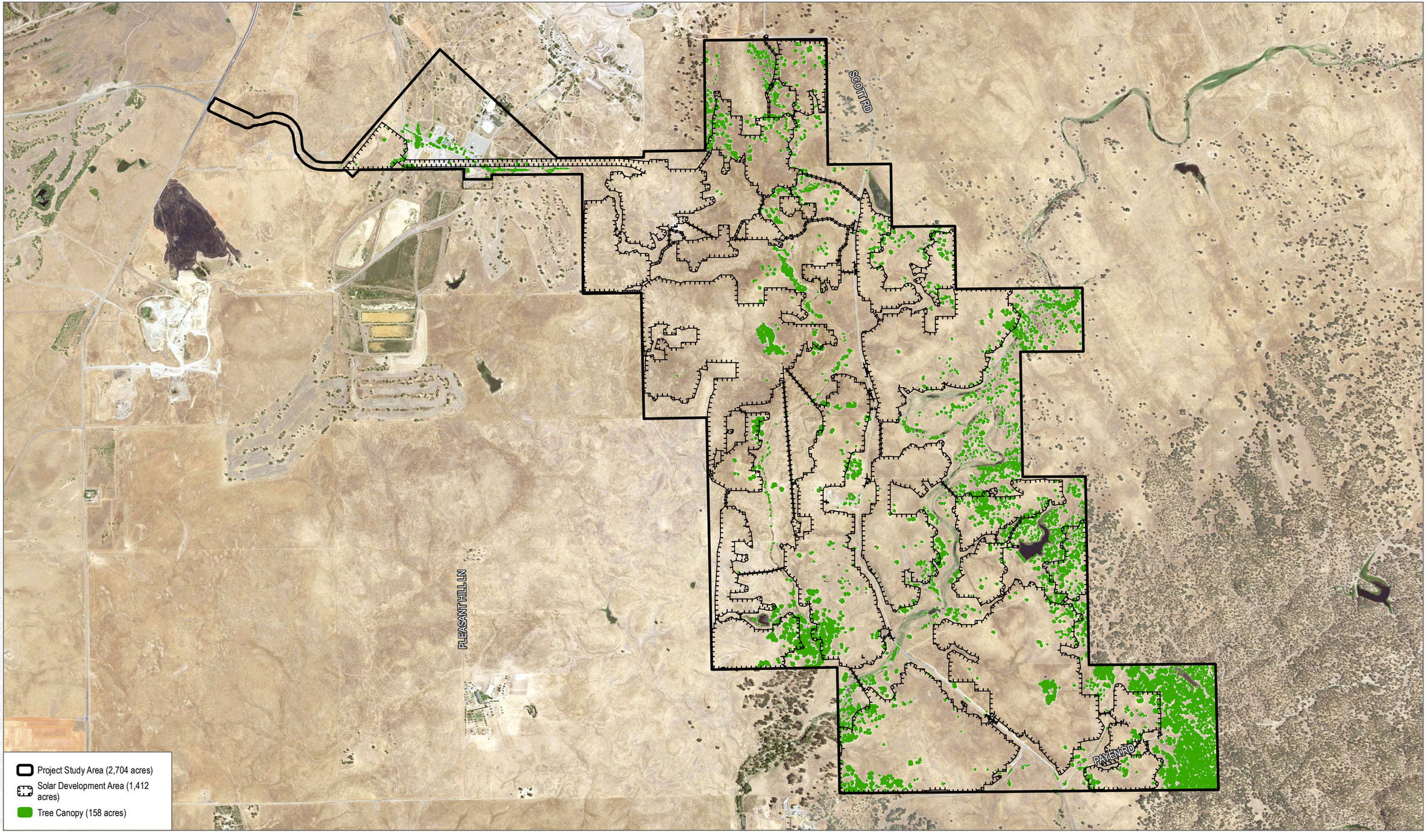

SOURCE: USGS 2018; CalTLC 2021

DUDEK

FIGURE 17
Canopy Analysis Results
Biological Technical Report for the Coyote Creek Agrivoltaic Ranch Project

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Appendix A

Swainson's Hawk and Other Raptor Foraging Use of Solar Array Fields within an Agricultural Landscape in Sacramento County, Year 2

Swainson's Hawk and Other Raptor Foraging Use of Solar Array Fields within an Agricultural Landscape in Sacramento County

Year 2

November 2021

Prepared for:

DUDEK

Prepared by:

ESTEP Environmental Consulting

Swainson's Hawk and Other Raptor Foraging Use of Solar Array Fields within an Agricultural Landscape in Sacramento County

Year 2

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November 2021

Introduction

This report presents data from the second year of a study to evaluate the use of photovoltaic solar energy projects by Swainson's hawks (*Buteo Swainsoni*) and other raptors within an agricultural landscape in the Sacramento Valley.

Background

Four photovoltaic solar energy projects were constructed in south Sacramento County in 2012. All occur within an agricultural landscape used by foraging raptors, including the state-listed Swainson's hawk. Because of its dependence on agricultural foraging habitats in the Central Valley, loss of suitable agricultural lands to urban development has been considered a potentially significant environmental impact on the Swainson's hawk pursuant to the California Environmental Quality Act (CEQA) (CDFG 1994). Since the early 1990s, impacts considered significant were usually mitigated through a compensatory process of acquisition, management, and preservation of replacement agricultural lands. This process was based initially on guidance provided by the California Department of Fish and Wildlife (CDFG 1994) and later in Sacramento County through an ordinance enacted in 2006 (Sacramento County 2006). Because neither the CDFG guidance nor the county ordinance addressed the relationship between land conversion and the status of the Swainson's hawk breeding population or differentiated between different types of land use conversion, but instead assumed significance pursuant to CEQA based on broadly defined habitat availability/species abundance relationships, the proponents of the four solar projects questioned the reliability of the existing process to require compensatory mitigation relative to the specific conditions of a photovoltaic solar project compared with other types of land conversion, mainly urban development. As a result, through consultation with the county and CDFW, a one-year study was undertaken to assess the use of the photovoltaic solar projects by Swainson's hawks and other raptors.

The initial study was completed in 2013 (Estep 2013) and results were presented to the county and CDFW staff. Despite the evidence of ongoing Swainson's hawk and other raptor use of the solar projects, CDFW determined that the evidence gathered during a single year was insufficient and that the project should remain subject to the earlier guidelines (CDFG 1994) and county ordinance, and with concurrence from Sacramento County, the request to reevaluate the need for and extent of compensatory mitigation was rejected.

In 2018, the South Sacramento County Habitat Conservation Plan was approved and subsequently became the framework for ongoing mitigation and conservation efforts in Sacramento County, superseding earlier CDFW guidance and the county ordinance to address land conversion impacts to Swainson's hawk related to most development projects. However, solar energy projects were not included in the HCP as covered projects, and thus remain under the purview of independent CEQA review by Sacramento County to determine the significance of the land use conversion and the need for compensatory mitigation.

In 2021, Bona Terra Energy, LLC proposed construction of additional photovoltaic projects in South Sacramento County. Aware of the efforts in 2013 to investigate ongoing use of solar

projects and the resulting unsuccessful negotiations with the county and CDFW, they decided to undertake a second year of study in order to provide additional data to supplement the results from the initial 2013 study. If results were similar to the 2013 study, this additional information would again be presented to the county and CDFW in an effort to reassess the need for and extent of compensatory mitigation. This report summarizes the results of this additional research.

Summary of 2013 Results

The 2013 study, which is largely repeated in 2021, poses a simple question: Do Swainson's hawks and other raptors use photovoltaic solar arrays for foraging, and if so, within a diverse agricultural landscape, to what extent are they, and other land cover types, used in proportion to their availability? The results documented use by Swainson's hawk, red-tailed hawk (*Buteo jamaiscensis*), American kestrel (*Falco sparverious*), and northern harrier (*Circus hudsonius*), and indicated that Swainson's hawks used solar array fields at a significantly greater frequency than would be expected relative to their availability, suggesting that solar array fields were being selected by foraging Swainson's hawks. This result was also found for American kestrels. The report concluded that integrated within a diverse agricultural landscape, the presence solar array fields of moderate size and that maintain a suitable grassland substrate are unlikely to have a negative affect on Swainson's hawk distribution or abundance.

Location

The four solar projects installed in 2012 (referred to as Bruceville, Kammerer, McKenzie, and Dillard projects) were all used in this study. A fifth solar project (Belectric project), installed earlier, was also included. The study area is located at and in the vicinity of these five projects in South Sacramento County. All are south of the City of Sacramento and east of Interstate 5 (Figure 1). The Kammerer, Bruceville, and Belectric project sites are immediately south of the City of Elk Grove between Interstate 5 and State Route 99. The McKenzie project site is just north of the City of Galt and just east of State Route 99, and the Dillard project is further northeast, just south of State Route 16 (Figure 1).

Description of the Solar Projects

The four solar projects installed in 2012 range in size from approximately 45 acres to 200 acres and consist of an array of photovoltaic solar panels installed in east-west-facing rows. The earlier-installed 140-acre Belectric project is similarly designed with northeast-southwest-facing rows. The panels are connected uniformly in rows along a solar tracker frame that maintains conformity and allows the panels to pivot along a single axis as they track the sun. The trackers are set into the ground using 4-inch galvanized steel poles set in 1-foot concrete pads spaced approximately 10 feet apart along the row. The 8-foot-long solar panels are installed onto the frame with a 2-foot minimum clearance from the ground to panel edge at a 45-degree angle, the maximum tilt angle. The total height of the structure reaches a maximum of approximately 10 feet at full 45-degree tilt. Panel rows are spaced 20 feet apart from pole to pole. With 8-foot-long panels, this leaves 12 feet of open space between each row at horizontal, and slightly larger open space as the trackers angle. The collection systems are underground with the exception of grid tie

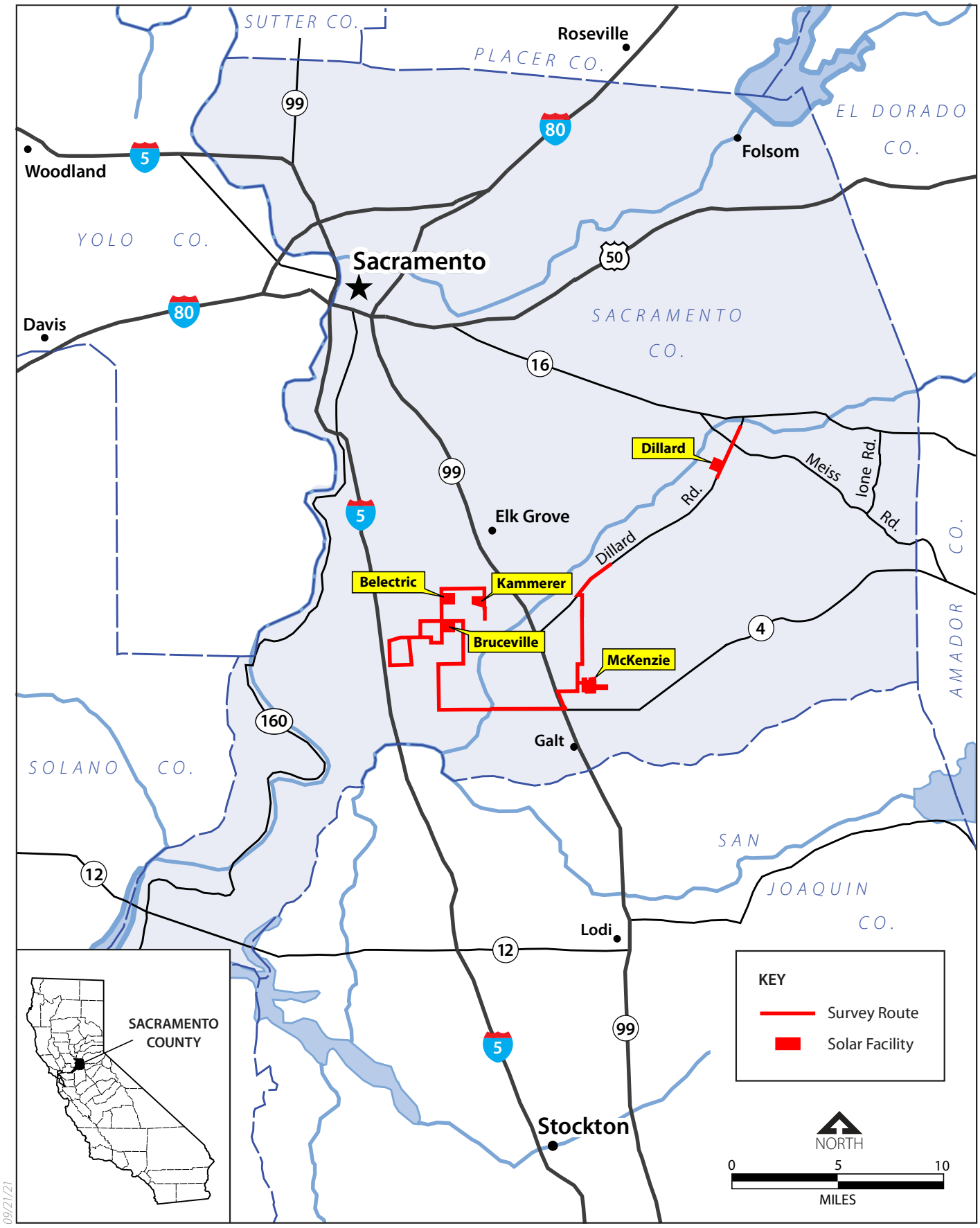


Figure 1
Regional Location of Survey Route and Photovoltaic Solar Facilities

inverters, which are spaced uniformly throughout each project site. Power is delivered to an onsite solar substation. Each project also includes internal gravel access roads and an 8-foot-high chain link security fence around the perimeter.

A management plan was prepared for each of the sites constructed in 2012, which includes the establishment of grasses throughout the project sites, including beneath and between the trackers and solar panels. The grasses are maintained at a low (4 to 12 inches) height through a sheep grazing program that periodically rotates between the sites as needed. The grass ground cover is designed to encourage the establishment of rodent populations to promote raptor use of the site as well as to provide for rodent refugia to aid in the reestablishment of rodent prey populations on adjacent farmlands following cultivation. The earlier-installed Belectric project also includes a similar grass substrate.

Differentiating the Structure and Management of Solar Arrays from Cultivated Habitats

The extent to which raptors are likely to use solar arrays compared with cultivated fields is largely a function of their design and management as well as the foraging behavior of each species. For example, Swainson's hawks are highly active aerial hunters. Typical foraging behavior is a relatively low (less than 100 meters) circling flight above suitable foraging habitat. They avoid fields with tall or dense vegetation because this condition reduces visibility and access to prey (Bechard 1982, Estep 2009). As a result, at first glance it would seem that a solar array, like a vineyard or orchard, would not provide suitable foraging conditions. Swolgaard et al. (2007) found some use of vineyards by foraging Swainson's hawks, but not to the extent of other crops and land cover types in the surrounding landscape. Still, the Swolgaard et al. (2007) study revealed that Swainson's hawks are not entirely averse to hunting in these conditions.

A typical solar array, however, has greater separation between rows than do most vineyards. For most photovoltaic solar projects, including the five included in this study, at least 60 percent of the area within the solar array remains potentially available at any given time. Most projects also retain open areas between array cells, along access roads, and between the arrays and the perimeter fence. Management of the substrate is also essential to ensure that the project supports available rodent prey for foraging raptors. In order to encourage a sustainable source of small rodent prey, a grass substrate is maintained year-round throughout the project area (Plate 1). Sheep grazing is used to control vegetation height and density, which also encourages accessibility of raptors to rodent prey (Plate 2). Because the grass substrate is maintained, it also functions as a stable source of recolonization of rodent populations into adjacent fields, which may be subject to seasonal fluctuations of rodent populations resulting from the planting/harvesting regime. In some cases, it is also possible to apply the principals of agrivoltaics (Goetzberger and Zastrow, 1982; Dolezal et al. 2021), the practice of agriculture in and around solar PV facilities, by including a mixture of grasses, forbs, and a variety of pollinator plant species. In addition to further encouraging rodent prey populations, this deep-rooted system helps save water, holds and improves the topsoil on-site, and encourages pollinators, which can benefit neighboring crops.

Plate 1. Solar array with grassland substrate.

Plate 2. Sheep grazing the grasslands at the Bruceville solar project site, 2021.

Physiography and Land use

The surrounding land use is entirely agricultural, consisting of a combination of irrigated pasture, dry pasture, and irrigated cropland. Dominant crop types in the area include oat hay, alfalfa, corn, wheat, and vineyards. Agricultural land use has changed since the 2013 study. Orchards, a land cover providing unsuitable foraging habitat for most raptors, have increased substantially, replacing row and grain crops, and potentially reducing overall use of the landscape by foraging raptors. Urbanization from the City of Elk Grove has also expanded southward toward the survey route. Although these dense urban developments were not included within the survey area, their increasingly close proximity likely affects raptor use of the surrounding area and thus may influence occurrences within the survey area.

Rural urban areas also occur throughout the area including farm and ranch residences and related facilities and dairies. The landscape is flat with virtually no topographic relief other than seasonal and perennial drainages, with the exception of the low grassland hills surrounding the Dillard project and to a lesser extent on the open grassland/rangelands of the Cosumnes River Preserve, north of the McKenzie project. Trees occur along riparian corridors, roadsides, and field borders, and around farm and ranch residences. These trees provide nesting habitat for several of the raptor species in the study area including Swainson's hawk, red-tailed hawk, red-shouldered hawk (*Buteo lineatus*), white-tailed kite (*Elanus leucurus*), American kestrel, and great-horned owl (*Bubo virginianus*).

Distribution and Foraging Behavior of Nesting Swainson's Hawks and other Raptor Species in South Sacramento County

Because of its status as a state-threatened species and its association with mitigation and conservation actions in the Central Valley, our target species for this study was the Swainson's hawk. However, all raptor species were recorded during the survey. A brief description of those species known to occur in the vicinity of the study area follows.

The Swainson's hawk is a medium-sized buteo most often characterized by its long, narrow, and tapered wings held in flight in a slight dihedral shape. The body size is somewhat smaller, thinner, and less robust than other buteos, although the wings are at least as long as other buteos. This body and wing shape allow for efficient soaring flight and aerial maneuverability, important for foraging, which Swainson's hawks do primarily from the wing, and during courtship and inter-specific territorial interactions (Plate 3). The species nests in trees along riparian corridors, field edges, roadsides, isolated trees, and around rural homesites; and forages in compatible cultivated landscapes and grasslands.

Plate 3. Adult Swainson's hawk showing the long, tapered wings that allow for efficient soaring and flight maneuverability.

The Swainson's hawk occurs throughout the undeveloped portions of Sacramento County. Surveys have been conducted throughout Sacramento County for several decades resulting in a substantial number of breeding records (California Natural Diversity Data Base 2021, Estep 2007, 2009a, 2012). Surveys conducted in 2006 reported a total of 188 active breeding sites in Sacramento County south of Jackson Highway (State Route 16) (Estep 2007). More recent surveys (Estep 2009a, 2012) reported additional active breeding sites within and south of the City of Elk Grove. Additional nesting sites are reported in eBird, a publicly-accessed online repository of bird occurrence data. Several additional nest sites were also reported during road transect surveys conducted for this study, one of which is located within the substation of the Kammerer solar project site (Plates 4 and 5).

Plate 4. Swainson's hawk nest in the Kammerer substation, 2021.

Plate 5. Swainson's hawk nest at Kammerer solar site, 2021.

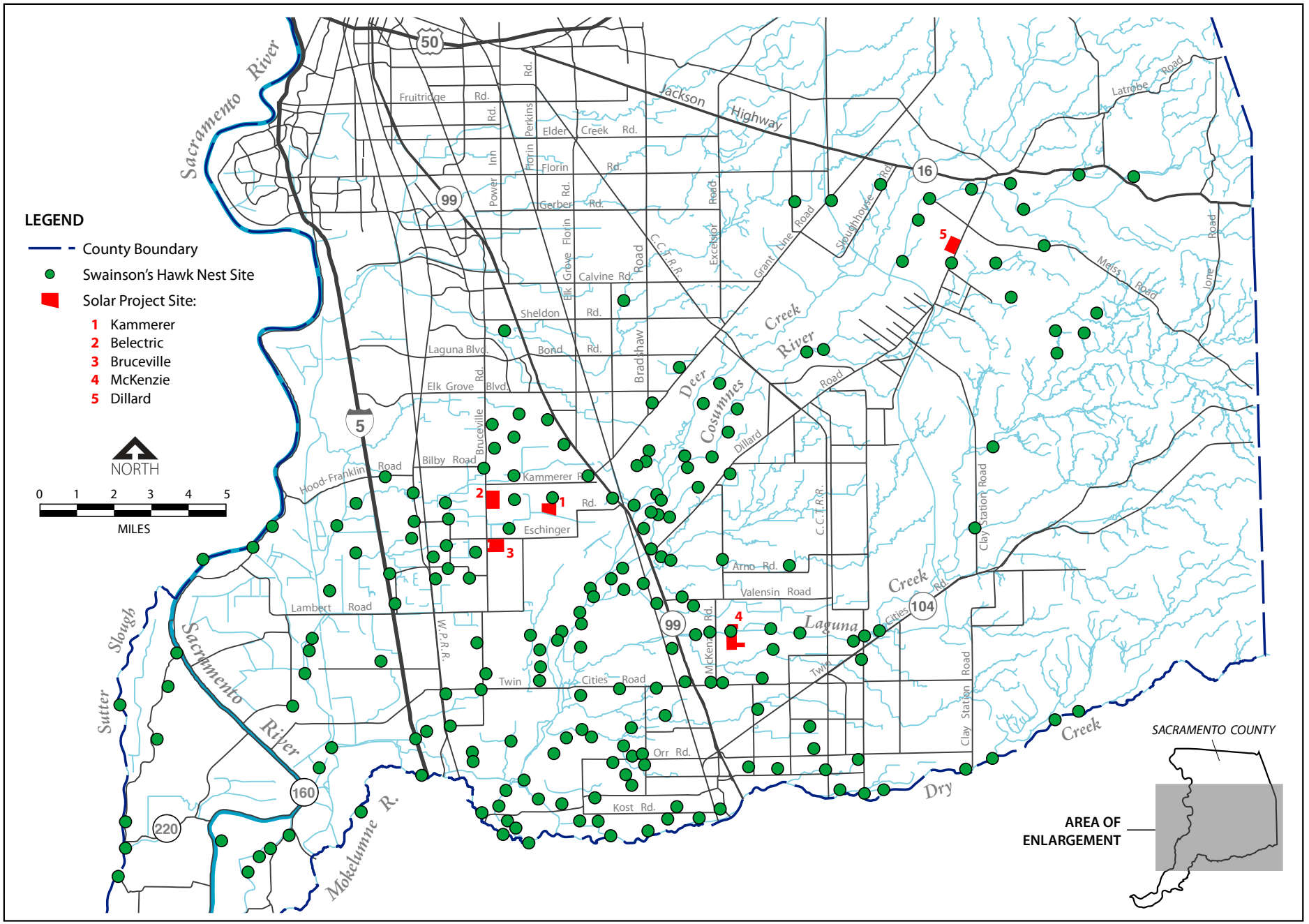
Figure 2 illustrates the locations of reported Swainson's hawk nests in South Sacramento County in the vicinity of the solar project sites. The highest nesting density was found in the interior of the county where the land use is predominantly irrigated cropland and irrigated pastureland.

In the Central Valley, the distribution of the red-tailed hawk is similar to the Swainson's hawk. There is substantial overlap in the habitat associations of the two species. Similar in size, but more robust in body than the Swainson's hawk, red-tailed hawks are somewhat less-active hunters, often hunting from perches. Distribution in the vicinity of the study area is similar to the Swainson's hawk, and although red-tailed hawks are more common range-wide, they are less abundant than Swainson's hawks in the irrigated agricultural landscape of the Central Valley (Estep 2007, 2008, 2012, 2020, Estep and Dinsdale 2012).

Red-shouldered hawks are distributed throughout the Central Valley, and are found primarily in riparian and other woodland habitats. As a result, their distribution is less uniform across the landscape compared with Swainson's hawk and red-tailed hawk, and although underreported, they are also less common. Red-shouldered hawks forage primarily in woodlands and along woodland edges, but will opportunistically hunt in open agricultural and grassland habitats.

White-tailed kites also occur throughout the Central Valley, using similar nesting and foraging habitats as Swainson's hawk and red-tailed hawk. However, they are substantially less common and more specialized in their use of foraging habitats and their hunting behavior, particularly their use of kiting or hovering technique while searching for rodent prey.

American kestrel is also distributed throughout the Central Valley, and although populations fluctuate, the species is relatively common and ubiquitous in agricultural landscapes. Kestrels also nest in similar riparian and other woodland habitats, in tree rows, or in small woodlots or in



SOURCE: Estep 2021.

Figure 2
Swainson's Hawk Distribution in the Vicinity of the Solar Project Sites

trees surrounding rural farm houses. They typically hunt from a perch – often seen along utility line corridors – or using a hovering technique similar to white-tailed kite.

Northern harrier is a ground-nesting raptor also commonly observed in agricultural and grassland landscapes in the Central Valley that uses a low-elevation coursing flight technique while hunting for small rodents. Great-horned owl, with a similar Central Valley distribution, nests in riparian and other woodland habitats and hunts, usually from a perch, in cultivated fields and grasslands. Burrowing owl, also a ground-nesting species, occurs primarily in open grassland habitats but is also occasionally found in cultivated landscapes. Cooper's hawk (*Accipiter cooperii*) is uncommonly found in riparian and other woodland habitats in the Central Valley where it uses a meandering flight pattern under the canopy to surprise prey. However, like all raptors in the altered landscape of the Central Valley, they will opportunistically hunt in open cultivated or grassland habitats.

Purpose

This study was designed to meet the following objectives (1) examine how and the extent to which Swainson's hawks and other raptors forage on or otherwise use the solar facilities; and (2) evaluate raptor use of solar facilities and other available land cover types relative to their availability on the landscape. Through this investigation, the purpose was to provide a general estimation of the use of the solar project facilities compared to other available land cover types and to provide data that can be used to assess the potential for changes in the distribution and abundance of Swainson's hawks resulting from the presence of moderately-sized solar facilities within an otherwise diverse, expansive, and dynamic agricultural landscape.

Methods

Strip Transect Road Surveys

The strip transect road survey method (Fuller and Mosher 1987) was used to evaluate relative foraging use of different land cover types, including the solar arrays. The transect route included the same 26-mile route used during the 2013 study, but included an additional 14 miles for a total route distance of approximately 40 miles. The survey route was selected based on the following:

- Incorporating the five solar facilities into the design
- Road/vehicle accessibility
- Visibility
- Road safety
- Diversity of land cover types

The survey area extended 600 feet from each side of the road for a total width of 1,200 feet. Initially, all land cover types were mapped and classified along the survey route. To conduct the survey, the surveyor slowly drove at a consistent pace between 10 and 15 mph, stopping as needed to identify and record raptors and raptor behavior. Recorded behaviors included:

- Circling below 100 meters
- Soaring below 200 meters
- Flying through the survey area below 200 meters
- Kiting/Hovering
- Perching (adjacent poles/trees/fences)
- Standing on ground
- Prey capture attempt
- Prey capture successful
- Prey capture unsuccessful
- Aerial foraging

The surveyor recorded data as raptors were observed within the 1,200-foot-wide transect survey area. Land cover type and status, including vegetation height, and farming activity were recorded for each occurrence. Start times were variable in order to account for differences in foraging use patterns. Using this method, a reliable statistical analysis can be performed that measures habitat use as a proportion of availability. In other words, it determines whether a habitat type is used more or less than expected relative to its availability. In this way we can evaluate the relative use of all cover types in the survey area, including the solar array fields.

A survey form along with an accompanying data code sheet and field maps with the route and land cover types illustrated were used to record observational and related data while in the field. Surveys were conducted during daylight hours and were not conducted during severe weather events such as heavy rainfall, winds greater than 20 mph or foggy conditions. Surveys were conducted twice weekly by the same surveyor between April 19 and August 31, 2021 for a total of 39 surveys.

Habitat Mapping. Land cover types were mapped and characterized in the field along the survey route on 7.5-minute USGS quadrangle maps. Current 2021 land use was documented in the field according to the land cover type categories listed below.

- Oats
- Alfalfa
- Dry Pasture
- Irrigated pasture
- Ruderal/Developed
- Vineyard
- Orchard
- Grassland
- Corn
- Tilled
- Solar Array field
- Idle/Fallow
- Riparian/Wetland
- Wheat

Field boundaries were recorded, confirmed, or adjusted as needed on USGS base maps. Tilled was included separately because some fields were tilled and unplanted for approximately one-half of the survey period before being planted. Rural residences and their surrounding footprint (e.g., barns, out buildings, yards, and equipment storage areas), adjacent ruderal areas, and other agricultural facilities, mainly dairies, were combined into a single category – Ruderal/Developed. Following the initial field mapping of habitat/land use categories, the data were then re-mapped using aerial photos to confirm field boundaries.

These maps were then converted to graphic maps using Adobe Illustrator. Habitat/land use cover type acreages were calculated from the graphic maps using a plug-in filter from Telegraphics Inc. While this process provided a reasonably accurate representation of land cover types along the survey route, it did not exclude interior farm roads and other edge features. As a result, the acreage totals may exceed the actual acreage for some types. However, this was considered to have a negligible effect on the total calculations or the relative abundance of the various types.

Several crop type rotations occurred during the survey including wheat, oats, and tilled fields rotating to corn. These rotations or conversions occurred at approximately the mid-point of the survey. To account for these changes and to satisfy the assumption that habitat availability is constant throughout the study (Manly et al. 2002), we used the same approach as Swolgaard et al. (2008) by tallying the areas of all fields that changed crops midseason, dividing the values in half, and assigning those values to each habitat.

Analysis. Documented raptor occurrences and acreages of land cover types were compiled and proportions of land cover types and occurrences within each land cover type calculated. As in the 2013 study, of the nine species documented during the survey, only Swainson's hawk, red-tailed hawk, and American kestrel had sufficient occurrences to be included in the statistical analysis. The null hypothesis stated that Swainson's hawks and other raptor species used each habitat for foraging in proportion to its availability in the survey area. Therefore, only behaviors that represented foraging were included in the analysis. To ensure consistency with the 2013 results, foraging behaviors for Swainson's hawk included circling below 100 meters, the typical foraging behavior of Swainson's hawks, kiting/hovering, and prey capture attempts. Perching behavior was initially excluded because the species does not typically hunt from a perch. However, in 2021, additional calculations were run that included perching as a foraging behavior to account for observed behavioral changes in Swainson's hawk use of solar array fields since 2013. Perching was included as a foraging behavior for red-tailed hawk and American kestrel, species that often hunt from perches.

Hypothesis testing for selection of foraging habitat consisted of a chi-square test for goodness of fit, followed by chi-square testing of individual types to determine if use was disproportionate to availability and whether it was positively or negatively correlated. While this approach may be regarded as very conservative compared with other more robust statistical tests used in habitat use/availability studies, it was considered appropriate to address the rather narrow objectives (use of solar array fields) of this study.

Stationary Observation Point Surveys

In addition to the strip transect road surveys, surveys were also conducted from stationary observation points around the perimeter of four of the five solar arrays (not including the Belectric project). The purpose of these surveys was to document additional use of the solar fields by all raptor species and to increase the opportunity to record prey captures or prey capture attempts, which are generally less frequently observed during road transect surveys. Stationary observation point surveys were conducted at the four solar projects once per week in a rotational sequence between April 22 and August 25 for a total of 19 separate four-hour observation periods totaling 76 hours of observation.

Results and Discussion

Land Cover Types within the Survey Area

Table 1 presents the types and corresponding acreages of land cover within the survey area. Figures 3a through 3h illustrate the distribution of these types along the survey route. The land use along the approximately 40-mile route and throughout much of the south Sacramento County area consists of a mixture of grazing lands in the form of both irrigated and non-irrigated pasturelands and cultivated lands. Of the 5,501 acres within the survey area, 79 percent are active agricultural types including irrigated and non-irrigated pasturelands (21.7 percent), seasonally or annually cultivated crops (28.8 percent), semi-perennial hays (12.2 percent), and perennial crops (16.1 percent). The remaining 21 percent of the land cover consists of ruderal/developed (9.7 percent), uncultivated grassland (6.2 percent), riparian (1.4 percent), and solar array fields (3.7 percent). Two primary changes occurred since the 2013 survey: the expansion of orchards – largely at the expense of irrigated pasture acreage, and the increase in grassland, which is due mainly to expanding the survey route through a portion of the Cosumnes River preserve (Table 1).

Table 1. Land use types and acreages in the survey area, 2021 and 2013.

Land Cover Type	Acres	Percent of Total 2021	Percent of Total 2013
Oats	844	15.3	19.2
Alfalfa	672	12.2	10.6
Dry Pasture	613	11.1	7.2
Irrigated Pasture	585	10.6	23.6
Ruderal/Developed	531	9.7	10.8
Vineyard	495	9.0	6.5
Orchard	393	7.1	0
Grassland	340	6.2	1.3
Corn	283	5.1	4.6
Tilled	235	4.3	4.7
Solar Array Field	206	3.7	6.9
Idle/Fallow	159	2.9	0.2
Riparian/Wetland	77	1.4	1.1
Wheat	68	1.2	3.3
Total	5,501	100	100

Seasonally or Annually Cultivated Crops. Within the survey area, these include oat hay, corn, and wheat crops, much of which is grown as silage to support local dairy operations. Tilled lands are cultivated lands that are between plantings and were included as a separate type because most of these areas were in a tilled condition for approximately one-half of the survey period before being planted to corn, which is often planted later in the season. These crops have variable suitability as foraging habitat depending on vegetation height and density, which influences prey accessibility (Bechard 1982, Estep 2009). Of the types found in the survey area, oat hay likely provides the highest value due to large rodent prey populations and relatively early harvest, which increases prey accessibility. After cutting, oat fields may continue to provide foraging value if the field is not disked and prepared for the following planting.

Semi-Perennial Hays. These are alfalfa hay fields that remain uncultivated for at least 3 consecutive years. During the spring and summer months, alfalfa fields are mowed approximately once per month and may be irrigated as frequently as once per week. This is considered a high value foraging crop type for Swainson's hawk and other raptors because of the lack of seasonal or annual cultivation and because the regular mowing and irrigation operations increase prey accessibility (Estep 2009).

Irrigated and Non-irrigated Pasturelands. Irrigated pastures are planted with grasses (e.g., bromes, ryegrass, clovers), irrigated, and grazed by livestock. They may be periodically cultivated and replanted. Non-irrigated, or dry pastures are uncultivated natural grasslands that are grazed by livestock. Both types are used by Swainson's hawks and other foraging raptors but are considered to have only moderate value due to low rodent prey populations compared to some cultivated lands (Estep 1989, 2009).

Perennial Crops. Perennial crops include vineyards and orchards. Although some use by Swainson's hawks has been documented (Swolgaard et al 2008), vineyards are generally considered to have low foraging value because as they mature, the vegetation becomes tall and dense and largely precludes foraging access (Estep 1989). Orchards, primarily nut orchards, have expanded throughout the region and in 2021 represent 7.1 percent of the land cover in the survey area, up from 0 percent in 2013. This land cover is considered unsuitable for Swainson's hawk foraging due to the dense canopy and inaccessibility to the ground.

Urban/Ruderal. Rural farm and ranch residences and associated out-buildings, dairy facilities, and other farming and ranching facilities occur along the survey route. Ruderal weedy or grassy patches also occur within or adjacent to some of the developed areas. Although these areas provide relatively little foraging value, they often provide perching habitat or nest sites where suitable trees or utility poles occur around their perimeter.

Uncultivated Grassland and Riparian. The survey route crosses the flood plain of the Cosumnes River where a small amount of riparian and associated uncultivated grassland were documented. The riparian forest in this area supports high value nesting habitat but would not typically be used for foraging by raptor species documented during the survey with the exception of red-shouldered hawk and Cooper's hawk. The small patches of grassland may be used by foraging raptors, but usually do not support the prey abundance and accessibility compared with open, cultivated lands. The expanded route for 2021 included additional open grassland through

the Cosumnes River Preserve and in the vicinity of the Dillard project at the eastern terminus of the route.

Solar Array Fields. A description of the five solar fields is provided in the Introduction section.

Strip Transect Road Surveys

Data on species occurrence, land cover, and behavior are compiled into the following tables, which provide insight into the use of solar fields compared with other land cover types by each raptor species, and inform the statistical outcome presented in the chi-square value tables from which the relative importance of each land cover can be inferred.

A total of 1,029 raptor occurrences were documented within the survey area. Three of the seven documented species, Swainson's hawk, red-tailed hawk, and American kestrel comprised 92.4 percent of the total occurrences. Swainson's hawk comprised 30.4 percent of the total occurrences (Table 2), down from 38.5 percent in 2013, speculatively due to orchard expansion in the region. In 2021, red-tailed hawks were the most commonly documented species in the survey area at 39.8 percent, up from 31.2 percent in 2013.

Table 2. Species occurrences documented within the survey area, 2021.

Species	Number of Occurrences	Percent of Total
Red-tailed hawk	410	39.8
Swainson's hawk	313	30.4
American kestrel	228	22.2
Red-shouldered hawk	42	4.1
White-tailed kite	20	1.9
Osprey	5	0.5
Cooper's Hawk	5	0.5
Northern harrier	4	0.4
Great-horned Owl	2	0.2
Total	1,029	100

Table 3 shows the number of occurrences by species within each land cover type. Alfalfa was associated with the largest proportion of all raptor occurrences at 23.6 percent, and the largest proportion of occurrences for red-tailed hawk (21.2 percent), Swainson's hawk (27.2 percent), American kestrel (26.3 percent), and red-shouldered hawk (23.8 percent). Dry pasture, irrigated pasture, solar fields, and oats also supported relatively high overall raptor occurrences, particularly red-tailed hawks, Swainson's hawks, and American kestrels.

Although solar fields made up only 3.7 percent of the survey area (Table 1), 8.7 percent of all raptor occurrences and 11.2 percent of all Swainson's hawk occurrences were documented in solar fields. Nearly 13 percent of all American kestrel occurrences and 4.6 percent of all red-tailed hawk occurrences were in solar fields.

Table 3. Species occurrences documented within each land cover type, 2021.

Land Cover Type	Species									Total	% of Total
	RTHA	SWHA	AMKE	RSHA	WTKI	OSPR	NOHA	COHA	GHOW		
Alfalfa	87	85	60	10	1					243	23.6
Dry pasture	56	34	11	3	1					105	10.2
Irrigated. pasture	53	20	15	5						93	9.0
Solar field	19	35	29	4				2	1	90	8.7
Oats	14	33	32		3				1	83	8.1
Vineyard	48	16	7	3			2	2		78	7.6
Corn	24	16	25	2				1		68	6.6
Field edge*	13	15	16	8	6	5				63	6.1
Tilled	11	25	20	3	1		1			61	5.9
Idle/Fallow	27	2	6		8					43	4.2
Orchard	38	4	1							43	4.2
Wheat	4	16	5							25	2.4
Grassland	15	5	1				1			22	2.1
Riparian/wetland	1	2		4						7	0.7
Ruderal/Develop	0	5								5	0.5
Total	410	313	228	42	20	5	4	5	2	1,029	100

SWHA = Swainson's hawk; RTHA = red-tailed hawk; AMKE = American kestrel; NOHA = northern harrier; WTKE = white-tailed kite; RSHA = red-shouldered hawk; OSPR = osprey; COHA = Cooper's hawk, GHOW = great-horned owl.
*Field or road edge was not a mapped habitat type, so these data are not included in the statistical analysis.

Species occurrences by behavior type are presented in Table 4. Perched occurrences were most common followed by circling below 100 meters, and together comprised nearly 82 percent of all occurrences. A total of 831 occurrences (81 percent) were considered potential foraging occurrences (Table 4).

Table 4. Behaviors documented by species. Potential foraging behaviors are highlighted.

Behavior Code	Species									Total	% of Total
	RTHA	SWHA	AMKE	RSHA	WTKI	COHA	OSPR	NOHA	GHOW		
P	304	122	145	31	14	2	3		1	622	60.4
C	81	122	10	4	2		1			220	21.4
F	13	14	24	4	3	3	1	3	1	66	6.4
G	1	28	1	1						31	3.0
CS	1	9	12	1						23	2.2
K		5	14		1					20	1.9
CU	2	3	11							16	1.6
S	5	9						1		15	1.5
CA	3	1	9	1						14	1.4
AF			2							2	0.2
Total	410	313	228	42	20	5	5	4	2	1029	100

SWHA = Swainson's hawk; RTHA = red-tailed hawk; AMKE = American kestrel; NOHA = northern harrier; WTKE = white-tailed kite; RSHA = red-shouldered hawk; OSPR = osprey. P-perching; C-circling below 100m; F-flying through below 200m; G-on the ground; CS-successful prey capture; K-kiting/hovering; CU-unsuccessful prey capture; S-soaring below 200m; CA-prey capture attempt; AF-aerial foraging.

Table 5 summarizes all raptor behaviors by land cover type. Tables 6, 7, and 8 show the behaviors associated with each occurrence in each land cover type for the Swainson's hawk, red-tailed hawk, and American kestrel, respectively. Swainson's hawks (Table 6) generally spend less time perching, particularly while foraging, than do red-tailed hawks and American kestrels, species that often hunt from perches. Typical hunting behavior of Swainson's hawk is a circling

flight at an altitude less than 100 meters. Nearly 40 percent of all Swainson's hawk occurrences were of circling flights below 100 meters. The proportion of perching occurrences (39%) was similar (up from 29% in 2013); however, in contrast, the largest proportion of Red-tailed hawk and American kestrel occurrences (74 percent and 64 percent, respectively) were of perching individuals (Tables 7 and 8).

Table 5. All raptor behaviors by land cover type

Land Cover Type	Behaviors										Total
	P	S	C	F	CA	CS	CU	G	K	AF	
Oats	48	2	23	1			3	1	5		83
Alfalfa	141	2	39	9	5	12	8	18	9		243
Dry pasture	66	1	22	8	1	2	1	4			105
Irrigated pasture	59	4	17	5	1	3	1	2		1	93
Ruderal/Developed	4		1								5
Vineyard	44	2	26	6							78
Orchard	35		8								43
Grassland	12		7	2	1						22
Corn	44	1	13	6		1	2			1	68
Field edge*	38		13	11					1		63
Tilled	35		16	5		1		4			61
Solar field	51		22	10	4	2	1				90
Idle/fallow	32		7	2	2						43
Riparian/Wetland	4		1	1					1		7
Wheat	6	3	8			2		2	4		25
Total	619	15	223	66	14	23	16	31	20	2	1029

P = perching; S = soaring below 200 m; C = circling below 100 meters; F = Flying below 200 meters; CA = prey capture attempt; CS = prey capture successful; CU = prey capture unsuccessful; G = standing on the ground; K = kiting/hovering, AF = aerial foraging. *Field or road edge was not a mapped habitat type, so these data are not included in the statistical analysis.

Table 6. Swainson's hawk behaviors by land cover type

Land Cover Type	Behaviors										Total
	P	S	C	F	CA	CS	CU	G	K	AF	
Oats	9	2	21					1			33
Alfalfa	26	1	24	5	1	7	2	17	2		85
Dry pasture	13	1	14	2		1		3			34
Irrigated pasture	9	1	8				1	1			20
Ruderal/Developed	4		1								5
Vineyard	5		11								16
Orchard			4								4
Grassland	2		2	1							5
Corn	10	1	5								16
Field edge	7		4	3					1		15
Tilled	8		11	2				4			25
Solar field	24		10			1					35
Idle/fallow	2										2
Riparian/wetland				1					1		2
Wheat	3	3	7					2	1		16
Total	122	9	122	14	1	9	3	28	5		313

P = perching; S = soaring below 200 m; C = circling below 100 meters; F = Flying below 200 meters; CA = prey capture attempt; CS = prey capture successful; CU = prey capture unsuccessful; G = standing on the ground; K = kiting/hovering. *Field or road edge was not a mapped habitat type, so these data are not included in the statistical analysis.

Table 7. Red-tailed hawk behaviors by land cover type

Land Cover Type	Behaviors										Total
	P	S	C	F	CA	CS	CU	G	K	AF	
Oats	12		2								14
Alfalfa	71	1	11	1	1		2				87
Dry pasture	45		8	2				1			56
Irrigated pasture	37	3	8	3	1	1					53
Ruderal/Developed											0
Vineyard	32	1	14	1							48
Orchard	34		4								38
Grassland	9		5		1						15
Corn	15		8	1							24
Field edge	8		4	1							13
Tilled	9		1	1							11
Solar field	7		10	2							19
Idle/Fallow	22		4	1							27
Riparian/wetland			1								1
Wheat	3		1								4
Total	304	5	81	13	3	1	2	1			410

P = perching; S = soaring below 200 m; C = circling below 100 meters; F = Flying below 200 meters; CA = prey capture attempt; CS = prey capture successful; CU = prey capture unsuccessful; G = standing on the ground; K = kiting/hovering. *Field or road edge was not a mapped habitat type, so these data are not included in the statistical analysis.

Table 8. American kestrel behaviors by land cover type

Land Cover Type	Behaviors										Total
	P	S	C	F	CA	CS	CU	G	K	AF	
Oats	23			1			3		5		32
Alfalfa	35		3	3	3	5	4	1	6		60
Dry pasture	5			4		1	1				11
Irrigated pasture	11		1	1		1				1	15
Ruderal/Developed											0
Vineyard	4		1	2							7
Orchard	1										1
Grassland	1										1
Corn	17			4		1	2			1	25
Field edge	9		2	5							16
Tilled	18		1			1					20
Solar field	17		2	4	4	1	1				29
Idle/fallow	4				2						6
Riparian/Wetland											0
Wheat						2			3		5
Total	145		10	24	9	12	11	1	14	2	228

P = perching; S = soaring below 200 m; C = circling below 100 meters; F = Flying below 200 meters; CA = prey capture attempt; CS = prey capture successful; CU = prey capture unsuccessful; G = standing on the ground; K = kiting/hovering, AF = aerial foraging. *Field or road edge was not a mapped habitat type, so these data are not included in the statistical analysis.

To examine the extent of foraging within solar fields and to evaluate the foraging use of solar fields and other land cover types relative to their availability within the survey area, those behaviors that were considered foraging behaviors were isolated from the total occurrences and used in the statistical analysis. For Swainson's hawk this included the following behaviors:

- Circling below 100 meters

- Kiting/Hovering
- Standing on ground
- Prey capture (attempt, successful, unsuccessful)

However, review of the data revealed an increase in Swainson's hawk perching occurrences compared with 2013, particularly at solar array fields (Plate 6). Although many of these were attributed to the proximity of the active nest at the Kammerer solar site, it also appeared that Swainson's hawk perching within the solar arrays had increased and may be attributed to using the structures as hunting perches within the array. The proportion of perching occurrences within in the solar array in 2021 (7.7 percent) increased nearly four times of that reported in 2013 (2.1 percent). As a result, although the analysis was initially conducted using the behaviors noted above, it was repeated using perching as a potential foraging behavior. Only those perching events within the solar arrays that were not attributed to the nesting activity at the Kammerer solar site were used.

Plate 6. Adult Swainson's hawk perched on solar panel at the McKenzie site. This use of the solar array suggests potential onsite foraging activity.

For the red-tailed hawk and American kestrel, perching was also included as a foraging behavior since these species commonly hunt from a perch. Note that with the exception of prey capture types and kiting/hovering, the remaining behaviors could be attributed to activities other than foraging. However, these are the primary foraging techniques of these species, and including them provides a reasonable estimation of foraging use for purposes of a comparative analysis.

Swainson's Hawk

Table 9 shows the relationship between foraging occurrences and habitat/land use type acreages for Swainson's hawk. As expected, 33.3 percent of the foraging occurrences were in alfalfa.

Oats, dry pasture, and tilled fields account for an additional 34.5 percent. Although comprising only 3.7 percent of the land cover, 6.9 percent of the foraging occurrences were in solar fields. Table 10 shows the same relationship but includes additional perching occurrences within solar fields considered potential foraging occurrences, increasing the proportion of foraging occurrences in solar fields to 10.6 percent.

Table 9. Swainson's hawk foraging occurrences within each land cover type.

Land Cover Type	Acres	Percent of Total	SWHA Foraging Observations	Percent of Total
Oats	844	15.3	22	13.8
Alfalfa	672	12.2	53	33.3
Dry Pasture	613	11.1	18	11.3
Irrigated Pasture	585	10.6	10	6.3
Ruderal/Developed	531	9.7	1	0.6
Vineyard	495	9.0	11	6.9
Orchard	393	7.1	4	2.5
Grassland	340	6.2	2	1.3
Corn	283	5.1	5	3.1
Tilled	235	4.3	15	9.4
Solar Array Field	206	3.7	11	6.9
Idle/Fallow	159	2.9	0	0
Riparian/Wetland	77	1.4	1	0.6
Wheat	68	1.2	10	6.3
Total	5,501	100	163	100

Table 10. Swainson's hawk foraging occurrences within each land cover type (including perching occurrences within solar array fields).

Land Cover Type	Acres	Percent of Total	SWHA Foraging Observations	Percent of Total
Oats	844	15.3	22	12.9
Alfalfa	672	12.2	53	31.2
Dry Pasture	613	11.1	18	10.6
Irrigated Pasture	585	10.6	10	5.9
Ruderal/Developed	531	9.7	1	0.6
Vineyard	495	9.0	11	6.5
Orchard	393	7.1	4	2.4
Grassland	340	6.2	2	1.2
Corn	283	5.1	5	2.9
Tilled	235	4.3	15	8.2
Solar Array Field	206	3.7	18	10.6
Idle/Fallow	159	2.9	0	0
Riparian/Wetland	77	1.4	1	0.6
Wheat	68	1.2	10	5.9
Total	5,501	100	170	100

The first chi-square test determines whether or not foraging use was in proportion to the availability of the land cover types in the survey area. As expected, the pattern of use indicates a high degree of habitat selectively and thus the null hypothesis was rejected ($\chi^2_{13.d.f.= 34.528}$ $P<0.001$) (Table 11). In other words, Swainson's hawks are selecting or avoiding specific crop or land cover types for foraging. Next, the contribution of the individual types was evaluated with regard to their significant contribution (positive or negative) to the chi-square

determination. Those with an observed use that exceeds the expected use, have a significant positive contribution (brown highlighting) and those with an expected use that exceeds the observed use have a significant negative contribution (blue highlighting) ($\chi^2_{1.d.f.= 3.84}$ $P<0.05$). In other words, Table 11 indicates that Swainson's hawks appear to be using alfalfa, tilled, wheat, and solar array fields at a significantly greater frequency than would be expected relative to their availability in the survey area.

Table 12 shows the same relationship but includes the additional perching occurrences within solar fields considered potential foraging occurrences (Table 10), resulting in a similar outcome, but with a substantially greater positive contribution from solar array fields. In other words, Swainson's hawks are not avoiding solar array fields within the agricultural landscape and appear to be using them at a greater frequency than would be expected given their availability.

Some caution is needed when interpreting these results. While the results indicate that land cover types overall are not used in proportion to their availability and that certain types have a significant contribution to this result, it does not necessarily indicate that those that do not have a significant contribution or that have a significant negative association lack value. For example, dry pasture accounted for the third highest number of Swainson's hawk foraging occurrences, but because dry pasture was relatively common within the survey area, the expected use was similar to the observed use. So, while it does not appear to have been selected over other land cover types or used in proportion to its availability, 10.6 percent of all documented Swainson's hawk foraging occurred in dry pastures, and therefore this type, regardless of its availability or use, clearly has foraging value to this species.

Table 11. Chi-square values for Swainson's hawk.

Land Cover Type	Available Land Cover (%)	Observed Use of Land Cover (Frequency)	Expected Use of Land Cover (Frequency)	Chi-square Contribution
Oats	15.3	22	24.94	0.35
Alfalfa	12.2	53	19.89	55.12
Dry Pasture	11.1	18	18.09	0.00
Irrigated Pasture	10.6	10	17.28	3.07
Ruderal/Developed	9.7	1	15.81	13.87
Vineyard	9.0	11	14.67	0.92
Orchard	7.1	4	11.57	4.95
Grassland	6.2	2	10.11	6.51
Corn	5.1	5	8.31	1.32
Tilled	4.3	15	7.01	9.11
Solar Array Field	3.7	11	6.03	4.10
Idle/Fallow	2.9	0	4.72	4.72
Riparian/Wetland	1.4	1	2.28	0.72
Wheat	1.2	10	1.96	32.98
Total	100	163	163	137.74*

*137.74 represents the sample statistic in the chi-square analysis. To be considered significant, this value must exceed the Critical Value ($\chi^2_{13.d.f.= 34.528}$ $P<0.001$), indicating that the observed frequencies are significantly different from the expected frequencies. The brown-highlighted rows indicate the land cover types that have a significant positive contribution and the blue-highlighted rows indicate a significant negative contribution ($\chi^2_{1.d.f.= 3.84}$ $P<0.05$).

Table 12. Chi-square values for Swainson's hawk (including perching in solar arrays).

Land Cover Type	Available Land Cover (%)	Observed Use of Land Cover (Frequency)	Expected Use of Land Cover (Frequency)	Chi-square Contribution
Oats	15.3	22	26.01	0.62
Alfalfa	12.2	53	20.74	50.18
Dry Pasture	11.1	18	18.87	0.04
Irrigated Pasture	10.6	10	18.02	3.57
Ruderal/Developed	9.7	1	16.49	14.55
Vineyard	9.0	11	15.30	1.21
Orchard	7.1	4	12.07	5.40
Grassland	6.2	2	10.54	6.92
Corn	5.1	5	8.67	1.55
Tilled	4.3	15	7.31	8.09
Solar Array Field	3.7	18	6.29	21.80
Idle/Fallow	2.9	0	4.93	4.93
Riparian/Wetland	1.4	1	2.38	0.80
Wheat	1.2	10	2.04	31.06
Total	100	170	170	150.72*

*150.72 represents the sample statistic in the chi-square analysis, which exceeds the Critical Value ($\chi^2_{13.d.f.= 34.528}$ P<0.001), indicating that the observed frequencies are significantly different from the expected frequencies. The brown-highlighted rows indicate the land cover types that have a significant positive contribution and the blue-highlighted rows indicate a significant negative contribution ($\chi^2_{1.d.f.= 3.84}$ P<0.05).

Red-tailed Hawk

Table 13 shows the relationship between foraging occurrences and land use type acreages for red-tailed hawk. Three types comprised nearly 50 percent of the foraging occurrences, alfalfa, irrigated pasture, and dry pasture. Red-tailed hawk was also found more frequently in vineyards and orchards, which together comprised 22 percent of the total foraging occurrences. Most of these were perching individuals and were thus considered potential foraging occurrences, although it is likely that many were roosting rather than foraging. Solar fields accounted for 4.5 percent of the red-tailed hawk occurrences and just 3.7 percent of the total land cover.

Table 13. Red-tailed hawk foraging occurrences within each land cover type.

Land Cover Type	Acres	Percent of Total	RTHA Foraging Observations	Percent of Total
Oats	844	15.3	14	3.7
Alfalfa	672	12.2	85	22.4
Dry Pasture	613	11.1	54	14.2
Irrigated Pasture	585	10.6	47	12.4
Ruderal/Developed	531	9.7	0	0
Vineyard	495	9.0	46	12.1
Orchard	393	7.1	38	10.0
Grassland	340	6.2	15	3.9
Corn	283	5.1	23	6.1
Tilled	235	4.3	10	2.6
Solar Array Field	206	3.7	17	4.5
Idle/Fallow	159	2.9	26	6.8
Riparian/Wetland	77	1.4	1	0.3
Wheat	68	1.2	4	1.1
Total	5,501	100	380	100

As expected, the pattern of use for red-tailed hawk also indicates a high degree of habitat selectively and thus the null hypothesis was rejected ($\chi^2_{13.d.f.= 34.528}$ $P<0.001$) (Table 14). The contribution of the individual types indicated that alfalfa, idle/fallow fields, and to a marginal extent vineyards and orchards, were used significantly more than their relative availability and oats and ruderal/developed, were used significantly less than their relative availability ($\chi^2_{1.d.f.= 3.84}$ $P<0.05$). Although not contributing significantly to the sample statistic, the results also indicate that solar fields were not avoided by foraging red-tailed hawks. Instead, they accounted for 4.5 percent of all red-tailed hawk foraging occurrences with observed use higher than expected use.

As noted above, lack of a significant contribution or a significant negative contribution does not necessarily indicate lack of value. For example, dry and irrigated pastures accounted for 14.2 and 12.4 percent of foraging occurrences, respectively (Table 13). But because these types occurred more frequently in the survey area, even though observed use exceeded expected use, neither had a significant positive contribution. However, the proportion of occurrences clearly suggests the importance of these land cover types to foraging red-tailed hawks.

Table 14. Chi-square values for red-tailed hawk.

Land Cover Type	Available Land Cover (%)	Observed Use of Land Cover (Frequency)	Expected Use of Land Cover (Frequency)	Chi-square Contribution
Oats	15.3	14	58.14	33.51
Alfalfa	12.2	85	46.36	32.21
Dry Pasture	11.1	54	42.18	3.31
Irrigated Pasture	10.6	47	40.28	1.12
Ruderal/Developed	9.7	0	36.86	36.86
Vineyard	9.0	46	34.20	4.07
Orchard	7.1	38	26.98	4.50
Grassland	6.2	15	23.56	3.11
Corn	5.1	23	19.38	0.68
Tilled	4.3	10	16.34	2.46
Solar Array Field	3.7	17	14.06	0.61
Idle/Fallow	2.9	26	11.02	20.36
Riparian/Wetland	1.4	1	5.32	3.51
Wheat	1.2	4	4.56	0.07
Total	100	380	380	146.38*

*146.38 represents the sample statistic in the chi-square analysis. To be considered significant, this value must exceed the Critical Value ($\chi^2_{13.d.f.= 34.528}$ $P<0.001$), indicating that the observed frequencies are significantly different from the expected frequencies. The brown-highlighted rows indicate the land cover types that have a significant positive contribution and the blue-highlighted rows indicate a significant negative contribution ($\chi^2_{1.d.f.= 3.84}$ $P<0.05$).

American Kestrel

Table 15 shows the relationship between foraging occurrences and habitat/land use type acreages for American kestrel. Three types made up 58.6 percent of the foraging occurrences, alfalfa, oats, and solar array fields. Thirteen percent of all foraging occurrences were in solar fields.

Table 15. American kestrel foraging occurrences within each land cover type.

Land Cover Type	Acres	Percent of Total	AMKE Foraging Observations	Percent of Total
Oats	844	15.3	31	16.1
Alfalfa	672	12.2	57	29.5
Dry Pasture	613	11.1	7	3.6
Irrigated Pasture	585	10.6	14	7.3
Ruderal/Developed	531	9.7	0	0
Vineyard	495	9.0	5	2.6
Orchard	393	7.1	1	0.5
Grassland	340	6.2	1	0.5
Corn	283	5.1	21	10.9
Tilled	235	4.3	20	10.4
Solar Array Field	206	3.7	25	13.0
Idle/Fallow	159	2.9	6	3.1
Riparian/Wetland	77	1.4	0	0
Wheat	68	1.2	5	2.6
Total	5,501	100	193	100

The pattern of use for American kestrel also indicates a high degree of habitat selectively and thus the null hypothesis was rejected ($\chi^2_{13.d.f.=34.528}$ $P<0.001$) (Table 16). The contribution of the individual types indicate that alfalfa, solar fields, tilled, and corn fields were used significantly more than their relative availability, and dry pasture, ruderal/developed, vineyard, orchard, and grassland were used significantly less than their relative availability ($\chi^2_{1.d.f.=3.84}$ $P<0.05$).

Foraging use of solar fields by American kestrels was particularly high due mainly to the high proportion of perching occurrences (63.6 percent) (Table 8). The solar panels and the perimeter fence provided excellent perching habitat for kestrels (Plate 7).

Table 16. Chi-square values for American kestrel.

Land Cover Type	Available Land Cover (%)	Observed Use of Land Cover (Frequency)	Expected Use of Land Cover (Frequency)	Chi-square Contribution
Oats	15.3	31	29.53	0.07
Alfalfa	12.2	57	23.55	47.51
Dry Pasture	11.1	7	21.42	9.71
Irrigated Pasture	10.6	14	20.46	2.04
Ruderal/Developed	9.7	0	18.72	18.72
Vineyard	9.0	5	17.37	8.81
Orchard	7.1	1	13.70	11.77
Grassland	6.2	1	11.97	10.05
Corn	5.1	21	9.84	12.66
Tilled	4.3	20	8.30	11.70
Solar Array Field	3.7	25	7.14	44.68
Idle/Fallow	2.9	6	5.60	0.03
Riparian/Wetland	1.4	0	2.70	2.70
Wheat	1.2	5	2.32	3.09
Total	100	193	193	183.54

*183.54 represents the sample statistic in the chi-square analysis. To be considered significant, this value must exceed the the Critical Value ($\chi^2_{13.d.f.=34.528}$ $P<0.001$), indicating that the observed frequencies are significantly different from the expected frequencies. Brown-highlight indicates a significant contribution and blue indicates negative contribution ($\chi^2_{1.d.f.=3.84}$ $P<0.05$).

Plate 7. American kestrel perch-hunting on a solar panel at the Kammerer Site.

All Raptors

Table 17 shows the relationship between foraging occurrences and land cover type acreages for all raptors combined. Not unexpectedly, the largest proportion of foraging occurrences for all raptors combined occurred in alfalfa fields (26.2 percent), although this land cover type made up just 12.2 percent of the survey area. Dry pasture, irrigated pasture, and oats were also relatively frequently used and combined for a total of 29.3 percent of the occurrences, although they made up 37 percent of the survey area. Solar array fields, 3.7 percent of the survey area, contributed 7.2 percent of the foraging occurrences for all raptors combined.

The overall pattern of use for all raptor species combined also indicates a high degree of habitat selectively and thus the null hypothesis was rejected ($\chi^2_{13.d.f.=34.528}$ $P<0.001$) (Table 18). The contribution of the individual types indicates that alfalfa, solar fields, idle/fallow, and tilled fields were used significantly more than their relative availability, and ruderal/developed, grassland, and oats were used significantly less than their relative availability ($\chi^2_{1.d.f.=3.84}$ $P<0.05$). With the same cautionary notes expressed above relating to existing knowledge of observed habitat value and the availability/frequency formulation used here, it is clear that raptors are not avoiding solar array fields and at least to some extent appear to be selecting them.

Table 17. All raptor foraging occurrences within each land cover type.

Land Cover Type	Acres	Percent of Total	All Raptor Foraging Observations	Percent of Total
Oats	844	15.3	71	9.1
Alfalfa	672	12.2	205	26.2
Dry Pasture	613	11.1	83	10.6
Irrigated Pasture	585	10.6	75	9.6
Ruderal/Developed	531	9.7	1	0.1
Vineyard	495	9.0	67	8.6
Orchard	393	7.1	43	5.5
Grassland	340	6.2	19	2.4
Corn	283	5.1	51	6.5
Tilled	235	4.3	46	5.9
Solar Array Field	206	3.7	56	7.2
Idle/Fallow	159	2.9	39	5.0
Riparian/Wetland	77	1.4	6	0.8
Wheat	68	1.2	19	2.4
Total	5,501	100	781	100

Table 18. Chi-square values for all raptors.

Land Cover Type	Available Land Cover (%)	Observed Use of Land Cover (Frequency)	Expected Use of Land Cover (Frequency)	Chi-square Contribution
Oats	15.3	71	119.49	19.68
Alfalfa	12.2	205	95.28	126.35
Dry Pasture	11.1	83	86.69	0.16
Irrigated Pasture	10.6	75	82.79	0.73
Ruderal/Developed	9.7	1	75.76	73.77
Vineyard	9.0	67	70.29	0.15
Orchard	7.1	43	55.45	2.80
Grassland	6.2	19	48.42	17.88
Corn	5.1	51	39.83	3.13
Tilled	4.3	46	33.58	4.59
Solar Array Field	3.7	56	28.90	25.41
Idle/Fallow	2.9	39	22.65	11.80
Riparian/Wetland	1.4	6	10.93	2.22
Wheat	1.2	19	9.37	9.90
Total	100	781	781	298.57

*298.57 represents the sample statistic in the chi-square analysis. To be considered significant, this value must exceed the Critical Value ($\chi^2_{13.d.f.=34.528}$ $P<0.001$), indicating that the observed frequencies are significantly different from the expected frequencies. The brown-highlighted rows indicate the land cover types that have a significant positive contribution and the blue-highlighted rows indicate a significant negative contribution ($\chi^2_{1.d.f.=3.84}$ $P<0.05$).

Stationary Observation Points

A total of 160 raptor occurrences were reported within the solar array fields during the stationary observation point surveys (Table 19). Of these, 126 (78.8 percent) were considered foraging occurrences. Consistent with the driving transect survey results, American kestrel (38.8 percent) and Swainson's hawk (36.9 percent) were the most commonly observed raptors. Nearly 60 percent of the Swainson's hawk occurrences were considered foraging occurrences. Some of the perching occurrences may also have been associated with foraging behavior, but were excluded for consistency with the 2013 data.

Although fewer Swainson's hawks were observed in 2021 (59) than in 2013 (108), the proportion of foraging occurrences (59.3 percent in 2021 and 63.9 percent in 2013) was similar. Results were also consistent for all other species between 2013 and 2021.

Table 20 shows the different behaviors of each species within the solar fields. Similar to the road transect results, the most common behaviors were circling below 100 meters and perching, comprising 78.6 percent of foraging occurrences. Nearly 17 percent of the foraging occurrences were prey captures or prey capture attempts.

Table 19. Total number of occurrences and the proportion of foraging occurrences in solar fields for all species observed.

Species	Total occurrences	Foraging occurrences	Percent Foraging occurrences
Swainson's hawk	59	35	59.3
Red-tailed hawk	27	26	96.3
American kestrel	62	55	88.7
Red-shouldered hawk	2	1	50.0
Cooper's hawk	8	7	87.5
Northern harrier	1	1	100
Peregrine falcon	1	1	100
Total	160	126	78.8

Table 20. Behaviors in solar fields (all species). Foraging behaviors are highlighted.

	Behaviors								
	P	**S**	**C**	**K**	**F**	**G**	**CA**	**CS**	**CU**
SWHA	14	2	32	1	8		1	1	
RTHA	3	1	21			1	1		
AMKE	31		5	2	8		9	5	2
RSHA			1		1				
COHA	2		3		1		2		
NOHA					1				
PEFA			1						
Total	50	3	63	3	19	1	13	6	2

P = perching; S = soaring below 200 m; C = circling below 100 meters; F = Flying below 200 meters; CA = prey capture attempt; CS = prey capture successful; CU = prey capture unsuccessful; G = standing on the ground; K = kiting/hovering. SWHA = Swainson's hawk; RTHA = red-tailed hawk; AMKE = American kestrel; RSHA = red-shouldered hawk; COHA = Cooper's hawk; NOHA = northern harrier; PEFA = peregrine falcon.

Summary and Conclusions

The results of this study indicate ongoing raptor use of moderately-sized solar array fields following conversion from cultivated uses. Results of the strip transect road survey indicate raptor use in general, and specifically Swainson's hawk and American kestrel use of solar array fields exceeds expected use based on their availability within the agricultural landscape. This suggests that solar array fields are not avoided by these species and may be selected at a greater frequency than many cultivated land cover types. The stationary observation point surveys confirm use within solar array fields, including foraging or potential foraging use by all species observed.

Comparison with 2013 Results

Data from 2021 are consistent with the 2013 results. Although there were some differences in the use of specific cultivated land cover types for some species, similar use patterns were found, particularly the overall use of solar array fields.

The total number and the relative proportion of Swainson's hawks in 2021 (30.4 percent) was less than in 2013 (38.5 percent), while the numbers of other species, including red-tailed hawk, American kestrel, and red-shouldered hawk, increased in 2021 (Table 21). This may have been due in part to the expansion of the strip transect road survey route, which increased the proportion of grasslands, and to the conversion to orchards along the route, which decreased the proportion of irrigated pasture (Table 22). The extent of orchard expansion throughout the region has resulted in declines of available habitat for Swainson's hawk (Estep 2020).

The proportion of Swainson's hawk foraging observations in solar array fields was greater in 2013 (12.8 percent) than in 2021 (6.9 percent). However, the observed use of solar array fields by Swainson's hawk has changed since 2013, with a greater proportion of perching occurrences in 2021. Perching was not included as a potential foraging behavior in 2013, but 2021 observations suggest that perching within the solar array may have become a more common technique for foraging within the array. Thus, the data were recalculated by including several perching occurrences considered to be foraging behaviors, resulting in the proportion of foraging observations approaching 11 percent and greater consistency with 2013 results. However, either result (including and not including the additional perching occurrences) resulted in an observed use of solar array fields by Swainson's hawks that exceeded expected use. In other words, in either case, Swainson's hawks appear to be using solar array fields at a significantly greater frequency than would be expected relative to their availability.

Conclusions

The following conclusions are the same as were made in the 2013 study (Estep 2013).

1. Swainson's hawks use and forage within managed solar array fields. The results of the driving transect surveys and the stationary observation point surveys indicate foraging use of the solar array fields by Swainson's hawks and other raptors. While it is difficult to observe the precise locations of prey capture attempts in solar array fields due to their height, the rows of

solar trackers may not preclude foraging in the open grasslands between them. However, foraging hawks may also be focused primarily on the wider spaces between the sub-areas within the projects and around the perimeter of the projects. Of key importance is the management of a grassland substrate to promote rodent populations and maintaining this substrate at a height that promotes visibility and access to prey. Unlike most crop types, this condition is available in solar fields throughout the spring and summer breeding season, and thus provides a consistent and available source of prey. Many crop types, while important in the overall agricultural matrix, may be available for a relatively short period of time during the breeding season due to the planting, growth, and harvesting regime.

2. Swainson's hawk foraging use of solar array fields exceeds what would be expected based on their availability. This suggests that not only were the solar array fields being used by foraging Swainson's hawks, but that they were being selectively used at greater frequency than some of the other land cover types in the survey area. The data indicates a similar conclusion for American kestrel, and although not selected at a greater frequency, data on red-tailed hawk use of solar array fields indicate they were not avoided.

3. Within the diverse agricultural landscape of the study area, the presence of the managed solar array fields (i.e., managed grassland substrate) did not appear to negatively affect the Swainson's hawk and other raptors. The solar array fields were used for foraging similarly to other moderate to high value agricultural cover types and their presence did not appear to affect the overall use of the landscape by Swainson's hawks or other raptors. As one element of an otherwise diverse agricultural matrix, the solar array fields provided a consistent and an apparently reasonably accessible source of prey, particularly for Swainson's hawks and American kestrels. However, this outcome should be viewed with some caution in that while this study indicated a positive relationship, only a small percent of the survey area was solar array field. But these results suggest that solar array fields designed and managed similarly as those included within this study and integrated into a diverse agricultural landscape may not negatively affect Swainson's hawk and other raptors.

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LEGEND

- Survey Route
- Survey Area (1,200' total width)

KEY TO LAND COVER

Solar Facility	116 Ac.
Irrigated Pasture	232 Ac.
Oats	315 Ac.
Dry Pasture	61 Ac.
Alfalfa	187 Ac.
Ruderal/Developed	133 Ac.
Wheat	
Tilled	2.5 Ac.
Vineyard	160 Ac.
Grassland	
Orchard	132 Ac.
Idle/Fallow	62 Ac.

ROTATED LAND COVER

Wheat to Corn	
Oats to Corn	53 Ac.
Tilled to Corn	78 Ac.
Oats to Tilled	64 Ac.

MATCH LINE (see Figure 3b)

MATCH LINE (see Figure 3c)

Figure 3a
Survey Route and Land Cover Types

NORTH

0 1,000 2,000

FEET

BASE MAP: USGS 7.5' Bruceville and Galt, California Quadrangles

09/21/2021

LEGEND

- Survey Route
- Survey Area (1,200' total width)

KEY TO LAND COVER

Solar Facility	
Irrigated Pasture	118 Ac.
Oats	20 Ac.
Dry Pasture	92 Ac.
Alfalfa	142 Ac.
Ruderal/Developed	74 Ac.
Wheat	
Tilled	
Vineyard	30 Ac.
Grassland	
Orchard	25 Ac.
Idle/Fallow	2 Ac.

ROTATED LAND COVER

Wheat to Corn	15 Ac.
Oats to Corn	32 Ac.
Tilled to Corn	
Oats to Tilled	83 Ac.

MATCH LINE (see Figure 3a)

Point Pleasant

Bruceville

Figure 3b
Survey Route and Land Cover Types

NORTH

0 1,000 2,000

FEET

BASE MAP: USGS 7.5' Bruceville and Galt, California Quadrangles

09/21/2021

MATCH LINE (see Figure 3a)

MATCH LINE (see Figure 3d)

LEGEND

- Survey Route
- Survey Area (1,200' total width)

KEY TO LAND COVER

Solar Facility	
Irrigated Pasture	
Oats	47 Ac.
Dry Pasture	25 Ac.
Alfalfa	115 Ac.
Ruderal/Developed	80 Ac.
Wheat	
Tilled	
Vineyard	
Grassland	
Orchard	53 Ac.
Idle/Fallow	35 Ac.

ROTATED LAND COVER

Wheat to Corn	18 Ac.
Oats to Corn	15 Ac.
Tilled to Corn	176 Ac.
Oats to Tilled	

09/21/2021

Figure 3c
Survey Route and Land Cover Types

NORTH

0 1,000 2,000

FEET

BASE MAP: USGS 7.5' Bruceville and Galt, California Quadrangles

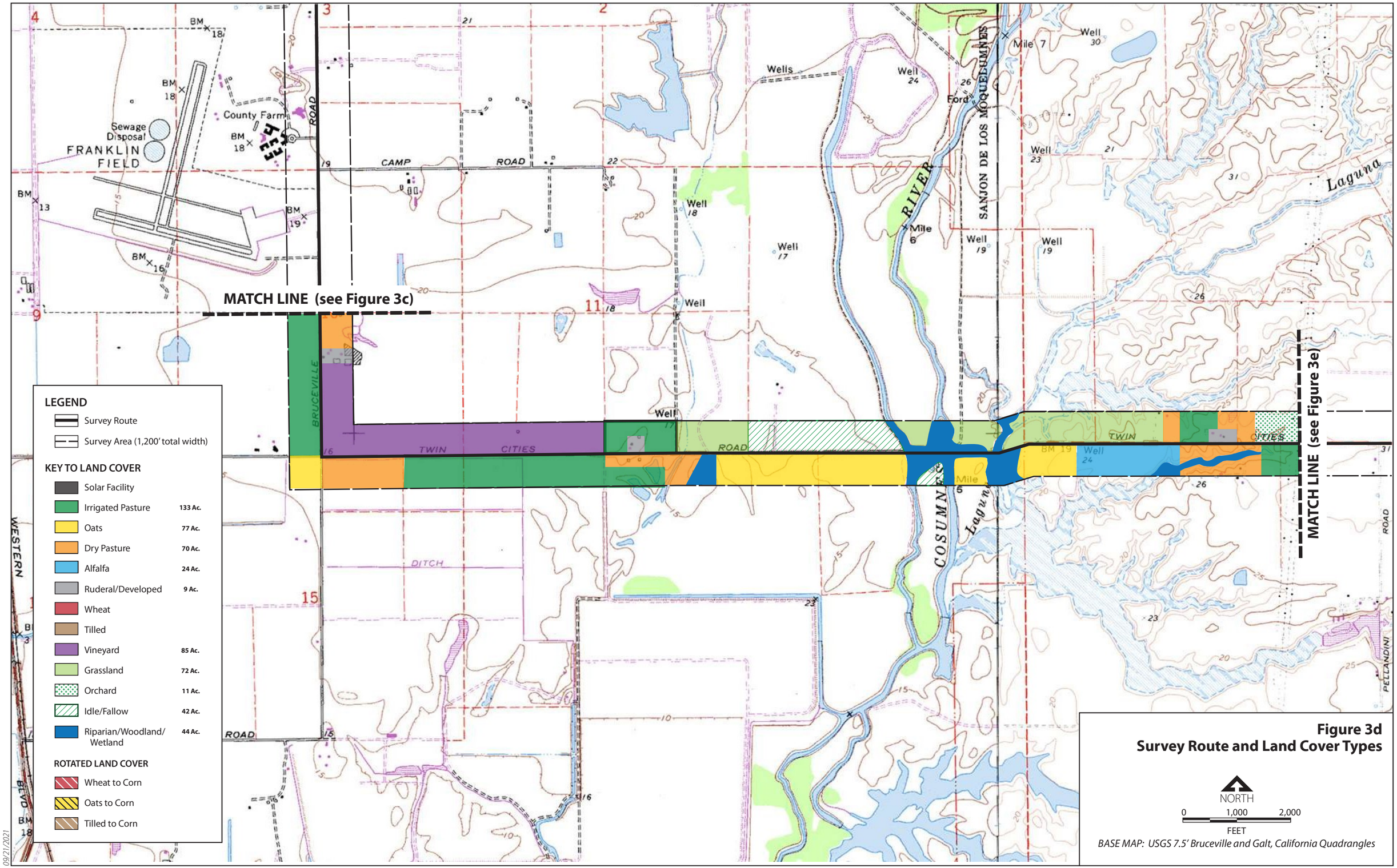

Figure 3d
Survey Route and Land Cover Types

09/21/2021

LEGEND

- Survey Route
- Survey Area (1,200' total width)

KEY TO LAND COVER

Solar Facility	64 Ac.
Irrigated Pasture	82 Ac.
Oats	47 Ac.
Dry Pasture	108 Ac.
Alfalfa	60 Ac.
Ruderal/Developed	160 Ac.
Wheat	25 Ac.
Tilled	
Vineyard	175 Ac.
Grassland	
Orchard	107 Ac.
Idle/Fallow	18 Ac.
Riparian/Woodland/ Wetland	4 Ac.

ROTATED LAND COVER

Wheat to Corn	
Oats to Corn	66 Ac.
Tilled to Corn	19 Ac.

MATCH LINE (see Figure 3f)

MATCH LINE (see Figure 3d)

D E L O S

M O Q U E L U M N E S

PACIFIC

4 LANE

99

104

MINGO ROAD

MC KENZIE ROAD

HAUSCHILDT RD

WALDO RD

SKUNK

LAGUNA

TWIN

SPRING ST

MIDWAY AVE

WALNUT AVE

Twin Cities

Need

BM 37

BM 43

BM 42

Well

Figure 3e
Survey Route and Land Cover Types

NORTH

0 1,000 2,000

FEET

BASE MAP: USGS 7.5' Bruceville and Galt, California Quadrangles

09/21/2021

MATCH LINE (see Figure 3g)

LEGEND

- Survey Route
- Survey Area (1,200' total width)

KEY TO LAND COVER

Solar Facility	
Irrigated Pasture	
Oats	22 Ac.
Dry Pasture	15 Ac.
Alfalfa	44 Ac.
Ruderal/Developed	33 Ac.
Wheat	
Tilled	22 Ac.
Vineyard	27 Ac.
Grassland	183 Ac.
Orchard	
Idle/Fallow	
Riparian/Woodland/ Wetland	29 Ac.

ROTATED LAND COVER

Wheat to Corn	9 Ac.
Oats to Corn	40 Ac.
Tilled to Corn	

MATCH LINE (see Figure 3e)

Figure 3f
Survey Route and Land Cover Types

NORTH
0 1,000 2,000
FEET

BASE MAP: USGS 7.5' Bruceville and Galt, California Quadrangles

09/21/2021

LEGEND

- Survey Route
- Survey Area (1,200' total width)

KEY TO LAND COVER

Solar Facility	
Irrigated Pasture	20 Ac.
Oats	140 Ac.
Dry Pasture	76 Ac.
Alfalfa	81 Ac.
Ruderal/Developed	15 Ac.
Wheat	
Tilled	
Vineyard	
Grassland	85 Ac.
Orchard	
Idle/Fallow	
Riparian/Woodland/ Wetland	

ROTATED LAND COVER

Wheat to Corn	44 Ac.
Oats to Corn	
Tilled to Corn	

MATCH LINE (see Figure 3f)

Figure 3g
Survey Route and Land Cover Types

NORTH

0 1,000 2,000

FEET

BASE MAP: USGS 7.5' Bruceville and Galt, California Quadrangles

09/21/2021

LEGEND

- Survey Route
- Survey Area (1,200' total width)

KEY TO LAND COVER

Solar Facility	26 Ac.
Irrigated Pasture	
Oats	
Dry Pasture	166 Ac.
Alfalfa	19 Ac.
Ruderal/Developed	27 Ac.
Wheat	
Tilled	
Vineyard	18 Ac.
Grassland	
Orchard	65 Ac.
Idle/Fallow	
Riparian/Woodland/ Wetland	

ROTATED LAND COVER

- Wheat to Corn
- Oats to Corn
- Tilled to Corn

Figure 3h
Survey Route and Land Cover Types

NORTH

0 1,000 2,000

FEET

BASE MAP: USGS 7.5' Sloughhouse, California Quadrangle

09/21/2021

Appendix B
Photo Record

Photo 1 (P-01). Photo depicts Coyote Creek.

Photo 2 (P-02). Photo depicts oak woodland-savannah vegetation community.

Photo 3 (P-03). Photo depicts suitable tricolored blackbird habitat.

Photo 4 (P-04). Photo depicts valley grassland vegetation community.

Photo 5 (P-05). Photo depicts high density development.

Photo 6 (P-06). Photo depicts landscape of PSA.

Photo 7 (P-07). Photo depicts Carson Creek.

Photo 8 (P-08). Photo depicts Swainson's hawk chasing off golden eagle.

Photo 9 (P-09). Photo depicts baby turkey vultures observed.

Photo 10 (P-10). Photo depicts owl pellet observed on site.

Photo 11 (P-11). Photo depicts several northwestern pond turtles observed within PSA.

Photo 12 (P-12). Photo depicts mountain garter snake observed within PSA.

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Appendix C
Observed Species Compendium

Plant Species

Vascular Species

Eudicots

ADOXACEAE—MUSKROOT FAMILY

Sambucus nigra ssp. *caerulea*—blue elderberry

AIZOACEAE—FIG-MARIGOLD FAMILY

Trianthema portulacastrum—desert horsepurslane

AMARANTHACEAE—AMARANPTH FAMILY

* *Amaranthus albus*—prostrate pigweed

Amaranthus blitoides—mat amaranth

ANACARDIACEAE—SUMAC OR CASHEW FAMILY

Toxicodendron diversilobum—poison oak

Pistacia chinensis—Chinese pistache

APIACEAE—CARROT FAMILY

* *Daucus carota*—Queen Anne's lace

* *Daucus pusillus* – American wild carrot

Eryngium aristulatum—California button-celery

Eryngium castrense—Great Valley eryngo

Lomatium caruifolium—alkali desertparsley

Lomatium utriculatum—common lomatium

Osmorhiza berteroi—sweetcicely

Sanicula bipinnatifida—purple sanicle

* *Torilis arvensis*—spreading hedgeparsley

APOCYNACEAE—DOGBANE FAMILY

Asclepias fascicularis—Mexican whorled milkweed

Asclepias speciosa—showy milkweed

ASTERACEAE—SUNFLOWER FAMILY

Achillea millefolium—common yarrow

Agoseris sp.—dandelion species

* *Anthemis cotula*—stinking chamomile

* *Artemisia californica* – California sagebrush

Artemisia douglasiana – California mugwort
Baccharis pilularis—coyote brush
Bidens frondosa—devil's beggartick
Blennosperma nanum—common stickyseed
Calycadenia spicata—spiked western rosinweed
Carduus tenuiflorus – winged thistle
* *Carduus pycnocephalus*—Italian plumeless thistle
* *Carduus tenuiflorus*—slender-flowered thistle
* *Centaurea solstitialis*—yellow star-thistle
Centromadia fitchii—Fitch's tarweed
* *Chondrilla juncea*—rush skeletonweed
* *Cichorium intybus*—chicory
* *Cirsium vulgare*—bull thistle
* *Cotula coronopifolia*—brass buttons
* *Dittrichia graveolens*—stinkwort
Erigeron foliosus—leafy fleabane
Gnaphalium palustre—western marsh cudweed
Grindelia camporum—Great Valley gumweed
Helianthus annuus—common sunflower
Holocarpha virgata—yellowflower tarweed
Holozonia filipes—whitecrown
* *Hypochaeris glabra*—smooth cat's ear
* *Hypochaeris radicata*—hairy cat's ear
* *Lactuca serriola*—prickly lettuce
* *Lactuca virosa*—wild lettuce
Lagophylla glandulosa – glandular hareleaf
Lasthenia californica ssp. *californica*—California goldfields
Lasthenia fremontii—Fremont's goldfields
Lasthenia glaberrima—smooth goldfields
Layia chrysanthemoides—smooth tidytips
Layia fremontii—Fremont's tidy-tips
* *Leontodon saxatilis*—lesser hawkbit
Lessingia virgata—wand lessingia
* *Logfia gallica*—narrowleaf cottonrose
Madia elegans—common madia
Matricaria discoidea—disc mayweed
Micropus californicus var. *californicus*—q-tips
Microseris douglasii ssp. *douglasii*—Douglas' silverpuffs
Pseudognaphalium californicum—ladies' tobacco

Psilocarphus brevissimus—short woollyheads
Psilocarphus tenellus—slender woollyheads
* *Senecio vulgaris*—old-man-in-the-Spring
* *Silybum marianum*—blessed milkthistle
* *Soliva sessilis*—field burweed
* *Sonchus asper*—spiny sowthistle
Uropappus lindleyi—Lindley's silverpuffs
* *Wyethia angustifolia – California compassplant*
Xanthium strumarium—cocklebur

BORAGINACEAE—BORAGE FAMILY

Amsinckia menziesii—Menzies' fiddleneck
Amsinckia eastwoodiae - Eastwood's fiddleneck
Phacelia cicutaria var. *cicutaria*—caterpillar phacelia
Phacelia heterophylla—varileaf phacelia
Plagiobothrys bracteatus—bracted popcornflower
Plagiobothrys greenei—Greene's popcornflower
Plagiobothrys leptocladus—finebranched popcornflower
Plagiobothrys nothofulvus—popcorn flower
Plagiobothrys stipitatus var. *micranthus*—stalked popcornflower
Plagiobothrys stipitatus—stalked popcornflower
Plagiobothrys trachycarpus—roughfruit popcornflower

BRASSICACEAE—MUSTARD FAMILY

* *Brassica nigra*—black mustard
* *Brassica rapa*—field mustard
* *Capsella bursa-pastoris*—shepherd's purse
Cardamine californica—milkmaids
* *Hirschfeldia incana*—shortpod mustard
Lepidium nitidum—shining pepperweed
Nasturtium officinale—watercress
* *Raphanus raphanistrum*—wild radish
Rorippa palustris ssp. *palustris*—hispid yellowcress
* *Sisymbrium officinale*—hedgemustard
Thysanocarpus radians - fringepod

CAMPANULACEAE—BELLFLOWER FAMILY

Downingia bicornuta var. bicornuta - Double-horn calicoflower
Downingia cuspidate - toothed calicoflower
Downingia ornatissima var. *ornatissima*—folded calicoflower

CARYOPHYLLACEAE—PINK FAMILY

* *Cerastium glomeratum*—sticky chickweed
Minuartia cismontana—cismontane minuartia
* *Petrorhagia dubia*—hairypink
* *Silene gallica*—common catchfly
* *Spergularia rubra*—red sandspurry
* *Stellaria media*—common chickweed

CHENOPODIACEAE—GOOSEFOOT FAMILY

* *Salsola tragus*—prickly Russian thistle

CONVOLVULACEAE—MORNING-GLORY FAMILY

* *Convolvulus arvensis*—field bindweed
Cuscuta sp. —dodder species

CRASSULACEAE—STONECROP FAMILY

Crassula connata—sand pygmyweed
Dudleya cymosa—canyon liveforever
Sedella pumila—Sierra mock stonecrop

ERICACEAE—HEATHER FAMILY

Arctostaphylos sp.— manzanita

EUPHORBIACEAE—SPURGE FAMILY

Croton setiger—dove weed
Euphorbia serpyllifolia—thymeleaf sandmat
Euphorbia sp.—spurge species

FABACEAE—LEGUME FAMILY

Acmispon americanus—Spanish clover
Cercis canadensis—eastern redbud
Lupinus bicolor—miniature lupine
Lupinus microcarpus—valley lupine
* *Medicago lupulina*—black medick
* *Medicago polymorpha*—burclover
* *Melilotus indicus* – sour clover
* *Robinia pseudoacacia*—black locust
* *Trifolium campestre*—field clover
Trifolium depauperatum var. *depauperatum*—cowbag clover
Trifolium depauperatum—cowbag clover
* *Trifolium dubium*—suckling clover

* *Trifolium fragiferum*—strawberry clover
* *Trifolium glomeratum*—clustered clover
* *Trifolium hirtum*—rose clover
  Trifolium macrocephalum—largehead clover
* *Trifolium repens*—white clover
* *Trifolium subterraneum*—subterranean clover
* *Trifolium tomentosum*—woolly clover
  Trifolium variegatum—white-tip clover
  Trifolium willdenovii—tomcat clover
  Trifolium wormskioldii—cows clover
  Vicia americana ssp. *americana*—American vetch
* *Vicia sativa* ssp. *sativa*—garden vetch
* *Vicia villosa*—winter vetch

FAGACEAE—OAK FAMILY

Quercus chrysolepis—canyon live oak
Quercus douglasii—blue oak
Quercus kelloggii—California black oak
Quercus lobata—valley oak
Quercus wislizeni—interior live oak

GENTIANACEAE—GENTIAN FAMILY

* *Centaurium tenuiflorum*—slender centaury
  Zeltnera muehlenbergii—Muhlenberg's centaury
  Zeltnera sp.—centaury species

GERANIACEAE—GERANIUM FAMILY

* *Erodium botrys*—longbeak stork's bill
* *Erodium brachycarpum*—shortfruit stork's bill
* *Erodium cicutarium*—redstem stork's bill
* *Erodium moschatum*—musky stork's bill
* *Geranium dissectum*—cutleaf geranium
* *Geranium molle*—dovefoot geranium

HYPERICACEAE—ST. JOHN'S WORT FAMILY

* *Hypericum perforatum*—common St. Johnswort

JUGLANDACEAE—WALNUT FAMILY

Juglans hindsii—Northern California black walnut
* *Juglans regia*—English walnut

LAMIACEAE—MINT FAMILY

* *Lamium amplexicaule*—henbit deadnettle
* *Mentha x rotundifolia*—apple mint
* *Mentha arvensis*—wild mint
* *Mentha pulegium*—pennyroyal

Pogogyne douglasii - Douglas' mesamint

Pogogyne zizyphoroides—Sacramento mesamint

Stachys albens—whitestem hedgenettle

Trichostema lanceolatum—vinegarweed

LENTIBULARIACEAE—BLADDERWORT FAMILY

Utricularia gibba—humped bladderwort

LIMNANTHACEAE—MEADOWFOAM FAMILY

Limnanthes douglasii ssp. *douglasii*—Douglas' meadowfoam

Limnanthes douglasii ssp. *rosea*—Douglas' meadowfoam

LINACEAE—FLAX FAMILY

Hesperolinon californicum—California dwarf-flax

* *Linum bienne*—pale flax

LINDERNIACEAE—FALSE-PIMPERNEL FAMILY

Lindernia dubia—yellowseed false pimpernel

LYTHRACEAE—LOOSESTRIFE FAMILY

* *Lythrum hyssopifolia*—hyssop loosestrife

Lythrum sp.— loosestrife species

MALVACEAE—MALLOW FAMILY

* *Malva nicaeensis* — bull mallow

Malvella leprosa – alkali mallow

Sidalcea hartwegii — Hartweg's checkbloom

MONTIACEAE—MONTIA FAMILY

Calandrinia ciliate - red maids

Claytonia perfoliata ssp. *perfoliata*—miner's lettuce

MORACEAE—MULBERRY FAMILY

* *Ficus carica*—edible fig

MYRSINACEAE—MYRSINE FAMILY

* *Lysimachia arvensis*—scarlet pimpernel

Lysimachia minima - chaffweed

OLEACEAE—OLIVE FAMILY

Fraxinus angustifolia sub sp. *oxycarpa*— raywood ash

ONAGRACEAE—EVENING PRIMROSE FAMILY

Clarkia purpurea—winecup clarkia

Clarkia unguiculata - elegant clarkia

Cordylanthus pilosus ssp. hansenii - Hansen's birds-beak

Epilobium campestre—smooth spike-primrose

Epilobium densiflorum—denseflower willowherb

Epilobium torreyi - Torrey's willowherb

* *Ludwigia hexapetala*—no common name

* *Ludwigia peploides*—floating primrose-willow

OROBANCHACEAE—BROOM-RAPE FAMILY

Castilleja attenuata—attenuate Indian paintbrush

Castilleja exserta ssp. *exserta*—exserted Indian paintbrush

Castilleja lemmonii—Lemmon’s Indian paintbrush

* *Parentucellia viscosa*—yellow glandweed

Triphysaria eriantha—johnny-tuck

Triphysaria pusilla—dwarf owl’s-clover

OXALIDACEAE—OXALIS FAMILY

* *Oxalis micrantha*—dwarf woodsorrel

PAPAVERACEAE—POPPY FAMILY

Eschscholzia caespitosa—tufted poppy

Eschscholzia californica—California poppy

Eschscholzia lobbii—fryingpans

PHRYMACEAE—LOPSEED FAMILY

Diplacus tricolor - tricolor monkeyflower

Erythranthe guttata—common monkey flower

PLANTAGINACEAE—PLANTAIN FAMILY

Callitriche marginata—winged water-starwort

Gratiola ebracteate - bractless hedgehyssop

* *Kickxia elatine*—sharpleaf cancerwort

* *Plantago coronopus*—buckhorn plantain
  Plantago erecta—dwarf plantain
* *Plantago lanceolata*—narrowleaf plantain
* *Plantago major*—common plantain
* *Plantago* sp.—plantain species
* *Plantago virginica* – dwarf plantain
* *Platanus* × *acerifolia*—London plantree
* *Platanus racemose*—California sycamore
* *Veronica anafgallis-aquatica*—water speedwell
  Veronica peregrina ssp. xalapensis— hairy purslane speedwell

POLEMONIACEAE—PHLOX FAMILY

Leptosiphon bicolor—true babystars
Navarretia intertexta—needleleaf navarretia
Navarretia leucocephala—whitehead navarretia
Navarretia myersii ssp. myersii - Pincushion navarretia
Navarretia pubescens—downy pincushionplant

POLYGONACEAE—BUCKWHEAT FAMILY

Eriogonum nudum—naked buckwheat
Persicaria amphibia—longroot smartweed
Persicaria hydropiperoides—swamp smartweed
* *Polygonum aviculare*—prostrate knotweed
* *Polygonum argyrocoleon* - Persian knotweed
* *Rumex acetosella*—common sheep sorrel
* *Rumex crispus*—curly dock
* *Rumex pulcher*—fiddle dock

PRIMULACEAE—PRIMROSE FAMILY

Primula clevelandii var. *patula*—no common name

RANUNCULACEAE—BUTTERCUP FAMILY

Delphinium variegatum ssp. *variegatum*—royal larkspur
Ranunculus aquatilis—white water crowfoot
Ranunculus bonariensis—Carter's buttercup
Ranunculus californicus—California buttercup
Ranunculus canus—Sacramento Valley buttercup
* *Ranunculus muricatus*—spinyfruit buttercup
  Ranunculus occidentalis—western buttercup
  Ranunculus pusillus—low spearwort

RHAMNACEAE—BUCKTHORN FAMILY

Frangula californica spp. californica— California coffeeberry

ROSACEAE—ROSE FAMILY

Heteromeles arbutifolia—toyon

Potentilla sp. —cinquefoil species

Prunus ilicifolia ssp. ilicifolia - holly-leaf cherry

Rosa californica—California rose

* *Rubus armeniacus*—Himalayan blackberry

RUBIACEAE—MADDER FAMILY

Cephalanthus occidentalis—button willow

Galium aparine—stickywilly

Sherardia arvensis—field madder

SALICACEAE—WILLOW FAMILY

Populus deltoides – eastern cottonwood

Populus fremontii—Fremont cottonwood

Salix exigua—sandbar willow

Salix gooddingii—Goodding's willow

Salix laevigata—red willow

Salix lasiolepis—arroyo willow

SAPINDACEAE—SOAPBERRY FAMILY

Acer saccharinum—silver maple

Aesculus californica—California buckeye

SOLANACEAE—NIGHTSHADE FAMILY

* *Solanum furcatum*—forked nightshade

TAMARICACEAE—TAMARISK FAMILY

Tamarix chinensis—five-stamen tamarisk

VALERINACEAE—HONEYSUCKLE FAMILY

Plectritis ciliosa— long-spur seablush

VERBENACEAE—VERVAIN FAMILY

Phyla nodiflora—turkey tangle fogfruit

Verbena bracteata—bigbract verbena

VITACEAE—GRAPE FAMILY

* *Vitis vinifera*—wine grape

Fern and Fern Allies

AZOLLACEAE—MOSQUITO FERN FAMILY

Azolla filiculoides—Pacific mosquitofern

MARSILEACEAE—MARSILEA FAMILY

Marsilea vestita—hairy waterclover

Monocots

AGAVACEAE—AGAVE FAMILY

Chlorogalum angustifolium - narrow-leaved soap plant

Chlorogalum pomeridianum—wavyleaf soap plant

ALISMATACEAE—WATER-PLANTAIN FAMILY

* *Alisma lanceolatum*—lanceleaf water plantain

Damasonium californicum—California damsonium

Sagittaria montevidensis ssp. *calycina*—hooded arrowhead

ALLIACEAE—ONION FAMILY

Allium amplectens—narrowleaf onion

Allium peninsulare var. peninsulare - penisula onion

Allium sp. —onion species

ARACEAE- NO COMMON NAME

Lemna sp.—duckweed species

ASPARAGACEAE—ASPARAGUS FAMILY

Dipterostemon capitatus — blue dicks

CYPERACEAE—SEDGE FAMILY

Carex. ssp. —sedge species

Cyperus eragrostis—tall flatsedge

Eleocharis macrostachya—pale spike rush

Isolepis cernua—low bulrush

Schoenoplectus acutus—hardstem bulrush

IRIDACEAE—IRIS FAMILY

Iris sp.—iris species

Sisyrinchium bellum—western blue-eyed grass

JUNCACEAE—RUSH FAMILY

Juncus balticus—no common name
Juncus bufonius var. *bufonius*—toad rush
Juncus capitatus - Leafybract dwarf rush
Juncus leiospermus var. ahartii - Ahart's rush
Juncus occidentalis—western rush
Juncus xiphioides—irisleaf rush

JUNCAGINACEAE—ARROWGRASS FAMILY

Triglochin scilloides — Awl-leaf lilaea

LILIACEAE—LILY FAMILY

Calochortus luteus—yellow mariposa lily

POACEAE—GRASS FAMILY

* *Aegilops triuncialis*—barbed goatgrass
* *Agrostis capillaris*—colonial bentgrass
* *Agrostis stolonifera*—creeping bentgrass
* *Aira caryophyllea*—silver hairgrass
Alopecurus saccatus—Pacific foxtail
Aristida oligantha - oldfield three-awn
* *Avena barbata*—slender oat
* *Brachypodium distachyon*—purple false brome
* *Briza maxima*—big quakinggrass
* *Briza minor*—little quakinggrass
* *Bromus diandrus*—ripgut brome
* *Bromus hordeaceus*—soft brome
* *Bromus madritensis*—compact brome
* *Crypsis schoenoides*—swamp pricklegrass
* Cynodon dactylon—Bermudagrass
* *Cynosurus echinatus*—annual dogtails
Deschampsia danthonioides—annual hairgrass
Distichlis spicata—salt grass
Echinochloa crus-galli - barnyard grass
* *Elymus caput-medusae*—medusahead
* *Festuca myuros*—rat-tail fescue
* *Festuca perennis*—perennial rye grass
* *Glyceria declinata*—low manna grass
* *Hordeum marinum* ssp. *gussoneanum*—Mediterranean barley
* *Hordeum marinum*—seaside barley

* *Hordeum murinum*—mouse barley
Koeleria macrantha—prairie Junegrass
Melica californica—California melicgrass
* *Paspalum dilatatum*—dallisgrass
Paspalum distichum—knotgrass
* *Phalaris aquatica*—Harding grass
* *Phalaris canariensis*—annual canarygrass
Pleuropogon californicus var. *californicus*—annual semaphoregrass
* *Poa bulbosa*—bulbous bluegrass
* *Poa annua* – annual bluegrass
* *Poa pratensis*—Kentucky blue grass
* *Polypogon monspeliensis*—annual rabbitsfoot grass
* *Polypogon* sp.—rabbitsfoot grass species
* *Sorghum halepense*—Johnsongrass
Stipa cernua—nodding needlegrass

PONTEDERIACEAE—PICKEREL-WEED FAMILY

* *Eichhornia crassipes*—common water hyacinth

POTAMOGETONACEAE—PONDWEED FAMILY

Potamogeton sp.—pondweed species

TECOPHILAEACEAE—NO COMMON NAME

Odontostomum hartwegii—Hartweg's doll's-lily

THEMIDACEAE—BRODIAEA FAMILY

Brodiaea coronaria—crown brodiaea
Brodiaea elegans—harvest brodiaea
Brodiaea minor - Purdy's brodiaea
Dichelostemma volubile—twining snakelily
Dipterostemon capitatus ssp. *capitatus*—bluedicks
Dipterostemon capitatus—bluedicks
Triteleia hyacinthina—white brodiaea
Triteleia ixioides—prettyface
Triteleia laxa—Ithuriel's spear

TYPHACEAE—CATTAIL FAMILY

Typha latifolia—broadleaf cattail

Wildlife Species

Amphibians

FROGS

HYLIDAE—TREEFROGS

Pseudacris cadaverina—California treefrog

robin – Pacific chorus frog

RANIDAE—TRUE FROGS

* *Lithobates catesbeianus*—American bullfrog

Birds

Blackbirds, Orioles and Allies

ICTERIDAE—BLACKBIRDS

Agelaius phoeniceus—red-winged blackbird

Agelaius tricolor—tricolored blackbird

Euphagus cyanocephalus—Brewer's blackbird

Icterus bullockii—Bullock's oriole

Sturnella neglecta—western meadowlark

* *Molothrus ater*—brown-headed cowbird

Bushtits

AEGITHALIDAE—LONG-TAILED TITS AND BUSHTITS

Psaltriparus minimus—bushtit

Cormorants

PHALACROCORACIDAE—CORMORANTS

Phalacrocoracidae sp.—brown creeper

Creepers

CERTHIIDAE—CREEPERS

Certhia americana—brown creeper

Falcons

FALCONIDAE—CARACARAS AND FALCONS

Falco sparverius—American kestrel

Finches

FRINGILLIDAE—FRINGILLINE AND CARDUELINE FINCHES AND ALLIES

Haemorhous mexicanus—house finch

Spinus psaltria—lesser goldfinch

Flycatchers

TYRANNIDAE—TYRANT FLYCATCHERS

Contopus cooperi—olive-sided flycatcher

Myiarchus cinerascens—ash-throated flycatcher

Sayornis nigricans—black phoebe

Sayornis saya—Say's phoebe

Tyrannus verticalis—western kingbird

Grebes

PODICIPEDIDAE—GREBES

Podilymbus podiceps—pied-billed grebe

Gulls

LARIDAE— GULLS, TERNS, AND SKIMMERS

Larus californicus— California gull

Hawks

ACCIPITRIDAE—HAWKS, KITES, EAGLES, AND ALLIES

Accipiter striatus—sharp-shinned hawk

Aquila chrysaetos—golden eagle

Buteo jamaicensis—red-tailed hawk

Buteo lineatus—red-shouldered hawk

Buteo swainsoni—Swainson's hawk

Elanus leucurus—white-tailed kite

Haliaeetus leucocephalus—bald eagle

Circus hudsonius—northern harrier

Herons and Bitterns

ARDEIDAE—HERONS, BITTERNS, AND ALLIES

Ardea alba—great egret
Ardea herodias—great blue heron
Egretta thula—snowy egret

Hummingbirds

TROCHILIDAE—HUMMINGBIRDS

Calypte anna—Anna's hummingbird

Jays, Magpies and Crows

CORVIDAE—CROWS AND JAYS

Aphelocoma californica—California scrub-jay
Corvus brachyrhynchos—American crow
Corvus corax—common raven
Pica nuttalli—yellow-billed magpie

Kingfishers

ALCEDINIDAE—KINGFISHERS

Megaceryle alcyon—belted kingfisher

Kinglets

REGULIDAE—KINGLETS

Corthylio calendula—ruby-crowned kinglet

Larks

ALAUDIDAE—LARKS

Eremophila alpestris—horned lark

Mockingbirds and Thrashers

MIMIDAE—MOCKINGBIRDS AND THRASHERS

Mimus polyglottos—northern mockingbird

New World Quail

ODONTOPHORIDAE—NEW WORLD QUAIL

Callipepla californica—California quail

New World Vultures

CATHARTIDAE—NEW WORLD VULTURES

Cathartes aura—turkey vulture

Nuthatches

SITTIDAE—NUTHATCHES

Sitta carolinensis—white-breasted nuthatch

Owls

TYTONIDAE—BARN OWLS

Tyto alba—barn owl

STRIGIDAE—TYPICAL OWLS

Athene cunicularia—burrowing owl (evidence only)

Bubo virginianus—great horned owl

Pigeons and Doves

COLUMBIDAE—PIGEONS AND DOVES

Zenaida macroura—mourning dove

* *Columba livia*—rock pigeon (rock dove)

Quails, Pheasants and Relatives

PHASIANIDAE—PARTRIDGES, GROUSE, TURKEYS, AND OLD WORLD QUAIL

Meleagris gallopavo—wild turkey

* *Pavo cristatus*—Indian peafowl

Rails, Gallinules and Coots

RALLIDAE—RAILS, GALLINULES, AND COOTS

Rallus limicola—Virginia rail

Shorebirds

CHARADRIIDAE—LAPWINGS AND PLOVERS

Charadrius vociferus—killdeer

SCOLOPACIDAE—SANDPIPERS, PHALAROPES, AND ALLIES

Tringa flavipes—lesser yellowlegs

Tringa melanoleuca—greater yellowlegs

Shrikes

LANIIDAE—SHRIKES

Lanius ludovicianus—loggerhead shrike

Starlings and Allies

STURNIDAE—STARLINGS

* *Sturnus vulgaris*—European starling

Swallows

HIRUNDINIDAE—SWALLOWS

Hirundo rustica—barn swallow

Petrochelidon pyrrhonota—cliff swallow

Tachycineta bicolor—tree swallow

Thrushes

TURDIDAE—THRUSHES

Sialia mexicana—western bluebird

Turdus migratorius—American robin

Titmice

PARIDAE—CHICKADEES AND TITMICE

Baeolophus inornatus—oak titmouse

Wagtails

MOTACILLIDAE—WAGTAILS, LONGCLAWS, AND PIPITS

Anthus rubescens— American pipit

Waterfowl

ANATIDAE—DUCKS, GEESE, AND SWANS

Aix sponsa—wood duck

Anas acuta—northern pintail

Anas platyrhynchos—mallard

Branta canadensis—Canada goose

Mergus merganser—common merganser

Cygnus olor—mute swan

Spatula cyanoptera—cinnamon teal

Mareca americana—American wigeon

Wood Warblers and Allies

PARULIDAE—WOOD-WARBLERS

Setophaga coronata—yellow-rumped warbler

Woodpeckers

PICIDAE—WOODPECKERS AND ALLIES

Colaptes auratus—northern flicker
Dryocopus pileatus—pileated woodpecker
Melanerpes formicivorus—acorn woodpecker
Melanerpes lewis—Lewis's woodpecker
Sphyrapicus ruber—red-breasted sapsucker
Dryobates albolarvatus—white-headed woodpecker
Dryobates villosus—hairy woodpecker

Wrens

TROGLODYTIDAE—WRENS

Troglodytes aedon—house wren

Cranes

GRUIDAE—CRANES

Antigone canadensis tabida—greater sandhill crane

New World Sparrows

PASSERELLIDAE—NEW WORLD SPARROWS

Chondestes grammacus—lark sparrow
Junco hyemalis—dark-eyed junco
Melozone crissalis—California towhee
Melospiza melodia – song sparrow
Passerculus sandwichensis—savannah sparrow
Pipilo maculatus—spotted towhee
Zonotrichia atricapilla—golden-crowned sparrow
Zonotrichia leucophrys—white-crowned sparrow

Mammals

Canids

CANIDAE—WOLVES AND FOXES

Canis latrans—coyote

Cats

FELIDAE—CATS

Puma concolor—puma (scat and audible only)

Hares and Rabbits

LEPORIDAE—HARES AND RABBITS

Lepus californicus—black-tailed jackrabbit

Sylvilagus audubonii—desert cottontail

Pocket Gophers

GEOMYIDAE—POCKET GOPHERS

Thomomys bottae—Botta's pocket gopher

Squirrels

SCIURIDAE—SQUIRRELS

Sciurus griseus—western gray squirrel

Otospermophilus beecheyi—California ground squirrel

Ungulates

CERVIDAE—DEERS

Odocoileus hemionus—mule deer

Odocoileus virginianus—white-tailed deer

Rats, Mice, and Voles

CRICETIDAE—RATS, MICE, AND VOLES

Neotoma sp.—woodrat (nest only)

Insects

Bees

APIDAE - BUMBLEBEES

Bombus sp.—bumblebee

Reptiles

Lizards

PHRYNOSOMATIDAE—IGUANID LIZARDS

Sceloporus occidentalis—western fence lizard

Snakes

COLUBRIDAE—COLUBRID SNAKES

Coluber lateralis—striped racer

Pituophis catenifer—gophersnake

Thamnophis sirtalis—common gartersnake

VIPERIDAE—VIPERS

Crotalus oreganus—western rattlesnake

Turtles

EMYDIDAE—BOX AND WATER TURTLES

Actinemys marmorata—northwestern pond turtle

* signifies introduced (non-native) species

Appendix D

Special-Status Plants with Potential to Occur

Table D.1. Special-Status Plants with Potential to Occur within the Project Study Area

Common Name	Scientific Name	Status (Federal/State/CRPR/SSHCP)	Primary Habitat Associations, Lifeforms/ Blooming Period/and Elevation Range (Feet)	Potential to Occur
Arctostaphylos myrtifolia	Ione manzanita	FT/None/1B.2/None	Chaparral, Cismontane woodland; acidic, Ione soil, clay, or sandy/perennial evergreen shrub/Nov–Mar/197–1,900.	**Not expected to occur.** Habitat for this species is absent in the PSA. There are no documented CNDDB occurrences of this species within five miles of the PSA (CDFW 2024).
Brodiaea rosea ssp. vallicola	valley brodiaea	None/None/4.2/None	Valley and foothill grassland Vernal pools; alluvial terraces, gravelly, sandy microhabitats; April – May (June)/35 – 1,100.	**Observed.** Valley brodiaea species was not observed during protocol-level botanical surveys in 2021, 2022, or 2023; but was observed in 2024. Valley brodiaea were observed primarily on the surrounding upland banks to ephemeral channels and swales. (Dudek 2024).
Calandrinia breweri	Brewer's calandrinia	None/None/4.2/None	Chaparral, Coastal scrub; Burned areas, Disturbed areas, Loam (sometimes), Sandy (sometimes)/annual herb/(Jan)Mar–June/35–4,005.	**Not expected to occur.** Habitat for this species is absent in the PSA. There are no documented CNDDB occurrences of this species within five miles of the PSA (CDFW 2024).
Calycadenia spicata	spicate calycadenia	None/None/1B.3/None	Cismontane woodland and valley and foothill grassland; May – September; 130 – 4,595.	**Observed.** The PSA is within the known range of the species, and habitat for the species is present; specifically, grassland habitat. One CNPS observation was recorded approximately one mile north of the PSA, in 2021 (CNPS 2024). This species was observed during protocol-level survey conducted by Dudek in 2023.
Ceanothus roderickii	Pine Hill ceanothus	FT/None/1B.3/None	Chaparral, cismontane woodland, serpentine soils/April-June/630-2,065	**Not expected to occur.** Habitat for this species is absent in the PSA. There are no documented CNDDB occurrences of this species within five miles of the PSA (CDFW 2023e).

Table D.1. Special-Status Plants with Potential to Occur within the Project Study Area

Common Name	Scientific Name	Status (Federal/State/CRPR/SSHCP)	Primary Habitat Associations, Lifeforms/ Blooming Period/and Elevation Range (Feet)	Potential to Occur
Chlorogalum grandiflorum	Red Hills soaproot	None/None/1B.2/None	Chaparral, cismontane woodland; lower montane coniferous forest, serpentine soils/(April) May-June/805-5,545	**Not expected to occur.** Habitat for this species is absent in the PSA. There are no documented CNDDB occurrences of this species within five miles of the PSA (CDFW 2023e).
Clarkia biloba ssp. brandegeeae	Brandegee's clarkia	None/None/4.2/None	Chaparral, Cismontane woodland, lower montane coniferous forest; roadsides (often), acidic, clay, or sandy/November–March/245–3,00	**Not expected to occur.** Habitat for this species is absent in the PSA. There are no documented CNDDB occurrences of this species within five miles of the PSA (CDFW 2023e).
Crocanthemum suffrutescens	Bisbee Peak rush-rose	None/None/3.2/None	Chaparral; burned areas, disturbed areas, gabbroic microhabitats; April – August/245 – 2,200.	**Not expected to occur.** Habitat for this species is absent in the PSA. There are no documented CNDDB occurrences of this species within five miles of the PSA (CDFW 2023e).
Cuscuta obtusiflora var. *glandulosa*	Peruvian dodder	None/None/2B.2/None	Marshes and swamps (freshwater)/annual vine (parasitic)/July–Oct/49–920.	**Not expected to occur.** The habitat for the species is either absent or of low quality in the PSA. The nearest known occurrence for this species is recorded in the Florin USGS 7.5-Minute Quad (CNPS 2023c).
Downingia pusilla	dwarf downingia	None/None/2B.2/Covered	Valley and foothill grassland (mesic), Vernal pools/annual herb/Mar–May/3–1,455.	**High potential to occur.** The PSA is within the known range of the species, and habitat for the species is present. Specifically, suitable grassland and vernal pool habitat occurs within the southern and western portions of the PSA. Additionally, SSHCP modeled habitat for this species is present within the northwest portion of the PSA (Sacramento County 2018). The nearest known occurrence for this species is approximately five miles northwest of the PSA,

Table D.1. Special-Status Plants with Potential to Occur within the Project Study Area

Common Name	Scientific Name	Status (Federal/State/CRPR/SSHCP)	Primary Habitat Associations, Lifeforms/ Blooming Period/and Elevation Range (Feet)	Potential to Occur
				at the Phoenix Park east of Fair Oaks (CDFW 2023e, CNPS 2023c).
Eriogonum apricum var. *apricum*	Ione buckwheat	FE/SE/1B.1/None	Chaparral (openings, Ione soil)/perennial herb/July–Oct/197–475.	**Not expected to occur.** Habitat for this species is absent in the PSA. There are no documented CNDDB occurrences of this species within five miles of the PSA (CDFW 2023e).
Eriogonum apricum var. *prostratum*	Irish Hill buckwheat	FE/SE/1B.1/None	Chaparral (openings, Ione soil)/perennial herb/June–July/295–395.	**Not expected to occur.** Habitat for this species is absent in the PSA. There are no documented CNDDB occurrences of this species within five miles of the PSA (CDFW 2023e).
Eryngium pinnatisectum	Tuolumne button-celery	None/None/1B.2/None	Cismontane woodland, Lower montane coniferous forest, Vernal pools; mesic/annual / perennial herb/May–Aug/230–3,000.	**Not expected to occur.** This species has not been documented in the vicinity of the PSA, but the PSA is within the known range of the species. Habitat for the species in the PSA is either absent or of low quality. The PSA is also outside of the species known elevation range. The nearest known occurrence of this species is approximately five miles southeast of the PSA at the Michigan Bar just east of the City of Sacramento (CDFW 2023e, CNPS 2023c).
Fremontodendron decumbens	Pine Hill flannelbush	FE/None/1B.2/None	Chaparral, cismontane woodland, rocky, serpentine soils (sometimes)/April-July/1,395-2,495	**Not expected to occur.** Habitat for this species is absent in the PSA. There are no documented CNDDB occurrences of this species within five miles of the PSA (CDFW 2023e).
Fritillaria agrestis	stinkbells	None/None/4.2/None	Chaparral, cismontane woodland, pinyon and juniper woodland, valley and foothill grassland; clay, serpentine (sometimes) soil/March-June/35-5,100	**Low.** Habitat for the species in the project site is present; however, there are no documented CNDDB occurrences of this species within five miles of the PSA (CNPS 2023c).

Table D.1. Special-Status Plants with Potential to Occur within the Project Study Area

Common Name	Scientific Name	Status (Federal/State/CRPR/SSHCP)	Primary Habitat Associations, Lifeforms/ Blooming Period/and Elevation Range (Feet)	Potential to Occur
Galium californicum ssp. *sierrae*	El Dorado bedstraw	FE/None/1B.2/None	Chaparral, pine-oak woodland, lower montane coniferous forest/May-June/330-1,920	**Not expected to occur.** Habitat for this species is absent in the PSA. There are no documented CNDDB occurrences of this species within five miles of the PSA (CDFW 2023e).
Githopsis pulchella ssp. *serpentinicola*	serpentine bluecup	None/None/4.3/None	Cismontane woodland (loam, serpentinite)/May-June/1,050-2,000	**Not expected to occur.** Habitat for this species is absent in the PSA. There are no documented CNDDB occurrences of this species within five miles of the PSA (CDFW 2023e).
Gratiola heterosepala	Boggs Lake hedge-hyssop	None/SE/1B.2/Covered	Marshes and swamps (lake margins), Vernal pools; clay/annual herb/Apr–Aug/33–7,790.	**Moderate potential to occur.** The PSA is within the known range of the species, and suitable habitat for the species is present. Specifically, within the PSA suitable habitat for this species is located throughout the vernal pools, wetlands swales and seasonal wetlands that occur on site. Additionally, SSHCP modeled habitat for this species is present within the PSA (Sacramento County 2018). The nearest known occurrence for this species is approximately 2 miles northwest of the study area, near the intersection of Prairie City Road and White Rock Road (CDFW 2023e, CNPS 2023c).
Hesperevax caulescens	hogwallow starfish	None/None/4.2/None	Valley and foothill grassland and vernal pools; alkaline microhabitats; March – June/0 – 1,655.	**Low potential to occur.** Habitat for the species in the PSA is present; however, the nearest CNPS observation was recorded approximately three miles southwest of the PSA (CNPS 2023c).
Horkelia parryi	Parry's horkelia	None/None/1B.2/None	Chaparral, Cismontane woodland; Ione formation and other soils/perennial herb/Apr–Sep/262–3,510.	**Not expected to occur.** Habitat for this species is absent in the PSA. There are no documented CNDDB occurrences of this species within five miles of the PSA (CDFW 2023e).

Table D.1. Special-Status Plants with Potential to Occur within the Project Study Area

Common Name	Scientific Name	Status (Federal/State/CRPR/SSHCP)	Primary Habitat Associations, Lifeforms/ Blooming Period/and Elevation Range (Feet)	Potential to Occur
Iris longipetala	coast iris	None/None/4.2/None	Coastal prairie, lower montane coniferous forest, meadows and seeps/March-May(June)/0–1,970.	**Low.** Habitat for the species in the project site is minimal and of low quality. There are no documented CNDDB occurrences of this species within five miles of the PSA (CNPS 2023c).
Juncus leiospermus var. *ahartii*	Ahart's dwarf rush	None/None/1B.2/Covered	Valley and foothill grassland (mesic)/annual herb/Mar–May/98–750.	**Observed.** This species has not been documented in the vicinity of the PSA but is within the known range of the species, and habitat for the species is present within the PSA. Specifically, within the PSA suitable grassland habitat for this species is located within the southern and western portions of the PSA. Additionally, SSHCP modeled habitat for this species is present within the PSA (Sacramento County 2018). This species was observed during protocol-level survey conducted by Dudek in 2023.

Table D.1. Special-Status Plants with Potential to Occur within the Project Study Area

Common Name	Scientific Name	Status (Federal/State/CRPR/SSHCP)	Primary Habitat Associations, Lifeforms/ Blooming Period/and Elevation Range (Feet)	Potential to Occur
Legenere limosa	legenere	None/None/1B.1/Covered	Vernal pools/annual herb/Apr–June/3–2,885.	**High potential to occur.** This species has not been documented in the vicinity of the PSA but is within the known range of the species, and habitat for the species is present within the PSA. Specifically, within the PSA suitable grassland habitat for this species is located within the southern and western portions of the PSA. Additionally, SSHCP modeled habitat for this species is present within the PSA (Sacramento County 2018). The nearest known occurrence is within five miles of the PSA, in the Buffalo Creek USGS 7.5-Minute Quad (CDFW 2023e).
Navarretia myersii ssp. *myersii*	pincushion navarretia	None/None/1B.1/Covered	Vernal pools; often acidic/annual herb/Apr–May/66–1,080.	**Observed.** The PSA is within the known range of the species, and habitat for the species is present. Specifically, within the PSA, suitable habitat for this species is located within the vernal pools, wetland swales, and seasonal wetlands that are present within the study area. Additionally, the Hadselville-Pentz and Redding Gravelly Loam soil complexes within the PSA are slightly acidic, therefore vernal pools located in these soils provide potential suitable habitat. Additionally, SSHCP modeled habitat for this species is present within the PSA (Sacramento County 2018). This species was observed during protocol-level surveys conducted by Dudek in 2023 and 2024.
Orcuttia tenuis	slender Orcutt grass	FT/SE/1B.1/Covered	Vernal pools; Often gravelly/annual herb/May–Sep (Oct)/115–5,770.	**Moderate potential to occur.** The PSA is within the known range of the species, and habitat for the species is present. Specifically, within the PSA, suitable habitat for this species is located within

Table D.1. Special-Status Plants with Potential to Occur within the Project Study Area

Common Name	Scientific Name	Status (Federal/State/CRPR/SSHCP)	Primary Habitat Associations, Lifeforms/ Blooming Period/and Elevation Range (Feet)	Potential to Occur
				the vernal pools, wetland swales, and seasonal wetlands that are present within the study area. Additionally, SSHCP modeled habitat for this species is present within the PSA (Sacramento County 2018). Designated Critical Habitat (DCH) for this species is located approximately 4.20 miles northwest of the PSA. This species has been documented once within five miles of the PSA, southwest of the PSA, east of the Mather Air Force Base in Rancho Cordova (CDFW 2023e, CNPS 2023c, USFWS 2023b).
Orcuttia viscida	Sacramento Orcutt grass	FE/SE/1B.1/Covered	Vernal pools/annual herb/Apr–July (Sep)/98–330.	**Moderate potential to occur**. The PSA is within the known range of the species, and habitat for the species is present. Specifically, within the PSA, suitable habitat for this species is located within the vernal pools, wetland swales, and seasonal wetlands that are present within the study area. Additionally, SSHCP modeled habitat for this species is present within the PSA (Sacramento County 2018). DCH for this species is located approximately 4.8 miles northwest of the PSA. There are several documented occurrences of this species within five miles west and southwest of the PSA, with the nearest known occurrence near Keifer Landfill, east of Grant Line Road (CDFW 2023e, CNPS 2023c, USFWS 2023b).
Packera layneae	Layne's ragwort	FT/None/1B.2/None	Chapparal, cismontane woodland, rocky, serpentine (sometimes) soils/April-August/655 – 3,560.	**Not expected to occur.** Habitat for this species is absent in the PSA. There are no documented CNDDB occurrences of this species within five miles of the PSA (CDFW 2023e).

Table D.1. Special-Status Plants with Potential to Occur within the Project Study Area

Common Name	Scientific Name	Status (Federal/State/CRPR/SSHCP)	Primary Habitat Associations, Lifeforms/ Blooming Period/and Elevation Range (Feet)	Potential to Occur
Ranunculus lobbii	Lobb's aquatic buttercup	None/None/4.2/None	Cismontane woodland, North Coast coniferous forest, valley and foothill grassland, and vernal pools; mesic microhabitats/February – May/50 – 1,540.	**Not expected to occur.** Habitat for this species is minimal (vernal pools) in the PSA. There are no documented CNDDB occurrences of this species within five miles of the PSA (CDFW 2023c).
Sagittaria sanfordii	Sanford's arrowhead	None/None/1B.2/Covered	Marshes and swamps (assorted shallow freshwater)/perennial rhizomatous herb (emergent)/May–Oct (Nov)/0–2,130.	**Low potential to occur.** The PSA is within the known range of the species, and habitat for the species is present however minimal and of low quality. Specifically, within the PSA, there is limited and low-quality habitat for this species (perennially inundated habitat). However, SSHCP modeled habitat for this species is present within the PSA (Sacramento County 2018). This species has been documented within five miles of the PSA, northeast of the PSA, along tributaries to Carson Creek that are south of White Rock Road (CDFW 2023e, CNPS 2023c).
Trichostema rubisepalum	Hernandez bluecurls	None/None/4.3/None	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, vernal pools; gravelly, serpentine (sometimes), volcanic (sometimes) /June-August/985-4,710	**Low.** The project contains suitable habitat for the species, however minimal and of low quality. There are no documented CNDDB occurrences of this species within five miles of the PSA (CDFW 2023e).
Wyethia reticulata	El Dorado County mule ears	None/None/1B.2/None	chaparral, cismontane woodland, lower montane coniferous forest, vernal	**Low.** The project contains suitable habitat for the species, however minimal and of low quality. There are no documented CNDDB

Table D.1. Special-Status Plants with Potential to Occur within the Project Study Area

Common Name	Scientific Name	Status (Federal/State/CRPR/SSHCP)	Primary Habitat Associations, Lifeforms/ Blooming Period/and Elevation Range (Feet)	Potential to Occur
			pools; clay (sometimes) /April-August/605-2,065	occurrences of this species within five miles of the PSA (CDFW 2023e).

Sources: CDFW 2024; CNPS 2024; Jepson eFlora 2023; Sacramento County 2018; USDA 2023a; USFWS 2023a; USFWS 2024; USFWS 2023e

Federal Status

FE: Federally listed as endangered.
FT: Federally listed as threatened

State Status

SE: State listed as endangered

California Rare Plant Rank (CRPR) Status

1B: plants rare, threatened, or endangered in California and elsewhere.
2B: plants rare, threatened, or endangered in California but more common elsewhere.
3: Plants about which more information is needed – A Review List.
4: Plants of limited distribution – A Watch List.

Threat Rank

0.1: Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat).
0.2: Moderately threatened in California (20%–80% occurrences threatened/moderate degree and immediacy of threat).
0 .3: Not very threatened in California (less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known).
None = No conservation status.

SSHCP (South Sacramento Habitat Conservation Plan)

Covered: Currently listed as threatened or endangered under the California Endangered Species Act (ESA) or the federal ESA and covered within the Plan Area by the SSHCP.
None: Not covered under the SSHCP.

Potential for Occurrence Ranks

High Potential to Occur: The species has not been documented in the Project site but is known to occur in the vicinity and species habitat is present.
Moderate Potential to Occur: the species has not been documented in the vicinity, but the Project site is within the known range of the species, and habitat for the species is present.
Low Potential to Occur: The species has not been documented in the vicinity and the PSA is within the known range of the species, but habitat for the species is of low quality.
Not Expected to Occur: The PSA is outside the known range of the species, and habitat for the species is either absent or of low quality.

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Appendix E

Special-Status Wildlife with Potential to Occur

Table E.1. Special-Status Wildlife with Potential to Occur within the Project Study Area

Scientific Name	Common Name	Status (Federal/State/SSHCP)	Habitat	Potential to Occur
Amphibians				
Ambystoma californiense	California tiger salamander (CTS)	FT/ST, WL/Covered	Upland habitat is annual grassland, valley–foothill hardwood, and valley–foothill riparian habitats; aquatic breeding habitat is vernal pools and other ephemeral pools, and less commonly in man-made pools and along stream courses and if predatory fishes are absent.	**Low potential to occur.** The PSA; provides some suitable grassland and vernal pool habitat. There are no known occurrences of this species within 5 miles of the PSA (CDFW 2024). The PSA is at the extreme northern extent of the presumed species range due to the Cosumnes River, located south of the PSA, provides a barrier to movement.
Rana boylii pop. 5	Foothill Yellow-legged Frog (South Sierra Distinct Population Segment)	FE/SE/None	Frequents rocky streams and rivers with rocky substrate and open, sunny banks, in forests, chaparral, and woodlands. Sometimes found in isolated pools, vegetated backwaters, and deep, shaded, spring-fed pools. Sea level to 6,000 ft.	**Low potential to occur.** There is little suitable habitat for the species within the PSA, at rocky streams within forest and woodland land cover. Further, there are no known occurrences of this species within 5 miles of the PSA (CDFW 2024).
Rana draytonii	California red-legged frog	FT/SSC/None	Lowland streams, wetlands, riparian woodlands, livestock ponds; dense, shrubby or emergent vegetation associated with deep, still or slow-moving water; uses adjacent uplands	**Not expected to occur.** There is suitable aquatic habitat for the species within the PSA, however the PSA is at the edge of the known range for the species. Further, there are no known occurrences of this species within 5 miles of the PSA (CDFW 2024).
Spea hammondii	western spadefoot toad (WST)	PX/SSC/Covered	Primarily grassland and vernal pools, but also in ephemeral wetlands that persist at least 3 weeks in chaparral, coastal scrub, valley–foothill woodlands, pastures, and other agriculture.	**High potential to occur.** This species has not been documented in the PSA; however, this species is known to occur in the Project vicinity and suitable habitat is present. Additionally, SSHCP modeled foraging and aestivation habitat is present within the PSA (Sacramento County 2018). There are known occurrences for this species within five miles of the PSA, located on the west side of

Table E.1. Special-Status Wildlife with Potential to Occur within the Project Study Area

Scientific Name	Common Name	Status (Federal/State/SSHCP)	Habitat	Potential to Occur
				Grant Line Road, north of Highway 16 (CDFW 2024). The nearest known occurrence for this species is recorded in an area that is bordered by Sunrise Boulevard, Stare Route 16, Grant Line Road, and Douglas Road in the City of Rancho Cordova (CDFW 2024). No WST were identified during focused field studies conducted by Dudek in 2021.
Fishes				
Oncorhynchus mykiss irideus pop. 11	steelhead - Central Valley DPS	FT/None/None	Coastal basins from Redwood Creek south to the Gualala River, inclusive; does not include summer-run steelhead.	**Not expected to occur.** The PSA does not provide suitable aquatic habitat for this species. This species is known to occur in the American River northwest of the PSA and in the Consumnes River south of the PSA (CDFW 2024).
Oncorhynchus tshawytscha	chinook salmon – Sacramento River winter-run	FE/SE/None	Sacramento River winter-run Chinook Salmon pass under the Golden Gate Bridge to begin their spawning migration in November and continue upstream from December through early August. Sacramento River winter-run Chinook Salmon spawn in the upper mainstem Sacramento River from mid-April through August, peaking in June and July.	**Not expected to occur.** The PSA does not provide suitable aquatic habitat for this species. This species is known to occur in the American River northwest of the PSA (NOAA 2023).
Oncorhynchus tshawytscha	Chinook salmon – Central Valley spring-run	FT/FT/None	Spring-run Chinook salmon enter the Sacramento River from late March through September. Adults hold in cool water habitats through the summer, then spawn in the fall from mid-August through	**Not expected to occur.** The PSA does not provide suitable aquatic habitat for this species. This species is known to occur in the American River northwest of the PSA (NOAA 2023).

Table E.1. Special-Status Wildlife with Potential to Occur within the Project Study Area

Scientific Name	Common Name	Status (Federal/State/SSHCP)	Habitat	Potential to Occur
			early October. Spring run juveniles migrate soon after emergence as young-of-the-year or remain in freshwater and migrate as yearlings.	
Reptiles				
Actinemys marmorata	western pond turtle	PT/SSC/Covered	Slow-moving permanent or intermittent streams, ponds, small lakes, and reservoirs with emergent basking sites; adjacent uplands used for nesting and during winter.	**Observed.** Various occurrences of this species have been documented within the PSA, specifically along or near Carson Creek (Dudek 2024). Additionally, suitable aquatic and upland habitat is present within the PSA and SSHCP modeled aquatic and upland habitat is present within the PSA (Sacramento County 2018). There are also known occurrences for this species within two miles of the PSA, located within Deer Creek south of the PSA (CDFW 2024). Four individuals were observed during Dudek reconnaissance surveys.
Thamnophis gigas	giant garter snake	FT/ST/None	Freshwater marsh habitat and low-gradient streams; also uses canals and irrigation ditches.	**Not expected to occur.** Habitat within the PSA for this species is either absent or of low quality. There is one known occurrence within five miles of the PSA (CDFW 2024).
Birds				
Accipiter cooperii (nesting)	Cooper's hawk	None/WL/Covered	Nests in mixed and deciduous forests, open woodlands, small woodlots, riparian woodlands, open and pinyon woodlands, and forested mountainous regions.	**Low potential to occur.** This species has not been documented in the PSA as suitable nesting habitat is minimal. There is a known occurrence for this species approximately two miles west of the PSA (CDFW 2024).
Agelaius tricolor (nesting colony)	tricolored blackbird (TRBL)	BCC/SSC, ST/Covered	Nests near freshwater, emergent wetland with cattails or tulles, but also in Himalayan blackberry; forages	**Observed (vocalization).** Quality suitable habitat is present within the PSA for this species. Additionally, SSHCP has modeled nesting and foraging habitat within the PSA (Sacramento

Table E.1. Special-Status Wildlife with Potential to Occur within the Project Study Area

Scientific Name	Common Name	Status (Federal/State/SSHCP)	Habitat	Potential to Occur
			in grasslands, woodland, and agriculture.	County 2018). There are several known occurrences of this species that overlap with the PSA boundary, specifically throughout the entirety of the southern extent of the PSA, and several documented occurrences within the immediate vicinity (CDFW 2024). This species was documented within the PSA, west of Coyote Creek, during TRBL focused surveys conducted by Dudek in 2021. No nesting activity was observed during these surveys.
Ammodramus savannarum (nesting)	grasshopper sparrow	None/SSC/None	Nests and forages in moderately open grassland with tall forbs or scattered shrubs used for perches	**Moderate potential to occur.** This species has not been documented in the PSA. However, this species is known to occur in the Project vicinity, and suitable grassland habitat is present. There are known occurrences for this species within two miles southeast of the PSA, with the nearest known occurrence a half mile north of Latrobe Road and a half mile east of Scott Road (CDFW 2024).
Aquila chrysaetos (nesting and wintering)	golden eagle	BCC, FP/FP/None	Nests and winters in hilly, open/semi-open areas, including shrublands, grasslands, pastures, riparian areas, mountainous canyon land, open desert rimrock terrain; nests in large trees and on cliffs in open areas and forages in open habitats.	**Observed foraging.** The PSA provides marginal foraging habitat for this species, and in general habitat is either absent or of low quality. This species was observed foraging or in flight in the western vicinity of the PSA during field surveys conducted by Dudek in 2021. Based on the USFWS iPaC Report, this species has the potential to occur on or near the proposed Project area (CDFW 2024, USFWS 2024), however, there are no documented occurrences of this species within five miles of the PSA (CDFW 2024).
Athene cunicularia (burrow sites and some wintering sites)	burrowing owl (BUOW)	BCC/SSC/Covered	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows.	**High potential to occur.** The PSA contains suitable open grassland habitat with ground squirrel burrows to support this species. Additionally, SSHCP modeled habitat occurs within the PSA

Table E.1. Special-Status Wildlife with Potential to Occur within the Project Study Area

Scientific Name	Common Name	Status (Federal/State/SSHCP)	Habitat	Potential to Occur
				(Sacramento County 2018). A ground-perching BUOW was observed during protocol-level surveys by Dudek in 2021 (Dudek 2021a). Additionally, several potential burrows were discovered with BUOW sign (owl pellet, whitewash, etc.).
Buteo regalis (nesting)	ferruginous hawk	None/WL/Covered	Nests in grasslands, prairie, sagebrush steppe, scrubland, and pinyon-juniper woodland edges.	**Low potential to occur.** This species has not been documented in the PSA as suitable nesting habitat is minimal. There is a known occurrence for this species approximately three miles northeast of the PSA (CDFW 2024).
Buteo swainsoni (nesting)	Swainson's hawk (SWHA)	BCC/ST/Covered	Nests in riparian, open woodland, and savanna, and in isolated large trees; forages in nearby grasslands and agricultural areas such as wheat and alfalfa fields and pasture.	**Observed.** Numerous SWHA were observed within the PSA during reconnaissance-level surveys in 2021 and focused surveys in 2023. Additionally, SSHCP modeled habitat occurs within the PSA (Sacramento County 2018). Occurrences for this species has been recorded at the confluence of Deer Creek and Carson Creek, as well as just east of White Rock Road (CDFW 2024, USFWS 2024).
Elanus leucurus (nesting)	white-tailed kite	None/FP/None	Nests in woodland, riparian, and individual trees near open lands; forages opportunistically in grassland, meadows, scrubs, agriculture, emergent wetland, savanna, and disturbed lands.	**Known to occur.** The PSA contains suitable nesting and foraging habitat for this species. Additionally, SSHCP modeled habitat occurs within the PSA (Sacramento County 2018). Various occurrences of this species have been documented in various locations within the PSA (Dudek 2021a). Additionally, there are several known occurrences within the immediate vicinity (CDFW 2024).
Falco columbarius	merlin	None/WL/None	Forages in semi-open areas, including coastline, grassland, agriculture, savanna, woodland, lakes, and wetlands.	**Low potential to occur.** The PSA provides suitable foraging habitat for this species, within open grassland, woodland, and wetlands.. There is one documented occurrence within five miles of the PSA, approximately 4 miles northwest of the PSA (CDFW 2024).).

Table E.1. Special-Status Wildlife with Potential to Occur within the Project Study Area

Scientific Name	Common Name	Status (Federal/State/SSHCP)	Habitat	Potential to Occur
Haliaeetus leucocephalus (nesting and wintering)	bald eagle	FDL, BCC/ SE/None	Nests in forested areas adjacent to large bodies of water, including seacoasts, rivers, swamps, large lakes; winters near large bodies of water in lowlands and mountains.	**Observed foraging.** Nesting habitat for the species is either absent or of low quality, however foraging habitat for this species is present within the PSA. There are no known CNDDB occurrences of this species within five miles of the PSA (CDFW 2023, USFWS 2024), however, this species was observed in various locations throughout the PSA, specifically along or near Carson Creek during the reconnaissance-level surveys conducted by Dudek in 2021.
Laterallus jamaicensis coturniculus	California black rail	BCC/FP, ST/None	Tidal marshes, shallow freshwater margins, wet meadows, and flooded grassy vegetation; suitable habitats are often supplied by canal leakage in Sierra Nevada foothill populations.	**Low potential to occur.** Habitat for the species within the PSA is minimal and of low quality. The nearest known occurrence for this species is recorded along Blackstone Parkway, approximately one mile southeast of White Rock Road at Latrobe Road (CDFW 2024, USFWS 2024).
Nannopterum auritum	double-crested cormorant	None/WL/None	Nests in riparian trees near ponds, lakes, artificial impoundments, slow-moving rivers, lagoons, estuaries, and open coastlines; winter habitat includes lakes, rivers, and coastal areas.	**Not expected to occur.** Habitat for the species within the PSA is minimal, with there being few riparian trees near ponds for nesting and no wintering habitat. There is one known occurrences of this species within five miles of the PSA (CDFW 2024).
Riparia riparia (nesting)	bank swallow	None/ST/None	Nests in riparian, lacustrine, and coastal areas with vertical banks, bluffs, and cliffs with sandy soils; open country and water during migration.	**High potential to occur.** The PSA provides suitable migratory and foraging habitat for this species, but the site is outside of the known breeding range. There are no known occurrences of this species within five miles of the PSA (CDFW 2024). The nearest known occurrence is recorded on the Consumes River, approximately 1.5 miles southeast of Dillard Road at Latrobe Road (CDFW 2024).

Table E.1. Special-Status Wildlife with Potential to Occur within the Project Study Area

Scientific Name	Common Name	Status (Federal/State/SSHCP)	Habitat	Potential to Occur
Invertebrates				
Bombus crotchii	Crotch bumble bee	None/SCE/None	Open grassland and scrub habitats. This species is classified as a short-tongued species, whose food plants include milkweed (Asclepias sp.), pincushion (Chaenactis sp.), lupine (Lupinus sp), clover (Medicago sp.), Phacelia, and sage (Salvia sp.). Nests are often located underground in abandoned rodent nests, or above ground in tufts of grass, old bird nests, rock piles, or cavities in dead trees.	**Moderate potential to occur.** The PSA is within the known range of the species, and suitable habitat for the species is present, specifically open grassland habitat with floral resources to support this species. The nearest known occurrence for this species is within 4.7 miles west of the PSA, northwest of Douglas Boulevard at Jaeger Road, approximately three miles southeast of White Rock Road (CDFW 2024).
Branchinecta conservatio	Conservancy fairy shrimp	FE/None/None	Larger, more turbid vernal pools, playa pools.	**Not expected to occur.** Suitable habitat for the species is present within the PSA, however the PSA is not within the known range of this species. This species has not been documented within five miles of the PSA, (CDFW 2024), This species is known to occur in 10 populations; the closest two are Yolo Bypass Wildlife Area in Yolo County and Jepson Prairie in Solano County (USFWS 2012, USFWS 2024).
Branchinecta lynchi	vernal pool fairy shrimp	FT/None/Covered	Vernal pools, seasonally ponded areas within vernal swales, and ephemeral freshwater habitats.	**Known to occur.** The PSA contains suitable vernal pool habitat to support this species, and SSHCP modeled habitat is present within the PSA (Sacramento County 2018). Occurrences of this species have been recorded along the western portion of the gen-tie alignment route in the northwest vicinity of the PSA (CDFW 2024, USFWS 2024). Additionally, there are several known occurrences of this species within five miles of the

Table E.1. Special-Status Wildlife with Potential to Occur within the Project Study Area

Scientific Name	Common Name	Status (Federal/State/SSHCP)	Habitat	Potential to Occur
				PSA, several of which are in occupied pools immediately north of the PSA (CDFW 2024). The nearest DCH unit for vernal pool fairy shrimp is approximately 5 miles west of the PSA (USFWS 2024).
Danaus plexippus	Monarch butterfly	FC/None/None	Wind-protected tree groves with nectar sources and nearby water sources. Adult monarchs depend on diverse nectar sources for food. Caterpillars dependent on milkweed.	**Low potential to occur.** The PSA is within the known range of this species. There are a few stands of wind-protected tree groves for this species within the PSA, however, there are limited suitable nectar sources. Additionally, milkweed has not been observed within the PSA. This species has not been documented within five miles of the PSA (CDFW 2024, USFWS 2024).
Desmocerus californicus dimorphus	valley elderberry longhorn beetle (VELB)	FT/None/Covered	Occurs only in the Central Valley of California, in association with blue elderberry (*Sambucus nigra* ssp. *caerulea*).	**Moderate potential to occur.** The PSA is within the known range of this species. There is suitable habitat for this species within the PSA, specifically observed elderberry shrubs (*Sambucus* sp.) within riparian and upland habitats. Additionally, small patches of SSHCP modeled habitat occur within the PSA (Sacramento County 2018). This species has been documented within five miles of the PSA, west of the PSA, between White Road and Douglas Road (CDFW 2024, USFWS 2024).
Lepidurus packardi	vernal pool tadpole shrimp	FE/None/Covered	Ephemeral freshwater habitats including alkaline pools, clay flats, vernal lakes, vernal pools, and vernal swales.	**Known to occur.** The PSA contains suitable vernal pool habitat to support this species, and SSHCP modeled habitat is present within the PSA (Sacramento County 2018). Occurrences of this species have been recorded along nearly the entirety of the gen-tie alignment route in the northwest vicinity of the PSA (CDFW 2024, USFWS 2024). Additionally, there are several known occurrences of this species within five miles of the PSA, several of which are in occupied pools immediately north of the PSA (CDFW 2024). The

Table E.1. Special-Status Wildlife with Potential to Occur within the Project Study Area

Scientific Name	Common Name	Status (Federal/State/SSHCP)	Habitat	Potential to Occur
				nearest DCH unit for vernal pool tadpole shrimp is approximately 5 miles west of the PSA (USFWS 2024).
Mammals				
Antrozous pallidus	pallid bat	None/SSC/None	Grasslands, shrublands, woodlands, forests; most common in open, dry habitats with rocky outcrops for roosting, but also roosts in man-made structures and trees	**Low potential to occur.** Habitat for the species within the PSA is present within the grassland and woodland/forests, however, there are few rocky outcrops for roosting. There are a few trees within the PSA that could be suitable for roosting. There are no known occurrences of this species within five miles of the PSA (CDFW 2024).
Taxidea taxus	American badger	None/SSC/Covered	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils.	**High potential to occur.** This species has not been documented in the PSA. However, this species is known to occur in the Project vicinity, and suitable grassland habitat and SSHCP modeled habitat is present (Sacramento County 2018). The nearest known occurrence for this species is recorded a half mile east of Sunrise Boulevard, and one mile south of Douglas Road in the City of Rancho Cordova (CDFW 2024).

Sources: CDFW 2024; Cornell Lab 2022; Sacramento County 2018; USFWS 2024; USFWS 2024

Federal Status

BCC: USFWS Bird of Conservation Concern
FDL: Federally delisted
FE: Federally listed as endangered
FP: Fully Protected
FT: Federally listed as threatened
PT: Federally proposed listed as threatened

State Status

FP: fully protected
SCE: State Candidate Endangered
SE: State listed as endangered
SSC: Species of Special Concern
ST: State listed as threatened
WL: Watch List
None: No conservation status

SSHCP (South Sacramento Habitat Conservation Plan)

Covered: Currently listed as threatened or endangered under the California Endangered Species Act (ESA) or the federal ESA and covered within the Plan Area by the SSHCP.

None: Not covered under the SSHCP.

Potential for Occurrence Ranks

Known to Occur: The species has been documented in the PSA.

High Potential to Occur: The species has not been documented in the Project site but is known to occur in the vicinity and species habitat is present.

Moderate Potential to Occur: The species has not been documented in the vicinity, but the PSA is within the known range of the species, and habitat for the species is present.

Low Potential to Occur: The species has not been documented in the vicinity and the PSA is within the known range of the species, but habitat for the species is of low quality. is either absent or of low quality.

Not Expected to Occur: The Project site is outside the known range of the species, and habitat for the species is either absent or of low quality.

Appendix F

2024 Biological Resources Survey Results Assessment Report

VERSION #01

2024 Biological Resources Survey Results Assessment Report

Coyote Creek Agrivoltaic Ranch Project

JULY 2024

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APPENDICES

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
amsl	Above mean sea level
AC	Alternating current
BCC	Birds of Conservation Concern
BESS	Battery Energy Storage System
BUOW	Burrowing owl
CBB	Crotch's bumble bee
CCAR	Coyote Creek Agrivoltaic Ranch
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
FGC	Fish & Game Code
gen-tie	Generation tie
GNSS	Global navigation satellite system
kV	kilovolt
LLC	Limited Liability Company (LLC)
MBTA	Migratory Bird Treaty Act
MW	megawatt
PER	Planning environmental review
PSA	Project Study Area
PV	photovoltaic
SCP	Scientific Collecting Permit
SDA	Solar Development Area
SMUD	Sacramento Municipal Utility District
SSC	Special Species of Concern
SSHCP	South Sacramento Habitat Conservation Plan
SVRA	Sacramento Vehicle Recreation Area
SWHA	Swainson's hawk
TRBL	Tricolored blackbird
USFWS	United States Fish and Wildlife Service
WST	Western Spadefoot Toad

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1 Executive Summary

Sacramento Valley Energy Center, LLC has contracted Dudek to prepare this 2024 Biological Resources Survey Results Assessment Report to provide an overview of biological resource surveys that were conducted within the Project Study Area (PSA) in 2024. Table 1 highlights a summary of all biological resource surveys that were conducted during 2024 along with associated survey dates.

Table 1. Summary of 2024 Biological Resources Surveys

Survey	Date
Western spadefoot toad (WST; *Spea hammondii*) Habitat Assessment	
Pass 1	February 08, 2024
Pass 2	February 09, 2024
Pass 3	February 13, 2024
WST Nocturnal Eye-Shine and Acoustic Surveys	
Pass 1	February 13, 2024 and February 21, 2024,
Pass 2	February 29, 2024 and March 11, 2024
Pass 3	March 22, 2024
Burrowing owl (BUOW; *Athene cunicularia*)	
Pass 1 (non-breeding)	February 15-16, 2024; February 28, 2024
Pass 2 (nesting)	May 29-30, 2024
Pass 3 (nesting)	June 24-25, 2024; June 28, 2024
Swainson's hawk (SWHA; *Buteo swainsoni*)	
Pass 1 (period IV)	May 29-30, 2024
Pass 2 (period V)	June 24, 2024
Crotch's bumble bee (CBB; *Bombus crotchii*)	
Pass 1	April 16, 2024
Pass 2	May 08-10, 2024
Pass 3	May 29-30, 2024; June 05, 2024; June 07, 2024
Special Status Plants Surveys	
Pass 1	May 08, 2024 and May 09, 2024
Pass 2	May 23, 2024
Pass 3	June 04, 2024

Acronyms: WST=western spadefoot toad; BUOW=burrowing owl; SWHA=Swainson's hawk; CBB=Crotch's bumblebee

This report covers the following wildlife species: Western spadefoot toad (WST; *Spea hammondii*), burrowing owl (BUOW; *Athene cunicularia*), Swainson's hawk (SWHA; *Buteo swainsoni*), and Crotch's bumble bee (CBB; *Bombus crotchii*). Additionally, special status plant species were evaluated during 2024 biological resource surveys and are discussed in this report.

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2 Introduction

Sacramento Valley Energy Center, LLC (applicant) proposes to construct, operate, and ultimately decommission an approximately 200-megawatt (MW) alternating current (AC) photovoltaic (PV) solar energy generating facility and associated 4-hour/100 MW AC battery energy storage system (BESS).

The Coyote Creek Agrivoltaic Ranch project (project) components–include an on- site substation, inverters, solar array, fencing, roads, supervisory control, data acquisition (SCADA) system, generation tie (gen-tie) line, and switchyard. The project's 230-kilovolt (kV) gen-tie line would be approximately 1.3 miles long and would parallel the boundary of the California State Parks Off-Highway Motor Vehicle Division's Prairie City State Vehicle Recreation Area (SVRA). The gen-tie line would connect with a new switchyard that would be constructed to interconnect into the Sacramento Municipal Utility District (SMUD) 230 kV powerline in proximity to the Prairie City SVRA. Following construction of the switchyard, SMUD would own and operate the switchyard facilities. Plate PD-1 shows the regional location of the project.

The project is located south of U.S. Route 50, northwest of Rancho Murieta, southeast of the Prairie City SVRA, and south of White Rock Road in the Cosumnes community. Specifically, it is located on what is known as "Barton Ranch" adjacent to 3830 Scott Road. The geographic center of the project site is at 38.576278° North - 121.132944° West, at 196 feet above mean sea level (asml). A gen-tie line would extend approximately 1.3 miles to provide an interconnection to the SMUD 230 kV powerline that runs through the Prairie City SVRA. The project site comprises numerous parcels that total the approximately 2,704-acre project site in the Consumnes community of unincorporated Sacramento County. Of the approximately 2,704-acre project site, approximately 1,412 acres of this area would be developed to support the project and is collectively referred to as the "solar development area (SDA)." The SDA includes the proposed footprint of project construction activities and development, and the remaining approximately 1,292 acres are referred to as "adjacent other lands" and would not be developed as part of the project. "Adjacent other lands" are lands within the project site but located outside of the solar development area.-The solar development area includes all locations used for temporary construction and all permanent project infrastructure. Areas denoted as adjacent other lands would be appropriately delineated with flagging and construction areas activities would be required to avoid adverse impacts within these areas.

The location of the CCAR was selected because of its proximity to the existing SMUD transmission corridor, landowners willing to lease their land and participate in the project, its previously disturbed nature in the form of agricultural grazing land, the site's access to transportation corridors and existing roads, and the site's excellent solar irradiance.

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3 Western Spadefoot Toad (WST)

Western spadefoot toad (*Spea hammondii*; WST) is proposed to be federally listed and is endemic to California and northern Baja California. WST is almost completely terrestrial, entering temporal pools and drainages only to breed. The species aestivates within rodent burrows in upland habitats near aquatic breeding sites (Stebbins 1972). WST prefers open areas with sandy or gravelly soils in a variety of habitats, including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, river floodplains, alluvial fans, playas, and alkali flats (Holland and Goodman 1998; Stebbins 2003). However, the species is most common in grasslands and vernal pools or mixed grassland/coastal sage scrub areas and is most active during periods of rain (Holland and Goodman 1998).

3.1 WST Survey Results 2021-2023

Dudek conducted upland burrow surveys for WST within potential suitable habitat for this species during protocol-level and focused BUOW surveys specifically in 2021 [April 11-15; May 09-13; June 07-11; June 21-25; July 06-08]. Additionally, Dudek conducted breeding season larval and nocturnal eye-shine surveys in potential breeding habitat in the PSA on March 19, 2022. No suitable burrows or other signs of WST were observed during the initial upland surveys; however, suitable upland burrowing habitat is present. During the 2022 larval and nocturnal eye-shine surveys, no WST were observed. The aquatic habitats surveyed were suitable for WST for potential breeding habitat (Figure 3, Western Spadefoot Toad Survey Results Compiled 2022-2024); however, known predators [e.g., American bullfrog (*Rana catesbeiana*)] were observed within these ponds, which decreases the likelihood of WST occurring within the PSA.

3.2 WST Survey 2024

Dudek conducted WST focused surveys to evaluate suitable upland and aquatic habitat within the PSA. WST surveys entailed conducting a habitat assessment to evaluate aquatic and upland habitat for species suitability. Following habitat assessment, a focused WST nocturnal-eye shine and acoustic survey occurred to evaluate areas identified as potential breeding habitats for the species. There is no established survey protocol specific for WST. Dudek followed guidance detailed in publicly available literature as well as consulting wildlife species experts. Literature that Dudek consulted entailed but is not limited to the following resources:

- Species Status Assessment for Western Spadefoot (*Spea hammondii*) (USFWS, 2023).
- Habitat Assessment Baseline Survey for the Western Spadefoot (*Spea hammondii*) and the Western Pond Turtle (Emys marmorata) on the Irvine Ranch Land Reserve (USGS, 2004)
- Distribution of the Western Spadefoot (*Spea hammondii*) in Northern Sacramento Valley of California, with Comments on Status and Survey Methodology (Shedd 2016)

3.2.1 WST Habitat Assessment Methods 2024

Dudek conducted a multi-day reconnaissance-level habitat assessment for WST within the PSA outlined in Table 2 below.

Table 2. Western Spadefoot Toad Habitat Assessment Survey Dates and Weather Conditions 2024

Survey Date	Starting Conditions	Ending Conditions
February 08, 2024	**Starting Time:** 8:03 AM **Air Temperature** 44°F **Water Temperature** 47°F **Wind Speed** 0 MPH **Cloud Cover** 30%	**Ending Time:** 4:10 PM **Air Temperature** 51°F **Water Temperature** 47°F **Wind Speed** 5 MPH **Cloud Cover** 30%
February 09, 2024	**Starting Time:** 8:31 AM **Air Temperature** 40°F **Water Temperature** 47°F **Wind Speed** 0 MPH **Cloud Cover** 30%	**Ending Time:** 4:15 PM **Air Temperature** 51°F **Water Temperature** 47°F **Wind Speed** 0 MPH **Cloud Cover** 30%
February 13, 2024	**Starting Time:** 3:30 PM **Air Temperature** 42°F **Water Temperature** 47°F **Wind Speed** 0 MPH **Cloud Cover** 70%	**Ending Time:** 11:20 PM **Air Temperature** 59°F **Water Temperature** 52°F **Wind Speed** 2 MPH **Cloud Cover** 70%

Acronyms: WST=western spadefoot toad; MPH=miles per hour; F=Fahrenheit; AM=ante meridiem; PM=post meridiem

The purpose of the WST Habitat Assessment was to evaluate aquatic resources within the PSA, solar development areas (SDA), and adjacent other lands (AOLs) for WST suitability. Aquatic resources were evaluated in the field and assigned one of three classifications based on relative suitability for WST: potential breeding habitat, marginal breeding habitat, or no potential breeding habitat. These terms are defined further below.

- **Potential breeding habitat:** aquatic resource is inundated during the breeding season (typically between October and May) for a sufficient duration (estimated to be 3-11 weeks) to support metamorphose, water temperatures are suitable (48-86°F), and upland refugia is present (e.g., friable soils, burrows) (USFWS, 2023).
- **Marginal breeding habitat:** aquatic resource may not be inundated for a sufficient duration during the breeding season to support metamorphose, water temperatures are not suitable, and upland refugia is largely absent (e.g., friable soils, burrows).
- **No potential breeding habitat:** aquatic resource not sufficiently inundated during the breeding season to support metamorphose, water temperatures may not be suitable, competitive non-native species present, and upland refugia is largely absent (e.g., friable soils, burrows).

As indicated above, habitat suitability for WST was determined by evaluating water temperature, type of aquatic feature, potential upland refugia, and assessing for presence of non-native competitive species, such as American bullfrog, that may deter WST presence. Dudek biologists evaluated aquatic features by meandering the shoreline searching the water and adjacent uplands for adult or juvenile amphibians, tadpoles, or egg masses.

3.2.2 WST Habitat Assessment Results 2024

Habitat assessment data revealed 18.47 acres of potential breeding habitat for WST, 17.61 acres of marginal breeding habitat for WST, and 86.2 acres of not breeding habitat for WST. Table 3 below displays the cumulative acres resulting from the WST Habitat Assessment.

Table 3. Western Spadefoot Toad Habitat Assessment Results 2024

Aquatic Resources										
Intermittent Channel	Ephemeral Channel	Seasonal Wetland Swale	Vernal Pool	Freshwater Emergent Wetland	Ditch	Seasonal wetland	Vernal swale	Pond	Seep	Upland Swale
Potential Breeding Habitat										
2.04 acres	1.07 acres	8.72 acres	3.98 acres	NA	0.09 acres	1.99 acres	NA	NA	NA	0.58 acres
										Total: 18.47 acres
Marginal										
3.09 acres	6.21 acres	3.80 acres	1.43 acres	0.02 acres	NA	1.15 acres	1.91 acres	NA	NA	NA
										Total: 17.61 acres
Not Breeding Habitat										
20.44 acres	9.19 acres	15.93 acres	2.64 acres	11.63 acres	1.22 acres	2.73 acres	3.55 acres	15.51 acres	0.16 acres	3.20 acres
										Total: 86.2 acres

Source: (Figure 3, Western Spadefoot Toad Survey Results Compiled 2022-2024)
Acronyms: WST=western spadefoot toad; NA=not applicable

Development of potential breeding habitat is dependent on seasonal rains that occur in winter and spring. The amount of rain annually can determine the number and depth of pools suitable for potential breeding habitat. Dudek biologists did not encounter WST species during habitat assessment.

3.2.3 WST Nocturnal Eye-Shine and Acoustic Surveys Methods 2024

Dudek biologists conducted WST nocturnal eye-shine and acoustic surveys in the PSA within aquatic features identified as potential breeding habitat during the WST habitat assessment discussed in section 3.3.1 of this report. Compiled nocturnal eye-shine and acoustic survey dates are outlined in Table 4 below.

Table 4. Compiled Western Spadefoot Toad Nocturnal Eye-Shine and Acoustic Survey Dates 2022-2024

Survey Type	Date
Survey Year- 2022	
Pass 1	March 19, 2022
Pass 2	April 19, 2022
Pass 3	May 26, 2024
Survey Year- 2024	
Pass 1	February 13, 2024 & February 21, 2024
Pass 2	February 29, 2024 & March 11, 2024
Pass 3	March 22, 2024

Acronyms: WST=western spadefoot toad
Note: Survey Year 2023 were not conducted due to- (1) abnormally dry conditions from the lack of precipitation and increased season temperature; (2) no observations of target species at previous eyeshine locations; (3) change of listing status

Nocturnal eye-shine and acoustic survey methods focused on behavior of terrestrial WST and evaluation of egg masses within aquatic features identified as potential breeding habitat. Survey methodology did not entail dip-netting of species.

Nocturnal eye-shine and acoustic surveys took place during rain events of precipitation greater than 0.20 inches and after sunset. When evaluating an aquatic feature, biologists would evaluate three hundred (300) meter transects around the impact area. Additionally, biologists would meander features identified as potential breeding habitat for WST by walking twenty (20) meter transects along the shoreline sweeping with flashlights to detect nocturnal eye-shine and audible cues for acoustic surveys for WST.

3.2.4 WST Nocturnal Eye-Shine and Acoustic Surveys Results 2024

Dudek biologists performed nocturnal eye-shine and acoustic surveys on a total of 18.47 acres of potential breeding habitat for WST. During surveys, biologists observed the following amphibians: sierran treefrog (*Pseudacris sierra*), American bullfrog, and western toad (*Anaxyrus boreas*). WST was not observed during nocturnal eye-shine and acoustic surveys for 2024. Sierran treefrog egg masses were identified on sea holly (*Eryngium* sp.) during nocturnal

eye-shine and acoustic surveys and representative photos of egg masses were captured and included in this report (Attachment A, Photo Log).

3.3 WST Survey Summary 2021-2024

Although WST has not been documented in the PSA, this species is known to occur within the PSA vicinity, the PSA presents suitable habitat. Additionally, the PSA is SSHCP modeled foraging and aestivation habitat (County of Sacramento 2018). There are known California Natural Diversity Database (CNDDB) occurrences for WST within 5 miles of the PSA, located on the west side of Grant Line Road north of Highway 16 (CDFW 2024a). CNDDB occurrence data within the project vicinity for WST was reported on March 07, 1978, within many ponds and vernal pools within the area (CDFW, 2024a). During the 2022 and 2024 surveys, no WST were identified within the PSA.

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4 Burrowing Owl (BUOW)

Burrowing owl (*Athene cunicularia*; BUOW) is a state SSC and SSHCP Covered Species known to occur near the PSA. In California, BUOW are yearlong residents of open, dry grassland and desert habitats, and in grass, forb, and open shrub stages of pinyon-juniper and ponderosa pine habitats (CDFW 2024a). Preferred habitat is typified by short, sparse vegetation with few shrubs, level to gentle topography, and well-drained soils. The presence of burrows is the most essential component of BUOW habitat, as they are required for nesting, roosting, cover, and caching prey (Poulin et al. 2011). In California, BUOW most commonly live in burrows created by California ground squirrels (*Otospermophilus beecheyi*). BUOW may also occur in human-altered landscapes such as agricultural areas, ruderal grassy fields, vacant lots, and pastures if the vegetation structure is suitable (i.e., open, and sparse), useable burrows are available, and foraging habitat occurs in proximity (Gervais et al. 2008). Debris piles, riprap, culverts, and pipes can also be used for nesting, shelter, and roosting.

4.1 BUOW Survey Results 2021-2023

Dudek conducted protocol-level and focused BUOW breeding season surveys within the PSA and 500 feet beyond the PSA in 2021 and 2022. Incidental observations/detections for presence of BUOW were recorded in 2023 through ancillary evidence (pellets and potential burrow-single). In 2021, one BUOW was observed perched west of Coyote Creek in the central northwestern portion of the PSA. Additionally, various suitable burrow locations, and other ancillary evidence of BUOW (e.g., whitewash, pellets, etc.) were observed during surveys and incidental observations in 2021, 2022, and 2023. The purpose of protocol-level and focused BUOW surveys is to assess for burrows, suitability of habitat, and foraging or other BUOW activity within 500 feet from the PSA that may be potentially subject to agency jurisdiction pursuant to regulations in MBTA, California FGC, and CEQA Guidelines. Details from the BUOW surveys are summarized in Table 5.

Table 5. Protocol-Level and Focused Burrowing Owl Survey Results Compiled 2021 - 2023

Observation Summary	Latitude	Longitude
2021 Protocol-Level Surveys		
Potential burrow- multiple	38.55764665°	-121.130841272°
Potential burrow- single; feathers; whitewash	38.55875673°	-121.123298°
Potential burrow- single	38.56043895°	-121.1286701°
Potential burrow- single	38.56044678°	-121.1286257°
Potential burrow- single	38.56049679°	-121.1290726°
Potential burrow- single	38.56050281°	-121.1289361°
Potential burrow- multiple	38.56055625°	-121.1289089°
Potential burrow- single	38.56059469°	-121.1307393°
Potential burrow- single	38.56090506°	-121.131662°
Potential burrow- single	38.56107416	-121.1317861°
Potential burrow- single	38.56151182°	-121.1302206°
Potential burrow- single	38.56153039°	-121.1301853°
Potential burrow- single	38.56153913°	-121.1298737°

Table 5. Protocol-Level and Focused Burrowing Owl Survey Results Compiled 2021 - 2023

Observation Summary	Latitude	Longitude
Potential burrow- single	38.56154681°	-121.1298594°
Potential burrow- single	38.56215157°	-121.1364657°
Potential burrow- multiple	38.56232879°	-121.1315463°
Potential burrow- multiple	38.56806576°	-121.1283403°
Potential burrow- single	38.56865684°	-121.126266°
Potential burrow- multiple	38.58272598°	-121.1241211°
Potential burrow- multiple	38.58275612°	-121.124417°
Potential burrow- multiple	38.58284671°	-121.1246297°
Pellet	38.58323986°	-121.1391347°
Individual burrowing owl– observed perched	38.58435641°	-121.1369127°
Potential burrow- multiple	38.58671282°	-121.1264552°
Potential burrow- single	38.58704478°	-121.1245913°
Potential burrow- single	38.58754027°	-121.1362788°
Pellet	38.58756136°	-121.1361834°
Potential burrow- single	38.58793779°	-121.1392949°
Pellet	38.58806051°	-121.1366349°
Pellet	38.58807545°	-121.137979°
Pellet	38.5881065°	-121.136488°
Pellet	38.58813108°	-121.1364539°
Potential burrow- multiple; feathers; pellet	38.58822419°	-121.1370972°
Potential burrow- single	38.5891079°	-121.1357626°
Potential burrow- multiple	38.59122592°	-121.1416015°
Potential burrow- multiple	38.59201705°	-121.1377893°
Potential burrow- multiple	38.5920227°	-121.1380888°
Potential burrow- single	38.59362673°	-121.1383374°
Potential burrow- multiple	38.59510712°	-121.1370225°
Potential burrow- single	38.59620896°	-121.1406741°
2022 Focused Surveys		
Potential burrow- multiple	38.56120962°	-121.1122114°
Potential burrow- single	38.56151611°	-121.1074852°
Potential burrow- single; whitewash	38.5631304°	-121.1341347°
Potential burrow- single	38.56527136°	-121.1223162°
Potential burrow- single	38.58306362°	-121.1143678°
Potential burrow- single	38.59296422°	-121.1368286°
2023 Incidental Observations		
Pellet	38.58805942°	-121.1374957°
Pellet	38.58809238°	-121.1374004°
Pellet	38.58814992°	-121.1364101°
Pellet	38.58820454°	-121.1372856°

Table 5. Protocol-Level and Focused Burrowing Owl Survey Results Compiled 2021 - 2023

Observation Summary	Latitude	Longitude
Potential burrow- single	38.59013658°	-121.1338438°

Source: (see Figure 4, Burrowing Owl Survey Results Compiled 2021-2024)

Surveys were completed in the PSA in accordance with the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012), and the *Burrowing Owl Survey Protocol and Mitigation Guidelines* (California Burrowing Owl Consortium 1993). Survey areas were focused on suitable habitats within the PSA, such as California annual grasslands, managed agricultural fields, roadside areas, and the margins of agricultural fields, as well as forested areas where tree and/or shrub canopy covered less than 30% of the ground surface. Survey transect centerlines were marked at thirty (30) feet and walked linearly. During the second, third, and fourth passes only those areas that were determined to support suitably sized burrows during the first survey pass were resurveyed. Surveys were conducted between morning civil twilight and 10:00 a.m., and two (2) hours before sunset until evening civil twilight and were limited to periods when wind speed was less than twelve (12) miles per hour and no precipitation or dense fog was observed. BUOW habitat was recorded and mapped during surveys using the ArcGIS Field Maps app for iOS. Data was reviewed in conjunction with the SSHCP modeled land cover and species models.

A summary of protocol-level and focused BUOW survey dates from 2021 through 2022 is summarized in Table 6 below.

Table 6. Protocol-Level and Focused Burrowing Owl Surveys Conducted within the Project Study Area 2021- 2023

	Completed Surveys		
Minimum Protocol Requirements	2021- Protocol-Level	2022- Focused[1]	2023
One site visit between 15 February and 15 April (pass 1)	Pass 1: April 11–15	Pass 1: None[2]	None
Three survey visits, at least three weeks apart, between April 15th through July 15th, with one at least one visit after June 15th (passes 2 – 4)	Pass 2: May 9–13 Pass 3: June 7–11 Pass 4: June 21– June 25, 2021.	Pass 3: None2 Pass 2: June 7–10 Pass 4: July 6–8	None

Source: CDFG 2012.
Notes:
1 Surveys in 2022 generally followed the protocol for breeding season surveys; however, they specifically focused on areas of suitable habitat within the PSA and up to 500 feet from the PSA.
2 None = Surveys only conducted during the last two protocol passes to comply with pre-construction protocol-level survey requirements per California Department of Fish and Wildlife (CDFW).

4.2 BUOW Survey 2024

Dudek conducted a protocol-level BUOW survey in 2024 to continue evaluating nesting and foraging BUOW within the PSA and up to 500 feet from the PSA. Surveys were completed in accordance with *Staff Report on Burrowing Owl Mitigation* (CDFG 2012) and the *Burrowing Owl Survey Protocol and Mitigation Guidelines* (California Burrowing Owl Consortium 1993). Like previous surveys, focus areas included California annual grasslands, managed agricultural fields, roadside areas, and the margins of agricultural fields, as well as forested areas where tree and/or shrub canopy covered less than 30% of the ground surface. Survey dates and conditions are outlined in Table 7.

Table 7. Protocol-Level Burrowing Owl Survey Dates and Conditions 2024

Survey Date	Pass Type[1]	Starting Conditions	Ending Conditions
Pass #1			
February 15, 2024	Non-breeding season	**Starting Time:** 6:45 AM **Air Temperature** 48°F **Wind Speed** 6 MPH **Cloud Cover** 90%	**Ending Time:** 1:25 PM **Air Temperature** 61°F **Wind Speed** 5 MPH **Cloud Cover** 70%
February 16, 2024	Non-breeding season	**Starting Time:** 7:30 AM **Air Temperature** 46°F **Wind Speed** 4 MPH **Cloud Cover** 90%	**Ending Time:** 1:30 PM **Air Temperature** 65°F **Wind Speed** 4 MPH **Cloud Cover** 50%
February 28, 2024	Non-breeding season	**Starting Time:** 9:15 AM **Air Temperature** 52°F **Wind Speed** 2 MPH **Cloud Cover** 40%	**Ending Time:** 12:50 PM **Air Temperature** 66°F **Wind Speed** 5 MPH **Cloud Cover** 10%
Pass #2			
May 29, 2024	Nesting season	**Starting Time:** 5:58 AM **Air Temperature** 53°F **Wind Speed** 0 MPH **Cloud Cover** 0%	**Ending Time:** 10:00 AM **Air Temperature** 71°F **Wind Speed** 7 MPH **Cloud Cover** 10%
May 30, 2024	Nesting season	**Starting Time:** 6:01 AM **Air Temperature** 55°F **Wind Speed** 0 MPH **Cloud Cover** 10%	**Ending Time:** 10:02 AM **Air Temperature** 73°F **Wind Speed** 3 MPH **Cloud Cover** 20 %
Pass #3			
June 24, 2024	Nesting season	**Starting Time**: 6:00 AM **Air Temperature** 66°F **Wind Speed** 2 MPH **Cloud Cover** 20%	**Ending Time:** 12:00 PM **Air Temperature** 83°F **Wind Speed** 1 MPH **Cloud Cover** 20%
June 25, 2024	Nesting season	**Starting Time**: 6:00 AM **Air Temperature** 65°F **Wind Speed** 4 MPH **Cloud Cover** 90%	**Ending Time:** 12:00 PM **Air Temperature** 91°F **Wind Speed** 3 MPH **Cloud Cover** 30%
June 28, 2024	Nesting season	**Starting Time**: 7:00 AM **Air Temperature** 68°F **Wind Speed** 0 MPH **Cloud Cover** 10%	**Ending Time:** 1:00 PM **Air Temperature** 92°F **Wind Speed** 3 MPH **Cloud Cover** 10%

Acronyms: BUOW= burrowing owl; MPH=miles per hour; F=Fahrenheit; AM=ante meridiem; PM=post meridiem

Notes:

1 Pass Types for BUOW 2024 protocol-level surveys include non-breeding surveys and nesting season surveys. Non-breeding surveys evaluate the period when wintering owls are likely to be present. Nesting season survey is to evaluate the timing of nesting activities and peak breeding activities for BUOW.

Table 7 references that Dudek completed three survey passes for BUOW during 2024 which entail the following: one (1) non-breeding survey and two (2) nesting surveys. The purpose of non-breeding surveys is to evaluate the period when wintering owls are most likely to be present. The purpose of a nesting season survey is to evaluate the timing of nesting activities and peak of breeding season for BUOW. The peak of BUOW breeding season occurs from

April 15 through July 15 (California Burrowing Owl Consortium, 1993). Dudek performed nesting season BUOW protocol-level surveys at the peak of the nesting season (see Table 7 above).

4.2.1 Protocol-Level BUOW Survey Methods 2024

Dudek biologists performed protocol-level surveys for non-breeding and nesting season for BUOW. Protocol-level surveys entailed focusing on areas of suitable habitat for the species. Methodology for survey approach aligns with previous BUOW protocol-level surveys outlined in section 4.1 of this report.

4.2.2 Protocol-Level BUOW Survey Results 2024

BUOW 2024 protocol-level survey results include new additions of the following: fifteen (15) potential burrows (single) suitable for BUOW and two (2) potential burrow (clusters) suitable for BUOW.

Table 8. Protocol Level-Burrowing Owl Survey Results 2024

Observation Summary	Latitude	Longitude
2024 Protocol Level Surveys		
Potential burrow - single	38.59691044°	-121.1413389°
Potential burrow - single	38.59700434°	-121.1413514°
Potential burrow - single	38.59730451°	-121.1415181°
Potential burrow – single (culvert)	38.55372563°	-121.1300315°
Potential burrow- single	38.5955887°	-121.1325779°
Potential burrow- cluster	38.5609465°	-121.1315921°
Potential burrow- single	38.56546276°	-121.1353531°
Potential burrow- single	38.56603763°	-121.135303°
Potential burrow- cluster	38.56681212°	-121.1356271°
Potential burrow-single	38.56489386°	-121.1350201°
Potential burrow-single	38.56422154°	-121.1343154°
Individual burrowing owl – potential burrow single, claw marks, pellets, animal remains, whitewash[1]	38.59159145°	-121.1711838°
Potential burrow-single – utilized by burrowing owl, pellets, whitewash	38.59182644°	-121.1714997°
Potential burrow- single utilized by burrowing owl, pellets, whitewash[1]	38.59265709°	-121.1717178°
Two burrowing owl(s) – observed flushing culvert, pellets, whitewash[1]	38.59285582°	-121.1718658°
Potential burrow-single (within occupied BUOW culvert system)[1]	38.59156455°	-121.1714005°
Pellets[1]	38.59188113°	-121.171338°
Potential burrow-single[1]	38.59233946°	-121.1741963°

Source: (Figure 4, Burrowing Owl Results Compiled 2021-2024)
Acronyms: BUOW= burrowing owl
Notes:
1 On February 28, 2024, Dudek biologists identified various roadside culverts that displayed occupancy of BUOW. Additionally, Dudek biologists located a piece of plywood that flushed a BUOW individual underneath. The plywood displayed claw marks, whitewash, pellets, and prey remains.

On February 13, 2024, Dudek biologists incidentally observed 1 (one) BUOW individual at coordinates (38.591815°, 121.171531) during WST habitat assessment surveys. During protocol-level non-breeding BUOW surveys that occurred on February 28, 2024, the area in which BUOW was incidentally observed was investigated and found to be occupied by multiple BUOW. Dudek biologists observed three (3) BUOW individuals on February 28, 2024, within proposed switchyard located within Prairie City SVRA. The BUOW's were found occupying roadside culverts and utilizing a plywood board for shelter during non-breeding surveys (Figure 4 Burrowing Owl Results Compiled 2021-2024). The plywood board occupied by BUOWs showed evidence of claw marks, pellets, prey remains, and whitewash. The roadside culvert system showed evidence of pellets, prey remains, and whitewash. Representative photographs of the species and the associated habitat can be viewed in this report (Attachment A, Photo Log). An additional incidental observation of one (1) BUOW individual occurred during WST nocturnal eye-shine and acoustic surveys on February 29, 2024. Dudek biologists continued to monitor activity of BUOW during subsequent BUOW protocol nesting season surveys in the location where BUOW was observed from non-breeding season surveys. No BUOW individuals were observed during nesting season BUOW protocol level surveys. Observations of fresh pellets were documented during the second pass of nesting season surveys. Additionally, Dudek biologists noted observations of fresh coyote (*Canis latrans*) scat nearby the BUOW siting location.

4.3 BUOW Survey Summary

There is suitable habitat for BUOW within the PSA and within 500-foot buffer. Observations of BUOW were recorded within the PSA in 2021 and 2024. Additionally, various suitable burrow locations and other ancillary evidence of BUOW (e.g., whitewash, pellets, prey remains, pellets, claw marks, etc) were observed during protocol-level, focused surveys, and incidental observations in 2021 through 2024. Observations of BUOW in the PSA previous to 2024 surveys were concentrated in valley grasslands in the northern and southern-most limits of the site. In 2024, observations of BUOW are concentrated to the northwestern portion of the PSA within the proposed switchyard development. Dudek biologists noted during surveys that there was absence of California ground squirrel, which aid BUOW in the development of potential burrowing habitat. It was also noted that soils distributed throughout the PSA were too compact for the development of high quantities of burrowing habitat.

The project solar development has the potential to impact BUOW suitable nesting and foraging habitat (i.e., blue oak woodland, and valley grassland; seasonal wetland and vernal pools wetlands; and ephemeral, perennial, intermittent, ditch, and swale non-wetland waters).

5 Swainson's Hawk (SWHA)

SWHA is a federal bird of conservation concern (BCC), state threatened species, and an SSHCP Covered Species. SWHA is a state threatened species and SSHCP Covered Species known to occur in the PSA. In California, this species nests in the Central Valley and smaller adjacent valleys, the Klamath Basin, the Northeastern Plateau, Lassen County, and the Mojave Desert. It breeds in riparian areas, stands of trees in agricultural environments, oak savannah, Joshua trees (*Yucca brevifolia*) in the Mojave Desert, and juniper-sage flats. In the Central Valley, it nests in riparian areas and in isolated tree clusters, often near rural residences or other areas with some human disturbance. Alfalfa fields are the favored foraging areas of SWHA in the Central Valley, but the species also forages in undisturbed grasslands, fallow agricultural fields, and some row crops.

5.1 SWHA Survey Results 2021-2023

Dudek conducted protocol-level SWHA breeding season surveys within the PSA in 2021, 2022, and 2023. Surveys included visual and aural detection and visual surveys within the PSA and up to 0.5 miles from the solar development area. The purpose of protocol-level surveys is to assess for SWHA nesting, foraging, suitability of habitat, and other activity within the PSA and vicinity that may be subject to agency jurisdiction pursuant to regulations under Migratory Bird Treaty Act (MBTA), CESA, California FGC, and CEQA Guidelines.

The protocol-level SWHA surveys were conducted in accordance with the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (SHTAC 2000). Initial surveys focused on inspection of individual and cluster trees and riparian areas for nests within the PSA. During subsequent surveys, nests and potential nest sites that were identified during the initial surveys were inspected for nesting activity, including territorial or courtship displays, brooding on the nest, presence of young on the nest, and frequent trips to the nest by adults. Survey transect centerlines were marked at 30 feet and walked linearly. SWHA habitat was recorded and mapped during surveys using a Trimble R1 GNSS Receiver with sub-meter accuracy and/or ArcGIS Collector or Field Maps app for iOS. Additionally, data was further reviewed in conjunction with the SSHCP modeled land cover and species models.

A summary of protocol-level SWHA survey dates is summarized in Table 9 below.

Table 9. Protocol-Level Swainson's Hawk Surveys Compiled 2021-2023

Minimum Protocol Requirements	Completed Survey Dates		
	2021	2022	2023
Pass 1: January – March (*optional*)	March 12 and 15	None[1]	None[1]
Pass 2: March 20 - April 5	March 25	None[1]	None[1]
Pass 3: April 5 - 20	April 11 – 15, and 22	April 19	April 7, 10, 14, 17, and 19 - 20
Pass 4: April 21 – June 10 (*monitoring known nest sites*)	May 31 – June 1	June 7 - 10	May 30 – 31
Pass 5: June 10 – July 30 (*post fledging*)	N/A[2]	July 6 - 8	June 27 - 28

Acronyms: SWHA=Swainson's Hawk; MPH=miles per hour; F=Fahrenheit; AM=ante meridiem; PM=post meridiem

SWHA were observed foraging, flying overhead, nesting, displaying and nesting behaviors within in the solar development area during protocol-level surveys conducted in 2021, 2022, and 2023.

Dudek conducted protocol-level SWHA breeding season surveys within the PSA and up to 0.5 miles from the solar development site within the PSA in 2021, 2022 and 2023. A total of 28 SWHA observations, including foraging and courting, were made during the survey passes conducted in 2021, 2022, and 2023. Two nest observations were made in 2023. Observations were made within areas that primarily provided suitable foraging habitat, as well as some nesting habitat, including both the solar development area and the adjacent other lands within the PSA Details from the SWHA surveys from 2021 through 2023 are summarized in Table 10 below, and shown on Figure 5.

Table 10. Protocol-Level Swainson's Hawk Survey Results 2021 - 2023

Observation Summary	Observation Location (decimal degrees)	
	Latitude	Longitude
2021 Protocol-Level Surveys		
Visual- flight	38.55464467°	-121.1306845°
Visual- flight/vocalizing	38.55630694°	-121.1199074°
Visual- flight	38.56178891°	-121.137722°
Perched	38.56179008°	-121.1377245°
Visual- flight	38.5620637°	-121.1347629°
Visual- flight/vocalizing	38.562064°	-121.1347634°
Visual- flight/vocalizing	38.56216543°	-121.1331622°
Foraging	38.56228299°	-121.1377026°
Courting pair	38.56228878°	-121.1376989°
Raptor nest- unoccupied	38.56227656°	-121.1355247°
Courting pair	38.56280187°	-121.13515°
Raptor nest- unoccupied	38.5629247°	-121.1359878°
Perched	38.56296795°	-121.1360126°
Raptor nest- unoccupied	38.56345317°	-121.1362199°
Raptor nest- unoccupied	38.56377597°	-121.1319261°
Raptor nest- unoccupied	38.56923366°	-121.1198936°
Raptor nest- unoccupied	38.57220785°	-121.1364895°
Raptor nest- unoccupied	38.57226743°	-121.1141066°
Mobbing	38.57924538°	-121.1191641°
Mobbing	38.58153459°	-121.1142462°
Raptor nest- unoccupied	38.58269827°	-121.1241618°
Raptor nest- unoccupied	38.58575692°	-121.1256191°
Visual- flight	38.59093086°	-121.162912°
Mobbing	38.59350289°	-121.1329388°
Visual- flight	38.59785363°	-121.1384505°
2022 Protocol-Level Surveys		
Visual- flight	38.55665822°	-121.1151318°

Table 10. Protocol-Level Swainson's Hawk Survey Results 2021 - 2023

Observation Summary	Observation Location (decimal degrees)	
	Latitude	Longitude
Raptor nest- unoccupied	38.56240148°	-121.1355688 °
Perched	38.58026382°	-121.1197949°
Raptor nest- unoccupied	38.56420383°	-121.1162091°
2023 Protocol-Level Surveys		
Visual- flight	38.5591602°	-121.118762°
Raptor nest- occupied	38.57198066°	-121.1138851°
Raptor nest- occupied	38.5763678°	-121.1317324°
Courting pair	38.5767104°	-121.1319778°
Perched	38.57916665°	-121.1312099°
Courting pair	38.57921182°	-121.1306374°
Courting pair	38.57983093°	-121.1336447°

Source: (Figure 5, Swainson's Hawk Survey Results Compiled 2021-2024)
Acronyms: SWHA= Swainson's Hawk

5.2 SWHA Survey 2024

Dudek conducted protocol level SWHA surveys during SWHA period four (IV) and period five (V), which are the two survey periods immediately prior to the Project's initiation. Period IV SWHA surveys occur from April 21 through June 10. Period V SWHA surveys occur from June 10 through July 30 (post-fledging) (SHTAC 2000). Project initiation is anticipated to begin April 2025. Survey dates and conditions are outlined in table 11 below:

Table 11. Swainson's Hawk Protocol-Level Survey Dates and Conditions 2024

Survey Date	Pass Type	Starting Conditions	Ending Conditions
Pass #2			
May 29, 2024	Period IV	**Starting Time:** 6:07 AM **Air Temperature** 53°F **Wind Speed** 0 MPH **Cloud Cover** 0%	**Ending Time:** 9:52 AM **Air Temperature** 73°F **Wind Speed** 3 MPH **Cloud Cover** 0%
May 30, 2024	Period IV	**Starting Time:** 6:20 PM **Air Temperature** 83°F **Wind Speed** 2 MPH **Cloud Cover** 10%	**Ending Time:** 8:15 PM **Air Temperature** 90°F **Wind Speed** 4 MPH **Cloud Cover** 20%
Pass #3			
June 24, 2024	Period V	**Starting Time**: 6:00 AM **Air Temperature** 66°F **Wind Speed** 2 MPH **Cloud Cover** 20%	**Ending Time:** 12:00 PM **Air Temperature** 83°F **Wind Speed** 1 MPH **Cloud Cover** 20%
June 25, 2024	Period V	**Starting Time**: 6:00 AM **Air Temperature** 65°F **Wind Speed** 4 MPH	**Ending Time:** 12:00 PM **Air Temperature** 91°F **Wind Speed** 3 MPH

Table 11. Swainson's Hawk Protocol-Level Survey Dates and Conditions 2024

Survey Date	Pass Type	Starting Conditions	Ending Conditions
		Cloud Cover 90%	Cloud Cover 30%

Acronyms: SWHA=Swainson's Hawk; MPH=miles per hour; F=Fahrenheit; AM=ante meridiem; PM=post meridiem

5.2.1 Protocol-Level SWHA Survey Methods 2024

Under period IV protocol level SWHA surveys, the female SWHA is in brood position, very low in the nest, laying eggs, incubating. Or protecting the newly hatched and vulnerable chicks; her head may not be visible. Nests during this period are often very well-hidden, build into heavily vegetated sections of trees (SHTAC 2000). Dudek biologists, examined all previously occupied nests during this period and examined the skies to locate male SWHA within the PSA along with 0.5 miles outside of the PSA through binocular assessment. Following the male to the nest is the recommended mechanism for locating nests during this period.

Under period V protocol level SWHA surveys, young SWHA are active and visible and are relatively safe without parental protection. Both female and male adult SWHA make numerous trips to the nest soaring above during this period or perched near or on the nest tree. Dudek biologists, examined all previously occupied nests during this period and examined skies to locate females and males making trips to nesting locations. Additionally, Dudek biologists examined for juvenile SWHA. Surveys were conducted within the PSA as well visually 0.5 miles outside of the PSA.

5.2.2 Protocol-Level SWHA Survey Results 2024

A summary of protocol-level SWHA survey dates is summarized in Table 12 below.

Table 12. Protocol-Level Swainson's Hawk Survey Results 2024

Observation Summary	Observation Location (decimal degrees)	
	Latitude	Longitude
2024 Protocol-Level Surveys		
Foraging	38.578332°	-121.131363°
Raptor nest – occupied by RTHA	38.55°	-121.1199074°

Source: (Figure 5, Swainson's Hawk Survey Results Compiled 2021-2024)
Acronyms: SWHA=Swainson's Hawk; RTHA=Red-Tailed Hawk

Results from 2024 SWHA protocol level surveys revealed observation of one (1) SWHA individual. The SWHA individual was an adult foraging within the PSA under period IV surveys. The adult SWHA was monitored for approximately thirty (30) minutes until it flew outside of the PSA. Biologists did not observe the SWHA retreat back to a nest. Dudek biologists also recorded an observation of one active Red-tailed hawk (RTHA; *Buteo jamaicensis*) nest during period IV SWHA surveys. The RTHA nest had one juvenile RTHA in the nest and two adults alarm calling within the vicinity of the nest.

5.3 SWHA Survey Summary

There is suitable foraging and nesting habitat for SWHA within the PSA. There are known occurrences of SWHA within the PSA. In addition, there are known CNDDB occurrences of SWHA recorded at the confluence of Deer Creek and Carson Creek, as well as just east of White Rock Road (CDFW 2024a). Dudek conducted protocol-level SWHA surveys within the PSA, and visual surveys up to 0.5 miles outside the PSA, in 2021, 2022, 2023, and 2024. Within the PSA and 0.5-mile visual buffer, twenty-five (25) SWHA individuals have been observed to date foraging, perching displaying courtship, and nesting. The majority of the SWHA observations were recorded in the southwestern portion of the PSA.

Results from 2024 SWHA surveys concluded in the observation of one (1) SWHA individual foraging within the PSA. This SWHA was observed under period VI, which is a period where nests are extremely difficult to locate. No active SWHA nests were observed under both periods.

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6 Crotch's Bumble Bee (CBB)

CBB is a short-tongued species that has very short hair dispersed evenly throughout the body. CBB queen's body size is approximately twenty-two (22) to twenty-five (25) millimeters (mm) in length. CBB worker's body size is approximately twelve (12) to twenty (20) mm in size in length. A distinguishing characteristic of CBB is the middle body (metasoma) of the species is typically yellow in color (at tergum "T" 2) but black in the middle at the front, and oftentimes has a red stripe toward the tip at Tergum "T" 5 (Williams et al. 2014). The Tergum is a plate on the dorsal upper side of the metasoma and the plates are often different colors (blacks, yellows, reds) that help distinguish/identify bumble bee species. The Tergum plates can range starting T1-6 for females and T1-7 for males (Williams et al. 2014).

The CBB is state candidate endangered with a moderate potential to occur within vegetation communities on site where nesting and floral/nectar resources may be present. CBB occurs primarily in California, including the Mediterranean region, Pacific Coast, Western Desert, and adjacent foothills throughout most of the state's southwestern region (Los Padres Forest Watch, 2013). Example food plants preferred by CBB include milkweeds (*Asclepias* sp.), pincushions (*Chaenactis* sp.), lupines (*Lupinus* sp.), clovers (*Medicago* sp.), scorpion-weed (*Phacelia* sp.), and sage (*Salvia* sp.) (Williams et al. 2014). There is one documented occurrence of CBB within 5 miles of the Project (CDFW 2024a). Based on the focused surveys conducted within the PSA, nesting and foraging/nectar resource observations were most abundant in the oak woodlands and forest, and foothill and valley grassland vegetation communities.

6.1 CBB 2023 Survey Summary

The Project solar development has the potential to impact CBB nesting and foraging/nectar suitable habitat (i.e., oak woodland and forest, and valley and foothill grasslands). Dudek conducted a CBB Habitat Assessment to evaluate foraging resources and nesting locations of this species (Figure 6, Compiled CBB Survey 2023-2024). Specifically, suitable nesting and nectar source habitat for CBB was identified and recorded throughout the solar development area during habitat assessments conducted April 11, 2023, May 9 through 11, 2023, May 23, 2023, and July 3 through July 6, 2023. The surveys focused on identifying suitable nesting site (e.g., down woody debris, burrows, tree cavities, etc.), and foraging habitat (e.g., abundant flowering plant/nectar patches). If a bumble bee were observed during these surveys, qualified biologists opportunistically attempted to identify to species-level without handling (non-capture). No individual CBB was observed or detected.

6.2 CBB 2024 Survey Results

Dudek conducted focused CBB foraging capture and non-capture surveys within the PSA. The purpose of conducting focused CBB foraging surveys was to evaluate the PSA for suitable habitat, occupancy of the species, and gain an understanding of which bumblebee species occur within the PSA. Dudek biologists followed CDFW protocol guidelines outlined in the *Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species* (CDFW, 2023a). Additionally, Dudek biologists utilized the following identification guide to identify bumble bees encountered foraging or captured: *Bumble Bees of North America: An Identification Guide* (Williams et al. 2014). Surveys that took place were spread 2-4 weeks apart from the Colony Active Period to ensure coverage of a range of dates and account for variability in resources of bumblebee species and the floral resource phenology within the site (CDFW, 2023a). Dates to which the surveys took place are outlined below in Table 13.

Table 13. Crotch's Bumble Bee Focused Survey Dates and Conditions 2024

Survey Date	Pass Type	Starting Conditions	Ending Conditions
Pass #1			
April 16, 2024	Capture Surveys	**Starting Time:** 9:43 AM **Air Temperature** 57°F **Wind Speed** 0 MPH **Cloud Cover** 30%	**Ending Time:** 3:23 PM **Air Temperature** 66.5°F **Wind Speed** 3 MPH **Cloud Cover** 30%
Pass #2			
May 08, 2024	Capture Surveys	**Starting Time:** 10:40 AM **Air Temperature** 74°F **Wind Speed** 0-10 MPH **Cloud Cover** 0%	**Ending Time:** 4:08 PM **Air Temperature** 82°F **Wind Speed** 6 MPH **Cloud Cover** 30%
May 09, 2024	Capture Surveys	**Starting Time:** 9:01 AM **Air Temperature** 73°F **Wind Speed** 2-4 MPH **Cloud Cover** 0%	**Ending Time:** 2:33 PM **Air Temperature** 90°F **Wind Speed** 0-3 MPH **Cloud Cover** 0 %
May 10, 2024	Non-Capture Surveys	**Starting Time:** 7:45 AM **Air Temperature** 66°F **Wind Speed** 4 MPH **Cloud Cover** 0%	**Ending Time:** 1:46 PM **Air Temperature** 86°F **Wind Speed** 6 MPH **Cloud Cover** 30%
Pass #3			
May 29, 2024	Non-Capture Surveys	**Starting Time**: 10:28 AM **Air Temperature** 74°F **Wind Speed** 0 MPH **Cloud Cover** 10%	**Ending Time:** 1:03 PM **Air Temperature** 83°F **Wind Speed** 0-7 MPH **Cloud Cover** 10%
May 30, 2024	Non-Capture Surveys	**Starting Time**: 7:48 AM **Air Temperature** 65°F **Wind Speed** 2 MPH **Cloud Cover** 0%	**Ending Time:** 10:00 AM **Air Temperature** 73°F **Wind Speed** 3 MPH **Cloud Cover** 0%
June 05, 2024	Non-Capture Surveys	**Starting Time:** 5:30 AM **Air Temperature** 70°F **Wind Speed** 0 MPH **Cloud Cover** 0%	**Ending Time:** 11:00 AM **Air Temperature** 90°F **Wind Speed** 3 MPH **Cloud Cover** 30%
June 07, 2024	Non-Capture Surveys	**Starting Time:** 5:30 AM **Air Temperature** 61°F **Wind Speed** 2-7 MPH **Cloud Cover** 0%	**Ending Time:** 1:00 PM **Air Temperature** 88°F **Wind Speed** 3-7MPH **Cloud Cover** 0%

Acronyms: CBB=Crotch's Bumblebee; MPH=miles per hour; F=Fahrenheit; AM=ante meridiem; PM=post meridiem

Focused survey areas were established within the PSA based on suitable floral pollinating resources for bumble bee species and nesting resources identified from CBB habitat assessment that took place in 2023. The CBB foraging survey passes that took place were distributed between non-capture surveys and capture surveys under guidance of an CDFW SCP permitted biologist and are outlined in further detail in section 6.3.1 and 6.3.2 of this report.

6.2.1 Focused CBB Foraging Capture Surveys 2024

6.2.1.1 Focused CBB Foraging Capture Methods

Dudek conducted a focused CBB foraging bumble bee capture survey to evaluate the PSA for occurrence of CBB. Capture surveys that took place were under permitted Scientific Collecting Permit (SCP; 221820002-22332-001) Biologist, Callie Amoaku. Callie's SCP covers the following bumble bee species: Western bumble bee (*Bombus occidentalis*), Crotch's bumble bee, Suckley's cuckoo bumble bee (*Bombus suckeyi*), and Franklin's bumble bee (*Bombus franklini*). Focused surveys were conducted for a minimum of one person-hour of searching per three (3) acres of suitable habitat distributed over survey grids that were identified for suitable floral resources based on the 2023 habitat assessment data as well as data collected during 2024 surveys. When a bumblebee was observed, biologists would use a bug net to capture the species and work to carefully transfer the bumblebee into a sterile plastic vile. Once the bumblebee species was placed in the sterile vile, biologists would transfer the bumblebee within the sterile vile into a cooler with crushed ice measured at 25°F. Cooling periods for bumble bee species did not exceed 120 minutes. Once the bumble bee was sufficiently cooled, biologists would remove the bumble bee from the cooler and sterile vile and place the specimen onto a solid or grided background in light shade to photograph the species to identify. Photographs captured the following angles: face including cheek length, top of head, banding on the abdomen, color pattern on the thorax, and hind leg for Psithyrus/sex diagnosis (Attachment A, Photo Log). After photographs were completed, the bumble bee was released nearby its capture site. Capture locations can be viewed Figure 6 (Compiled CBB Survey Results 2023-2024).

6.2.1.2 Focused CBB Foraging Capture Results

Bumble bee species that were caught during capture surveys include the following: Van Dyke's bumblebee (*Bombus vandykei*), yellow-faced bumblebee (*Bombus vosnesenskii*), yellow bumblebee (*Bombus fervidus*), and black-tailed bumble bee (*Bombus melanopygus*). Quantities of captured bumblebees are outlined in Table 14 below.

Table 14. Foraging Bumble Bee Species Results 2024

Van Dyke's bumblebee (*Bombus vandykei*)		Yellow-faced bumblebee (*Bombus vosnesenskii*)	Black-tailed bumble bee (*Bombus melanopygus*)	Yellow bumblebee (*Bombus fervidus*)
Capture Surveys April 16, 2024				
3 captures		5 captures	None	8 captures
Capture Survey May 08, 2024				
1 capture		2 captures	None	1 capture
Capture Survey May 09, 2024				
3 captures		2 captures	1 capture	1 capture
Totals	**7 captures**	**9 captures**	**1 capture**	**10 captures**

Source: (Figure 6, Crotch's Bumble Bee Survey Results Compiled 2023-2024; reference Foraging and Nectar Resources 2024).

Floral resources that bumblebee species were captured on include the following species: hairy vetch (*vicia villosa*), rose clover (*Trifolium hirtum*), and miniature lupine (*Lupinus bicolor*). Twenty-three (23) out of the twenty-seven (26) bumblebee individuals (88%) that were captured during the focused CBB foraging bumble bee capture surveys

were utilizing hairy vetch as a floral resource. Geo-referenced data was collected for captured bumblebees and is outlined in Table 15 below:

Table 15. Foraging Bumble Bee Capture Locations 2024

Observation Summary [1]	Observation Location (decimal degrees)		Capture Date
	Latitude	Longitude	
2024 Protocol-Level Surveys			
Foraging bumble bee	38.579987°	-121.121505°	Captured on April 16, 2024. Queen bee pollinating on hairy vetch (*Vicia villosa*) and flew into nest.
Foraging bumble bee	38.578274°	-121.122612°	Captured on April 16, 2024. Queen bee pollinating on hairy vetch
Foraging bumble bee	38.579215°	-121.126858°	Captured on April 16, 2024. Queen bee pollinating on hairy vetch
Foraging bumble bee	38.580556°	-121.125833°	Captured on April 16, 2024. Queen bee pollinating on hairy vetch
Foraging bumble bee	38.578889°	-121.125833°	Captured on April 16, 2024. Queen bee pollinating on hairy vetch
Foraging bumble bee	38.579203°	-121.125809°	Captured on April 16, 2024. Queen been pollinating on hairy vetch.
Foraging bumble bee	38.580625°	-121.125661°	Captured on April 16, 2024. Queen bee pollinating on hairy vetch
Foraging bumble bee	38.579547°	-121.126159°	Captured on April 16, 2024. Queen bee pollinating on hairy vetch
Foraging bumble bee	38.583370°	-121.127199°	Captured on April 16, 2024. Queen bee pollinating on hairy vetch
Foraging bumble bee	38.581497°	-121.121907°	Captured on April 16, 2024. Queen bee pollinating on hairy vetch
Foraging bumble bee	38.581071°	-121.120936°	Captured on April 16, 2024. Queen bee pollinating on hairy vetch
Foraging bumble bee	38.579260°	-121.121444°	Captured on April 16, 2024. Queen bee pollinating on hairy vetch
Foraging bumble bee	38.579345°	-121.125726°	Captured on April 16, 2024. Queen bee pollinating on hairy vetch
Foraging bumble bee	38.580434°	-121.122453°	Captured on April 16, 2024. Queen bee pollinating on hairy vetch
Foraging bumble bee	38.580721°	-121.124449°	Captured on April 16, 2024. Queen bee pollinating on hairy vetch
Foraging bumble bee	38.579224°	-121.126013°	Captured on April 16, 2024. Queen bee pollinating on hairy vetch.
			Total for April 16, 2024 = 16 individuals
Foraging bumble bee	38.568583°	-121.114381°	Captured on May 08, 2024. Worker bee pollinating on Rose clover (*Trifolium hirtum*).
Foraging bumble bee	38.568766°	-121.113804°	Captured on May 08, 2024. Worker bee pollinating on Rose clover.
Foraging bumble bee	38.568040°	-121.113937°	Captured on May 08, 2024. Worker bee pollinating on Rose Clover.

Table 15. Foraging Bumble Bee Capture Locations 2024

Observation Summary [1]	Observation Location (decimal degrees)		Capture Date
	Latitude	Longitude	
			Total for May 08, 2024, = 3 individuals
Foraging bumble bee	38.579445°	-121.120153°	Captured on May 09, 2024. Worker bee pollinating on miniature lupine (*Lupinus bicolor*)
Foraging bumble bee	38.573644°	-121.132606°	Captured on May 09, 2024. Worker bee pollinating on hairy vetch.
Foraging bumble bee	38.573959°	-121.133528°	Captured on May 09, 2024. Queen bee pollinating on hairy vetch.
Foraging bumble bee	38.574237°	-121.134127°	Captured on May 09, 2024. Queen bee pollinating on hairy vetch.
Foraging bumble bee	38.573789°	-121.133242°	Captured on May 09, 2024. Worker bee pollinating on hairy vetch
Foraging bumble bee	38.573692°	-121.133252°	Captured on May 09, 2024. Worker bee pollinating on hairy vetch.
Foraging bumble bee	38.572893°	-121.133463°	Captured on May 09, 2024. Worker bee pollinating on hairy vetch
			Total for May 09, 2024 = 7 individuals
			Total Foraging Habitat/Nectar Resources: 26

Source: (Figure 6, Crotch's Bumble Bee Survey Results Compiled 2023-2024)
Acronyms: CBB=Crotch's Bumblebee; MPH=miles per hour; F=Fahrenheit; AM=ante meridiem; PM=post meridiem
Notes:
[1] All foraging bumblebees were captured under an (SCP; 221820002-22332-001) permitted Biologist. CBB was not a species captured during surveys.

6.2.2 Focused CBB Foraging Non-Capture Surveys 2024

6.2.2.1 CBB Foraging Non-Capture Survey Methods

Dudek conducted focused CBB foraging non-capture surveys to evaluate the PSA for occurrence of CBB. Focused CBB foraging non-capture surveys were conducted in collaboration with capture surveys outlined in section 6.3.1. of this report. During surveys, biologists focused on areas identified with suitable floral resources from the 2023 habitat assessment and data collected during 2024 surveys. A California Endangered Species Act (CESA) SCP permitted bumblebee Biologist was not present during the focused CBB foraging non-capture surveys. Methods that biologist followed when surveying entail surveying suitable habitat grids at a minimum of three (3) acres per one (1) hour examining floral resources for foraging bumblebees. If a bumblebee was observed, biologists would record georeferenced data, obtain a photo, record floral resource, and work to identify the species.

6.2.2.2 CBB Foraging Non-Capture Survey Results

Biologists observed approximately 100 bumblebee individuals utilizing floral resources during focused CBB foraging non-capture surveys within the 2024 focused survey areas (Figure 6, Crotch's Bumble Bee Survey Results Compiled 2023-2024). Floral resources that bumblebee species would utilize changed with floral dieback of preferential

species. Floral resource hairy vetch was preferred during the first (1st) and second (2nd) focused CBB foraging surveys, however, during the later portions of the second (2nd) and third (3rd) passes this floral resource had browned out and was no longer available. As browning out occurred for hairy vetch, bumblebees began utilizing Italian thistle (*Carduus pynocephalus*), John's wort (*Hypericum perforatum*), seep monkeyflower (*Erythranthe guttata*), milk thistle (*Silybum marianum*). No CBB individuals were observed during this survey effort.

6.3 CBB Foraging Survey Summary

Crotch's Bumble Bee (CBB; *Bombus crotchii*) is state candidate endangered with a moderate potential to occur within vegetation communities on site where nesting and floral/nectar resources are present. As candidate species, they are temporarily afforded the same protections as state-listed species during the listing review process. The CBB occurs almost exclusively in California, currently primarily in the Central Valley, but has been described as having historically occupied grasslands and shrublands in southern to central California. Bumble bees are known to be generalist pollinators but have preferences based on flower color including purple, blue, and yellow. Suitable habitat may contain any of the following: 1) areas of grasslands and upland scrub that contain requisite habitat elements, such as small mammal burrows and forage plants; 2) potential nest habitat (late February through late October) containing underground abandoned small mammal burrows and ground-nesting bird nests (Kearns and Thomson 2001, McFrederick and LeBuhn 2006), logs, stumps, snags, and clumps of grass are often suitable (Devore 2009); 3) overwintering sites (November through early February) utilized by mated queens in self-excavated hibernacula potentially in soft, disturbed soil, sandy, well-drained, or loose soils, under leaf litter or other debris with ground cover requisites such as barren areas, tree litter, bare-patches within short grass in areas lacking dense vegetation. CBB emerge from their hibernaculum between February through June with a peak in March to seek new nest sites and forage for resources to establish their colony. The PSA contains limited open grassland habitat with floral resources to support this species. This species is classified as a short-tongued species, whose food plants include milkweed (*Asclepias* spp.), pincushion (*Chaenactic* spp.), lupine (*Lupinus* spp.), clover (*Medicago* sp.), scorpion-weed (*Phacelia* sp.), and sage (*Salvia* spp.). High quantities of foraging and nectar resources within the PSA were identified from surveys from 2023 through 2024 (see Figure 6, Crotch's Bumble Bee Survey Results Compiled 2023-2024). CBB was not encountered during 2024 surveys within the PSA, however, over one hundred (100) bumble bee individuals were observed during focused capture and non-capture CBB foraging survey efforts. Suitable floral resources such as hairy vetch, rose clover, miniature lupine, milk thistle, and monkeyflower are present within the PSA. Additionally, there are suitable nesting locations for bumblebee species as identified during 2023 surveys and observed in 2024 surveys (see Figure 6, Crotch's Bumble Bee Survey Results Compiled 2023-2024). CNDDB reports an occurrence for CBB within 4.7 miles west of the PSA, northwest of Douglas Boulevard at Jaeger Road, approximately 3 miles southeast of White Rock Road (CDFW 2024a).

7 Special-Status Plants

Dudek conducted protocol-level botanical surveys in the PSA in 2021, 2022, 2023, and 2024. The purpose of protocol-level botanical surveys was to identify special-status plant resources as defined under FESA, CESA, California FGC, CEQA Guidelines, and the Sacramento County General Plan. The botanical surveys were performed in accordance with the Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants (USFWS 2000), the Protocol for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018), and the Botanical Survey Guidelines (CNPS 2001). The botanical surveys were conducted during the appropriate floristic bloom period for special-status plant species known to occur within the Project region (i.e., late spring to early summer months). Reference populations were visited prior to each year's survey to ensure target species were evident and identifiable. Surveys were completed using a systematic transect approach within suitable habitats for special-status species that have the potential to occur. All plant species encountered were identified to the taxonomic level appropriate to determine species and regulatory status if needed. Botanical resources were recorded and mapped in the field. Four special-status plants were observed within the PSA during protocol-level botanical surveys, each species is discussed in the following paragraphs.

Ahart's dwarf rush (*Juncus leiospermus var. ahartii*) is a CRPR 1B.2 species (i.e., moderately threatened in California) and SSHCP Covered Species that was observed in the PSA. Ahart's dwarf rush is an annual herb that is native to California. The common blooming period for this species is April through May. This species can be found in mesic valley and foothill grassland habitat from approximately 98 to 750 feet amsl. This species has not been documented in the vicinity of the PSA, but the PSA is within the known range of the species, and habitat for this species is present. Specifically, suitable grassland habitat for this species is located within the southern and western portions of the PSA. Additionally, SSHCP modeled habitat for this species is present within the PSA (County of Sacramento 2018). Suitable habitat for this species in the PSA includes vernal pools, wetland swales, and seasonal wetlands

Pincushion navarretia (*Navarretia myersii* ssp. *myersii*) is a CRPR 1B.1 species (i.e., seriously threatened in California) and SSHCP Covered Species observed in the PSA. Pincushion navarretia is an annual herb that is native to California. The common blooming period for this species is April through May. This species can be found in often acidic vernal pools from approximately 66 to 1,080 feet amsl. The PSA is within the known range of the species, and habitat for the species is present. Specifically, the Hadselville-Pentz and Redding Gravelly Loam soil complexes within the PSA are slightly acidic, and vernal pools located in these soils provide potential suitable habitat. Additionally, SSHCP modeled habitat for this species is present within the PSA (County of Sacramento 2018). Known occurrences for this species are within 5 miles of the PSA, northwest of the PSA, within the Folsom USGS 7.5-minute quad (CDFW 2024a; CNPS 2024).

Spicate calycadenia (*Calycadenia spicata*) is a CRPR 1B.3 species observed in the PSA. Spicate calycadenia is an annual herb that is native to California. The common blooming period for this species is May through September. This species can be found in cismontane woodland valley and foothill grassland from approximately 130 to 4,595 feet amsl. The PSA is within the known range of the species, and suitable habitat for this species is located throughout the PSA within grassland habitat on site. Observations of the species were recorded approximately 1 mile north of the PSA, in 2021 (CNPS 2024).

Valley brodiaea (*Brodiaea rosea* ssp. *vallicola*) is a CRPR 4.2 species with a high potential to occur in the PSA. Valley brodiaea is an annual herb that is native to California. The common blooming period for this species is April through May. This species can be found in valley and foothill grassland and vernal pools from approximately 35 to 1,100 feet amsl. The PSA is within the known range of the species, and suitable habitat for this species is located throughout the PSA within grassland habitat and vernal pools on site. Five species observations have been recorded within the PSA, four of which were observed in 2020 (CNPS 2024).

As provided in the above paragraphs, the listing status of the special-status plants observed within the PSA are solely listed in the California Native Plant Society (CNPS) Rare Plant Program. None of the plants have a state (CDFW) or federal (USFWS) listing. Plants listed in the CNPS Rare Plant Program are considered to meet CEQA's Section 15380 criteria as well.

7.1 Special-Status Plant Survey Results 2021-2023

Dudek conducted protocol-level botanical surveys in the PSA in 2021, 2022, and 2023. A summary of protocol-level botanical surveys dates is summarized in Table 16 below.

Table 16. Summary of Protocol-Level Botanical Surveys Conducted within the Project Study Area 2021-2023

Survey Type	Date
Survey Year- 2021	
Pass 1	May 4, 2021
Pass 2	None[1]
Survey Year- 2022	
Pass 1	April 18–20
Pass 2	None[1]
Survey Year- 2023	
Pass 1	May 8–12, and 23
Pass 2	July 31–August 4

Note:

[1] Pass 2 surveys were not conducted due to- (1) abnormally dry conditions from the lack of precipitation and increased season temperature; (2) atypical phenology/bloom periods in the region; (3) no observations of target species at reference population locations.

Ahart's dwarf rush (two individuals) was observed during protocol-level botanical surveys in 2023 within the northwest portion of the Project, near the gen-tie, but was not detected in 2021 or 2022.

Pincushion navarretia was observed during protocol-level botanical surveys in 2023 but was not detected in 2021 or 2022. These individuals were observed in other adjacent lands in the northwest, western-central, and western-southern portions of the PSA.

Spicate calycadenia was observed during protocol-level botanical surveys within the solar development area and adjacent other lands in 2023, but was not observed during similar surveys in 2021 and 2022, These individuals were observed in numerous locations, ranging from the southern portion of the PSA, and extending to the northern portion of the PSA.

7.2 Special-Status Plant Survey Results 2024

7.2.1 Special-Status Plant Survey Methods 2024

Dudek conducted protocol-level botanical surveys in the PSA in 2024 (Table 17). The passes were conducted during the blooming period for the special-status plant species with potential to occur within the PSA. Surveys concentrated on suitable habitat for the target species, which included seasonal wetland, vernal pools, vernal swales, as well as the adjacent and surrounding uplands within approximately 250 feet of the aquatic habitat. See Figure 7, Special Status Plants Survey Results Compiled 2021-2024, for the mapped locations of special-status plants during the 2024 surveys.

Table 17. Summary of Protocol-Level Botanical Surveys Conducted within the Project Study Area in 2024

Survey Type	Date
Survey Year- 2024	
Pass 1	May 8 and 9
Pass 2	May 23
Pass 3	June 4

7.2.2 Special-Status Plant Surveys Results 2024

Ahart's dwarf rush was not observed during protocol-level botanical surveys in 2024. The population that had been mapped in 2023 in the northwest corner of the PSA was visited during the 2024 botanical surveys and it was not observed.

Pincushion navarretia and spicate calycadenia were observed during protocol-level botanical surveys in 2024. Spicate calycadenia was found associated with the vernal swales and intermittent channels primarily in the northwestern portion of the PSA. Spicate calycadenia was found along the western boundary of the PSA within associated primarily with vernal pool and ephemeral channels.

Valley brodiaea species was not observed during protocol-level botanical surveys in 2021, 2022, or 2023; but was observed in 2024. Valley brodiaea were observed primarily on the surrounding upland banks to ephemeral channels and swales.

7.3 Special-Status Plants Survey Summary 2021-2024

Four special status plant species have been observed within the Project during protocol-level botanical surveys (Figure 7).

AS shown in table 18 below, Ahart's dwarf rush was observed during protocol-level botanical surveys in 2023, but was not detected in 2021, 2023 or 2024. Pincushion navarretia and spicate calycadenia were found to occur in

the PSA during 2023 and 2024 surveys, but not 2021 or 2022. Valley brodiaea was observed in 2024, but not during the prior three year's surveys (2021-2023).

Table 18. Summary of Special-Status Plant Survey Results from 2021-2024 within the Project Study Area

Special-Status Plant Species	Surveys Results			
	2021	2022	2023	2024
Ahart's Dwarf Rush (*Juncus leiospermus* var. *ahartii*)	Not observed	Not observed	Observed	Not observed
Pincushion Navarretia (*Navarretia myersii* ssp. *myersii*)	Not observed	Not observed	Observed	Observed
Spicate Calycadenia (*Calycadenia spicata*)	Not observed	Not observed	Observed	Observed
Valley Brodiaea (*Brodiaea rosea* ssp. *vallicola*)	Not observed	Not observed	Not observed	Observed

Given that the climactic conditions of the area have been more favorable (outside drought condition), it is reasonable to consider that the current mapping of the three special-status plant species within the PSA represents a likely healthy (most broadly spread) population that would occur within the PSA. Further, because the area has been in a favorable climactic condition such that if the Ahart's dwarf rush population that had been previously mapped within the PSA in 2023 was able to survive given the disturbance it would have, but it may have been impacted by adjacent disturbance or changes in hydrology of the adjacent area over the past year with the area's further development.

8 Incidental Special-Status Wildlife Species Observations

Incidental observations of special-status wildlife species were noted during 2024 protocol level surveys.

8.1 Tricolored Blackbird (TRBL)

Tricolored Blackbird (*Agelaius tricolor*; TRBL) is a state threatened species and SSHCP Covered Species with known occurrences within the PSA. This species typically nests in freshwater marshes and dense growths of emergent vegetation dominated by cattails or bulrushes, but has also established colonies in willows, blackberries (*Rubus* spp.), and a variety of other types of dense, herbaceous vegetation, such as thistles (*Cirsium* and *Centaurea* spp.)and nettles (*Urtica* sp.). TRBLs forage in a variety of habitats, such as grasslands and croplands, where high densities of suitable insect prey are found.

There is suitable nesting and foraging habitat with the PSA for TRBL. SSHCP has modeled nesting and foraging TRBL habitat located within the PSA (County of Sacramento 2018). In addition, there are several known occurrences of TRBL within 5 miles of the PSA, with the nearest overlapping the southwestern portion of the PSA, west of Scott Road, approximately 1 to 2 miles north of the Deer Creek crossing (CDFW 2024a).

During protocol level surveys that took place in June 2024, Dudek Biologist observed a TRBL colony of approximately 300-500 individuals displaying breeding characteristics at (38.589241°, -121.128531°) Representative photos of this incidental observation were captured (Attachment A, Photo Log).

8.2 Branchiopods

California fairy shrimp (*Linderiella occidentalis*) is a non-listed branchiopod that was observed as an incidental observation during WST nocturnal eyeshine and acoustic surveys in March 2024. This branchiopod is a species of fairy shrimp that is native to California and is the most common fairy shrimp in the Central Valley (USFWS, 2006).
The California fairy shrimp is a small (about 0.4 inch long) crustacean that sometimes resides in the same vernal pool features as the vernal pool fairy shrimp (*Branchinecta lynchi*) (USFWS, 2006). Unlike California fairy shrimp ,vernal pool fairy shrimp are federally threatened and SSHCP Covered Species and are known to occur within the PSA. The PSA presents suitable vernal pool habitat to support branchiopod species such as the California fairy shrimp and the vernal pool fairy shrimp. The incidental observation occurred at (38.577182°, -121.145902°).
Representative photos of this incidental observation were captured (Attachment A, Photo Log).

8.3 Nesting Raptors and Migratory Birds

Section 3503 of the California FGC states that it is unlawful to take, possess, or needlessly destroy the nests or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Section 3503.5 protects all birds of prey (raptors) and their eggs and nests. Section 3511 states that fully protected birds or parts thereof may not be taken or possessed at any time. Section 3513 states that it is unlawful to take or possess any migratory nongame bird as designated in the MBTA.

The PSA provides nesting habitat for several other local species of migratory birds. The following active nests were detected incidentally during 2024 protocol level surveys: Barn owl (*Tyto alba*), Cliff swallow (*Petrochelidon pyrrhonota*), and American kestrel *(Falco sparverius*).

Table 19. Incidental Observations of Nesting and Migratory Birds 2024

Observation Summary	Observation Location (decimal degrees)		Observation Date
	Latitude	Longitude	
2024 Incidental Observation of Nesting and Migratory Birds			
Barn owl (*Tyto alba*)	38.57122°	-121.13152°	February 2024
Cliff swallow (*Petrochelidon pyrrhonota*)	38.562966°	-121. 127618°	May 2024
American kestrel (*Falco sparverius*)	38.571821°	-121.133408°	May 2024

9 Conclusion and Discussion

All biological resources known to occur and/or that may have the potential to occur within the PSA were evaluated based on federal, state, and local jurisdictional requirements and guidance for each resource.

Table 20. Summary of Biological Resource Surveys

Biological Resource	Surveys Results			
	2021	2022	2023	2024
Western spadefoot toad (WST; *Spea hammondii*)	Not observed	Not observed	Not observed	Not observed
Burrowing owl (BUOW; *Athene cunicularia*)	Observed	Not observed	Not observed	Observed
Swainson's hawk (SWHA; *Buteo swainsoni*)	Observed	Observed	Observed	Observed
Crotch's bumble bee (CBB; *Bombus crotchii*)	NA	NA	NA	Not observed
Ahart's Dwarf Rush (*Juncus leiospermus* var. *ahartii*)	Not observed	Not observed	Observed	Not observed
Pincushion Navarretia (*Navarretia myersii* ssp. *myersii*)	Not observed	Not observed	Observed	Observed
Spicate Calycadenia (*Calycadenia spicata*)	Not observed	Not observed	Observed	Observed
Valley Brodiaea (*Brodiaea rosea* ssp. *vallicola*)	Not observed	Not observed	Not observed	Observed

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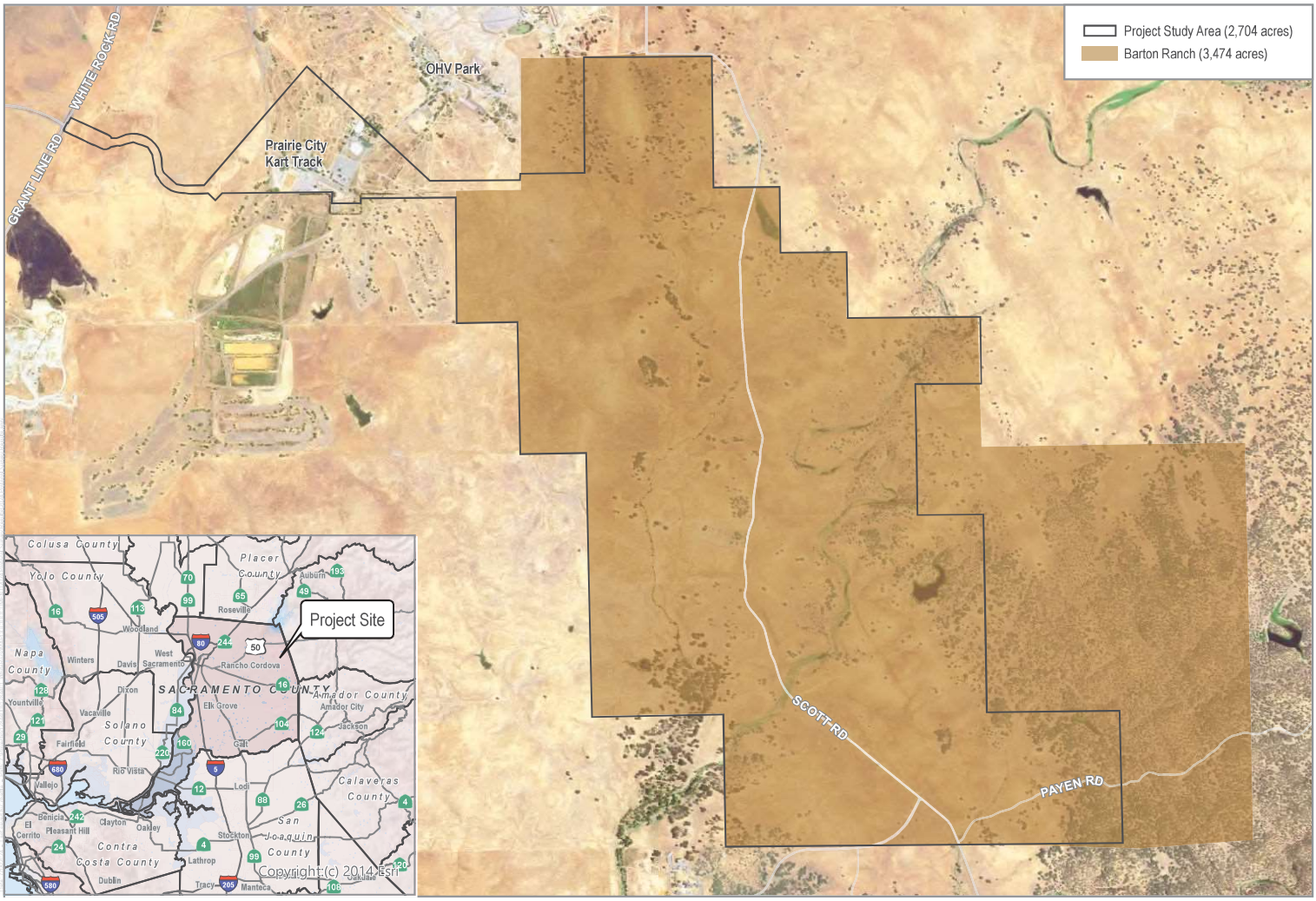

SOURCE: Esri 2024

DUDEK

0 1,000 2,000 Feet

FIGURE 1

Project Location

2024 Biological Resources Survey Results Assessment Report Coyote Creek Agrivoltaic Ranch Project

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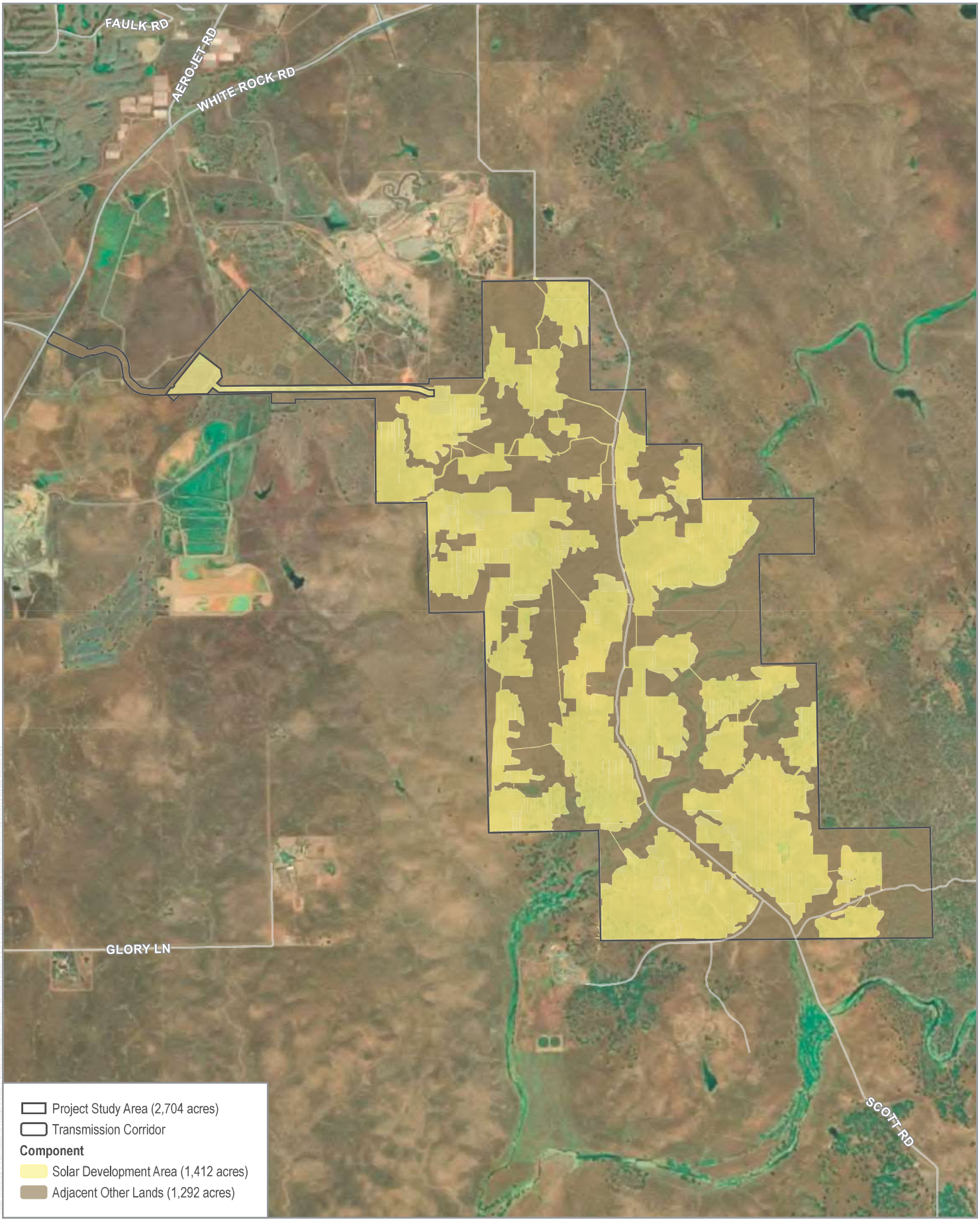

SOURCE: USGS 7.5-minute Quadrangle

DUDEK

0 1,000 2,000 Feet

FIGURE 2

Project Setting

2024 Biological Resources Survey Results Assessment Report Coyote Creek Agrivoltaic Ranch Project

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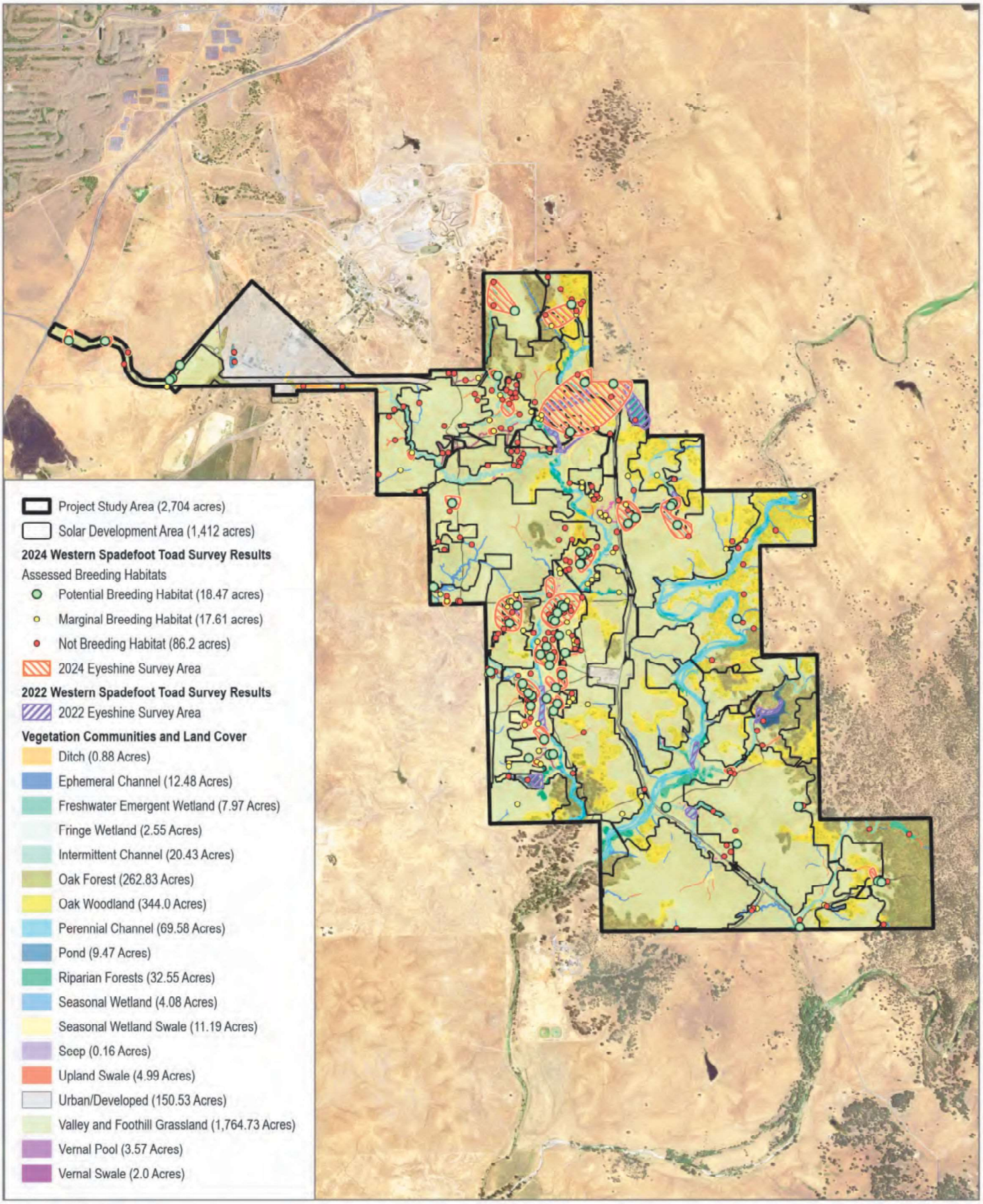

SOURCE: NAIP Imagery 2018

DUDEK

0 1,000 2,000 Feet

FIGURE 3

Western Spadefoot Toad Survey Results Compiled 2022-2024

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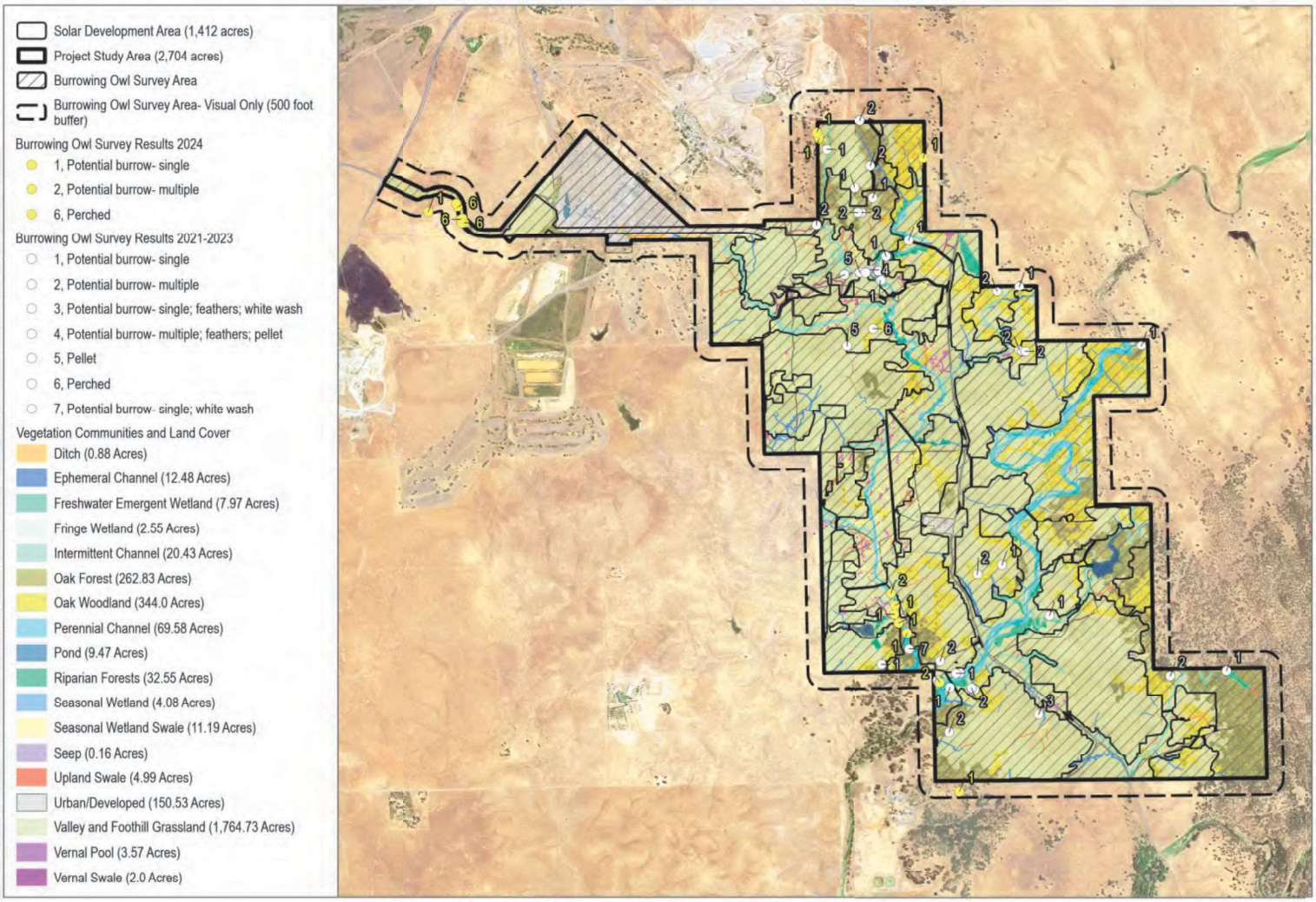

SOURCE:

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FIGURE 4

Burrowing Owl Survey Results Compiled 2021-2024

2024 Biological Resources Survey Results Assessment Report Coyote Creek Agrivoltaic Ranch Project

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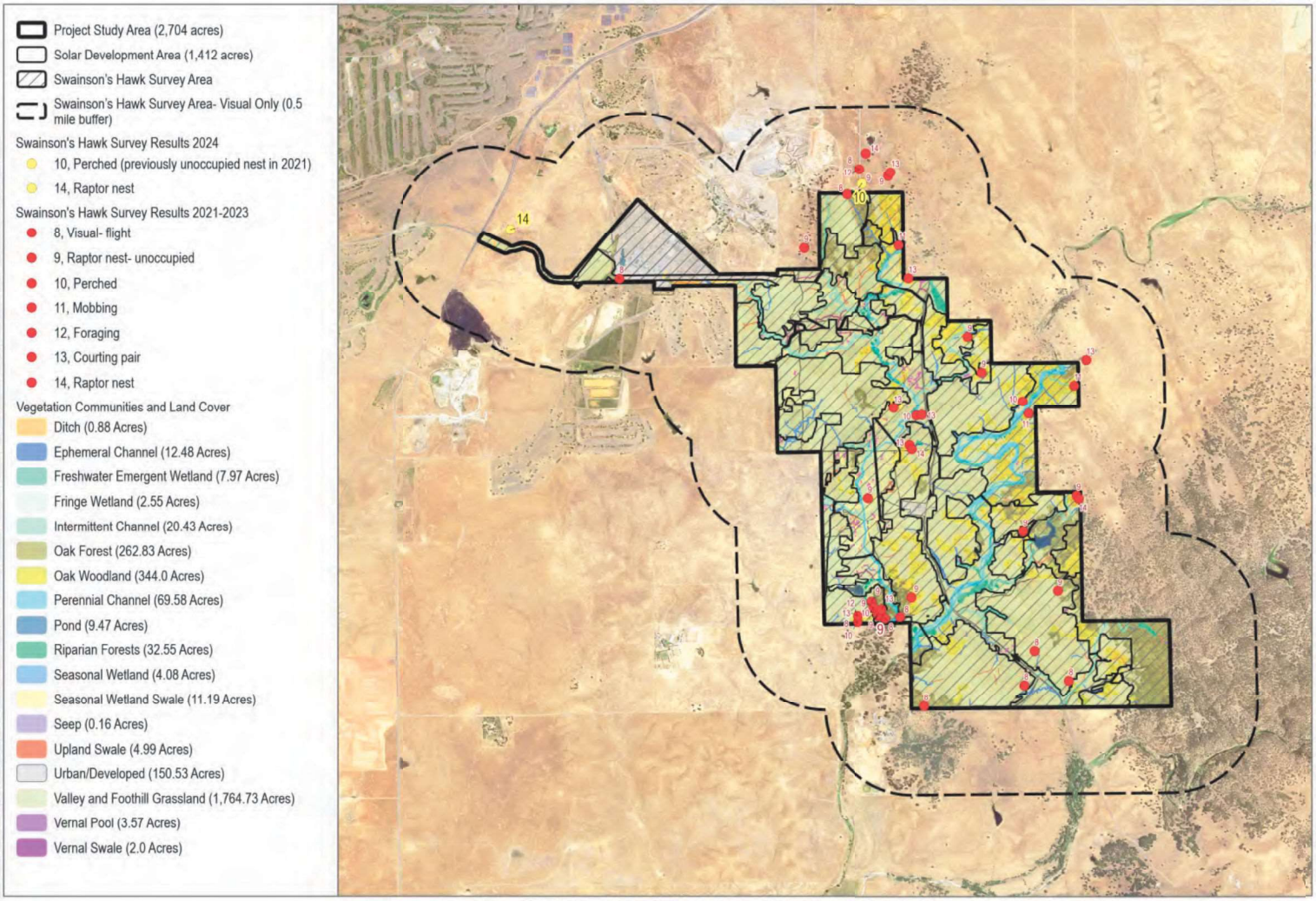

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FIGURE 5

Swainson's Hawk Survey Results Compiled 2021-2024

2024 Biological Resources Survey Results Assessment Report Coyote Creek Agrivoltaic Ranch Project

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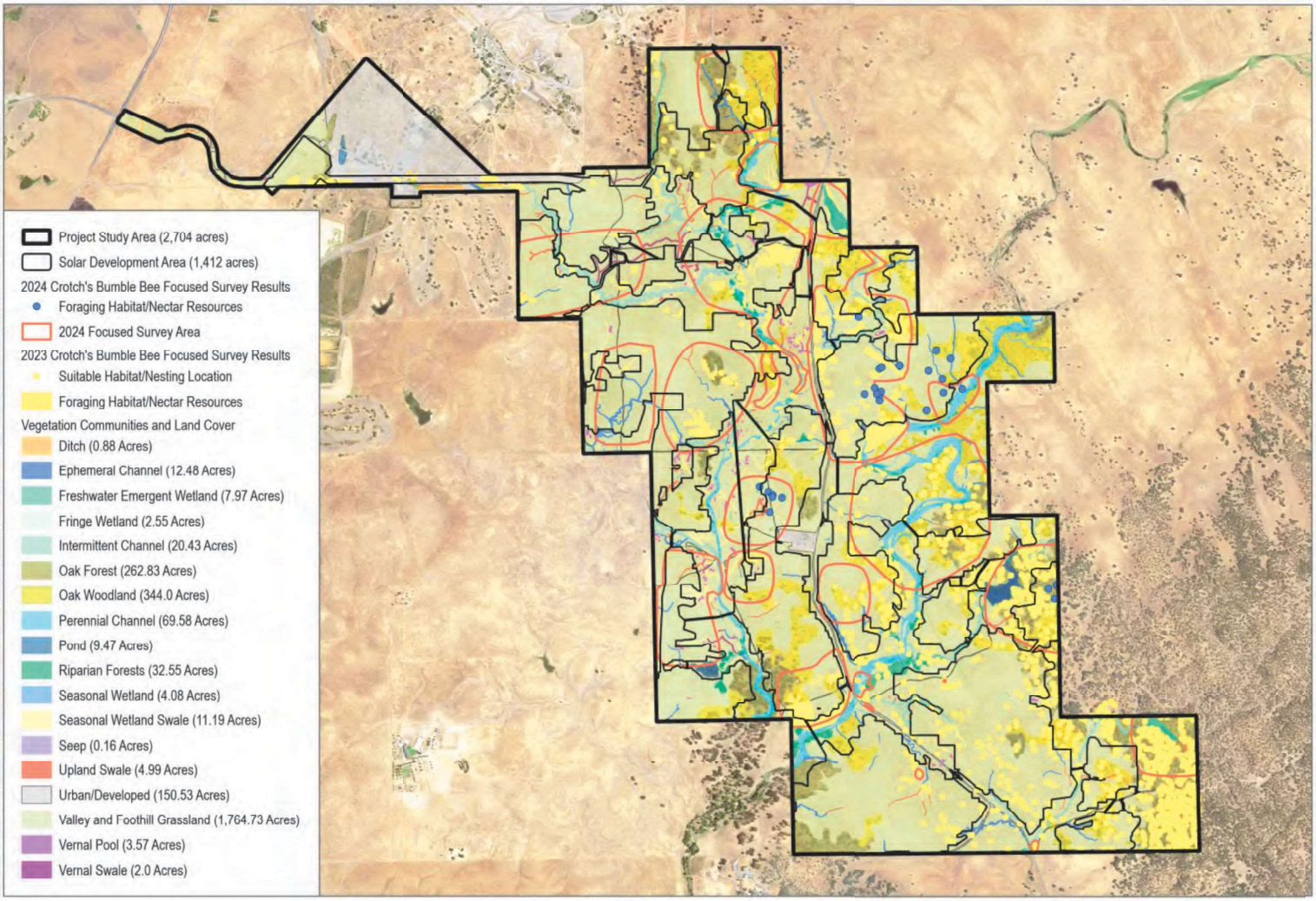

SOURCE:

DUDEK

0 1,250 2,500 Feet

FIGURE 6

Crotch's Bumble Bee Survey Results Compiled 2023-2024

2024 Biological Resources Survey Results Assessment Report Coyote Creek Agrivoltaic Ranch Project

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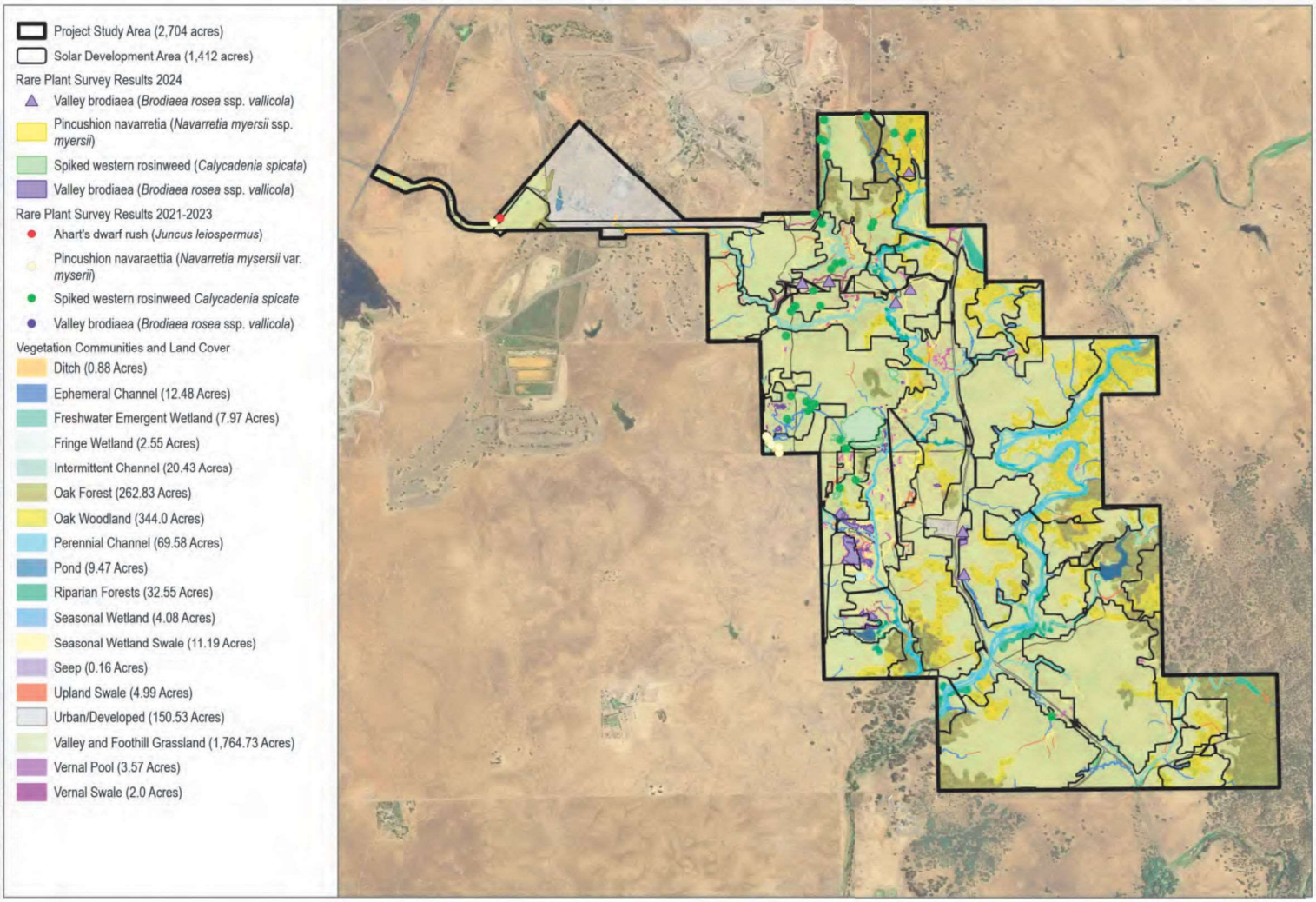

SOURCE:

DUDEK

0 1,250 2,500 Feet

FIGURE 7

Special-Status Plants Survey Results Compiled 2021-2024

2024 Biological Resources Survey Results Assessment Report Coyote Creek Agrivoltaic Ranch Project

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Appendix A
Photo Record

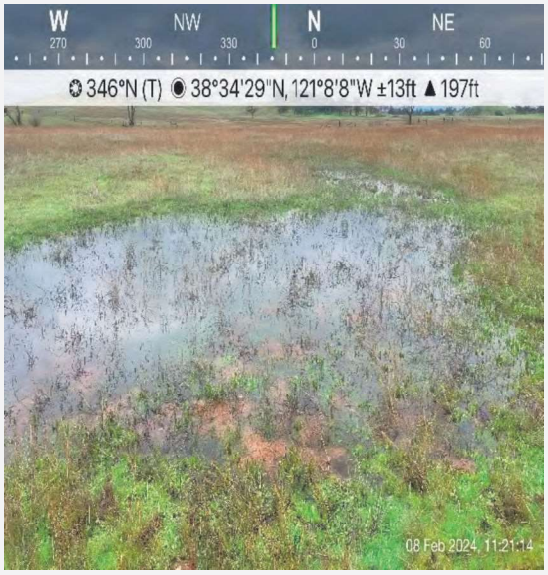

Photo 1 Dudek biologist conducted a Western spadefoot toad (*Spea hamondii*; WEST) habitat assessment of aquatic features identifying features suitable for WEST breeding.

Photo 2. During WEST habitat assessment, Dudek biologists evaluated aquatic features for presence of preadatory amphibians such as American bullfrog (*Rana catesbeiana*).

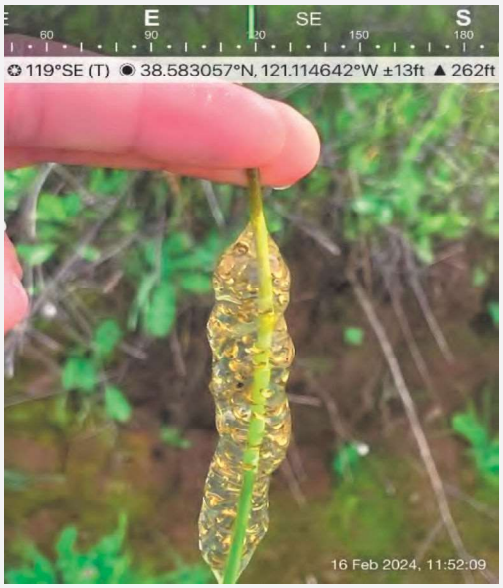

Photo 3. During WEST habitat assessment & night-eyeshine surveys, Dudek biologists evaluated for presence of egg masses. Depicted in photo is an egg mass for Sierran tree frog (*Pseudacris sierra*)

Photo 4. WEST night-eye shine survey protocol entailed biologists meandering transects along aquatics scanning for night-eye shine.

Photo 5 Dudek biologists performed a protocol level burrowing owl (*Athene cunicularia*; BUOW) by performing transects in areas of previously mapped suitable habitat. Depicted are additional burrows mapped within embankment that could support size requirements of BUOW.

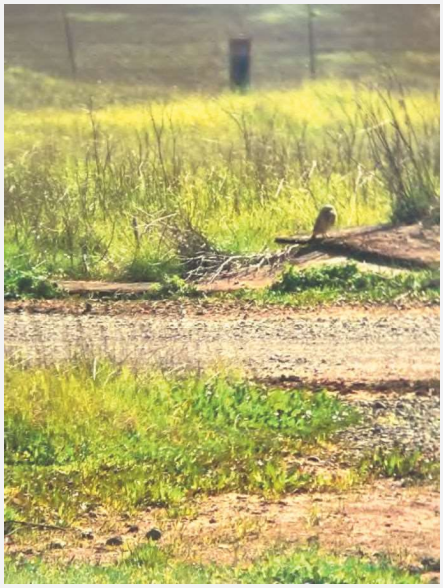

Photo 6. Dudek biologists observed active burrowing owl occupancy on February 28, 2024. BUOW utilizing plywood board and culverts. Observed three adults within the vicinity at coordinates (38.591591°N, 121.171184°W).

Photo 7. Evidence of BUOW pellets with pretty remains observed at plywood depicted in Photo 6 above.

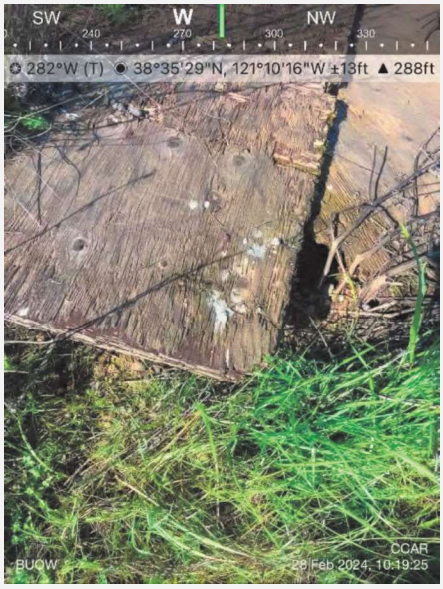

Photo 8. Claw marks and whitewash evidence depicted of active BUOW habitat during first pass survey.

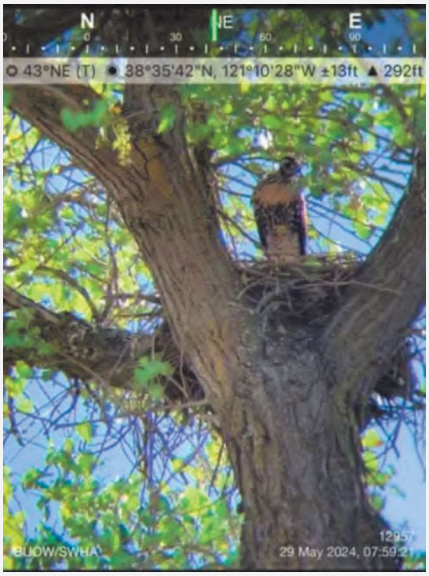

Photo 9: Dudek Biologists observed juvenile red-tailed hawk (*Buteo jamaicensis;* RTHA) nest during Swainson's hawk (*Buteo swainsoni*; SWHA) surveys. Nest outside Project area but within buffer zone.

Photo 10 Dude biologist observed RTHA pair perched on tree documented with a potential SWHA nest in 2021.

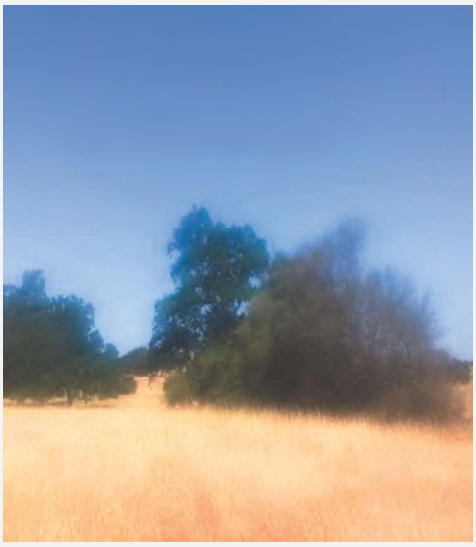

Photo 11 Dudek biologist observed 1 SWHA foraging at coordinates 38.577956°N, 121.30911°W during period 4 surveys. SWHA flew within the area for approximately 30 minutes then flew off-site.

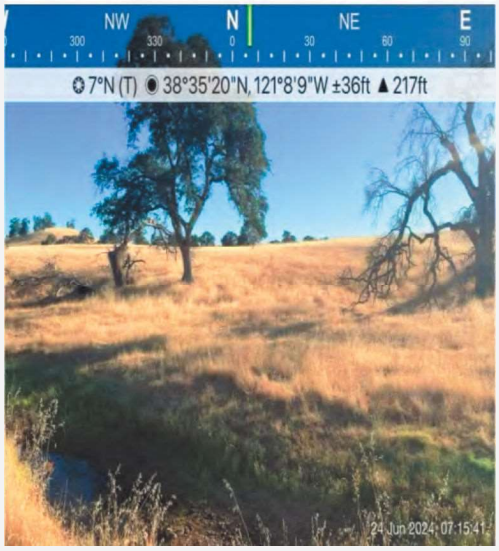

Photo 12 Dudek biologist surveyed during SWHA Period 5 to locate SWHA foraging. None observed during this period.

Photo 13: Van Dyke's bumble bee (*Bombus vandykei*) observed at coordinates 38°34'47"N, 121°7'17"W.

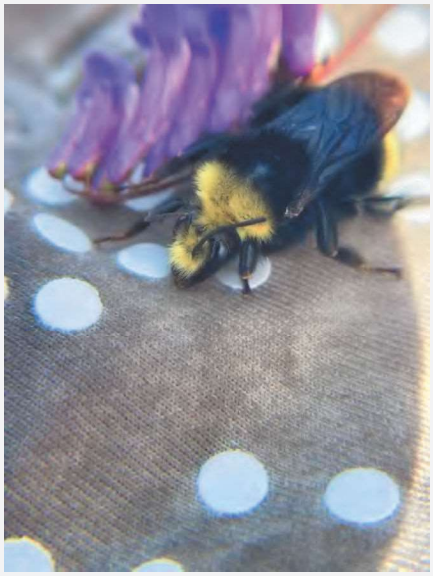

Photo 14: Van Dyke's bumble bee queen captured under SCP permitted biologist. Observed pollinating on hairy vetch (*Vicia villosa*).

Photo 15: yellow bumblebee (*Bombus fervidus*) queen captured under SCP permitted biologist. Observed pollinating on hairy vetch. Photo is displaying long cheek features.

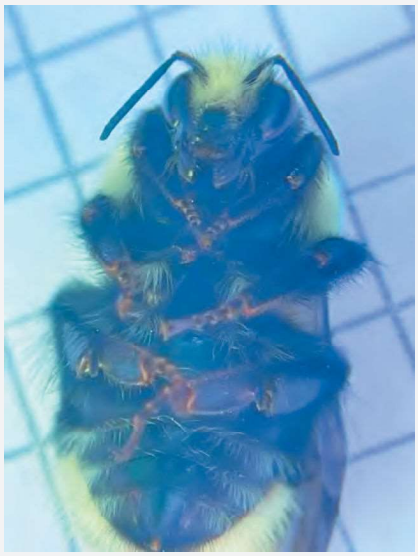

Photo 16: Black tail bumble bee (*Bombus melanopygus*) captured under SCP permitted biologist. Observed pollinating on hairy vetch.

Photo 17. Yellow-faced bumblebee (*Bombus vosnesenskii*) worker observed pollinating on hairy vetch.

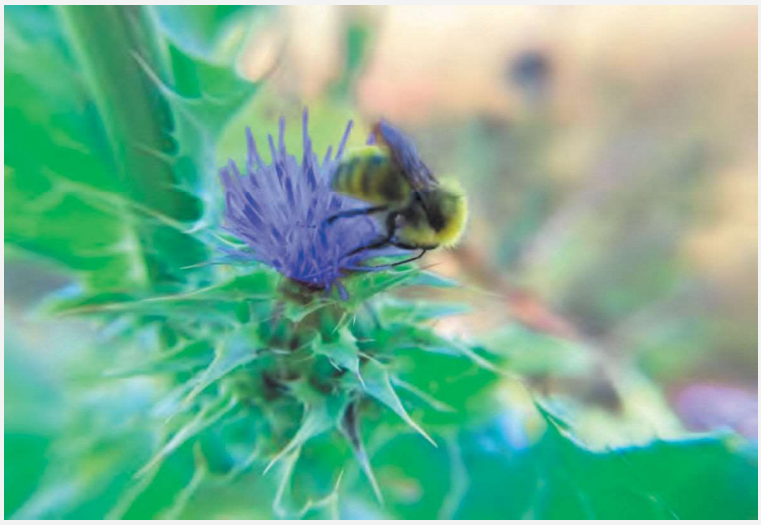

Photo 18. Third pass of CBB surveys entailed noncapture surveys. Observation of preferred pollinating resources of milk thistle (*Silybum marianum*).

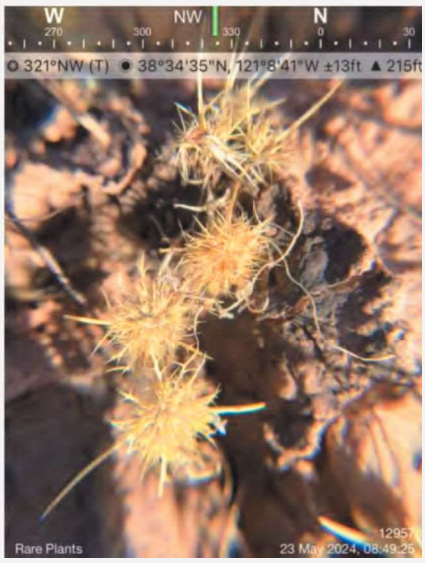

Photo 19: Dudek biologists identified *Navarettia mysersii* ssp. *myersii* within the PSA.

Photo 20: Dudek biologists identified *Calcadenia spicata* within the PSA.

Photo 21: Dudek biologists identified *Brodiaea rosea* ssp. *vallicola* within the PSA.

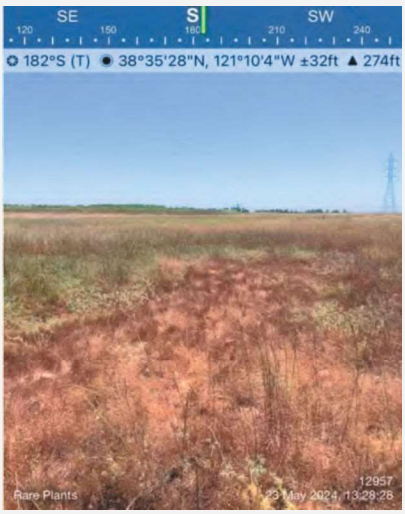

Photo 22: Dudek biologists evaluated previously mapped population of *Juncus leiospermus* var. *heckardii.* Biologists were unable to locate plant counts for 2024 of this species.

Photo 23: Dudek biologists identified tricolored blackbird (*Agelaius tricolor)* as an incidental observation during surveys that took place in June 2024.

Photo 24: Dudek biologists California fairy shrimp (*Linderiella occidentalis*) as an incidental observation during surveys that took place in March 2024.

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Appendix B
Updated Wildlife Compendium

Wildlife Species

Amphibians

FROGS

HYLIDAE – TREEFROGS

Pseudacris sierra – Sierran treefrog[1]

RANIDAE – TRUE FROGS

* *Lithobates catesbeianus* – American bullfrog

Birds

Blackbirds, Orioles and Allies

ICTERIDAE – BLACKBIRDS

Agelaius phoeniceus – red-winged blackbird

Agelaius tricolor – tricolored blackbird

Sturnella neglecta – western meadowlark

* *Molothrus ater* – brown-headed cowbird

Falcons

FALCONIDAE – CARACARAS AND FALCONS

Falco sparverius – American kestrel

Finches

FRINGILLIDAE – FRINGILLINE AND CARDUELINE FINCHES AND ALLIES

Haemorhous mexicanus – house finch

Flycatchers

TYRANNIDAE – TYRANT FLYCATCHERS

Sayornis nigricans – black phoebe

Tyrannus verticalis – western kingbird

Hawks

ACCIPITRIDAE – HAWKS, KITES, EAGLES, AND ALLIES

Buteo jamaicensis – red-tailed hawk

Buteo swainsoni – Swainson's hawk
Haliaeetus leucocephalus – bald eagle

Herons and Bitterns

ARDEIDAE – HERONS, BITTERNS, AND ALLIES

Ardea alba – great egret

Hummingbirds

TROCHILIDAE – HUMMINGBIRDS

Calypte anna – Anna's hummingbird

Jays, Magpies and Crows

CORVIDAE – CROWS AND JAYS

Aphelocoma californica – California scrub-jay
Corvus brachyrhynchos – American crow
Corvus corax – common raven

Mockingbirds and Thrashers

MIMIDAE – MOCKINGBIRDS AND THRASHERS

Mimus polyglottos – northern mockingbird

New World Vultures

CATHARTIDAE – NEW WORLD VULTURES

Cathartes aura – turkey vulture

Owls

TYTONIDAE – BARN OWLS

Tyto alba – barn owl

STRIGIDAE – TYPICAL OWLS

Athene cunicularia – burrowing owl

Pigeons and Doves

COLUMBIDAE – PIGEONS AND DOVES

Zenaida macroura – mourning dove

Quails, Pheasants and Relatives

PHASIANIDAE – PARTRIDGES, GROUSE, TURKEYS, AND OLD-WORLD QUAIL

Meleagris gallopavo – wild turkey

Pavo cristatus – Indian peafowl [1]

Shorebirds

CHARADRIIDAE – LAPWINGS AND PLOVERS

Charadrius vociferus – killdeer

Starlings and Allies

STURNIDAE – STARLINGS

* *Sturnus vulgaris* – European starling

Swallows

HIRUNDINIDAE – SWALLOWS

Petrochelidon pyrrhonota – cliff swallow

Tachycineta bicolor – tree swallow

Thrushes

TURDIDAE – THRUSHES

Turdus migratorius – American robin

Waterfowl

ANATIDAE – DUCKS, GEESE, AND SWANS

Anas platyrhynchos – mallard

Branta canadensis – Canada goose

Woodpeckers

PICIDAE – WOODPECKERS AND ALLIES

Melanerpes formicivorus – acorn woodpecker

Melanerpes lewis – Lewis's woodpecker

New World Sparrows

PASSERELLIDAE – NEW WORLD SPARROWS

Pipilo maculatus – spotted towhee

Cranes

GRUIDAE – CRANES

Antigone canadensis tabida – greater sandhill crane

Mammals

Canids

CANIDAE – WOLVES AND FOXES

Canis latrans – coyote

Hares and Rabbits

LEPORIDAE – HARES AND RABBITS

Lepus californicus – black-tailed jackrabbit

Sylvilagus audubonii – desert cottontail

Rats, Mice, and Voles

CRICETIDAE – RATS, MICE, AND VOLES

Microtus californicus – California vole

Insects

Tarantula Hawks

POMPILIDAE – SPIDER WASPS

Pepsis sp. – tarantula hawk[1]

Bees

APIDAE - BUMBLEBEES

Bombus fervidus – yellow bumble bee [1]

Bombus melanopygus – black tail bumble bee [1]

Bombus vandykei – van Dyke bumble bee [1]

Bombus vosnesenskii – yellow-faced bumble bee [1]

Bombus sp. – bumblebee

Reptiles

Lizards

PHRYNOSOMATIDAE – IGUANID LIZARDS

Sceloporus occidentalis – western fence lizard

* signifies introduced (non-native) species

1 signifies a newly observed species since previous biological resource surveys

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Appendix C
Updated Plant Compendium

Plant Species

Vascular Species

Eudicots

ADOXACEAE – MUSKROOT FAMILY

Sambucus nigra ssp. *caerulea* – blue elderberry

AIZOACEAE – FIG-MARIGOLD FAMILY

Trianthema portulacastrum – desert horsepurslane

AMARANTHACEAE – AMARANPTH FAMILY

* *Amaranthus albus* – prostrate pigweed

Amaranthus blitoides – mat amaranth

ANACARDIACEAE – SUMAC OR CASHEW FAMILY

Toxicodendron diversilobum – poison oak

Pistacia chinensis – Chinese pistache

APIACEAE – CARROT FAMILY

* *Daucus carota* – Queen Anne's lace

* *Daucus pusillus* – American wild carrot

Eryngium aristulatum – California button-celery

Eryngium castrense – Great Valley eryngo

Lomatium caruifolium – alkali desertparsley

Lomatium utriculatum – common lomatium

Osmorhiza berteroi – sweetcicely

Sanicula bipinnatifida – purple sanicle

* *Torilis arvensis* – spreading hedgeparsley

APOCYNACEAE – DOGBANE FAMILY

Asclepias fascicularis – Mexican whorled milkweed

Asclepias speciosa – showy milkweed

ASTERACEAE – SUNFLOWER FAMILY

Achillea millefolium – common yarrow

Agoseris sp. – dandelion species

* *Anthemis cotula* – stinking chamomile

* *Artemisia californica* – California sagebrush

Artemisia douglasiana – California mugwort

Baccharis pilularis – coyote brush
Bidens frondosa – devil's beggartick
Blennosperma nanum – common stickyseed
Calycadenia spicata – spiked western rosinweed
Carduus tenuiflorus – winged thistle
* *Carduus pycnocephalus* – Italian plumeless thistle
* *Carduus tenuiflorus* – slender-flowered thistle
* *Centaurea solstitialis* – yellow star-thistle
Centromadia fitchii – Fitch's tarweed
* *Chondrilla juncea* – rush skeletonweed
* *Cichorium intybus* – chicory
* *Cirsium vulgare* – bull thistle
* *Cotula coronopifolia* – brass buttons
* *Dittrichia graveolens* – stinkwort
Erigeron foliosus – leafy fleabane
Gnaphalium palustre – western marsh cudweed
Grindelia camporum – Great Valley gumweed
Helianthus annuus – common sunflower
Holocarpha virgata – yellowflower tarweed
Holozonia filipes – whitecrown
* *Hypochaeris glabra* – smooth cat's ear
* *Hypochaeris radicata* – hairy cat's ear
* *Lactuca serriola* – prickly lettuce
* *Lactuca virosa* – wild lettuce
Lagophylla glandulosa – glandular hareleaf
Lasthenia californica ssp. *californica* – California goldfields
Lasthenia fremontii – Fremont's goldfields
Lasthenia glaberrima – smooth goldfields
Layia chrysanthemoides – smooth tidytips
Layia fremontii – Fremont's tidy-tips
* *Leontodon saxatilis* – lesser hawkbit
Lessingia virgata – wand lessingia
* *Logfia gallica* – narrowleaf cottonrose
Madia elegans – common madia
Matricaria discoidea – disc mayweed
Micropus californicus var. *californicus* – q-tips
Microseris douglasii ssp. *douglasii* – Douglas' silverpuffs
Pseudognaphalium californicum – ladies' tobacco
Psilocarphus brevissimus – short woollyheads
Psilocarphus tenellus – slender woollyheads

* *Senecio vulgaris* – old-man-in-the-Spring
* *Silybum marianum* – blessed milkthistle
* *Soliva sessilis* – field burweed
* *Sonchus asper* – spiny sowthistle

Uropappus lindleyi – Lindley's silverpuffs

* *Wyethia angustifolia – California compassplant*

Xanthium strumarium – cocklebur

BORAGINACEAE – BORAGE FAMILY

Amsinckia menziesii – Menzies' fiddleneck

Amsinckia eastwoodiae - Eastwood's fiddleneck

Phacelia cicutaria var. *cicutaria* – caterpillar phacelia

Phacelia heterophylla – varileaf phacelia

Plagiobothrys bracteatus – bracted popcornflower

Plagiobothrys greenei – Greene's popcornflower

Plagiobothrys leptocladus – finebranched popcornflower

Plagiobothrys nothofulvus – popcorn flower

Plagiobothrys stipitatus var. *micranthus* – stalked popcornflower

Plagiobothrys stipitatus – stalked popcornflower

Plagiobothrys trachycarpus – roughfruit popcornflower

BRASSICACEAE – MUSTARD FAMILY

* *Brassica nigra* – black mustard
* *Brassica rapa* – field mustard
* *Capsella bursa-pastoris* – shepherd's purse

Cardamine californica – milkmaids

* *Hirschfeldia incana* – shortpod mustard

Lepidium nitidum – shining pepperweed

Nasturtium officinale – watercress

* *Raphanus raphanistrum* – wild radish

Rorippa palustris ssp. *palustris* – hispid yellowcress

* *Sisymbrium officinale* – hedgemustard

Thysanocarpus radians - fringepod

CAMPANULACEAE – BELLFLOWER FAMILY

Downingia bicornuta var. *bicornuta* - Double-horn calicoflower

Downingia cuspidate - toothed calicoflower

Downingia ornatissima var. *ornatissima* – folded calicoflower

CARYOPHYLLACEAE – PINK FAMILY

* *Cerastium glomeratum* – sticky chickweed

Minuartia cismontana – cismontane minuartia
* *Petrorhagia dubia* – hairypink
* *Silene gallica* – common catchfly
* *Spergularia rubra* – red sandspurry
* *Stellaria media* – common chickweed

CHENOPODIACEAE – GOOSEFOOT FAMILY

* *Salsola tragus* – prickly Russian thistle

CONVOLVULACEAE – MORNING-GLORY FAMILY

* *Convolvulus arvensis* – field bindweed
Cuscuta sp. – dodder species

CRASSULACEAE – STONECROP FAMILY

Crassula connata – sand pygmyweed
Dudleya cymosa – canyon liveforever
Sedella pumila – Sierra mock stonecrop

ERICACEAE – HEATHER FAMILY

Arctostaphylos sp. – manzanita

EUPHORBIACEAE – SPURGE FAMILY

Croton setiger – dove weed
Euphorbia serpyllifolia – thymeleaf sandmat
Euphorbia sp. – spurge species

FABACEAE – LEGUME FAMILY

Acmispon americanus – Spanish clover
Cercis canadensis – eastern redbud
Lupinus bicolor – miniature lupine
Lupinus microcarpus – valley lupine
* *Medicago lupulina* – black medick
* *Medicago polymorpha* – burclover
* *Melilotus indicus* – sour clover
* *Robinia pseudoacacia* – black locust
* *Trifolium campestre* – field clover
Trifolium depauperatum var. *depauperatum* – cowbag clover
Trifolium depauperatum – cowbag clover
* *Trifolium dubium* – suckling clover
* *Trifolium fragiferum* – strawberry clover
* *Trifolium glomeratum* – clustered clover
* *Trifolium hirtum* – rose clover

Trifolium macrocephalum – largehead clover
* *Trifolium repens* – white clover
* *Trifolium subterraneum* – subterranean clover
* *Trifolium tomentosum* – woolly clover
Trifolium variegatum – white-tip clover
Trifolium willdenovii – tomcat clover
Trifolium wormskioldii – cows clover
Vicia americana ssp. *americana* – American vetch
* *Vicia sativa* ssp. *sativa* – garden vetch
* *Vicia villosa* – winter vetch

FAGACEAE – OAK FAMILY

Quercus chrysolepis – canyon live oak
Quercus douglasii – blue oak
Quercus kelloggii – California black oak
Quercus lobata – valley oak
Quercus wislizeni – interior live oak

GENTIANACEAE – GENTIAN FAMILY

* *Centaurium tenuiflorum* – slender centaury
Zeltnera muehlenbergii – Muhlenberg's centaury
Zeltnera sp. – centaury species

GERANIACEAE – GERANIUM FAMILY

* *Erodium botrys* – longbeak stork's bill
* *Erodium brachycarpum* – shortfruit stork's bill
* *Erodium cicutarium* – redstem stork's bill
* *Erodium moschatum* – musky stork's bill
* *Geranium dissectum* – cutleaf geranium
* *Geranium molle* – dovefoot geranium

HYPERICACEAE – ST. JOHN'S WORT FAMILY

* *Hypericum perforatum* – common St. Johnswort

JUGLANDACEAE – WALNUT FAMILY

Juglans hindsii – Northern California black walnut
* *Juglans regia* – English walnut

LAMIACEAE – MINT FAMILY

* *Lamium amplexicaule* – henbit deadnettle
* *Mentha x rotundifolia* – apple mint
* *Mentha arvensis* – wild mint

* *Mentha pulegium* – pennyroyal
Pogogyne douglasii - Douglas' mesamint
Pogogyne zizyphoroides – Sacramento mesamint
Stachys albens – whitestem hedgenettle
Trichostema lanceolatum – vinegarweed

LENTIBULARIACEAE – BLADDERWORT FAMILY

Utricularia gibba – humped bladderwort

LIMNANTHACEAE – MEADOWFOAM FAMILY

Limnanthes douglasii ssp. *douglasii* – Douglas' meadowfoam
Limnanthes douglasii ssp. *rosea* – Douglas' meadowfoam

LINACEAE – FLAX FAMILY

Hesperolinon californicum – California dwarf-flax
* *Linum bienne* – pale flax

LINDERNIACEAE – FALSE-PIMPERNEL FAMILY

Lindernia dubia – yellowseed false pimpernel

LYTHRACEAE – LOOSESTRIFE FAMILY

* *Lythrum hyssopifolia* – hyssop loosestrife
Lythrum sp. – loosestrife species

MALVACEAE – MALLOW FAMILY

* *Malva nicaeensis* – bull mallow
Malvella leprosa – alkali mallow
Sidalcea hartwegii – Hartweg's checkbloom

MONTIACEAE – MONTIA FAMILY

Calandrinia ciliate - red maids
Claytonia perfoliata ssp. *perfoliata* – miner's lettuce

MORACEAE – MULBERRY FAMILY

* *Ficus carica* – edible fig

MYRSINACEAE – MYRSINE FAMILY

* *Lysimachia arvensis* – scarlet pimpernel
Lysimachia minima - chaffweed

OLEACEAE – OLIVE FAMILY

Fraxinus angustifolia sub sp. *oxycarpa* – raywood ash

ONAGRACEAE – EVENING PRIMROSE FAMILY

Clarkia purpurea – winecup clarkia
Clarkia unguiculata – elegant clarkia
Cordylanthus pilosus ssp. hansenii - Hansen's birds-beak
Epilobium campestre – smooth spike-primrose
Epilobium densiflorum – denseflower willowherb
Epilobium torreyi – Torrey's willowherb
* *Ludwigia hexapetala* – no common name
* *Ludwigia peploides* – floating primrose-willow

OROBANCHACEAE – BROOM-RAPE FAMILY

Castilleja attenuata – attenuate Indian paintbrush
Castilleja exserta ssp. *exserta* – exserted Indian paintbrush
Castilleja lemmonii – Lemmon's Indian paintbrush
* *Parentucellia viscosa* – yellow glandweed
Triphysaria eriantha – johnny-tuck
Triphysaria pusilla – dwarf owl's-clover

OXALIDACEAE – OXALIS FAMILY

* *Oxalis micrantha* – dwarf woodsorrel

PAPAVERACEAE – POPPY FAMILY

Eschscholzia caespitosa – tufted poppy
Eschscholzia californica – California poppy
Eschscholzia lobbii – fryingpans

PHRYMACEAE – LOPSEED FAMILY

Diplacus tricolor – tricolor monkeyflower
Erythranthe guttata – common monkey flower

PLANTAGINACEAE – PLANTAIN FAMILY

Callitriche marginata – winged water-starwort
Gratiola ebracteate – bractless hedgehyssop
* *Kickxia elatine* – sharpleaf cancerwort
* *Plantago coronopus* – buckhorn plantain
Plantago erecta – dwarf plantain
* *Plantago lanceolata* – narrowleaf plantain
* *Plantago major* – common plantain
* *Plantago* sp. – plantain species
* *Plantago virginica* – dwarf plantain
* *Platanus* × *acerifolia* – London plantree
* *Platanus racemose* – California sycamore

* *Veronica anafgallis-aquatica* – water speedwell
Veronica peregrina ssp. *xalapensis* – hairy purslane speedwell

POLEMONIACEAE – PHLOX FAMILY

Leptosiphon bicolor – true babystars
Navarretia intertexta – needleleaf navarretia
Navarretia leucocephala – whitehead navarretia
Navarretia myersii ssp. *myersii* – Pincushion navarretia
Navarretia pubescens – downy pincushionplant

POLYGONACEAE – BUCKWHEAT FAMILY

Eriogonum nudum – naked buckwheat
Persicaria amphibia – longroot smartweed
Persicaria hydropiperoides – swamp smartweed
* *Polygonum aviculare* – prostrate knotweed
* *Polygonum argyrocoleon* - Persian knotweed
* *Rumex acetosella* – common sheep sorrel
* *Rumex crispus* – curly dock
* *Rumex pulcher* – fiddle dock

PRIMULACEAE – PRIMROSE FAMILY

Primula clevelandii var. *patula* – no common name

RANUNCULACEAE – BUTTERCUP FAMILY

Delphinium variegatum ssp. *variegatum* – royal larkspur
Ranunculus aquatilis – white water crowfoot
Ranunculus bonariensis – Carter's buttercup
Ranunculus californicus – California buttercup
Ranunculus canus – Sacramento Valley buttercup
* *Ranunculus muricatus* – spinyfruit buttercup
Ranunculus occidentalis – western buttercup
Ranunculus pusillus – low spearwort

RHAMNACEAE – BUCKTHORN FAMILY

Frangula californica spp. californica – California coffeeberry

ROSACEAE – ROSE FAMILY

Heteromeles arbutifolia – toyon
Potentilla sp. – cinquefoil species
Prunus ilicifolia ssp. *ilicifolia* – holly-leaf cherry
Rosa californica – California rose
* *Rubus armeniacus* – Himalayan blackberry

RUBIACEAE – MADDER FAMILY

Cephalanthus occidentalis – button willow
Galium aparine – stickywilly
Sherardia arvensis – field madder

SALICACEAE – WILLOW FAMILY

Populus deltoides – eastern cottonwood
Populus fremontii – Fremont cottonwood
Salix exigua – sandbar willow
Salix gooddingii – Goodding's willow
Salix laevigata – red willow
Salix lasiolepis – arroyo willow

SAPINDACEAE – SOAPBERRY FAMILY

Acer saccharinum – silver maple
Aesculus californica – California buckeye

SOLANACEAE – NIGHTSHADE FAMILY

* *Solanum furcatum* – forked nightshade

TAMARICACEAE – TAMARISK FAMILY

Tamarix chinensis – five-stamen tamarisk

VALERINACEAE – HONEYSUCKLE FAMILY

Plectritis ciliosa – long-spur seablush

VERBENACEAE – VERVAIN FAMILY

Phyla nodiflora – turkey tangle fogfruit
Verbena bracteata – bigbract verbena

VITACEAE – GRAPE FAMILY

* *Vitis vinifera* – wine grape

Fern and Fern Allies

AZOLLACEAE – MOSQUITO FERN FAMILY

Azolla filiculoides – Pacific mosquitofern

MARSILEACEAE – MARSILEA FAMILY

Marsilea vestita – hairy waterclover

Monocots

AGAVACEAE – AGAVE FAMILY

Chlorogalum angustifolium – *narrow-leaved soap plant*
Chlorogalum pomeridianum – wavyleaf soap plant

ALISMATACEAE – WATER-PLANTAIN FAMILY

* *Alisma lanceolatum* – lanceleaf water plantain
Damasonium californicum – California damsonium
Sagittaria montevidensis ssp. *calycina* – hooded arrowhead

ALLIACEAE – ONION FAMILY

Allium amplectens – narrowleaf onion
Allium peninsulare var. *peninsulare* – penisula onion
Allium sp. – onion species

ARACEAE- NO COMMON NAME

Lemna sp. – duckweed species

ASPARAGACEAE – ASPARAGUS FAMILY

Dipterostemon capitatus – blue dicks

CYPERACEAE – SEDGE FAMILY

Carex. ssp. – sedge species
Cyperus eragrostis – tall flatsedge
Eleocharis macrostachya – pale spike rush
Isolepis cernua – low bulrush
Schoenoplectus acutus – hardstem bulrush

IRIDACEAE – IRIS FAMILY

Iris sp. – iris species
Sisyrinchium bellum – western blue-eyed grass

JUNCACEAE – RUSH FAMILY

Juncus balticus – no common name
Juncus bufonius var. *bufonius* – toad rush
Juncus capitatus – Leafybract dwarf rush
Juncus leiospermus var. *ahartii* – Ahart's rush
Juncus occidentalis – western rush
Juncus xiphioides – irisleaf rush

JUNCAGINACEAE – ARROWGRASS FAMILY

Triglochin scilloides – Awl-leaf lilaea

LILIACEAE – LILY FAMILY

Calochortus luteus – yellow mariposa lily

POACEAE – GRASS FAMILY

* *Aegilops triuncialis* – barbed goatgrass
* *Agrostis capillaris* – colonial bentgrass
* *Agrostis stolonifera* – creeping bentgrass
* *Aira caryophyllea* – silver hairgrass

Alopecurus saccatus – Pacific foxtail

Aristida oligantha - oldfield three-awn

* *Avena barbata* – slender oat
* *Brachypodium distachyon* – purple false brome
* *Briza maxima* – big quakinggrass
* *Briza minor* – little quakinggrass
* *Bromus diandrus* – ripgut brome
* *Bromus hordeaceus* – soft brome
* *Bromus madritensis* – compact brome
* *Crypsis schoenoides* – swamp pricklegrass
* Cynodon dactylon – Bermudagrass
* *Cynosurus echinatus* – annual dogtails

Deschampsia danthonioides – annual hairgrass

Distichlis spicata – salt grass

Echinochloa crus-galli – barnyard grass

* *Elymus caput-medusae* – medusahead
* *Festuca myuros* – rat-tail fescue
* *Festuca perennis* – perennial rye grass
* *Glyceria declinata* – low manna grass
* *Hordeum marinum* ssp. *gussoneanum* – Mediterranean barley
* *Hordeum marinum* – seaside barley
* *Hordeum murinum* – mouse barley

Koeleria macrantha – prairie Junegrass

Melica californica – California melicgrass

* *Paspalum dilatatum* – dallisgrass

Paspalum distichum – knotgrass

* *Phalaris aquatica* – Harding grass
* *Phalaris canariensis* – annual canarygrass

Pleuropogon californicus var. *californicus* – annual semaphoregrass

* *Poa bulbosa* – bulbous bluegrass
* *Poa annua* – annual bluegrass
* *Poa pratensis* – Kentucky blue grass
* *Polypogon monspeliensis* – annual rabbitsfoot grass

* *Polypogon* sp. – rabbitsfoot grass species
* *Sorghum halepense* – Johnsongrass
  Stipa cernua – nodding needlegrass

PONTEDERIACEAE – PICKEREL-WEED FAMILY

* *Eichhornia crassipes* – common water hyacinth

POTAMOGETONACEAE – PONDWEED FAMILY

Potamogeton sp. – pondweed species

TECOPHILAEACEAE – NO COMMON NAME

Odontostomum hartwegii – Hartweg's doll's-lily

THEMIDACEAE – BRODIAEA FAMILY

Brodiaea coronaria – crown brodiaea
Brodiaea elegans – harvest brodiaea
Brodiaea minor – Purdy's brodiaea
Dichelostemma volubile – twining snakelily
Dipterostemon capitatus ssp. *capitatus* – bluedicks
Dipterostemon capitatus – bluedicks
Triteleia hyacinthina – white brodiaea
Triteleia ixioides – prettyface
Triteleia laxa – Ithuriel's spear

TYPHACEAE – CATTAIL FAMILY

Typha latifolia – broadleaf cattail

Arborist Report

Coyote Creek Agrivoltaic Ranch Project

AUGUST 2023

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
AC	Alternating current
ALTA	American Land Title Association
AMM	Avoidance and Minimization Measure
APN	Assessor's Parel Number
BFFP	Board of Forestry and Fire Protection
BMP	Best Management Practice
CEQA	California Environmental Quality Act
County	Sacramento County
DBH	Diameter at Breast Height
EPC	EnviroPlus Consulting
FGC	Fish and Game Code
GIS	Geographic Information Systems
ISA	International Society of Arboriculture
OWCA	Oak Woodlands Conservation Act
MW	megawatt
PFL	Professional Forester's Law
Project	Coyote Creek Agrivoltaic Project
PRC	Public Resources Code
PSA	Project Study Area
Report	Arborist Report
SMUD	Sacramento Municipal Utility District's
SVRA	State Vehicle Recreation Area
WCB	Wildlife Conservation Board

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1 Executive Summary

Sacramento Valley Energy Center LLC contracted Dudek to conduct a tree inventory and prepare this Arborist Report (Report) for the Coyote Creek Agrivoltaic Project (Project). This Report provides a comprehensive inventory and assessment for tree resources within the Solar Development Area of the Project Study Area (PSA), including geographical location, tree size, species, and tree health assessments. This Report also addresses the State of California and County of Sacramento (County) regulations regarding the protection, avoidance, permitting, and mitigation associated with tree resources. In addition, this Report incorporates the results of the preliminary arborist report and tree inventory conducted with portions of the PSA by Dudek, EnviroPlus Consulting (EPC 2023), and California Tree and Landscape Consulting Inc. (CalTLC 2021).

Sacramento Valley Energy Center LLC is proposing construction and operation of the Project, a solar photovoltaic energy-generating facility located in Sacramento County, California. The PSA (2,704 acres) that was evaluated for this Report is comprised of the Solar Development Area (which includes the grading limits, generation tie line, and switch yard areas [1,412 acres]) plus the remaining areas outside of the Solar Development Area (which will be referred to as "Adjacent Other Lands" [1,292 acres]), per the Environmentally Preferred Site Plan (Primoris 2023). Information pertaining to the Adjacent Other Lands within the PSA are provided in Appendix A, Tree Resources within the Adjacent Other Lands of the Project Study Area. As such, for the purpose of this Report, only the trees occurring within the Solar Development Area (which includes the grading limits, generation tie line, and switch yard areas [1,412 acres]) of have been included in the results for the individual tree inventory, although portions of the larger PSA were evaluated. The Solar Development Area was to sited to avoid tree resources to the maximum extent feasible, although avoidance of tree resources had to be balanced against other siting priorities (i.e., Tribal Cultural Resources, slopes, wetlands, threatened and endangered species habitat). Tree impacts evaluated are subject to revaluation should any components of the site or grading area be modified.

During the field inventory, a total of 4,787 individual trees were inventoried within the Solar Development Area consisting of 11 different tree species. Of the 4,787 trees inventoried, a maximum total of 4,394 trees meet the protection criteria established by either CEQA Guidelines (AEP 2022), OWCA, California FGC Section 1360 through 1372 (WCB 2001), and/or the Sacramento County General Plan (County of Sacramento 2017). Mitigation will be fulfilled through preservation on site and/or off site, through a mitigation/preservation bank credit purchase, or via pay into in lieu fee program (e.g., Sacramento County Tree Preservation Fund) as described further in Chapter 6, Recommendations, of this report.

1.1 Arborist Disclosure/Statement of Qualifications

This Report provides information based only on a visual examination by ISA Certified Arborists, and reasonable reliance upon the completeness and accuracy of the information provided to the arborist. The examination did not include subterranean or internal examination of the trees. Arborists are tree specialists who use their education, knowledge, training, and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce the risk of living near them. Although trees provide many benefits to those who live near them, they also include inherent risks from breakage or failure that can be minimized, but not eliminated. Arborists cannot detect every condition that could possibly lead to the failure of a tree. Trees are living organisms subject to attack by disease, insects, fungi, weather, and other forces of nature, and conditions that lead to failure are often hidden within trees and belowground. There are some inherent risks with trees that cannot be predicted

with any degree of certainty, even by a skilled and experienced arborist. Arborists cannot predict acts of nature including, without limitation, storms of sufficient strength, which can cause even an apparently healthy tree to fail. Additionally, arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for any specific period. A tree's condition could change over a short or long period of time due to climatic, cultural, or environmental conditions. Further, there is no guaranty or certainty that recommendations or efforts to correct unsafe conditions will prevent future breakage or failure of a tree. To live or work near trees is to accept some degree of risk. Neither the author of this Report nor Dudek have assumed any responsibility for, nor will either of them be liable for, any claims, losses, or damages for damage to any tree, death or injury to any person, or any loss of or damage to any personal or real property.

Detailed in Table 1 are the certified and qualified Dudek arborists that supported the arborist field inventory and compilation of this Report for the Project.

Table 1. Summary of Project Arborists

Name	Certification	Contact	Company Affiliation
Cory Kinley	ISA Certified Arborist No. WE-9717A	530.745.4086	CalTLC
Dave Mercado	ISA Certified Arborist No. WE-7311A	530.745.4086	CalTLC
Tyler Thomson	ISA Certified Arborist No. WE-12751A	530.745.4086	CalTLC
Edwin Stritz	ISA Certified Arborist No. WE-0510A	530.745.4086	CalTLC
Jeremy Cawn	ISA Certified Arborist No. NY-5876AM ISA Tree Risk Assessor Qualification (TRAQ) Registered Professional Forester No. 3007	jcawn@dudek.com, 510.227.9567	Dudek
Scott Eckardt	ISA Certified Arborist No. WE-5914A Registered Professional Forester No. 2835	seckardt@dudek.com, 530.908.6737	Dudek
Alex Gelatos	ISA Certified Arborist No. WE-12988A	agelatos@dudek.com, 831.999.0083	Dudek
Stephanie Hines	ISA Certified Arborist No. WE-13663A	info@enviroplusconsulting.com 760.954.4265	EPC
Alex Mach	ISA Certified Arborist No. WE-13663A	info@enviroplusconsulting.com 760.954.4265	EPC

Note: ISA= International Society of Arboriculture

2 Introduction

The purpose of this Arborist Report (Report) is to provide geographical location, tree health assessments, and a general summary of the trees that occur within the Solar Development Area for the Coyote Creek Agrivoltaic Project (Project). This Report also addresses the State of California and County of Sacramento (County) regulations regarding the protection, avoidance, permitting, and mitigation associated with tree species identified with the Solar Development Area. This Report also includes a brief discussion section to address other tree resources for lands outside of the Solar Development Area (Adjacent Other Lands). Lastly, this Report compiles the results of arborist studies completed by Dudek in 2022, as well as the *Preliminary Arborist Report and Inventory* (CalTLC 2021), and the Summary *Report* (EPC 2023) (Appendix B-1, CalTLC Preliminary Arborist Report, and Appendix B-2, EPC Summary Report).

2.1 Project Description

The proposed Project would involve construction and operation of an approximately 200-megawatt (MW) alternating current (AC) photovoltaic solar energy generating facility and include an on-site substation, inverters, fencing, roads, and supervisory control and data acquisition system. The proposed energy storage components would include an approximately 100 MW AC power output with approximately 4 hour/100 MW battery energy storage system. The site of the Project, Barton Ranch has an existing easement for access and utilities that go from Barton Ranch to the intersection of Grantline Road and White Rock Road. The Project's gen-tie is approximately 1.3 mile long and will extend to where a new Switchyard will be constructed to interconnect into Sacramento Municipal Utility District's (SMUD) 230 kilovolt powerline in proximity to the Prairie City State Vehicle Recreation Area (SVRA). Following construction of the switchyard, SMUD would own and operate the Switchyard facilities.

2.2 Project Location

The approximately 1,412-acre Solar Development Area within the 2,704-acre PSA is located on Barton Ranch adjacent to 3830 Scott Road, Sacramento County, California (Figure 1, Project Location). The site is approximately 2.5 miles south of White Rock Road in the Cosumnes community. The Project site is located approximately 4.5 miles south of U.S. Route 50, southeast of the Prairie City SVRA, and is bisected by Scott Road. A gen-tie line would extend approximately 1.3 miles to provide an interconnection to the Sacramento Municipal Utility District's 230-kilovolt powerline, which runs through the Prairie City SVRA (Figure 2, Project Setting). Locally, the main access to the Project would be from Scott Road.

- **County:** Sacramento
- **Public Land Survey System:** S5-8,31-32,35-36; T08-09N; R07-08E
- **U.S. Geological Survey 7.5-Minute Quadrangle:** Buffalo Creek (west) and Folsom SE (east)
- **Latitude, Longitude (decimal degrees):** 38.576278°, −121.132944° (Centroid)
- **Elevation Range:** 153 to 368 feet above mean sea level
- **Average Elevation:** 261 feet above mean sea level
- **Assessor's Parcel Numbers:** See Table 2

Table 2. Assessor's Parcel Numbers in the Project Study Area

APN	Total (acreage)	APN	Total (acreage)	APN	Total (acreage)
072-0100-016	2.40	073-0020-029	11.26	073-0020-057	40.48
072-0100-017	13.69	073-0020-032	15.76	073-0020-058	66.31
072-0100-018	51.25	073-0020-033	13.19	073-0020-059	73.36
072-0100-027	63.41	073-0020-034	78.74	073-0020-060	36.97
072-0110-022	3.05	073-0020-035	38.04	073-0020-061	80.44
072-0110-031	6.76	073-0020-036	39.14	073-0020-062	12.28
072-0110-045	7.70	073-0020-037	39.19	073-0020-063	11.57
072-0110-066	36.83	073-0020-038	12.33	073-0020-064	62.81
072-0110-067	79.88	073-0020-039	73.47	073-0020-065	17.81
072-0110-068	45.43	073-0020-040	57.80	073-0020-066	39.88
072-0110-069	83.73	073-0020-041	40.06	073-0020-067	11.84
072-0110-070	80.90	073-0020042	73.57	073-0020-068	9.70
072-0110-071	81.07	073-0020-043	48.59	073-0020-069	17.17
072-0110-069	55.22	073-0020-044	52.42	073-0020-070	39.61
072-0110-073	41.52	073-0020-045	105.13	073-0020-071	15.33
072-0110-074	27.16	073-0020-046	4.17	073-0020-072	42.92
072-0110-075	18.27	073-0020-048	5.53	073-0020-073	5.62
072-0110-076	27.97	073-0020-049	41.05	073-0020-074	32.13
072-3160-002	40.56	073-0020-050	55.84	073-0020-075	6.37
072-3160-003	2.22	073-0020-051	78.46	073-0020-076	2.08
073-0010-026	0.09	073-0020-052	83.43	073-0020-077	29.46
073-0020-008	4.98	073-0020-053	33.84	073-0050-015	0.34
073-0020-015	29.75	073-0020-054	85.35	073-0050-040	1.96
073-0020-018	38.56	073-0020-055	6.14	073-0050-041	11.96
073-0020-022	13.77	073-0020-056	68.48	073-0050-043	5.29
				073-0050-050	10.84

Source: County of Sacramento 2023.
Note: APN = Assessor's Parcel Number.

3 Regulatory Framework

3.1 State of California

3.1.1 Oak Protection and Oak Woodlands Conservation Act

The 2005 California Fish and Game Code (FGC) Sections 1360 through 1372 outlines the terms and conditions comprising the California Oak Woodlands Conservation Act (OWCA) (WCB 2001). An oak woodland is defined as an oak stand with greater than 10% canopy cover, or that may have historically supported greater than 10% canopy cover. The overall purpose of the OWCA is to provide funding for the conservation and protection of California's oak woodlands (WCB 2001). In addition, the OWCA is designed to support and encourage voluntary, long-term private stewardship and conservation of California's oak woodlands by offering landowners financial incentives to protect and promote biologically functional oak woodlands over time, as mandated by the Wildlife Conservation Board (WCB). The WCB has established programs, including the California Oak Woodlands Conservation Program, to protect and restore oak woodlands. The OWCA encourages and defers to local jurisdictions to develop and implement oak conservations plans developed under the OWCA (WCB 2017).

Furthermore, the California Public Resources Code (PRC) Section 21083.4 defines an oak as a native tree species in the genus *Quercus*, not designated as commercial species, pursuant to regulations adopted by the State Board of Forestry and Fire Protection (i.e., Section 4526), and that is 5 inches or more in Diameter at Breast Height (DBH) (i.e., diameter of a tree measured 4.5 feet above natural grade). As part of the determination made pursuant to PRC Section 21080.1, a county shall determine whether a project within its jurisdiction may result in oak tree impacts and or a conversion of an oak woodland that will have a significant effect on the environment. If a county determines that there may be a significant effect, then the county shall require mitigation (PRC 2009).

3.1.2 Other Tree Protection

California laws that regulate and/or protect oaks and other tree species include: the Professional Forester's Law (PFL), the California Environmental Quality Act (CEQA), and the State Board of Forestry and Fire Protection (BFFP). PFL addresses oak habitat evaluations. CEQA defines an oak as a native tree species in the genus *Quercus*, not designated commercial species pursuant to regulations adopted by the BFFP pursuant to Section 4526, and that is 5 inches or more in DBH. CEQA addresses that "a county (or city) … shall determine whether a project within its authority may result in a conversion of oak woodland that will have a significant effect on the environment." CEQA also provides protection to federal and/or state tree species that may be considered special status (AEP 2022). Thus, both PFL and CEQA apply to all local jurisdictions. The BFFP has regulatory authority over all of California's forested landscapes, including the authority to regulate oak woodlands at the state or local level.

3.2 County of Sacramento

3.2.1 Sacramento County General Plan

The Sacramento County General Plan addresses policies to help preserve and restore vegetation throughout Sacramento County, including ways to ensure that tree resources are given adequate attention in development projects and master planning efforts (County of Sacramento 2017).

3.2.1.1 Conservation Element - Aquatic Resources

Rivers and Streams

Goal: Preserve, protect, and enhance natural open space functions of riparian, stream, and river corridors.

Maintenance of Rivers and Streams

Objective: Properly manage and fund the maintenance of rivers and streams to protect and enhance natural functions.

Policies:

- CO-121. No grading, clearing, tree cutting, debris disposal or any other despoiling action shall be allowed in rivers and streams except for normal channel maintenance, restoration activities, and road crossings.

3.2.1.2 Conservation Element - Terrestrial Resources

Terrestrial Resources

Goal: Sacramento County vegetative habitats preserved, protected, and enhanced.

Native Vegetation Protection, Restoration, and Enhancement

Objective: Tree and native vegetation management practices to promote regeneration in designated resource conservation areas.

Policies:

- CO-132. Protect native vegetative habitats from improper grazing regimes on public lands and inform private land operators of how they may minimize impacts to these habitats.
- CO-133. Prohibit native vegetative habitat mitigation and/or other public plantings onto incompatible substrates i.e., tree planting in vernal pool hardpan.
- CO-134. Maintain and establish a diversity of native vegetative species in Sacramento County.
- CO-135. Protect the ecological integrity of California Prairie habitat.
- CO-136. Prohibit the loss of mitigated resource areas.

- CO-137. Mitigate for the loss of native trees for road expansion and development consistent with General Plan policies and/or the Sacramento County Tree Preservation Ordinance.

Landmark and Heritage Tree Protection

Objective: Heritage and landmark tree resources preserved and protected for their historic, economic, and environmental functions.

Policies:

- CO-138. Protect and preserve non-oak native trees along riparian areas if used by Swainson's Hawk, as well as landmark and native oak trees measuring a minimum of 6 inches in diameter or 10 inches aggregate for multi-trunk trees at 4.5 feet above ground.
- CO-139. Native trees other than oaks, which cannot be protected through development, shall be replaced with in-kind species in accordance with established tree planting specifications, the combined diameter of which shall equal the combined diameter of the trees removed.
- CO-140. For projects involving native oak woodlands, oak savannah, or mixed riparian areas, ensure mitigation through either of the following methods: (1) An adopted habitat conservation plan; (2) Ensure no net loss of canopy area through a combination of the following: A- preserving the main, central portions of consolidated and isolated groves constituting the existing canopy and B- provide an area on site to mitigate any canopy lost. Native oak mitigation area must be a contiguous area on site which is equal to the size of canopy area lost and shall be adjacent to existing oak canopy to ensure opportunities for regeneration; (3) Removal of native oaks shall be compensated with native oak species with a minimum of a one to one DBH replacement; (4) A provision for a comparable on-site area for the propagation of oak trees may substitute for replacement tree planting requirements at the discretion of the Sacramento County Tree Coordinator when removal of a mature oak tree is necessary; (5) If the project site is not capable of supporting all the required replacement trees, a sum equivalent to the replacement cost of the number of trees that cannot be accommodated may be paid to Sacramento County's Tree Preservation Fund or another appropriate tree preservation fund; and (6) If on-site mitigation is not possible given site limitation, off-site mitigation may be considered. Such a mitigation area must meet all the following criteria to preserve, enhance, and maintain a natural woodland habitat in perpetuity, preferably by transfer of title to an appropriate public entity. Protected woodland habitat could be used as a suitable site for replacement tree plantings required by ordinances or other mitigations.
  - (a) Equal or greater in area to the total area that is included within a radius of 30 feet of the dripline of all trees to be removed;
  - (b) Adjacent to protected stream corridor or other preserved natural areas;
  - (c) Supports a significant number of native broadleaf trees; and
  - (d) Offers good potential for continued regeneration of an integrated woodland community.
- CO-141. In 15 years, the native oak canopy within on-site mitigation areas shall be 50% canopy coverage for valley oak and 30% canopy coverage for blue oak and other native oaks.

Urban Forest Management

Objective: A coordinated, funded Urban Tree Management Plan and program sufficient to achieve a doubling of the County's tree canopy by 2050 and promote trees as economic and environmental resources for the use, education, and enjoyment of current and future generations.

Policies:

- CO-143. Work cooperatively with local utilities to assure that new trees are planted in locations that will maximize energy conservation and air quality benefits.
- CO-144. Support a regional approach consistent with the provisions of Greenprint for the protection, replacement, and mitigation of trees.
- CO-145. Removal of non-native tree canopy for development shall be mitigated by creation of new tree canopy equivalent to the acreage of non-native tree canopy removed. New tree canopy acreage shall be calculated using the 15-year shade cover values for tree species.
- CO-146. If new tree canopy cannot be created onsite to mitigate for the non-native tree canopy removed for new development, project proponents (including public agencies) shall contribute to the Greenprint funding in an amount proportional to the tree canopy of the specific project.

3.2.2 Sacramento County Tree Preservation Ordinance

The County regulates tree impacts and preservation through the Tree Preservation Ordinance (Sacramento County Code 480 Section 1, 1981). The Sacramento County Tree Preservation Ordination specifically applies to the following: (1) the planting, maintenance, protection, and preservation of public trees and landscaping; (2) helping to eliminate dangerous conditions caused by trees and shrubs that may result in injuries to persons or property; (3) the protection of all trees within Sacramento County against the spread of disease or pests; and (4) the provision for the special protection of heritage and landmark trees within the unincorporated area of Sacramento County. Chapter 19.12 of the Sacramento County Code requires a Sacramento County Tree Permit before any party shall plant, transplant, move, separate, trim, prune, cut above or below the ground, disrupt, alter, or do surgery upon any public tree located on an easement, planting easement, street, or public premises, irrespective of whether the tree is alive or dead. In addition, without a tree permit or discretionary approval by the Board of Supervisors, Sacramento County Planning Commission, Zoning Board of Appeals, the Zoning Administrator, or the Subdivision Review Committee, no person shall trench, grade, or fill within the dripline of any tree or destroy, kill, or remove any tree as defined, in the designated urban area of the unincorporated area of Sacramento County, on any property, public or private (County of Sacramento 2021). Protected trees under this ordinance include the following: valley oak (*Quercus lobata*), interior live oak (*Quercus wislizenii*), blue oak (*Quercus douglasii*), or oracle oak (*Quercus* × *morehus).* Additionally, per Sacramento County, a "tree" shall mean any living native oak tree having at least one trunk of 6 inches or more in diameter measured at 4.5 feet above the ground, or a multi-trunked native oak tree having an aggregate diameter of 10 inches or more, measured 4.5 feet above the ground (County of Sacramento 2021). The Project is not located within the designated urban area of the unincorporated area of Sacramento County (Figure 3); therefore, a Sacramento County Tree Permit is not required.

4 Methods

4.1 Field Inventory and Assessment

An initial tree inventory within the portions of the PSA based was conducted by CalTLC International Society of Arboriculture (ISA) certified arborists in April through August 2021, which was based on the initial preliminary site plan. The Applicant subsequently revised the site plan through an iterative process to avoid and minimize effects on trees and other environmental resources. A second tree inventory was conducted by Dudek ISDA certified arborists in May through June 2022 for the trees within the proposed Solar Development Area of the PSA at that time, which was based on the updated preliminary site plan (Baker Williams and Kimley-Horn 2021). A third tree inventory was conducted by EPC International Society of Arboriculture (ISA) certified arborists (Table 1) in May through June 2022. A final tree inventory was conducted by EnviroPlus Consulting Inc. (EPC), based on additional iterations to the Site Plan (the Project) that balanced avoidance of various on-site environmental constraints in May 2023 (Primoris 2023). A complete summary of field collection dates has been compiled below in Table 3. Note that not all trees within the PSA were individually mapped during the field inventories. Trees outside of the Solar Development Area were not all individually mapped as they will not be impacted by the Project. While some were individually mapped, they were otherwise mapped utilizing a canopy analysis, as described in Section 4.2, Canopy Analysis. See Appendix C, Photo Record, for a compilation of photographs taken during the field inventory.

Table 3. Arborist Inventory Field Survey Summary

Date	Field Arborists	Company Affiliation
4/6/2021 - 6/1/2021	Cory Kinley,[1] Tyler Thomson,[1] Dave Mercado[1]	CalTLC
7/26/2021 - 8/3/2021	Cory Kinley,[1] Tyler Thomson,[1] Dave Mercado[1]	CalTLC
5/10/2022	Jeremy Cawn,[1] Dustin Howland	Dudek
5/11/2022	Jeremy Cawn,[1] Dustin Howland	Dudek
5/12/2022	Mark Fogiel, Dustin Howland, Paul Keating	Dudek
5/13/2022	Mark Fogiel, Dustin Howland	Dudek
5/16/2022	Lorna Hayworth, Dustin Howland	Dudek
5/17/2022	Mark Fogiel, Lorna Hayworth	Dudek
5/18/2022	Mark Fogiel, Lorna Hayworth	Dudek
5/19/2022	Lorna Hayworth, Dustin Howland	Dudek
5/20/2022	Lorna Hayworth, Dustin Howland	Dudek
5/23/2022	Mark Fogiel, Alex Gelatos[1]	Dudek
5/24/2022	Mark Fogiel, Alex Gelatos[1]	Dudek
5/25/2022	Mark Fogiel, Alex Gelatos[1]	Dudek
5/26/2022	Mark Fogiel, Alex Gelatos[1]	Dudek
5/27/2022	Mark Fogiel, Alex Gelatos,[1] Dustin Howland	Dudek
6/6/2022	Mark Fogiel, Alex Gelatos[1]	Dudek
6/7/2022	Mark Fogiel, Alex Gelatos[1]	Dudek
6/8/2022	Alex Gelatos,[1] Kelsey Higney	Dudek
6/9/2022	Alex Gelatos[1]	Dudek

Table 3. Arborist Inventory Field Survey Summary

Date	Field Arborists	Company Affiliation
6/10/2022	Alex Gelatos[1]	Dudek
4/1/2022 – 5/1/2023	Alex Mach,[1] Stephanie Hines[1]	EPC

Note:
[1] International Society of Arboriculture (ISA) certified arborist.

4.1.1 Data Collection

The tree inventory and assessment field surveys were conducted on ground-level and were based on the 'Level 2' Basic Visual Inspection of trees. A 'Level 2' Basic Visual Inspection was performed in accordance with the ISA best management practices. This assessment level is limited to the observation of conditions and defects which are readily visible. Specifically, data collected included individual tree locations, tree species, tree measurements, and evaluating general tree health and structural conditions. The data collected is detailed as follows:

- **Tree Location:** An aerial photograph with an overlay of the property boundary, Collector for ArcGIS on an iPad/mobile device, a Trimble R1 GNSS Receiver with sub-meter accuracy, and ArcGIS Collector app for iOS were used interchangeably to map tree resources while in the field.
- **Tree Tag Number:** The pre-stamped tree number on the tag is the tree unique identifier. The tree tag was installed on the tree in the field at approximately 6 feet above ground level on the north side of the tree. The tree tag number is the unique identifier associated with each tree inventoried. Note that if a tree tag was not installed on the tree int he filed, then the tree was given a unique identified based on the date of survey and a sequential numeric value.
- **Tree Species:** The species of a tree was listed common name and scientific name. Tree species were identified to the lowest taxonomic group possible.
- **Tree DBH:** In inches, the diameter of the tree measured at 4 feet 6 feet.
- **Canopy Width:** In feet, the farthest extent of the crown composed of leaves and small twigs. This measurement represents the longest extension from the trunk to the outer canopy, known as the "dripline." This measurement further defines the "root protection zone" required for development.
- **Arborist Rating:** Subjective to condition and is based on both the health of the tree. All individual trees inventoried were rated for condition, per the recognized national standard as set up by the Council of Tree and Landscape Appraisers and the ISA on a numeric scale of 5 (being the highest) to 0 (the worst condition, dead). The rating was done in the field at the time of the measuring and inspection (Table 4).
  - Rating No. 0: This indicates a tree that has no significant sign of life.
  - Rating No. 1: The problems are extreme. This rating is assigned to a tree that has structural and/or health problems that no amount of work or effort can change. The issues may or may not be considered a dangerous situation.
  - Rating No. 2: The tree has major problems. If the option is taken to preserve the tree, its condition could be improved with correct arboricultural work including, but not limited to: pruning, cabling, bracing, bolting, guying, spraying, mistletoe removal, vertical mulching, fertilization, etc. If the recommended actions are completed correctly, hazard can be reduced, and the rating can be elevated to a '3'. If no action is taken the tree is considered a liability and should be removed.

- Rating No. 3: The tree is in fair condition. There are some minor structural or health problems that pose no immediate danger. When the recommended actions in an arborist report are completed correctly the defect(s) can be minimized or eliminated.
- Rating No. 4: The tree is in good condition and there are no apparent problems that can be seen from a visual ground inspection. If potential structural or health problems are tended to at this stage future hazard can be reduced and more serious health problems can be averted.
- Rating No. 5: No problems found from a visual ground inspection. Structurally, these trees have properly spaced branches and near perfect characteristics for the species. Highly rated trees are not common in natural or developed landscapes. No tree is ever perfect especially with the unpredictability of nature, but with this highest rating, the condition should be considered excellent.

Table 4. Arborist and Sacramento County Tree Rating Scale Crosswalk

Rating Score	Arborist Rating	Sacramento County Rating
5 – Excellent	No problems	Excellent
4 – Good	No apparent problems	Good
3 – Fair	Minor problems	Fair
2 – Fair to Poor	Major problems	Declining
1 – Poor	Extreme problems	Severe decline
0 - Dead	Dead	Dead

Source: County of Sacramento 2021.

- Structural Rating: The measure of the tree's structural stability and failure potential and rated as good, fair, or poor based on assessment of specific structural features, such as decay, conks, co-dominant trunks, included bark, abnormal lean, one-sided canopy, history of failure, prior construction impact, pruning history, etc. (County of Sacramento 2022) (Table 5). Note that the CalTLC arborist data combined the arborist rating and structural rating into one combined arborist rating.
  - Good- No apparent structural defects, no weak crotches, no excessively weighted branches, and no significant cavities or decay.
  - Fair- Minor structural problems such as weak crotches, minor wounds and/or cavities, or moderate amount of excessive weight; non-critical structural defects that can be mitigated through pruning, cabling, or bracing.
  - Poor- Minor structural problems such as weak crotches, minor wounds and/or cavities, or moderate amount of excessive weight; non-critical structural defects that can be mitigated through pruning, cabling, or bracing.

Table 5. Structural Tree Rating Summary

Rating Score	Structural Rating
Good	No apparent structural problems
Fair	Minor structural problems
Poor	Extreme structural problems

Source: County of Sacramento 2022.

4.2 Canopy Analysis

In addition to the field inventory that mapped individual trees, Dudek completed a desktop-level canopy analysis for all tree cover within the PSA. The purpose of the canopy analysis was to provide information on the total acreage of contiguous canopy cover within the PSA, as well as to provide baseline information for measuring, monitoring, and mitigating tree resources. The canopy analysis was conducted by analyzing high resolution Unnamed Aerial System-derived lidar and aerial imagery with a 6-inch resolution, produced by Dudek during the American Land Title Association (ALTA) survey conducted of the PSA. The imagery was classified using a semi-automated routine and machine learning (i.e., image segmentation and classification) in ArcMap. Through this process of aerial photo processing, Dudek was able to extrapolate existing canopy cover throughout the PSA.

5 Results

The tree inventory and canopy cover results are summarized in this section below. Visual and graphical representations of the trees and canopy can be referenced in Figure 4, Tree Inventory Results in the Solar Development Area; Figure 5, Canopy Analysis Results; and Appendices B-1 and B-2. The results for the individual tree inventory with the Solar Development Area are summarized in Section 5.2 below and compile the findings collected by CalTLC, Dudek, and EPC.

5.1 Environmental Setting

The PSA and Solar Development Area are located within eastern Sacramento County at the eastern edge of the Sacramento Valley, less than 10 miles from the western foothills of the Sierra Nevada Mountains, within the Upper Cosumnes River watershed. They are surrounded by open space generally composed of annual grassland and agricultural fields, oak woodlands and forest, rural residences, and the California State Parks Prairie City State Vehicular Recreation Area. They are primarily used for cattle and sheep grazing or other agricultural operations (Figures 1 and 2).

Terrestrial vegetation communities and land cover types within the Solar Development Area consist of a combination of terrestrial non-vegetative land covers or natural vegetation communities. This includes blue oak woodland/forest (262.83 acres), blue oak woodland (344 acres), riparian woodland/forest (32.55 acres), valley and foothill grassland (1,764.73 acres), and urban/developed (150.53 acres) (Dudek 2023).

5.2 Tree Inventory and Assessment

5.2.1 Species and Totals

During the field inventory, a total of 4,787 individual trees were inventoried within the Solar Development Area (1,462 by CalTLC, 1,872 by Dudek, and 1,453 by EPC) (Figure 4). A total of 11 different species were identified as part of the inventory including silver maple (*Acer saccharinu*m) (1 individual inventoried), California buckeye (*Aesculus californica)* (1 individual inventoried), Fremont cottonwood (*Populus fremontii*) (6 individual inventoried), fruit tree species. (*Prunus spp.)* (3 individual inventoried), blue oak (*Quercus douglasii)* (4,554 individuals inventoried), valley oak (*Quercus lobata)* (80 individuals inventoried), interior live oak (*Quercus wislizeni)* (41 individuals inventoried), oak species (*Quercus sp*.) (24 individuals inventoried), willow species (*Salix* spp.) (1 individual inventoried), elderberry species (Sambucus sp.) (5 individuals inventoried), and unknown/unrecorded species (69 individuals inventoried). All tree species within the exception of fruit tree species and unknown species inventoried within the Solar Development Area are native trees (Table 6). Oak species, specifically blue oak species is the dominant tree species present. A comprehensive summary of individual trees inventoried within the Solar Development Area, including species, nativity, protection status, and attribute data has been included in Appendix D.

Table 6. Summary of Trees Inventoried within the Solar Development Area

Scientific Name	Common Name	Nativity	Total Trees Inventoried
Acer saccharinum	silver maple	Native	1
Aesculus californica	California buckeye	Native	3

Table 6. Summary of Trees Inventoried within the Solar Development Area

Scientific Name	Common Name	Nativity	Total Trees Inventoried
Populus fremontii	Fremont cottonwood	Native	6
Prunus spp.	fruit tree spp.	Non-native	3
Quercus douglasii	blue oak	Native	4,554
Quercus lobata	valley oak	Native	80
Quercus spp.	oak species	Native	24
Quercus wislizeni	interior live oak	Native	41
Salix spp.	willow spp.	Native	1
Sambucus sp.	elderberry spp.	Native	5
Unknown sp.	unknown	N/A	69
		Total	**4,787**

Sources: CalTLC 2021; Dudek 2022; EPC 2023.

5.2.2 Condition and Structure

Pursuant to the *Guide for Plant Appraisal* (ISA 2000), tree health, condition, and structure were evaluated for the 951 trees inventoried within the Solar Development Area with respect to five distinct tree components: roots, trunk, scaffold branches, small branches, and foliage. Each tree component was assessed regarding health factors such as insect, fungal or pathogen damage, mechanical damage, presence of decay, presence of wilted or dead leaves, and wound closure. The combined arborist and structural ratings of each tree provides a subjective overview of overall tree viability. The dominant species inventoried within the Solar Development Area, blue oak, exhibited an average arborist rating of 2.3 (fair to mostly poor), and an average structural rating of 0.9 (mostly fair to good). For all tree species inventoried within the Solar Development area, a range of ratings was recorded, with an overall average arborist rating of 1.2 (poor), and an overall average structural rating of 0.4 (poor to dead). A summary of rating by trees species had been provided below in Table 7.

Table 7. Summary of Arborist and Structural Ratings for Inventoried Trees within the Solar Development Area

Scientific Name	Common Name	Average Arborist Rating[1]	Average Structural Rating[2]
Acer saccharinum	silver maple	1.0	0
Aesculus californica	California buckeye	1.7	0
Populus fremontii	Fremont cottonwood	1.7	0
Prunus spp.	fruit tree spp.	1.3	0
Quercus douglasii	blue oak	2.3	0.9
Quercus lobata	valley oak	2.2	0.2
Quercus spp.	oak species	0.1	0
Quercus wislizeni	interior live oak	1.5	0.1
Salix spp.	willow spp.	1.0	3.0
Sambucus sp.	elderberry spp.	0	0
Unknown sp.	N/A	0	0.3

Sources: CalTLC 2021; Dudek 2022; EPC 2023.
Notes:
Arborist Rating: 5– Excellent, No problems; 4– Good, No apparent problems; 3– Fair, Minor problems; 2– Fair to Poor, Major problems; 1– Poor, Extreme problems; 0– Dead.

Structural Rating: 3– Good; 2– Fair; 1– Poor; 0– Dead.

1 A total of 4,326 trees were used to quantify the average arborist rating. The average arborist rating excludes a total of 461 trees where an arborist rating was not record.

2 A total of 1,864 trees were used to quantify the average structural rating. The average structural rating excludes a total of 2,923 trees where a structural rating was not record.

5.2.3 Tree Size

Trunk diameter measurements are taken to determine the tree size. Tree trunk DBH was collected pursuant to the *Guide for Plant Appraisal* (ISA 2000). Trunk diameter measurements were taken at 4.5 feet above the ground along the trunk axis, with a few common exceptions. In cases where a tree's trunk split into multiple stems at approximately 4.5 feet above ground, the measurement was made at the location that best represented the trunk's diameter. For oak species inventoried within the Solar Development Area, the following DBH averages were calculated: 16.4 inches for blue oak, 36.0 inches for valley oak, and 26.9 inches for interior live oak. A summary of DBH by trees species has been provided below in Table 8.

Table 8. Summary of Diameter at Breast Height (DBH) for Inventoried Trees within the Solar Development Area

Scientific Name	Common Name	Minimum DBH (inches)[1]	Maximum DBH (inches)[1]	Average DBH (inches)[1]
Acer saccharinum	silver maple	16.0	16.0	16.0
Aesculus californica	California buckeye	5.0	42.0	17.3
Populus fremontii	Fremont cottonwood	9.7	81.0	40.6
Prunus spp.	fruit tree spp.	10.0	42.0	21.3
Quercus douglasii	blue oak	0	415.0	16.4
Quercus lobata	valley oak	0	75.0	36.0
Quercus spp.	oak spp.	0	51.5	25.6
Quercus wislizeni	interior live oak	0	50.5	26.9
Salix spp.	willow spp.	6.0	6.0	6.0
Sambucus sp.	elderberry spp.	0	0	0
Unknown spp.	unknown spp.	8.0	55.0	23.9

Sources: CalTLC 2021; Dudek 2022; EPC 2023.

Notes:

1 A total of 4,724 trees were used to quantify DBH values. The DBH values exclude a total of 63 trees where a DBH was not record.

5.2.4 Dripline

The tree "dripline," or the canopy width (i.e., radius; extent of the crown composed of leaves and small twigs), measurements was recorded in the field for each tree inventoried within the Solar Development Area by "pacing-off" the measurement based on the arborist's knowledge of his stride length or visually estimating the canopy width. This measurement represents the longest extension from the trunk to the outer canopy, known as the "dripline." This measurement further defines the root protection zone required for development. For oak species inventoried within the Solar Development Area, the following canopy width averages were calculated: 5.3 feet for blue oak, 15.0 feet for valley oak, and 13.9 feet for interior live oak. A summary of canopy widths by tree species has been provided below in Table 9.

Table 9. Summary of Canopy Widths for Inventoried Trees within the Solar Development Area

Scientific Name	Common Name	Minimum Canopy Width (feet)[1]	Maximum Canopy Width (feet)[1]	Average Canopy Width (feet)[1]
Acer saccharinum	Silver maple	10.0	10.0	10.0
Aesculus californica	California buckeye	0	0	0
Populus fremontii	Fremont cottonwood	24.0	35.0	30.2
Prunus spp.	fruit tree spp.	6.0	12.0	9.3
Quercus douglasii	blue oak	0	45.0	5.3
Quercus lobata	valley oak	0	50.0	15.0
Quercus spp.	oak spp.	0	30.0	1.3
Quercus wislizeni	interior live oak	0	40.0	13.9
Salix spp.	willow spp.	0	0	0
Sambucus sp.	elderberry spp.	0	0	0
Unknown spp.	unknown spp.	0	0	0

Sources: CalTLC 2021; Dudek 2022; EPC 2023.

[1] A total of 1,397 trees were used to quantify canopy values. The canopy values exclude a total of 3,390 trees where a canopy was not record in the field.

5.2.5 Canopy Cover

The total contiguous canopy cover of oak woodlands within the Solar Development Area is 54.61 acres. Within this 54.61 acres, the oak woodlands within the Solar Development Area have a total coverage class ranging from 10 to 20%. The denser oak forest within the Solar Development Area has a total coverage class ranging from 20 to 50% plus (CDFW 2019).

5.3 Tree Protection

As outlined above in Chapter 3, Regulatory Framework, tree protection for the Solar Development Area will be applied pursuant to the following:

- CEQA Guidelines (AEP 2022)
- OWCA, California FGC Section 1360 through 1372 (WCB 2001)
- Sacramento County General Plan (County of Sacramento 2017)

Specifically, under these regulatory policies, protected trees and tree resources within the Solar Development Area of the PSA would include the following:

- Oak species measuring a minimum of 6 inches DBH (single tree) or 10 inches DBH (aggregate multi-trunk trees) at 4.5 feet above ground
- Oak woodlands/savannah with greater than 10% canopy
- Heritage and landmark trees, including non-native species with a DBH equal or greater than 18 inches DBH (single tree) and 43 inches (aggregate multi-stem)
- Tree resources along riparian areas, including non-native tree species

Within the Solar Development Area, of the 4,787 trees inventoried, a maximum total of 4,394 trees meet the protection criteria as bulleted above (see Table 10). This specifically includes the following:

- A total of 4,394 (91.8%) oak species within the Solar Development Area have a DBH of 6 inches or greater, therefore meeting the criteria of protected oak species.
- Approximately 54.61 acres of oak woodland and forest within the Solar Development area have a contiguous canopy equal or greater than 10%, meeting the criteria of protected oak woodlands/forest.
- A total of 1,762 (36.8%) trees inventoried within the Solar Development Area have a DBH of 18 inches or greater, therefore meeting the criteria as landmark and or heritage tree species.
- A total of 173 (3.61%) trees are located within and aquatic resource feature and/or are within up to 50 feet outside of the aquatic resources, therefore meeting the criteria of a riparian tree.

Table 10. Summary of Tree Protection Status for Inventoried Trees within the Solar Development Area

Scientific Name	Common Name	Protected[1]	Heritage[2]	Riparian[3]
Acer saccharinum	silver maple	0	0	0
Aesculus californica	California buckeye	0	1	0
Populus fremontii	Fremont cottonwood	0	5	0
Prunus spp.	fruit tree spp.	0	1	0
Quercus douglasii	blue oak	4,259	1,586	155
Quercus lobata	valley oak	78	73	7
Quercus spp.	oak spp.	19	17	0
Quercus wislizeni	interior live oak	38	30	7
Salix spp.	willow spp.	0	0	0
Sambucus sp.	elderberry spp.	0	0	2
Unknown sp.	unknown spp.	0	49	2
	Total	**4,394**	**1,762**	**173**

Sources: CalTLC 2021; Dudek 2022; EPC 2023.
Notes:
1 Protected: Meets the criteria of a protected oak (i.e., diameter at breast heigh [DBH] ≥6 inches).
2 Heritage: Any tree species, including non-native species, with a DBH ≥18 inches DBH (single tree) and ≥43 inches (aggregate multi-stem).
3 Riparian: Any tree species within an aquatic resource feature and/or up to 50 feet outside of an aquatic resource feature ordinary high water mark/top of bank.

5.4 Impact Assessment

Tree impacts were determined using geographic information system (GIS) technology geo-statistics to determine the locations of trees relative to the Project impact areas (i.e., the Solar Development area). The purpose of the impact assessment is to provide appropriate recommendations for avoidance, minimization, and mitigation measures (AMMs) pertaining to trees that have the potential to be directly, indirectly, or temporarily impacted by the Project. Impacts assessed include the following:

- Direct Impact: Direct permanent impacts refer to the permanent physical loss of a tree resources typically due to removal.

- **Indirect Impact:** Indirect impacts are reasonably foreseeable effects of Project implementation on remaining tree resources that are outside the direct disturbance zone that may occur during typical grading or maintenance activities (e.g., trimming, grading with the root protection zone), or later in time because of the Project (i.e., long-term, or operational, indirect impacts).
- **Temporary Impact:** Temporary impacts refer to a temporary tree impacts due to activities such as Project clearing and grading with a root protection zone, etc. Temporary impacts generally occur for a short period (e.g., up to approximately 1 year) and would normally be reversible (e.g., restored to pre-existing conditions).

Based on the Environmentally Preferred Site Plan, all trees (i.e., 4,787) within the Solar Development Area of the PSA have the potential to be directly, indirectly, or temporarily impacted by Project activities (i.e., through removal, limbing, work within the root protection zone, etc.). Of these, a maximum total of 4,394 are protected and would require further AMMs and consultation with the Sacramento County Tree Coordinator (see Chapter 7, Conclusion). Tree impacts assessed within the Solar Development Area of the PSA are subject to revaluation and potential updates to this Report should any components of the site or grading area be modified in a manner that changes substantially the effects described in this report.

6 Recommendations

This section provides recommendations relating to the preservation and removal or trees within the Solar Development Area. Specifically, general AMMs and best management practice (BMP) recommendations that would protect trees species during and after Project construction have been provided. In addition, removal and mitigation recommendations are provided and based on expected Project-related direct impacts to trees on the within the Solar Development Area, as detailed above in Section 5.4, Impact Assessment.

6.1 Preservation

6.1.1 Avoidance and Minimization Measures

Dudek recommends that the County include the following Avoidance and Minimization Measures as conditions of approval of the Project for trees to be avoided and preserved. These measures will primarily be implemented for any trees outside of the Solar Development Area, as well as any tree species within the Solar Development Area that are determined to not conflict with construction or operational activities:

- The Project arborist should review the final issue for construction drawings prior to submittal to Sacramento County and identify the impacts to each tree and recommend actions regarding implementation of the Avoidance and Minimization Measures below to increase the likelihood of long-term survival post-construction (CalTLC 2021).
- Identify the root protection zones on the final issue for construction drawings and show the placement of tree protection fencing pursuant to the Project arborists recommendations or Sacramento County requirements (CalTLC 2021).
- Include on the final issue for construction drawings an "arborist inspection schedule" to monitor the site during (and after) construction to ensure AMMs are followed and make recommendations for care of the trees on within the Solar Development Area, as needed (CalTLC 2021).
- Clearly designate an area on within the Project site outside the dripline of all trees where construction materials may be stored, including where parking can take place. No materials or parking shall take place within the root protection zones of protected trees (CalTLC 2021).
- All work to be performed inside the root protection zone shall have fencing (i.e., exclusion fencing) installed and supervised by the Project arborist (CalTLC 2021).
- The Project arborist shall inspect the exclusion fencing prior to grading and/or grubbing for compliance with the recommended protection areas (CalTLC 2021).
- The Project arborist shall directly supervise the clearance pruning, irrigation, fertilization, placement of mulch and chemical treatments (CalTLC 2021).
- Prior to any grading, or other work with the Project site that will come within 50 feet of any tree to be preserved, the Project arborist shall determine whether irrigation needs to be installed from April through September and/or placement of a 4 to 6-inch layer of chip mulch over the root protection zone of all trees that will be impacted. Chips can be obtained from on-site materials and trees to be removed (CalTLC 2021).
- Trenching inside the root protection zone shall be by a hydraulic or air spade, placing pipes underneath the roots, or boring deeper trenches underneath the roots (CalTLC 2021).

- No grade cuts greater than one foot shall occur within the driplines of oak trees to be preserved, and no grade cuts whatsoever shall occur within five feet of their trunks (County of Sacramento 2021).
- No fill greater than one foot shall be placed within the driplines of oak trees to be preserved and no fill whatsoever shall be placed within five feet of their trunks (County of Sacramento 2021).
- No irrigation system shall be installed within the driplines of oak tree(s) to be preserved that may be detrimental to the preservation of the oak tree(s) unless specifically authorized by the approving body or the Director of Public Works (County of Sacramento 2021).
- Clearance pruning shall include removal of all the lower foliage that may interfere with equipment prior to having grading or other equipment on site. The Project arborist shall approve the extent of foliage elevation and oversee the pruning to be performed by a contractor (CalTLC 2021). Grading beneath trees to be saved shall be given special attention. The Project arborists shall identify efforts to avoid creating conditions adverse to the tree's health. The natural ground within the driplines of protected trees shall remain undisturbed as determined by the Project arborist as necessary to increase the likelihood of survival of the protected trees. Grading within the driplines of oak trees shall not be permitted unless specifically authorized by the approving body or by the Director of Public Works (County of Sacramento 2021).
- Major roots two inches or greater in diameter encountered within the tree's dripline during excavation from beneath trees which are not to be removed shall not be cut and shall be kept moist and covered with earth as soon as possible. Roots one inch to two inches in diameter that are severed shall be trimmed and treated with pruning compound and covered with earth as soon as possible. Support roots that are inside the dripline of the tree shall be protected. The Project is required to hand-dig in the vicinity of major trees to prevent root cutting and mangling that may be caused by heavy equipment (County of Sacramento 2021). All stumps within the root protection zone to be preserved shall be ground out using a stump router or left in place. No trunk within the root protection zone of other trees shall be removed using a backhoe or other piece of grading equipment (CalTLC 2021).

6.1.2 Removal and Mitigation

It should be assumed that most trees within the Solar Development Area will be removed to accommodate Project construction and operations. The Project has the potential to directly impact (i.e., removal) and/or otherwise indirectly impact (i.e., root damage from construction equipment) oak species with greater than six inches DBH (4,394 individual trees, total of 78,028.8 diameter inches), heritage and landmark species with greater than 16 inches DBH (1,762 individual trees, total of 48,829.70 diameter inches), and oak woodlands and forest (54.61 acres contiguous canopy).

For trees that require removal, and require mitigation, the Sacramento County General Plan recommends mitigation through one of the following methods:

- An adopted habitat conservation plan.
- Ensure no net loss of canopy area through a combination of the following: (1) preserving the main, central portions of consolidated and isolated groves constituting the existing canopy, and (2) provide an area on site to mitigate any canopy lost. Native oak mitigation area must be a contiguous area on site that is equal to the size of canopy area lost and shall be adjacent to existing oak canopy to ensure opportunities for regeneration.
- Removal of native oaks shall be compensated with native oak species with a minimum of a one-to-one DBH mitigation replacement.

- A provision for a comparable on-site area for the propagation of oak trees may substitute for replacement tree planting requirements at the discretion of the Sacramento County Tree Coordinator when removal of a mature oak tree is necessary.
- If the Project site is not capable of supporting all the required replacement trees, a sum equivalent to the replacement cost of the number of trees that cannot be accommodated may be paid to the County's Tree Preservation Fund or another appropriate tree preservation fund.
- If on-site mitigation is not possible given site limitation, off-site mitigation may be considered n. Such a mitigation area must meet all the following criteria to preserve, enhance, and maintain a natural woodland/forest habitat in perpetuity preferably by transfer of title to an appropriate public entity. Protected woodland/forest habitat could be used as a suitable site for replacement tree plantings required by ordinances or other mitigations.
  - Equal or greater in area to the total area that is included within a radius of 30 feet of the dripline of all trees to be removed
  - Adjacent to protected stream corridor or other preserved natural areas
  - Supports a significant number of native broadleaf trees
  - Offers good potential for continued regeneration of an integrated woodland/forest community

For this Report, direct impact removal has been assessed for all trees within the Solar Development Area. Trees should be assessed within the Solar Development Area on a case-by-case basis prior to construction to determine if avoidance and preservation are possible.

Mitigation of tree resources can be achieved through the following methods: (1) Mitigation for individual oaks less than 18 inches in DBH would require a mitigation ratio of 1:1 per diameter inch and heritage and landmark oak species with a DBH greater than 18 inches would require a mitigation ratio of 2:1 per diameter inch; (2) Mitigation at 1:1 ratio per contiguous acre loss of oak woodland/forest canopy cover. Mitigation for tree resources can be achieved through one or a combination of approaches: (1) on-site or off-site preservation and mitigation, (2) payment into in lieu fee program (e.g., Sacramento County Tree Preservation Fund), and (3) preservation bank credit purchase. A summary of tree resource by impact and mitigation approach is detailed below in Table 11.

Table 11. Summary of Tree Resource Direct Removal Impacts and Preliminary Mitigation within the Solar Development Area

Resource	Impact	Mitigation
Oak species (*Quercus* spp.)[1]	Permanent: 4,394 individual trees, total of 78,028.8 diameter inches.	Mitigation ratio of 1:1 per inch DBH. Fulfill through preservation on site and/or mitigation/preservation bank credit purchase/pay into in lieu fee program (e.g., Sacramento County Tree Preservation Fund). Sacramento County in lieu fee is $325 per diameter inch.
Heritage and landmark oak species[2]	Permanent: 1,762 individual trees, total of 48,829.70 diameter inches.	Mitigation ratio of 2:1 per inch DBH. Fulfill through preservation on site and/or off site and/or mitigation/preservation bank credit purchase/pay into in lieu fee program (e.g., Sacramento County Tree Preservation Fund). Sacramento County in lieu fee is $325 per diameter inch.
Oak woodlands/forest[3]	Permanent: 54.61 acres	Mitigation should be equal to the size of canopy area lost and should be adjacent to existing oak canopy to ensure

Table 11. Summary of Tree Resource Direct Removal Impacts and Preliminary Mitigation within the Solar Development Area

Resource	Impact	Mitigation
	contiguous canopy lost.	opportunities for regeneration. Loss of canopy can be achieved through preservation on site and/or off site and/or mitigation/preservation bank credit purchase/pay into in lieu fee program (e.g., Sacramento County Tree Preservation Fund).
Riparian trees[4]	Permanent: 173 trees removed	Mitigation ratio of 3:1 per inch DBH. Fulfill through preservation on site and/or off site and/or mitigation/preservation bank credit purchase/pay into in lieu fee program (e.g., Sacramento County Tree Preservation Fund or other California Department of Fish and Wildlife fee program).

Sources: CalTLC 2021; Dudek 2022; EPC 2023.
Notes: DBH = Diameter at Breast Height.

1 Oak species: Trees in the genus *Quercus* that are 6 inches DBH (single tree) or 10 inches DBH (aggregate multi-trunk trees) at 4.5 feet above ground.
2 Heritage: Includes non-native species with a DBH equal or greater than 18 inches DBH (single tree) and 43 inches (aggregate multi-stem).
3 Oak woodland/forest: Woodlands and Forests with 10% or greater of contiguous oak canopy.
4 Riparian: Any tree species within an aquatic resource feature or up to 50 feet outside/upland of an aquatic resource feature.

7 Conclusion

The tree inventory and assessment conducted within the Project Solar Development Area identified a total a total of 4,787 individual trees were inventoried within the Solar Development Area (1,462 by CalTLC, 1,872 Dudek, and 1,453 by EPC) (Figure 4). A total of 11 different species were identified as part of the inventory including silver maple (*Acer saccharinum*) (1 individual inventoried), California buckeye (*Aesculus californica*) (1 individual inventoried), Fremont cottonwood (*Populus fremontii*) (6 individual inventoried), fruit tree species. (*Prunus spp*.) (3 individual inventoried), blue oak (*Quercus douglasii*) (4,554 individuals inventoried), valley oak (*Quercus lobata*) (80 individuals inventoried), interior live oak (*Quercus wislizeni*) (41 individuals inventoried), oak species (*Quercus sp*.) (24 individuals inventoried), and willow species *(Salix spp*.) (1 individual inventoried), elderberry species (*Sambucus sp*.) (5 individuals inventoried), and unknown species (69 individuals inventoried).

The Project has the potential to directly impact oak species and/or otherwise indirectly impact (i.e., root damage from construction equipment) oak species with greater than six inches DBH (147 individual trees, total of 2,984.20 diameter inches), heritage and landmark species with greater than 16 inches DBH (75 individual trees, total of 2,303.20 diameter inches), and oak woodlands and forest (2.07 acres contiguous canopy).

With the Avoidance and Minimization Measures described above, regarding direct impacts (e.g., removal, limbing, grading within root protection zone, etc.), the Project will be consistent with applicable policies of the Sacramento County General Plan. A final updated report will be submitted prior to issuance of grading permits to ensure the final site design remains in compliance with all applicable policies and standards.

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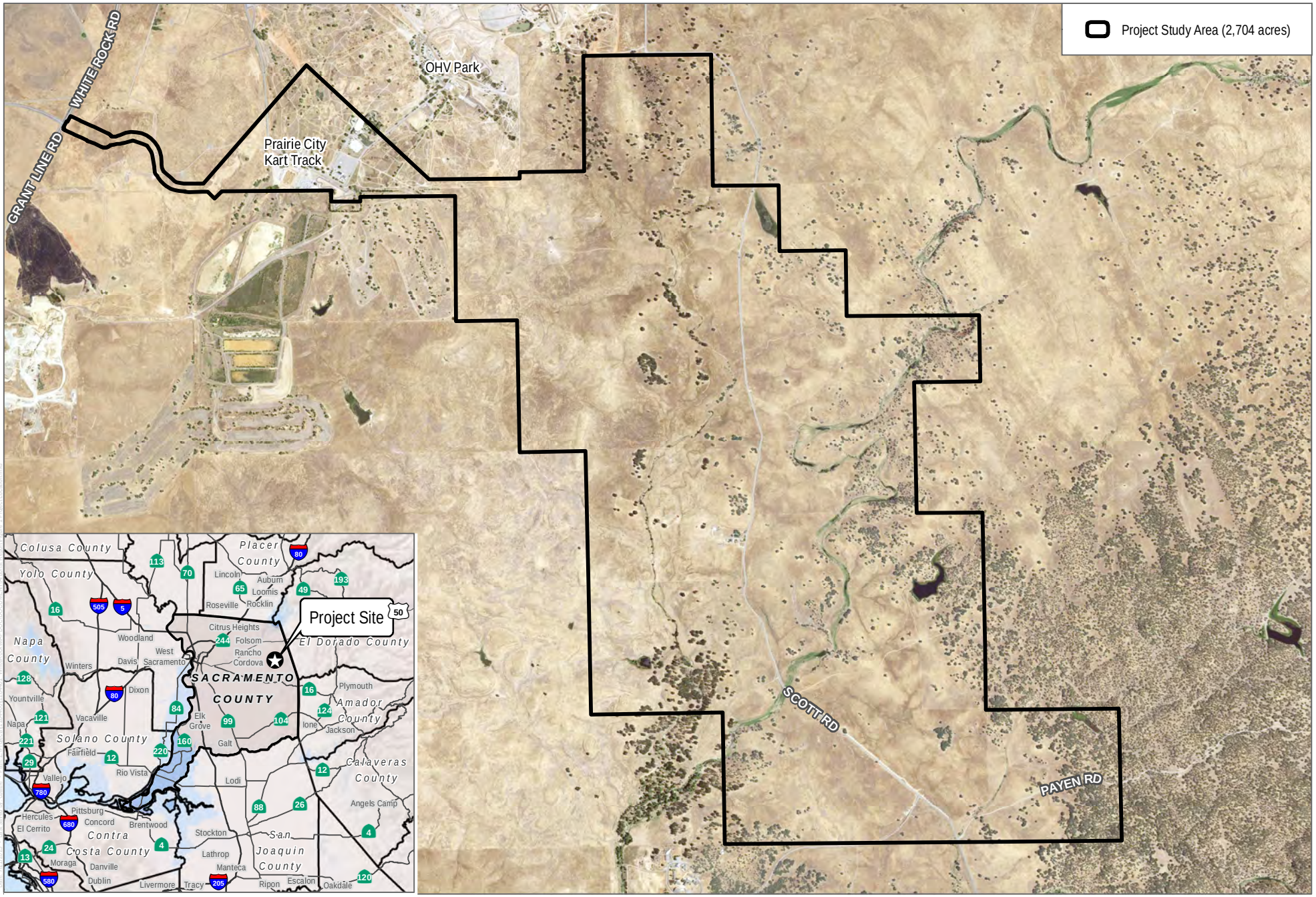

SOURCE: DigitalGlobe 2017

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0 1,000 2,000 Feet

FIGURE 1

Project Location

Arborist Report for the Coyote Creek Agrivoltaic Project

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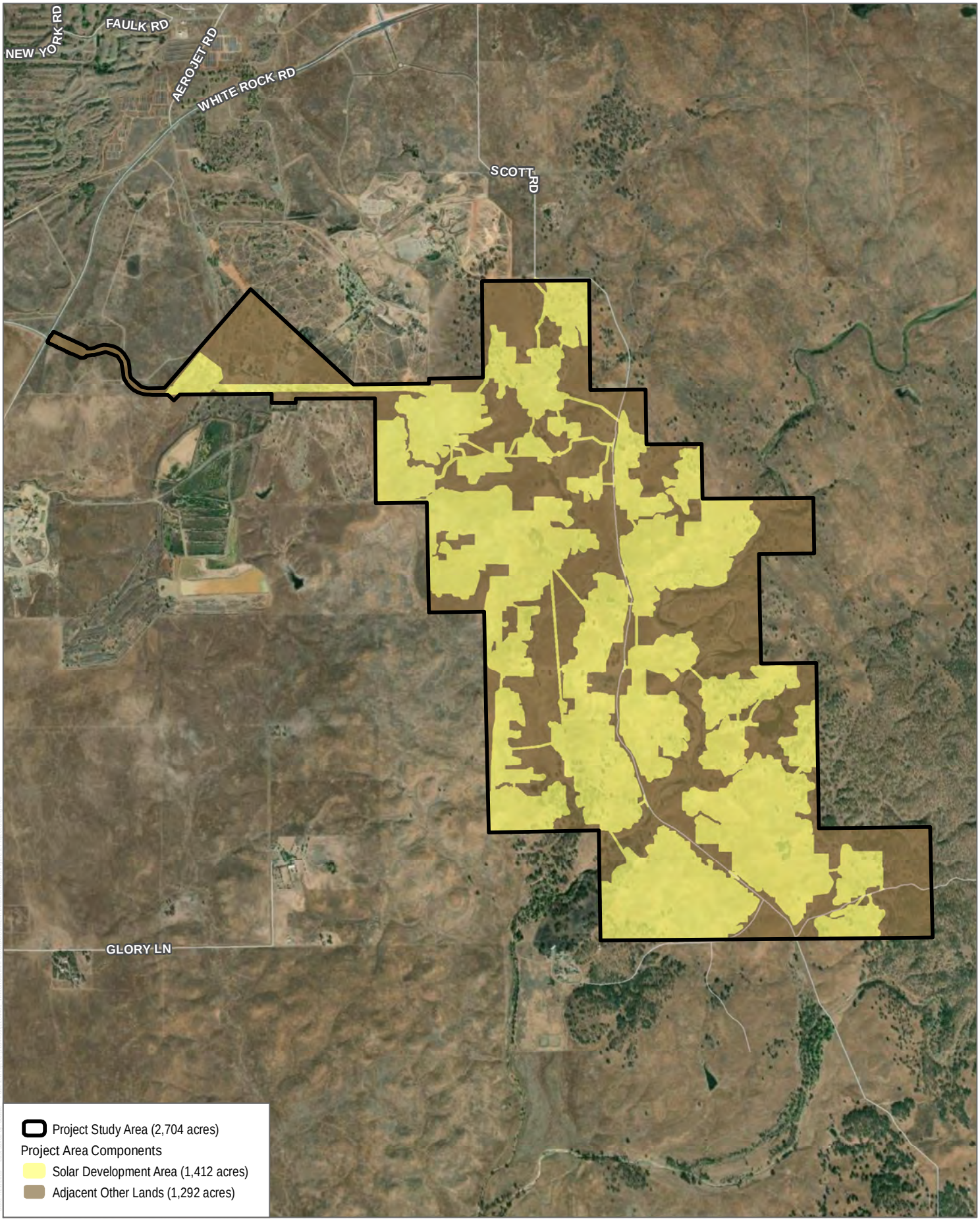

SOURCE: USGS 7.5-minute Quadrangle

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FIGURE 2

Project Setting

Arborist Report for the Coyote Creek Agrivoltaic Project

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OLD WHITE ROCK RD
WHITE ROCK RD
GRANT LINE RD
RAYMER WAY
EVANSTON WAY
CITY OF RANCHO CORDOVA
DOUGLAS RD
MACKENZIE CHER WAY
SALT POINT WAY
PLEASANT HILL LN
GLORY LN
SCOTT RD
PAYEN RD
BOYS RANCH RD

Project Study Area (2,704 acres)
City Boundary
Designated Urban Area

SOURCE: USGS 2018; Sacramento County 2023

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FIGURE 3

Designated Urban Area

Arborist Report for the Coyote Creek Agrivoltaic Project

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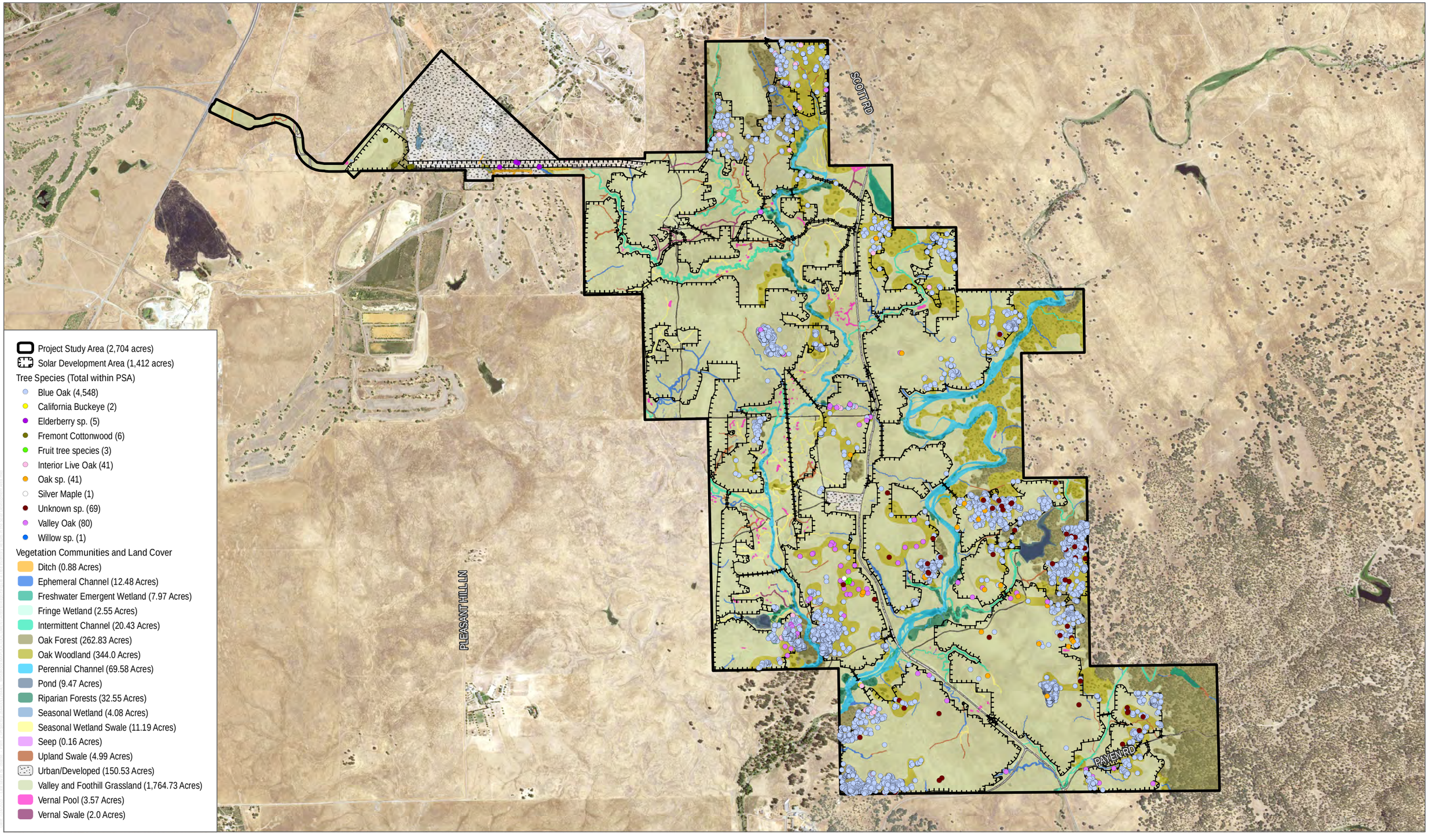

SOURCE: USGS 2018, CalTLC 2021, Dudek 2022, EPC 2023

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FIGURE 4

Tree Inventory Results in the Solar Development Area

Arborist Report for the Coyote Creek Agrivoltaic Project

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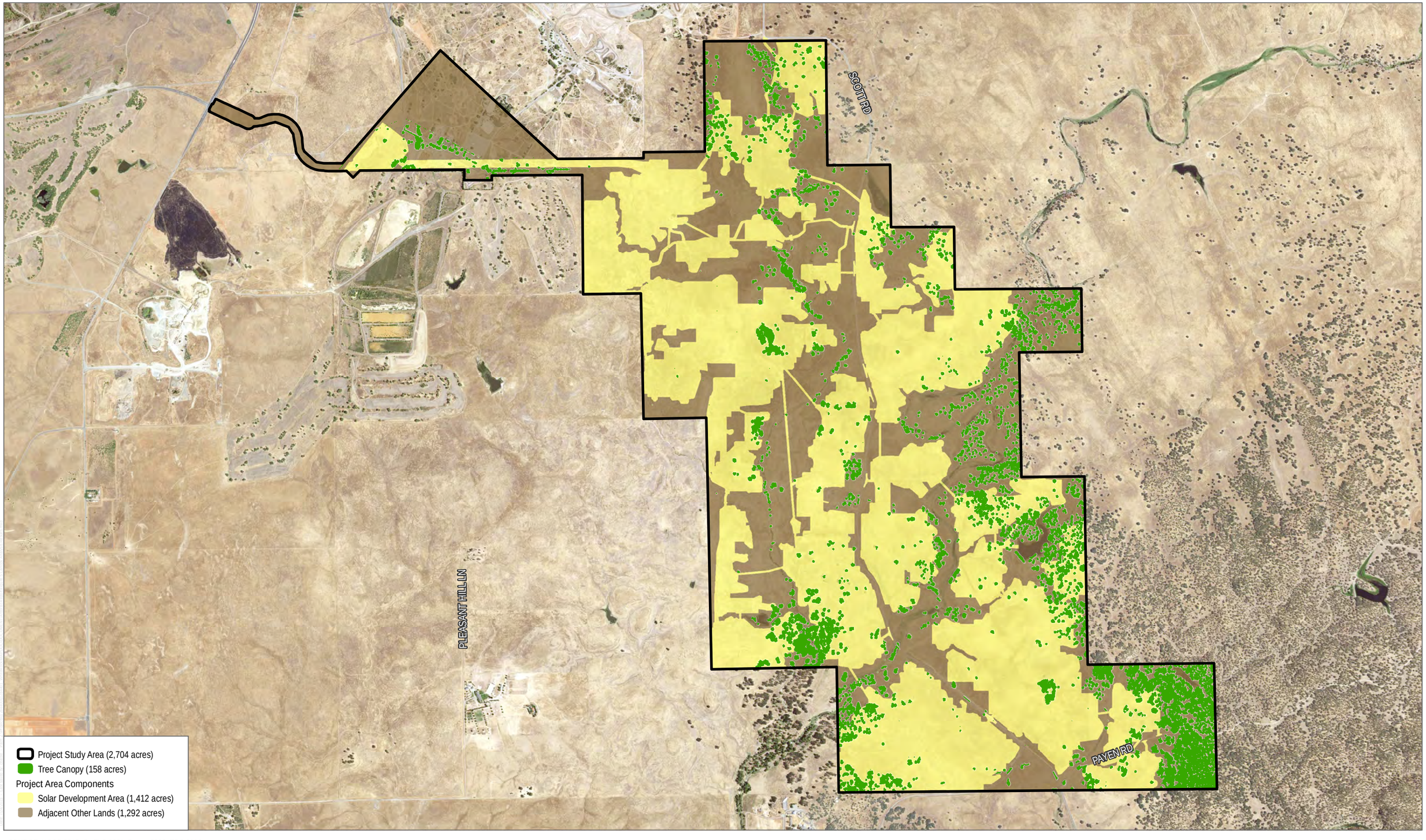

SOURCE: USGS 2018, CalTLC 2021, Dudek 2022, EPC 2023

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FIGURE 5

Canopy Analysis Results

Arborist Report for the Coyote Creek Agrivoltaic Project

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Appendix A

Tree Resources within the Adjacent Other Lands of the Project Study Area

A.1 Introduction and Purpose

This Appendix A-Tree Resources within Adjacent Other Lands of the Project Study Area (Appendix) was compiled as part of the Arborist Report (Report) prepared by Dudek on behalf of Sacramento Valley Energy Center, LLC for the Coyote Creek Agrivoltaic Project (Project). The purpose of this Appendix is to provide results pertaining to the known tree resources with the Adjacent Other Lands of the Project Study Area (PSA).

Specifically, this Appendix provides a summary of the inventory and assessment for tree resources within the Adjacent Other Lands of the Project Study Area (PSA), including geographical location, tree size, species, and tree health assessments. In addition, this Appendix incorporates the results of the *Summary Report* conducted within portions of the PSA by EnviroPlus Consulting, Inc (EPC; EPC 2023).The details provided in this Appendix herein are intended to not only provide context regarding the remaining trees within the Adjacent Other Lands of the PSA (i.e., the trees outside of the Solar Development Area), but to also provide a baseline for known tree resources that can be used for potential on-site mitigation. Tree resources evaluated within this Appendix for the Adjacent Other Lands are subject to revaluation and potential updates to this Report should any components of the site or grading area be modified.

A.2 Regulatory Framework

As outlined in Section 3, Regulatory Framework, of the Report, the following tree protection regulations apply to the Adjacent Other Lands within the PSA:

- CEQA Guidelines (AEP 2022).
- OWCA, California FGC Section 1360 through 1372 (WCB 2001).
- Sacramento County General Plan (County of Sacramento 2017).
- Sacramento County Tree Preservation Ordinance (County of Sacramento 2021).

Specifically, under these regulatory policies, protected trees and tree resources within the Adjacent Other Lands of the PSA would include the following:

- Oak species measuring a minimum of 6 inches DBH (single tree) or 10 inches DBH (aggregate multi-trunk trees) at 4.5 feet above ground.
- Oak woodlands/savannah with greater than 10% canopy.
- Heritage and landmark trees, including non-native species with a DBH equal or greater than 18 inches DBH (single tree) and 43 inches (aggregate multi-stem).
- Tree resources along riparian areas, including non-native tree species.

A.3 Methods

As described in Section 4, Methods, of the Report, the following was completed in the Adjacent Other Lands to inventory tree resources including: 1) field inventory, 2) data collection, and 3) canopy analysis.

A.4 Results

The tree inventory and canopy cover results for the Adjacent Other Lands is summarized below. Visual and graphical representations of the trees and canopy within the Adjacent Other Lands can also be referenced in Figure A.1, Tree Inventory Results in the Adjacent Other Lands. The results for the individual tree inventory within the Adjacent Other Lands compiles the findings collected by EPC. A summary of tree inventory results has been provided below in Table A.1, Table A.1. Summary of Arborist Inventory within the Adjacent Other Lands of the Project Study Area.

Tree Totals

During the field inventory, a total of 2,688 individual trees were inventoried within the Adjacent Other Lands by EPC (Figure 3). A total of 15 different species were identified as part of the inventory including California buckeye (Aesculus californica; 19 individuals), toyon (*Heteromeles arbutifolia*; 5 individuals), black walnut (*Juglans sp*.; 1 individual), Coulter pine (*Pinus coulteri*; 14 individuals), Chinese pistache (*Pistacia chinensis*; 4 individuals), California sycamore (*Platanus racemosa*; 6 individuals), Fremont cottonwood (*Populus fremontii*; 71 individuals), blue oak (*Quercus douglasii*, 2,280 individuals), valley oak (*Quercus lobata*; 88 individual), oak species (*Quercus sp*.; 7 individuals), interior live oak (*Quercus wislizeni*; 61 individuals), Pacific willow (*Salix lasiandra*; 1 individual), willow species (*Salix spp*.; 66 individuals), elderberry species (*Sambucus sp*.; 62 individuals), and various other unknown species (3 individuals).

Arborist and Structural Rating

The combined arborist and structural ratings of each tree provides a subjective overview of overall tree viability. The dominant species inventoried within the Adjacent Other Lands, blue oak, exhibited an average arborist rating of 2.7 (fair), and an average structural rating of 1.4 (poor). For all tree species inventoried within the Adjacent Other Lands, a range of ratings was recorded, with an overall average arborist rating of 2.7 (fair), and an overall average structural rating of 1.3 (poor).

Diameter at Breast Height (DBH)

For oak species inventoried within the Adjacent Other Lands, the following DBH averages were calculated: 15.7 inches for blue oak, 31.8 inches for valley oak, and 19.8 inches for interior live oak.

Canopy Width

For oak species inventoried within the Adjacent Other Lands, the following canopy width averages were calculated: 5.3 feet for blue oak, 7.6 feet for valley oak, and 13.1 feet for interior live oak.

Table A.1. Summary of Arborist Inventory within the Adjacent Other Lands of the Project Study Area

Scientific Name	Common Name	Nativity	Total Trees Inventoried	Average Arborist Rating	Average Structural Rating	Min. DBH (inches)	Max. DBH (inches)	Average DBH (inches)	Min. Canopy Width (feet)	Max. Canopy Width (feet)	Average Canopy Width (feet)
Aesculus californica	California buckeye	Native	19	3.0	1.9	8.0	30.0	14.4	0	0	0
Heteromeles arbutifolia	toyon	Native	5	1.4	0	4.0	6.0	5.0	7.0	9.0	7.6
Juglans sp.	black walnut	Native	1	3.0	0	14.0	14.0	14.0	12.0	12.0	12.0
Pinus coulteri	Coulter pine	Native	14	2.4	0	5.0	17.4	11.4	0	16.0	10.7
Pistacia chinensis	Chinese pistache	Non-native	4	3.0	0	6.0	15.0	12.3	9.0	15.0	13.5
Platanus racemosa	California sycamore	Native	6	3.5	0	6.0	8.0	6.7	6.0	12.0	8.5
Populus fremontii	Fremont cottonwood	Native	71	2.6	0.2	0	50.0	13.8	0	30.0	12.8
Quercus douglasii	blue oak	Native	2,280	2.7	1.4	0	56.0	15.7	0	55.0	5.3
Quercus lobata	valley oak	Native	88	2.7	1.3	0	83.0	31.8	0	50.0	7.6
Quercus sp.	oak species	Native	7	2.0	1.0	21.0	46.5	31.6	0	48.0	6.9
Quercus wislizeni	interior live oak	Native	61	2.3	0.5	0	66.0	19.8	0	70.0	13.1
Salix lasiandra	Pacific willow	Native	1	1.0	0	0	0	0	15.0	15.0	15.0
Salix spp.	willow species	Native	66	2.4	1.3	0	259.0	25.8	0	30.0	6.4
Sambucus sp.	elderberry species	Native	62	5.0	0	0	0	0	0	0	0
unknown sp.	unknown species	Unknown	3	0	0.3	0	23.0	11.7	0	0	0
	Totals / Averages		**2,688**	**2.7**[1]	**1.3**[2]	**4.3**[3]	**44.9**[3]	**16.1**[3]	**3.3**[4]	**24.1**[4]	**5.6**[4]

Sources: CalTLC 2021; Dudek 2022, EPC 2023

Notes:
DBH= diameter at breast height.
Arborist Rating: 5– Excellent, No problems; 4– Good, No apparent problems; 3– Fair, Minor problems; 2– Fair to Poor, Major problems; 1– Poor, Extreme problems; 0– Dead.
Structural Rating: 3– Good; 2– Fair; 1– Poor; 0– Dead

1 A total of 2,500 trees were used to quantify the average arborist rating. The average arborist rating excludes a total of 188 trees where an arborist rating was not record.
2 A total of 1,479 trees were used to quantify the average structural rating. The average structural rating excludes a total of 1,209 trees where a structural rating was not record.
3 A total of 2,559 trees were used to quantify DBH values. The DBH values exclude a total of 129 trees where a DBH was not record.
4 A total of 914 trees were used to quantify canopy values. The canopy values exclude a total of 1,774 trees where a canopy was not record in the field.

Canopy Cover

The total contiguous canopy cover of oak woodlands within the Adjacent Other Lands is 102.53 acres. Within this 102.53 acres, the oak woodlands within the Adjacent Other Lands have a total coverage class ranging from 10 to 20%. The denser oak forest within the Adjacent Other Lands has a total coverage class ranging from 20 to 50% plus (CDFW 2019).

A.5 Conclusion

Tree resources within the Adjacent Other Lands will not be impacted by Project activities. Additionally, tree resources within the Adjacent Other Lands meet the criteria of being protected as an oak species, heritage/landmark species, riparian tree species, or oaks within contiguous oak woodlands. As such, trees within the Adjacent Other Lands can preliminarily be considered to support on-site preservation and/or mitigation requirements for impacts that may occur from the Project. Details pertaining to the protected tree resources in the Adjacent Other Lands is detailed below.

Tree Protection

Within the Adjacent Other Lands, of the 2,688 trees inventoried, a maximum total of 2,274 trees meets the protection criteria as bulleted above in Section A.2, Regulatory Framework. This specifically includes the following:

- A total of 2,274 (84.5%) oak species within the Adjacent Other Lands have a DBH of 6 inches or greater, therefore meeting the criteria of protected oak species.
- Approximately 102.53 acres of oak woodland and forest within the Adjacent Other Lands have a canopy equal or greater than 10%, meeting the criteria of protected oak woodlands/forest.
- A total of 962 (35.8%) trees inventoried within the Adjacent Other Lands have a DBH of 18 inches or greater, therefore meeting the criteria as landmark and or heritage tree species.
- A total of 486 (18.1%) trees are located within and aquatic resource feature or are within up to 50 feet outside of the aquatic resources, therefore meeting the criteria of a riparian tree.

A.6 References

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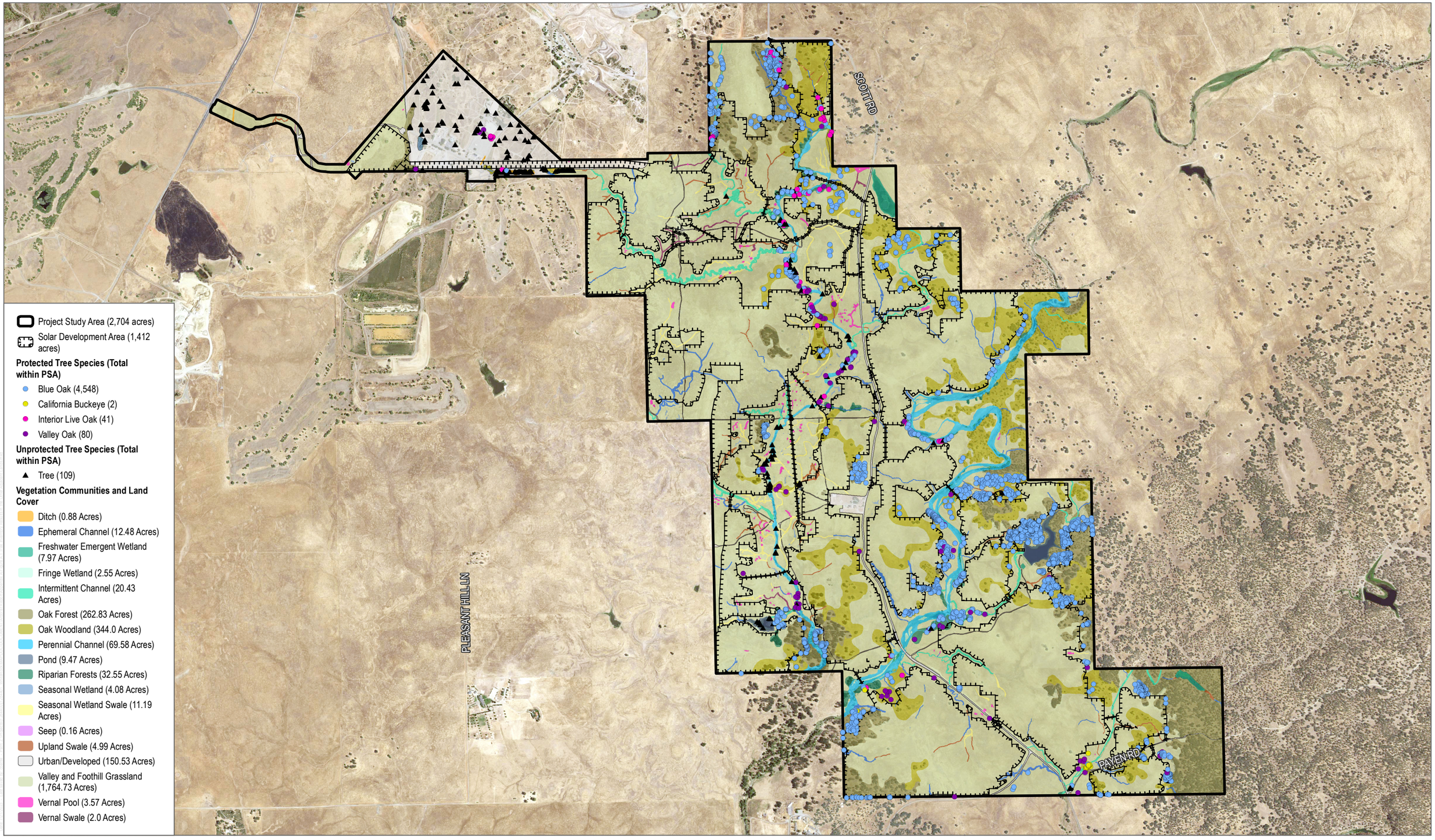

SOURCE: USGS 2018; CalTLC 2021

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FIGURE A.1

Tree Inventory Results in the Solar Development Area

Arborist Report for the Coyote Creek Agrivoltaic Project

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Appendix B-1

CalTLC Preliminary Arborist Report and Tree Inventory

California Tree and Landscape Consulting, Inc.

October 14, 2021

Daniel Menahem
D.E. Shaw Renewable Investments
1166 Avenue of the Americas, 9th Floor
New York, NY 10036
Via Email: Daniel.Menahen@deshaw.com

PRELIMINARY ARBORIST REPORT & TREE INVENTORY

RE: Coyote Creek Agrivoltaic Ranch, County of Sacramento Jurisdiction, California

Executive Summary

Bona Terra contacted California Tree and Landscape Consulting, Inc. with a request to prepare an inventory and evaluate the trees on the site for the purposes of providing preliminary tree information for planning for development of the parcel. In addition, trees located off the parcel are included if they would be impacted by the proposed development of the property. The property is subject to the jurisdiction of Sacramento County. See Supporting Information Appendix 1 – Tree Location Map.

R. Cory Kinley (ISA Certified Arborist #WE-9717A), Tyler Thomson (ISA Certified Arborist #WE-12751A) and Dave Mercado (ISA Certified Arborist #WE-7311A), visited the property at various times from April 6 to June 1, 2021, and again on July 26 to August 3, 2021. A total of 2540 + 44 trees were included in the inventory, of which 2245 trees are protected by the Sacramento County Tree Preservation Ordinance 19.12, however, the other trees still require permitting for removal[2]. Five trees are located off the parcel but were included in the inventory because they may be impacted by development of the parcel. See Appendices for specific information on each tree. In addition to the tree inventory, we were tasked with calculating the oak canopy coverage on the property. See appendices for the canopy summary. The final task requested was to identify, quantify and calculate the tree removal impacts based on the site plan provided. This information may also be found in the appendices.

Tree Species	Trees Inventoried	Trees on the Site[1]	Protected by Sacramento County Tree Preservation, 19.12[2]	Trees Proposed for Removal	Trees impacted by the proposed development and requiring special protection measures and/or mitigation[3]
Protected (by species):					
Valley Oak, *Quercus lobata*	65	63	63	35	TBD
Interior Live Oak, *Quercus wislizenii*	65	65	65	18	TBD
Blue Oak, *Quercus douglasii*	2082	2,082	2,020	738	TBD
California Sycamore, *Platanus racemosa*	6	6	6	0	TBD
California Buckeye, *Aesculus californica*	1	1	1	0	TBD

[1] CalTLC, Inc. is not a licensed land surveyor. Tree locations are approximate and we do not determine tree ownership. Trees which appear to be on another parcel are listed as off-site and treated as the property of that parcel. No evaluation of easement locations, such as required for street tree status, was conducted.

[2] Tree preservation pursuant to the zoning code at Sacramento County includes alternate protection standards for non-native species, mitigation trees previously planted, and commercial and/or multifamily residential landscapes. Trees not indicated within this report as 'protected' by the native oak tree preservation ordinance will still require permitting for removal and replacement. Old orchards and the fruit production trees are generally do not require any mitigation for removal.

[3] Trees in close proximity to development may require special protection measures. See Appendix/Recommendations for specific details.

Tree Species	Trees Inventoried	Trees on the Site[1]	Protected by Sacramento County Tree Preservation, 19.12[2]	Trees Proposed for Removal	Trees impacted by the proposed development and requiring special protection measures and/or mitigation[3]
Non-Protected (by species): Black Walnut, Chinese Pistache, Coulter Pine, Eastern Redbud, Elderberry, Fremont Cottonwood, Fruit, London Plane, Pacific Willow, Raywood Ash, Toyon and Willow	77	77	0	**52**	TBD
Totals	**2296**	**2,296**	**2149**	**798**	**TBD**

The proposed project will remove 798 protected trees with 17491 diameter inches to replace. The tree removals were identified by reviewing the proposed improvements with the tree locations and data on the site plan. Trees directly within the footprint of any of the improvements were considered removals. Trees with less than 35% encroachment by the maintenance roads are identified as encroachment trees.
Canopy calculations were performed in ESRI ARCGIS and quantify the entire(gross) oak canopy on the site, the trees identified as removals and the remaining oak canopy.

OAK CANOPY COVERAGE SUMMARY			
	Gross Oak Canopy Coverage	**Oak Canopy Proposed for Removal**	**Net Retained Oak Canopy**
Inventoried Trees	47 Acres	19 Acres	28 Acres
Remaining Trees	65 Acres	0	65
Total Acres	112	19	93

The gross oak canopy coverage for the 2500+ acre site is 112 acres, and the net removal is 19 acres or 17% of the oak canopy on the site. Leaving 93 acres of oak canopy on the site.

Methods

Appendix 2 – Tree Data in this report is the detailed inventory and recommendations for the trees. The following terms and Table A – Ratings Description will further explain our findings.

The protected trees evaluated as part of this report have a numbered tag that was placed on each one that is 1-1/8" x 1-3/8", green anodized aluminum, "acorn" shaped, and labeled: CalTLC, Auburn, CA with ¼" pre-stamped tree number and Tree Tag. They are attached with a natural-colored aluminum 10d nail, installed at approximately 6 feet above ground level on the approximate north side of the tree. The tag should last ~10-20+ years depending on the species, before it is enveloped by the trees' normal growth cycle.

A Level 2 – Basic Visual Assessment was performed in accordance with the International Society of Arboriculture's best management practices. This assessment level is limited to the observation of conditions and defects which are readily visible. Additional limiting factors, such as blackberries, poison oak, and/or debris piled at the base of a tree can inhibit the visual assessment.

Tree Location: The GPS location of each tree was collected using the ESRI's ArcGIS collector application on an Apple iPhone or Samsung. The data was then processed in ESRI's ArcMap by Julie McNamara, M.S. GISci, to produce the tree location map.

Tree Measurements: DBH (diameter breast high) is normally measured at 4'6" (above the average ground height for "Urban Forestry"), but if that varies then the location where it is measured is noted. A steel diameter tape was used to

measure the diameter. A Stanley laser distance meter was used to measure distances. Canopy radius measurements may also have been estimated due to obstructions, such as steep slopes, fences, or other trees.

Terms

Field Tag #	The pre-stamped tree number on the tag which is installed at approximately 6 feet above ground level on the north side of the tree.
Old Tag #	If additional field tags are found on the trees and are legible, they are listed here.
Species	The species of a tree is listed by our local and correct common name and botanical name by genus (capitalized) and species (lower case). Oaks frequently cross-pollinate and hybridize, but the identification is towards the strongest characteristics.
DBH	Diameter breast high' is normally measured at 4'6" (above the average ground height for "Urban Forestry"), but if that varies then the location where it is measured is noted in the next column "measured at"
Measured at	Height above average ground level where the measurement of DBH was taken.
Canopy radius and Protection Area	The farthest extent of the crown composed of leaves and small twigs. Most trees are not evenly balanced. This measurement represents the longest extension from the trunk to the outer canopy. The dripline measurement is from the center point of the tree and is shown on the Tree Location Map as a circle. This measurement further defines the protection zone and can indicate if pruning may be required for development. Sacramento County specifies this measurement as the required 'Protected Root Zone.'
Critical Root Zone	The radius of the critical root zone is a circle equal to the trunk diameter inches converted to feet and factored by tree age, condition and health pursuant to the industry standard. Best Management Practices: Managing Trees During Construction, the companion publication to the Approved American National Standard, provides guidance regarding minimum tree root protection zones for long term survival. In instances where a tree is multi-stemmed the protected root zone is equal to the extrapolated diameter (sum of the area of each stem converted to a single stem) factored by tree age, condition and health.
Arborist Rating	Subjective to condition and is based on both the health and structure of the tree. All of the trees were rated for condition, per the recognized national standard as set up by the Council of Tree and Landscape Appraisers and the International Society of Arboriculture (ISA) on a numeric scale of 5 (being the highest) to 0 (the worst condition, dead) as in Chart A. The rating was done in the field at the time of the measuring and inspection.

Table A – Ratings Description

Arborist Ratings			Sacramento County Ratings
No problem(s)	Excellent	**5**	Excellent
No apparent problem(s)	Good	**4**	Good
Minor problem(s)	Fair	**3**	Fair
Major problem(s)	Fair to Poor	**2**	Declining
Extreme problem(s)	Poor	**1**	Severe Decline
Dead	Dead	**0**	Dead

Rating #0: This indicates a tree that has no significant sign of life.
Rating #1: The problems are extreme. This rating is assigned to a tree that has structural and/or health problems that no amount of work or effort can change. The issues may or may not be considered a dangerous situation.
Rating #2: The tree has major problems. If the option is taken to preserve the tree, its condition could be improved with correct arboricultural work including, but not limited to: pruning, cabling, bracing, bolting, guying, spraying, mistletoe removal, vertical mulching, fertilization, etc.

If the recommended actions are completed correctly, hazard can be reduced and the rating can be elevated to a 3. If no action is taken the tree is considered a liability and should be removed.
Rating #3: The tree is in fair condition. There are some minor structural or health problems that pose no immediate danger. When the recommended actions in an arborist report are completed correctly the defect(s) can be minimized or eliminated.
Rating #4: The tree is in good condition and there are no apparent problems that a Certified Arborist can see from a visual ground inspection. If potential structural or health problems are tended to at this stage future hazard can be reduced and more serious health problems can be averted.
Rating #5: No problems found from a visual ground inspection. Structurally, these trees have properly spaced branches and near perfect characteristics for the species. Highly rated trees are not common in natural or developed landscapes. No tree is ever perfect especially with the unpredictability of nature, but with this highest rating, the condition should be considered excellent.

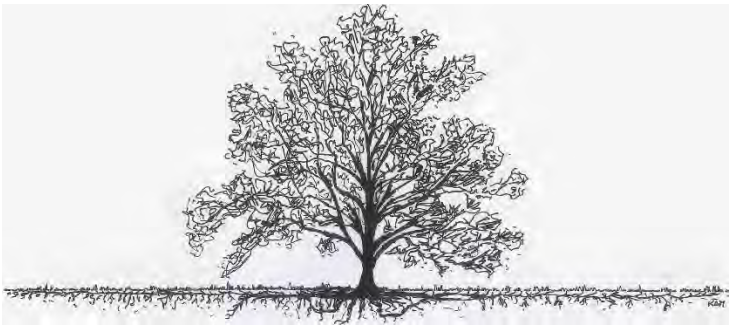
Notes: Provide notable details about each tree which are factors considered in the determination of the tree rating including: (a) condition of root crown and/or roots; (b) condition of trunk; (c) condition of limbs and structure; (d) growth history and twig condition; (e) leaf appearance; and (f) dripline environment. Notes also indicate if the standard tree evaluation procedure was not followed (for example - why DBH may have been measured at a location other than the standard 54"). Additionally, notes will list any evaluation limiting factors such as debris at the base of a tree.

Discussion

Trees need to be protected from normal construction practices if they are to remain healthy and viable on the site. Our recommendations are based on experience and the County ordinance requirements to enhance tree longevity. This requires their root zones remain intact and viable despite the use of heavy equipment to install foundations, driveways, underground utilities, and landscape irrigation systems. Simply walking and driving on soil can have serious consequences for tree health. Tree Protection measures should be incorporated into the site plans in order to protect the trees.

Root Structure

The majority of a tree's roots are contained in a radius from the main trunk outward approximately two to three times the canopy of the tree. These roots are located in the top 6" to 3' of soil. It is a common misconception that a tree underground resembles the canopy. The correct root structure of a tree is in the drawing below. All plants' roots need both water and air for survival. Poor canopy development or canopy decline in mature trees after development is often the result of inadequate root space and/or soil compaction.



The reality of where roots are generally located

Pruning Mature Trees for Risk Reduction and/or Development Clearance

There are few good reasons to prune mature trees. Removal of deadwood, directional pruning, removal of decayed or damaged wood, and end-weight reduction as a method of mitigation for structural faults are the only reasons a mature tree should be pruned. Live wood over 3" should not be pruned unless absolutely necessary. Pruning cuts should be clean and correctly placed. Pruning should be done in accordance with the American National Standards Institute (ANSI) A300 standards.

Pruning causes an open wound in the tree. Trees do not "heal" they compartmentalize. It is far better to use more small cuts than a few large cuts as small pruning wounds reduce risk while large wounds increase risk. Any wound made today will always remain, but a healthy tree, in the absence of decay in the wound, will 'cover it' with callus tissue. Large, old pruning wounds which did not close with callous tissue often have advanced decay. These wounds are a likely failure point. Mature trees with large wounds have a high risk of failure.

Overweight limbs are a common structural fault in suppressed trees. There are two remedial actions for over- weight limbs (1) prune the limb to reduce the extension of the canopy, or (2) cable the limb to reduce movement. Cables do not hold weight they only stabilize the limb and additionally require annual inspection.

Arborist Classifications

There are different types of Arborists:

Tree Removal and/or Pruning Companies: These companies may be licensed by the State of California to do business as a tree removal company, but they do not necessarily know anything about trees biology.

Arborists: Arborist is a broad term intended to mean someone with specialized knowledge of trees, but it is often used to imply knowledge that is not there.

ISA Certified Arborist: An International Society of Arboriculture Certified Arborist is someone who has trained, met the qualifications for application, and been tested to have specialized knowledge of trees. You can look up certified arborists at the International Society of Arboriculture website: isa-arbor.org.

Consulting Arborist: An American Society of Consulting Arborists Registered Consulting Arborist is someone who has been trained and then tested to have specialized knowledge of trees; and trained and tested to provide high quality reports and documentation. You can look up registered consulting arborists at the American Society of Consulting Arborists website: ASCA-consultants.org.

RECOMMENDATIONS: Summary of Tree Protection Measures

The Owner and/or Developer should ensure the project arborist's protection measures are incorporated into the site plans and followed. Tree specific protection measures can be found in Appendix 2 – Tree Data.

- Identify the Root Protection Zones on the final construction drawings and show the placement of tree protection fencing pursuant to the arborist's recommendation or county requirements.
- The project arborist should review the final construction drawings prior to submittal and identify the impacts to each tree and recommend actions to increase the likelihood of long-term survival post construction.
- The project arborist should inspect the fencing prior to grading and/or grubbing for compliance with the recommended protection zones.
- The project arborist should directly supervise the clearance pruning, irrigation, fertilization, placement of mulch and chemical treatments.
- All stumps within the root zone of trees to be preserved shall be ground out using a stump router or left in place. No trunk within the root zone of other trees shall be removed using a backhoe or other piece of grading equipment.
- Prior to any grading, or other work on the site that will come within 50' of any tree to be preserved, irrigation will be required from April through September and placement of a 4-6" layer of chip mulch over the protected

root zone of all trees that will be impacted. Chips should be obtained from onsite materials and trees to be removed.

- Clearance pruning should include removal of all the lower foliage that may interfere with equipment PRIOR to having grading or other equipment on site. The Project Arborist should approve the extent of foliage elevation and oversee the pruning to be performed by a contractor who is an ISA Certified Arborist.
- Clearly designate an area on the site outside the drip line of all trees where construction materials may be stored, and parking can take place. No materials or parking shall take place within the root zones of protected trees.
- Any and all work to be performed inside the protected root zone fencing shall be supervised by the project arborist.
- Trenching inside the protected root zone shall be by a hydraulic or air spade, placing pipes underneath the roots, or boring deeper trenches underneath the roots.
- Include on the plans an Arborist inspection schedule to monitor the site during (and after) construction to ensure protection measures are followed and make recommendations for care of the trees on site, as needed.
- Follow the General Development Guidelines, Appendix 3, for all trees to be preserved on and off the site, unless otherwise indicated in the individual tree recommendations, Appendix 2.

Report Prepared by:

Edwin E. Stirtz, Consulting Arborist
International Society of Arboriculture
Certified Arborist WE-0510A
ISA Tree Risk Assessment Qualified
Member, American Society of Consulting Arborists

cc: Jim Gillum (jim@gillumconsulting.com)

Attachments

Appendix 1 – Tree Location Maps
Appendix 2 – Tree Data
Appendix 3 – General Development Guidelines

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International Society of Arboriculture. (2015). *Glossary of Arboricultural Terms.* Champaign: International Society of Arboriculture.
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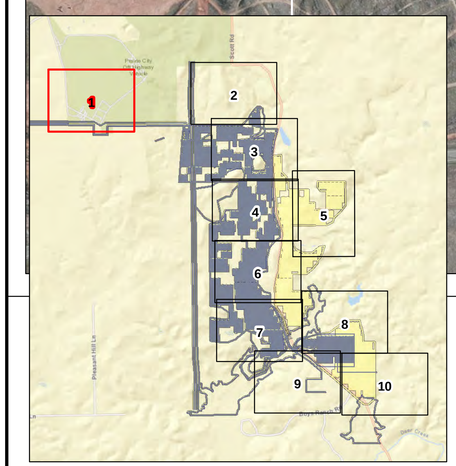
Urban, J. (2008). *Up by the Roots.* Champaign: International Society of Arboriculture.

APPENDIX 1 – TREE LOCATION MAPS



TREE INVENTORY MAP

>Tree locations are approximate and were collected using ISO apple products.
>Property line information was downloaded from Sacramento County on 04/01/2020.
>Development plans provided by DE Shaw & Co dated 06/07/2017.

Property Line
Measured Tree Canopy

Arborist Rating

- 0 Dead
- 1 Extreme Structure or Health Problems
- 2 Major Structure or Health Problems
- 3 Fair - Minor Problems
- 4 Good - No Apparent Problems
- 5 Excellent

California Tree & Landscape Consulting, Inc.

1243 High Street
Auburn, CA 95603

TREE PROTECTION GENERAL REQUIREMENTS

1. The project arborist for this project is California Tree & Landscape Consulting. The primary contact information is Nicole Harrison (530) 305-0165. The project arborist may continue to provide expertise and make additional recommendations during the construction process if and when additional impacts occur or tree response is poor. Monitoring and construction oversight by the project arborist is recommended for all projects and required when a final letter of assessment is required by the jurisdiction.
2. The project arborist should inspect the exclusionary root protection fencing installed by the contractors prior to any grading and/or grubbing for compliance with the recommended protection zones. Additionally, the project arborist shall inspect the fencing at the onset of each phase of construction. The root protection zone for trees is specified as the 'canopy radius' in Appendix 2 in the arborist report unless otherwise specified by the arborist. Note 'dripline' is not an acceptable location for installation of tree protection fencing.
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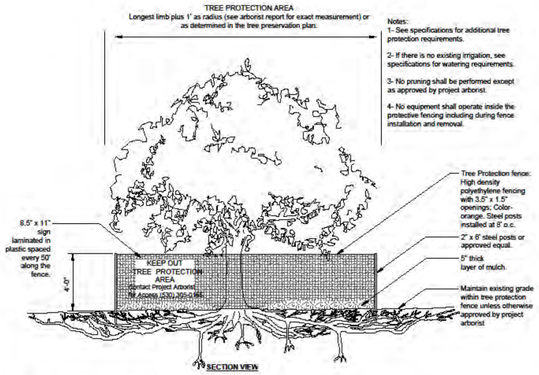

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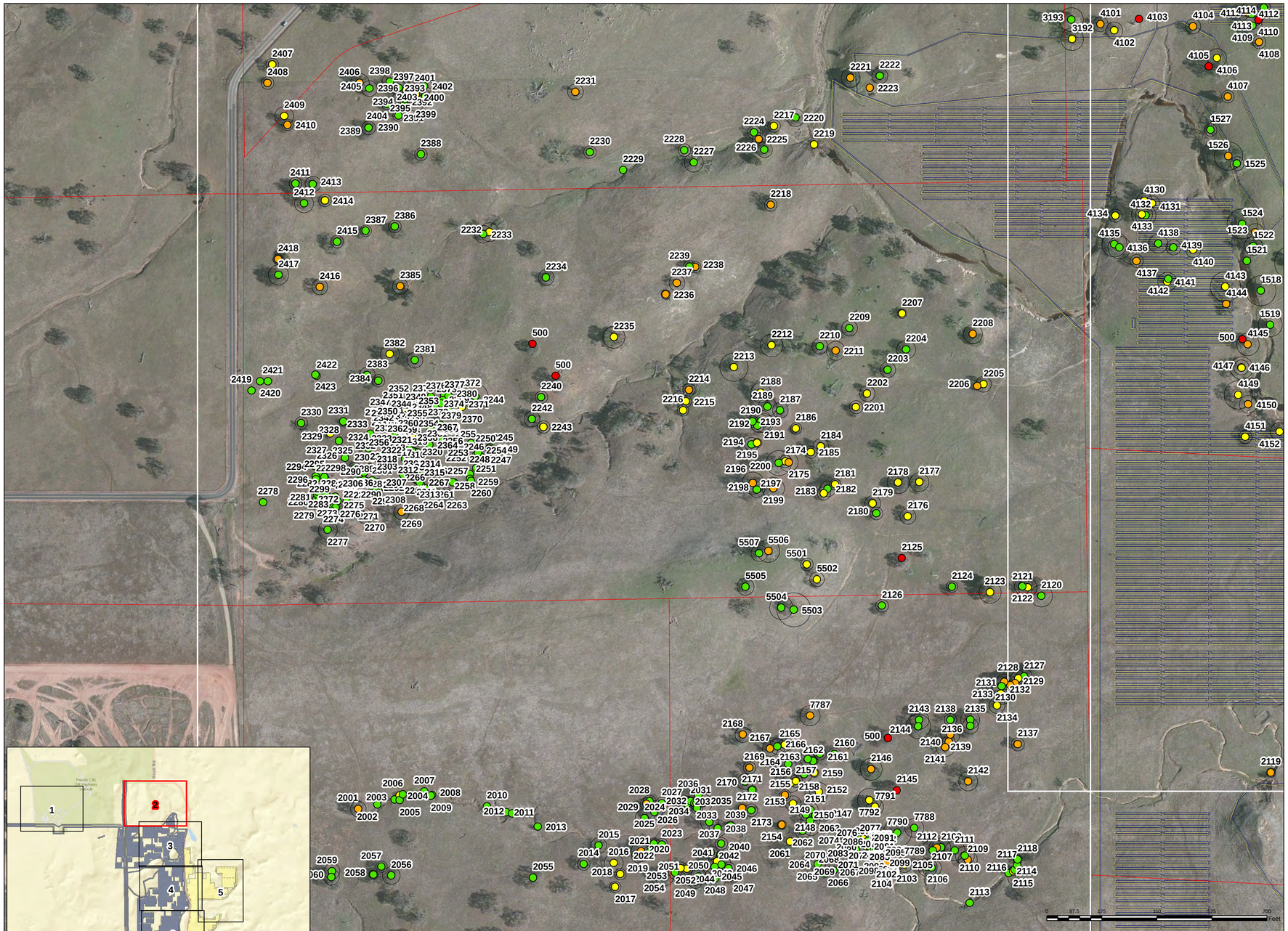
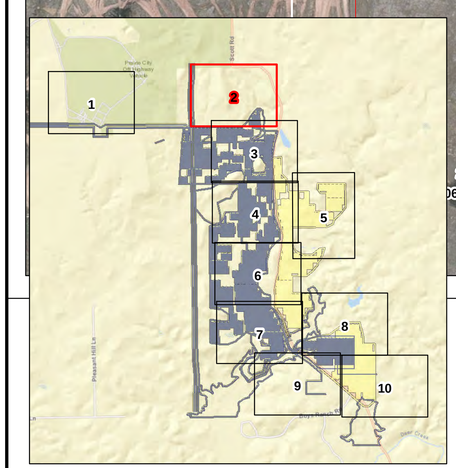
	Rancho Cordova, Sacramento County, CA
Sheet No. TPP 1.0	**Photovoltaic Site Plan**
	Date: 8/14/2021





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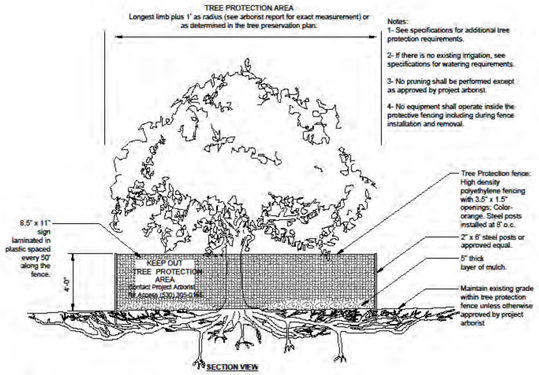

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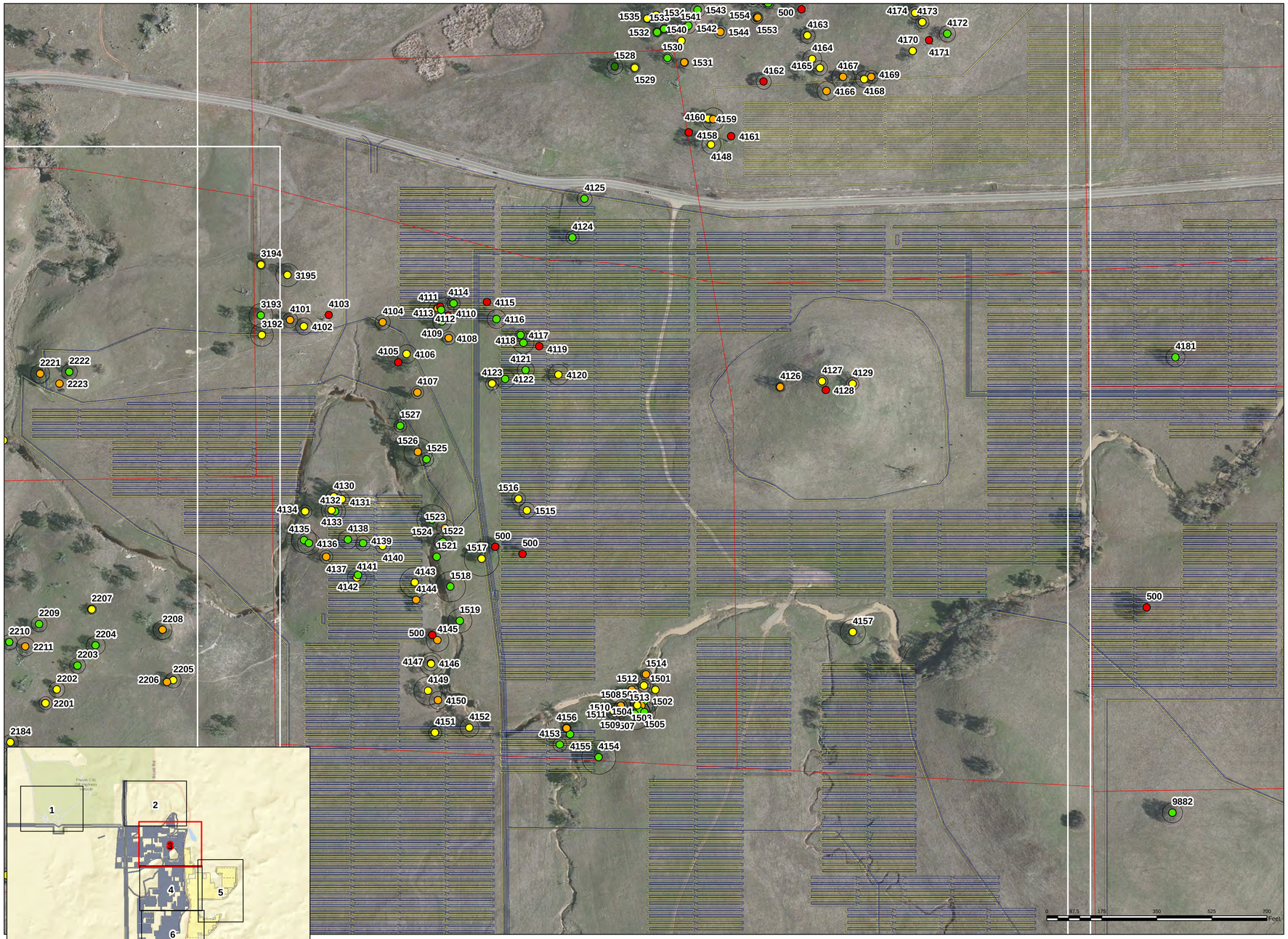
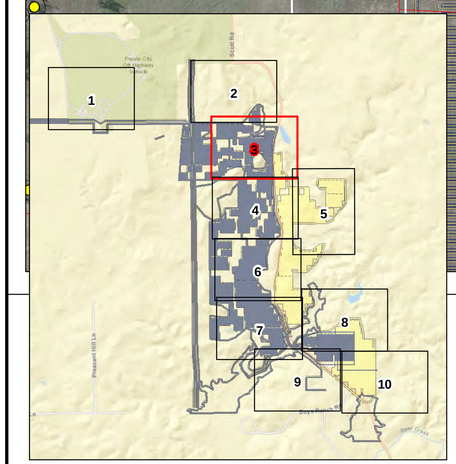
Rancho Cordova, Sacramento County, CA

Sheet No.
TPP 1.0

Photovoltaic Site Plan

Date: 8/14/2021





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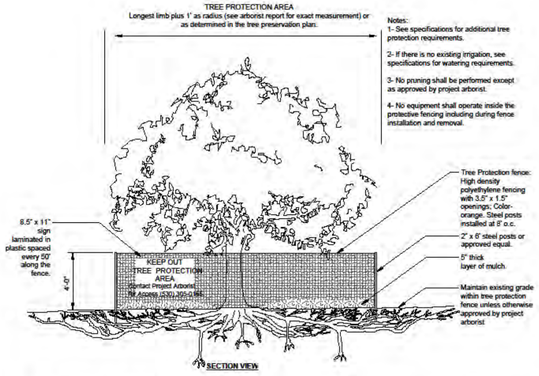

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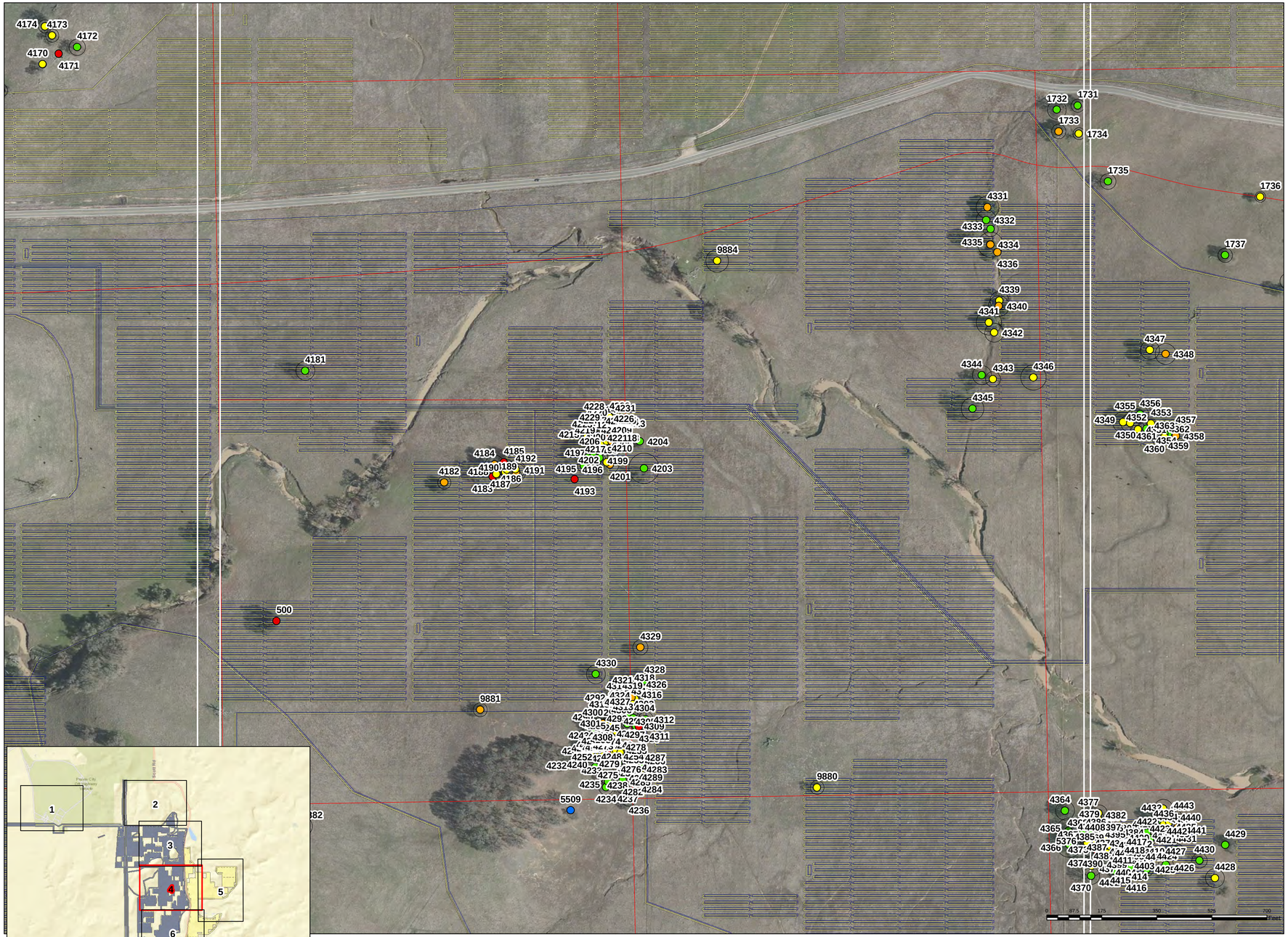

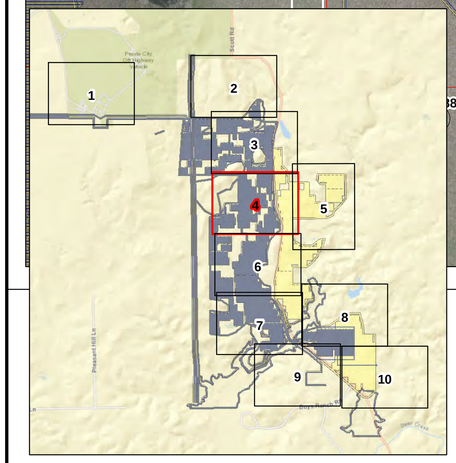

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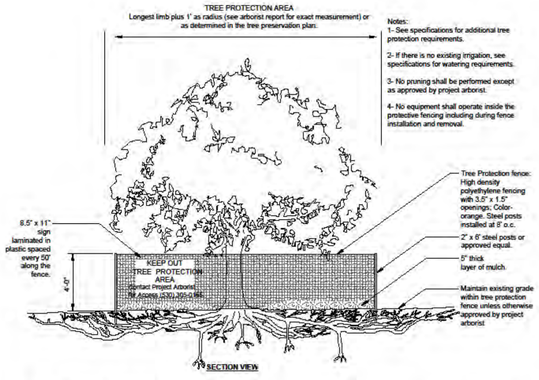

S-X TREE PROTECTION

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Coyote Creek Agrivoltaic Ranch

Rancho Cordova, Sacramento County, CA

Sheet No.
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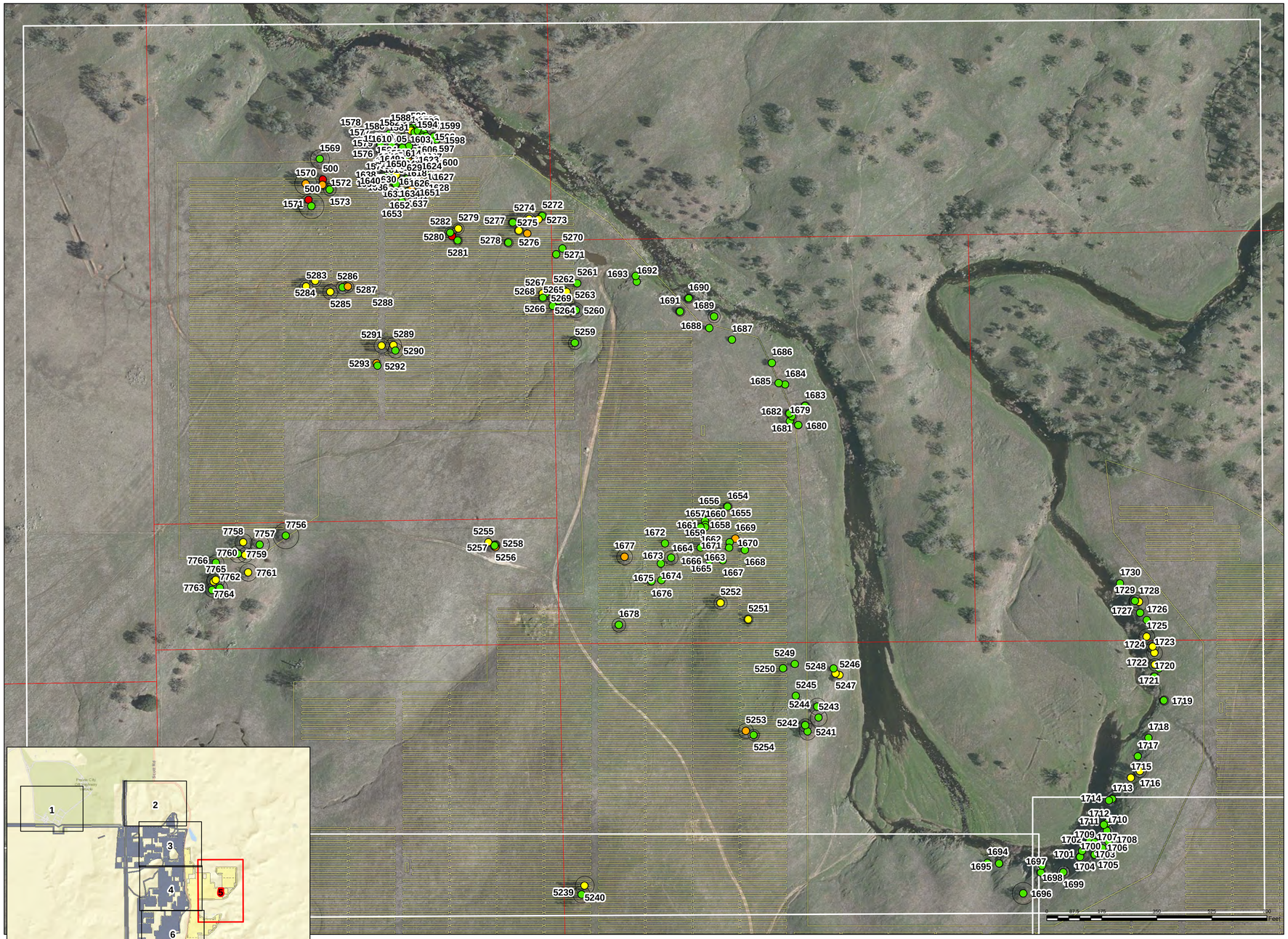
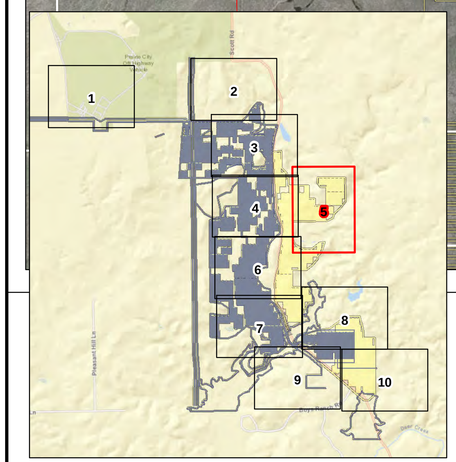
Photovoltaic Site Plan

Date: 8/14/2021





TREE INVENTORY MAP

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Property Line
Measured Tree Canopy

Arborist Rating

- 0 Dead
- 1 Extreme Structure or Health Problems
- 2 Major Structure or Health Problems
- 3 Fair - Minor Problems
- 4 Good - No Apparent Problems
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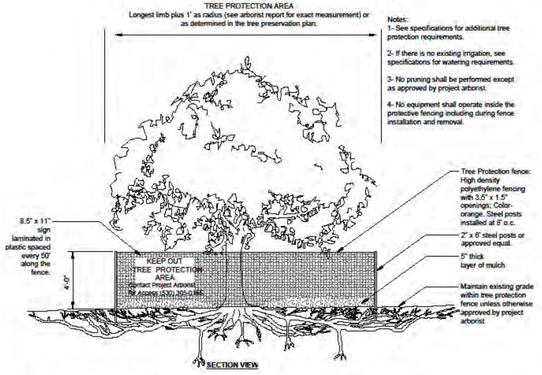

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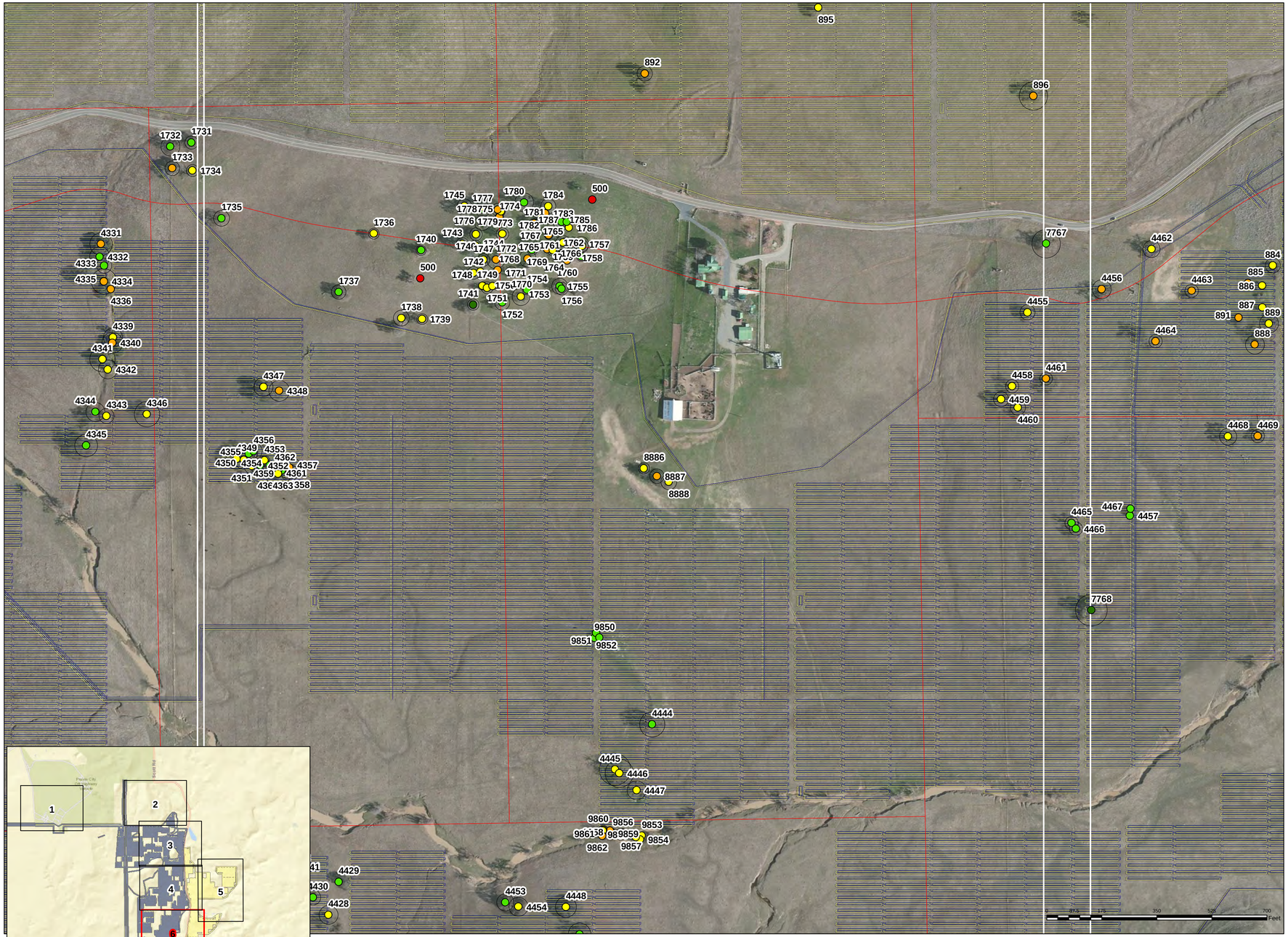

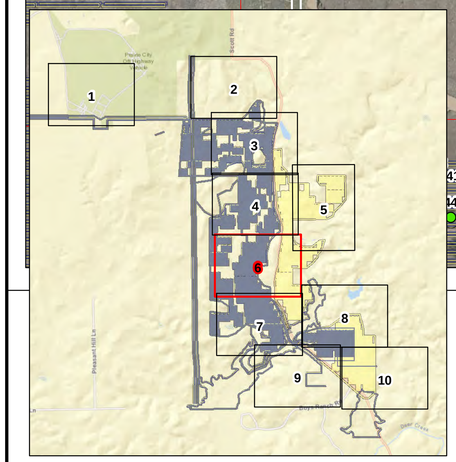

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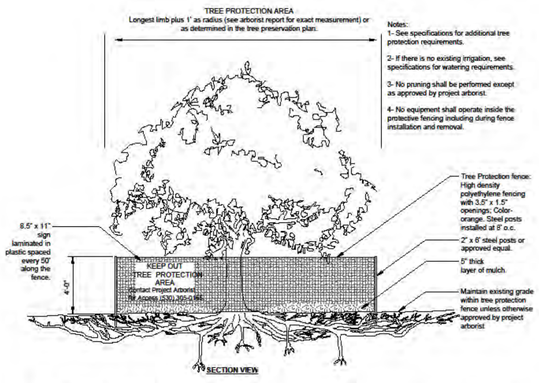

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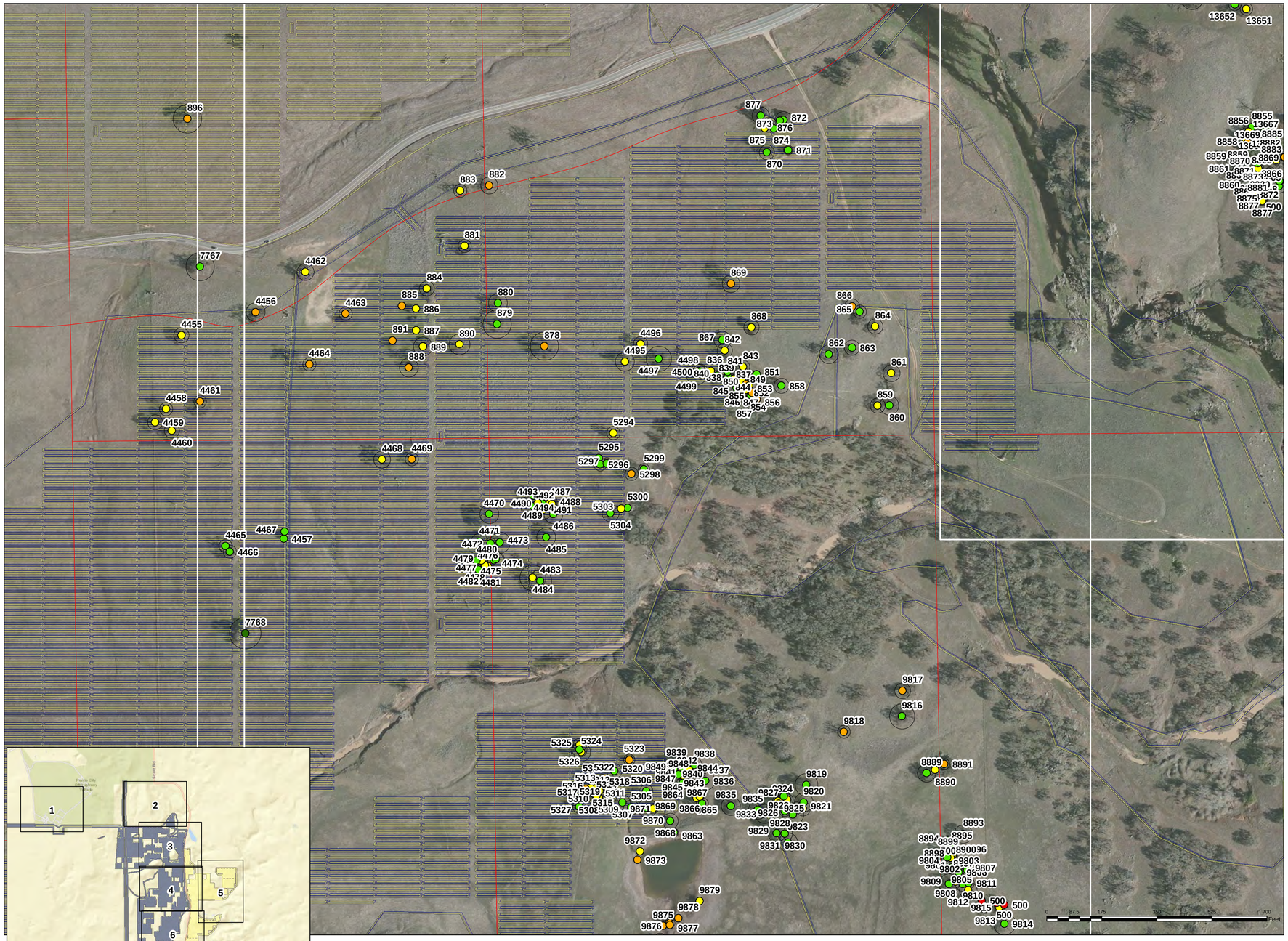

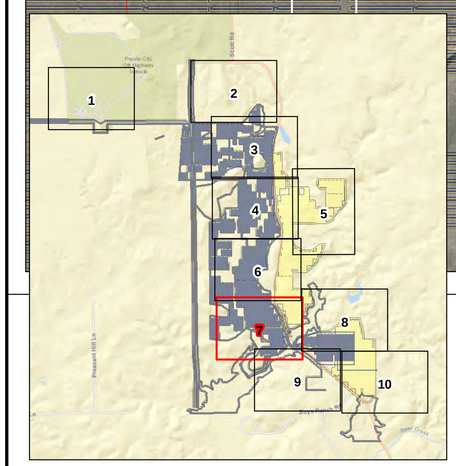

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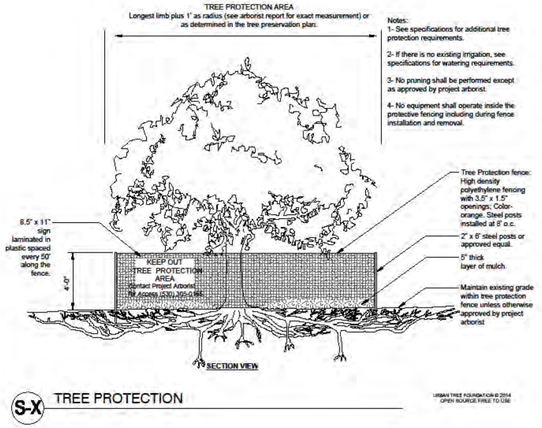

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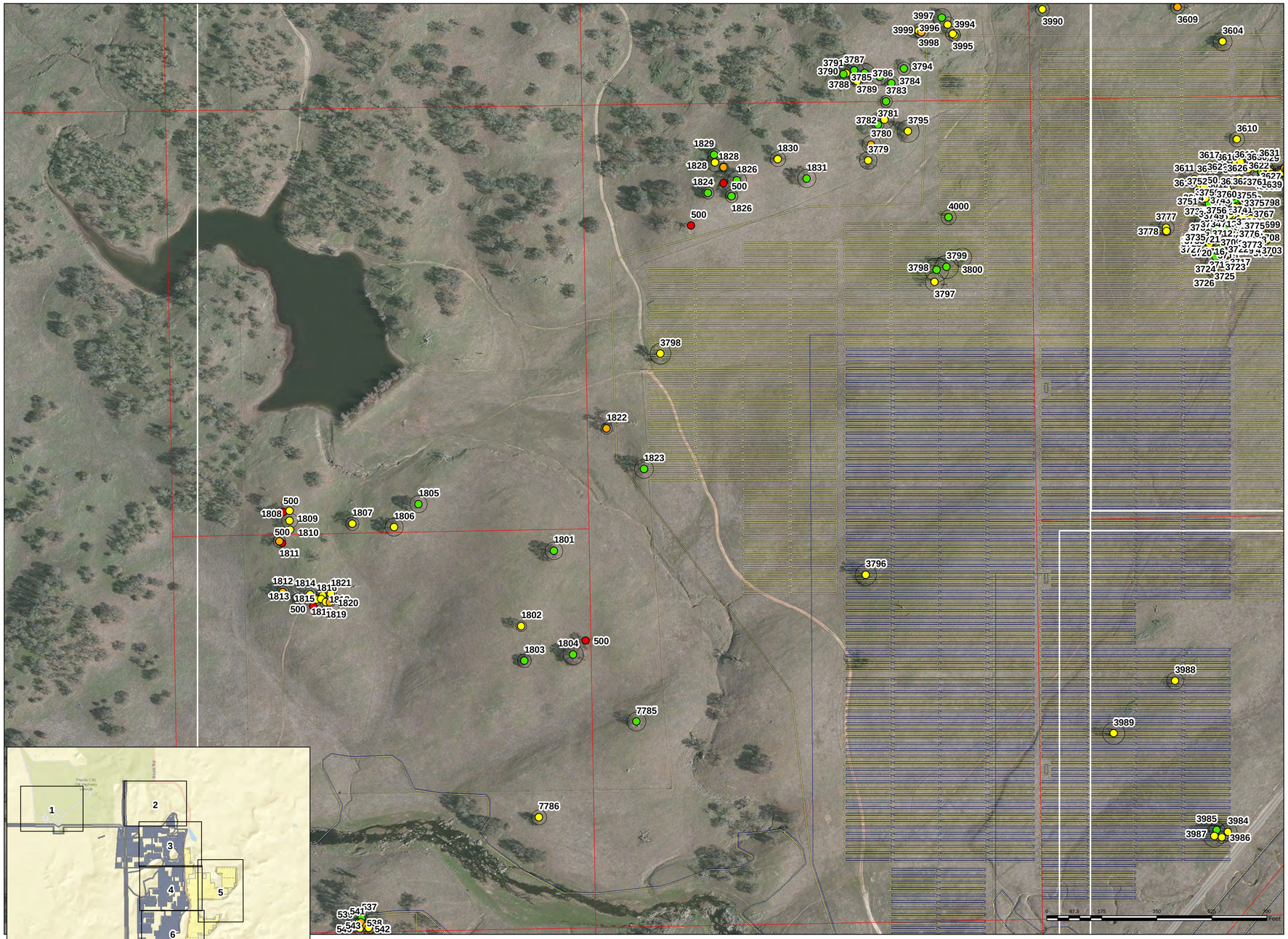

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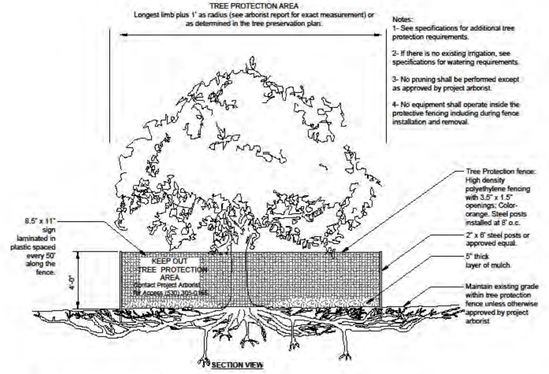

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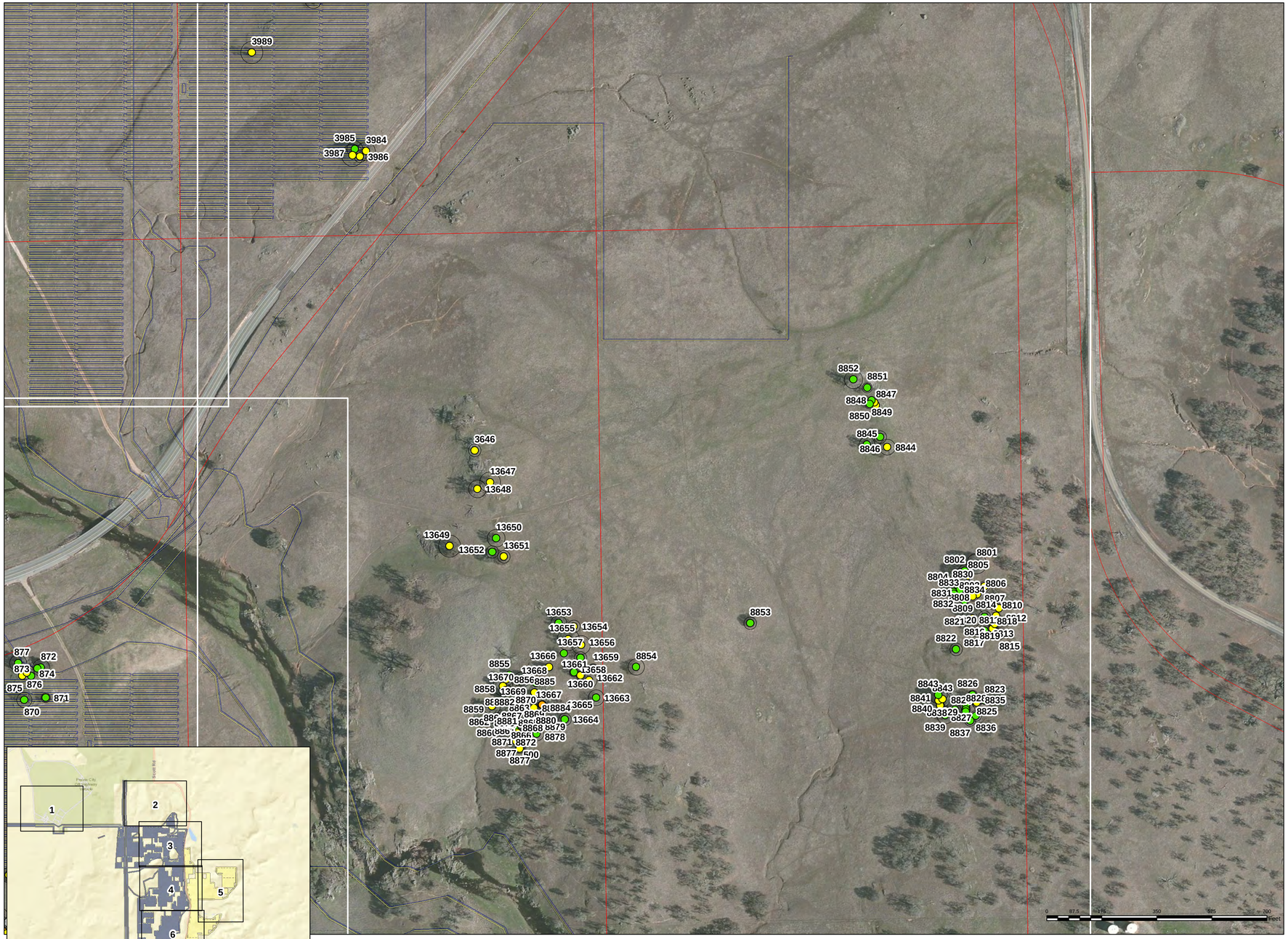

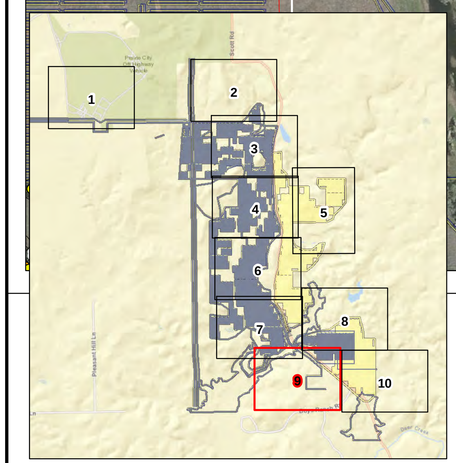

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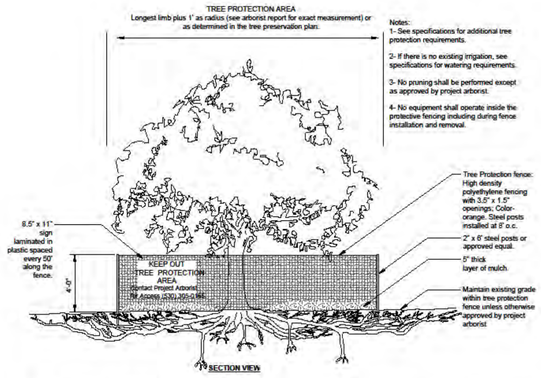

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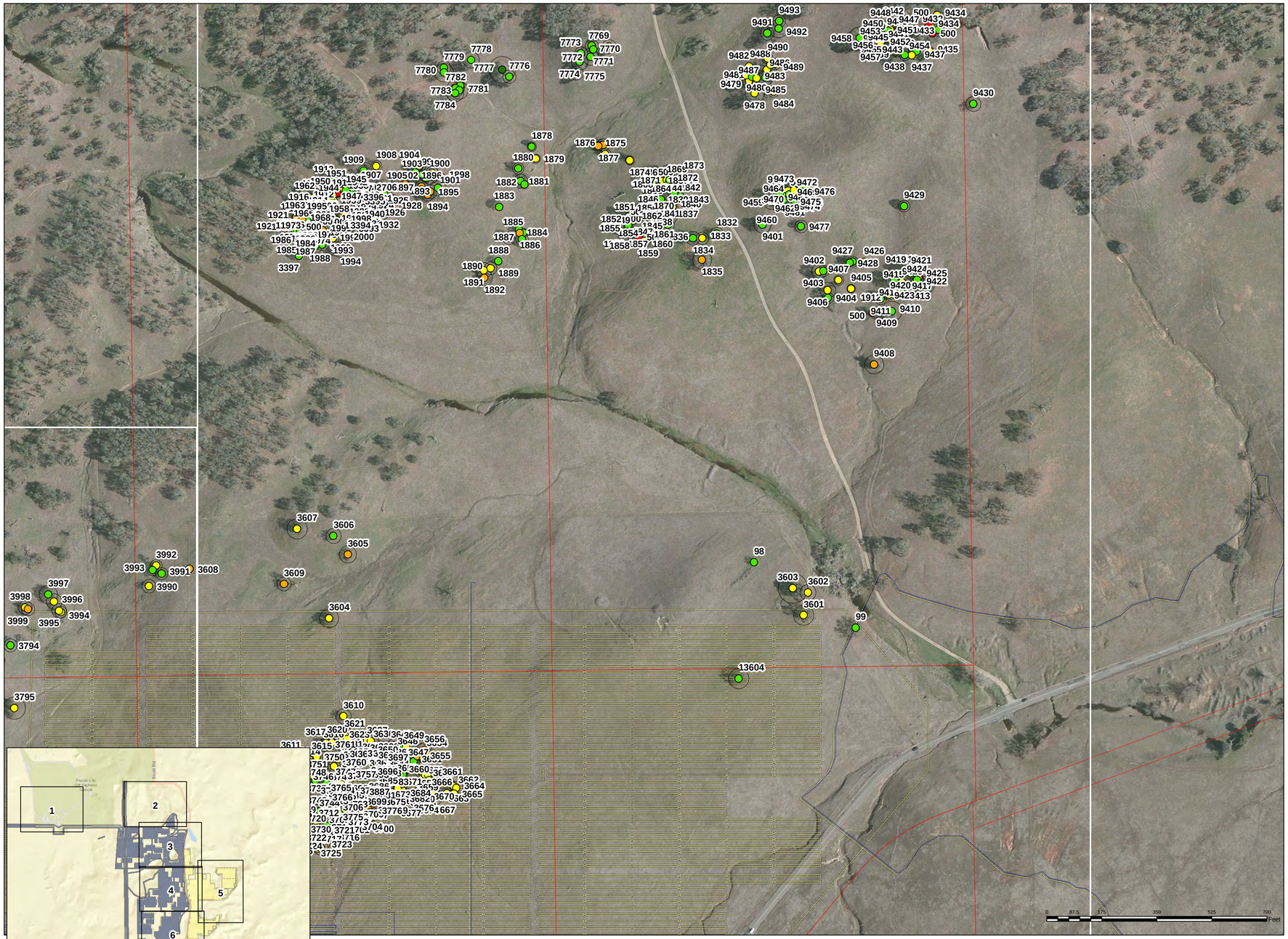

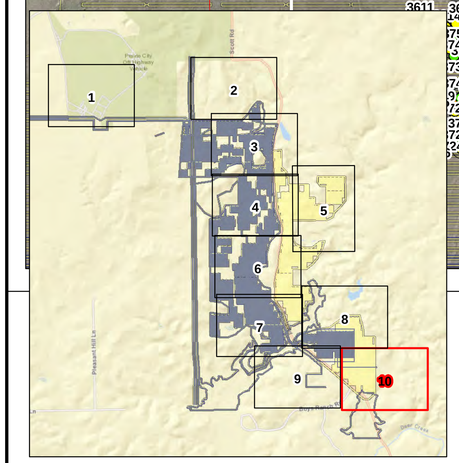

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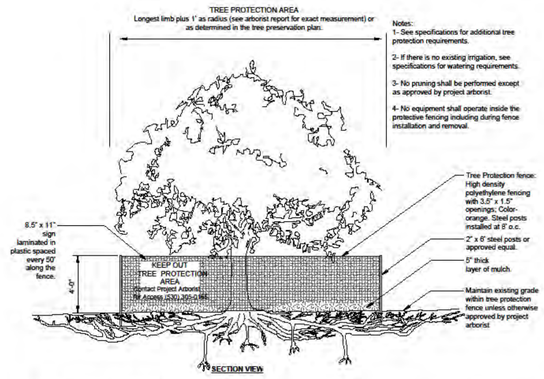

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APPENDIX 2 – TREE DATA

APPENDIX 3 - GENERAL PRACTICES FOR TREE PROTECTION

GENERAL PRACTICES FOR TREE PROTECTION

Definitions

Root zone: The roots of trees grow fairly close to the surface of the soil, and spread out in a radial direction from the trunk of tree. A general rule of thumb is that they spread 2 to 3 times the radius of the canopy, or 1 to 1 ½ times the height of the tree. It is generally accepted that disturbance to root zones should be kept as far as possible from the trunk of a tree.

Inner Bark: The bark on large valley oaks and coast live oaks is quite thick, usually 1" to 2". If the bark is knocked off a tree, the inner bark, or cambial region, is exposed or removed. The cambial zone is the area of tissue responsible for adding new layers to the tree each year, so by removing it, the tree can only grow new tissue from the edges of the wound. In addition, the wood of the tree is exposed to decay fungi, so the trunk present at the time of the injury becomes susceptible to decay. Tree protection measures require that no activities occur which can knock the bark off the trees.

Methods Used in Tree Protection:

No matter how detailed Tree Protection Measures are in the initial Arborist Report, they will not accomplish their stated purpose unless they are applied to individual trees and a Project Arborist is hired to oversee the construction. The Project Arborist should have the ability to enforce the Protection Measures. The Project Arborist should be hired as soon as possible to assist in design and to become familiar with the project. He must be able to read and understand the project drawings and interpret the specifications. He should also have the ability to cooperate with the contractor, incorporating the contractor's ideas on how to accomplish the protection measures, wherever possible. It is advisable for the Project Arborist to be present at the Pre-Bid tour of the site, to answer questions the contractors may have about Tree Protection Measures. This also lets the contractors know how important tree preservation is to the developer.

Root Protection Zone (RPZ): Since in most construction projects it is not possible to protect the entire root zone of a tree, a Root Protection Zone is established for each tree to be preserved. The minimum Root Protection Zone is the area underneath the tree's canopy (out to the dripline, or edge of the canopy), plus 1'. The Project Arborist must approve work within the RPZ.

Irrigate, Fertilize, Mulch: Prior to grading on the site near any tree, the area within the Tree Protection fence should be fertilized with 4 pounds of nitrogen per 1000 square feet, and the fertilizer irrigated in. The irrigation should percolate at least 24 inches into the soil. This should be done no less than 2 weeks prior to grading or other root disturbing activities. After irrigating, cover the RPZ with at least 12" of leaf and twig mulch. Such mulch can be obtained from chipping or grinding the limbs of any trees removed on the site. Acceptable mulches can be obtained from nurseries or other commercial sources. Fibrous or shredded redwood or cedar bark mulch shall not be used anywhere on site.

Fence: Fence around the Root Protection Zone and restrict activity therein to prevent soil compaction by vehicles, foot traffic or material storage. The fenced area shall be off limits to all construction equipment, unless there is express written notification provided by the Project Arborist, and impacts are discussed and mitigated prior to work commencing.

No storage or cleaning of equipment or materials, or parking of any equipment can take place within the fenced off area, known as the RPZ.

The fence should be highly visible, and stout enough to keep vehicles and other equipment out. I recommend the fence be made of orange plastic protective fencing, kept in place by t-posts set no farther apart than 6'.

In areas of intense impact, a 6' chain link fence is preferred.

In areas with many trees, the RPZ can be fenced as one unit, rather than separately for each tree.

Where tree trunks are within 3' of the construction area, place 2" by 4" boards vertically against the tree trunks, even if fenced off. Hold the boards in place with wire. Do not nail them directly to the tree. The purpose of the boards is to protect the trunk, should any equipment stray into the RPZ.

Elevate Foliage: Where indicated, remove lower foliage from a tree to prevent limb breakage by equipment. Low foliage can usually be removed without harming the tree, unless more than 25% of the foliage is removed. Branches need to be removed at the anatomically correct location in order to prevent decay organisms from entering the trunk. For this reason, a contractor who is an ISA Certified Arborist should perform all pruning on protected trees.[4]

Expose and Cut Roots: Breaking roots with a backhoe, or crushing them with a grader, causes significant injury, which may subject the roots to decay. Ripping roots may cause them to splinter toward the base of the tree, creating much more injury than a clean cut would make. At any location where the root zone of a tree will be impacted by a trench or a cut (including a cut required for a fill and compaction), the roots shall be exposed with either a backhoe digging radially to the trunk, by hand digging, or by a hydraulic air spade, and then cut cleanly with a sharp instrument, such as chainsaw with a carbide chain. Once the roots are severed, the area behind the cut should be moistened and mulched. A root protection fence should also be erected to protect the remaining roots, if it is not already in place. Further grading or backhoe work required outside the established RPZ can then continue without further protection measures.

Protect Roots in Deeper Trenches: The location of utilities on the site can be very detrimental to trees. Design the project to use as few trenches as possible, and to keep them away from the major trees to be protected. Wherever possible, in areas where trenches will be very deep, consider boring under the roots of the trees, rather than digging the trench through the roots. This technique can be quite useful for utility trenches and pipelines.

Protect Roots in Small Trenches: After all construction is complete on a site, it is not unusual for the landscape contractor to come in and sever a large number of "preserved" roots during the installation of irrigation systems. The Project Arborist must therefore approve the landscape and irrigation plans. The irrigation system needs to be designed so the main lines are located outside the root zone of major trees, and the secondary lines are either laid on the surface (drip systems), or carefully dug with a hydraulic or air spade, and the flexible pipe fed underneath the major roots.

Design the irrigation system so it can slowly apply water (no more than ¼" to ½" of water per hour) over a longer period of time. This allows deep soaking of root zones. The system also needs to accommodate infrequent irrigation settings of once or twice a month, rather than several times a week.

Monitoring Tree Health During and After Construction: The Project Arborist should visit the site at least twice a month during construction to be certain the tree protection measures are being followed, to monitor the health of impacted trees, and make recommendations as to irrigation or other needs. After construction is complete, the arborist should monitor the site monthly for one year and make recommendations for care where needed. If longer term monitoring is required, the arborist should report this to the developer and the planning agency overseeing the project.

[4] International Society of Arboriculture (ISA), maintains a program of Certifying individuals. Each Certified Arborist has a number and must maintain continuing education credits to remain Certified.

Total Tree Removals & Protected Tree Removals				
	Total Trees	**Total Inches**	**Protected Trees**	**Protected Inches**
Black Walnut	1	14	0	0
Blue oak	761	15856.5	738	15748.5
Buckeye	1	19	1	19
Ca Sycamore	6	43	6	43
Chinese Pistache	4	49	0	0
Cottonwood	9	293	0	0
Fruit	1	20	0	0
Int Live oak	21	205	18	185
Valley oak	37	1506	35	1496
Total	**841**	**18005.5**	**798**	**17491.5**

	Rating #0	**Inches**	**Protected Trees**	**Protected Inches**	**Rating #1**	**Protected Inches**	**Rating #2**	**Protected Inches**
Black Walnut	0	0	0	0	0	0	0	0
Blue oak	15	464	15	464	101	2665.5	266	5454
Buckeye	0	0	0	0	0	0	0	0
Ca Sycamore	0	0	0	0	0	0	0	0
Chinese Pistache	0	0	0	0	0	0	0	0
Cottonwood	0	0	0	0	2	72	3	113
Fruit	0	0	0	0	0	0	1	20
Int Live oak	0	0	0	0	4	44	4	26
Valley oak	0	0	0	0	9	439	13	607
Total	15	464	15	464	116	3220.5	287	6220

	Rating #3	Protected Inches	Rating #4	Inches	Protected Trees	Protected Inches	Protected Tree Removals	Protected Inches Removed
Black Walnut	1	0	0	0	0	0	0	0
Blue oak	377	7093	2	67	2	67	738	15748.5
Buckeye	1	19	0	0	0	0	1	19
Ca Sycamore	3	22	3	21	0	0	6	43
Chinese Pistache	4	0	0	0	0	0	0	0
Cottonwood	4	0	0	0	0	0	0	0
Fruit	0	0	0	0	0	0	0	0
Int Live oak	12	109	1	6	1	6	18	185
Valley oak	14	444	1	6	1	6	35	1496
Total	416	7660	7	100	4	79	798	17491.5

Coyote Creek AVR Tree Summary									
Species	**Total Trees**	**Total Inches**	**Rating 0**	**Rating 1**	**Rating 2**	**Rating 3**	**Rating 4**	**Protected Trees**	**Inches**
Black Walnut	1	14	0	0	0	1	0	0	0
Blue oak	2082	40849	48	228	743	1059	4	2020	40565
Ca Buckeye	1	19	0	1	0	0	0	1	19
Ca Sycamore	6	40	0	0	0	3	3	6	40
Chinese pistache	4	49	0	0	0	4	0	0	0
Coulter pine	14	160	0	3	2	9	0	0	0
Elderberry	5	0	0	0	0	5	0	0	0
Cottonwood	16	443	0	3	9	4	0	0	0
Fruit	1	20	0	0	1	0	0	0	0
Int Live oak	65	1392	0	21	20	23	1	59	1364
Pacific willow	21	408	0	9	8	4	0	0	0
Toyon	5	25	0	1	4	0	0	0	0
Valley oak	65	2483	0	11	26	27	1	63	2473
Willow	9	193	0	4	4	1	0	0	0
Other	1	24	0	0	0	1	0	0	0
Totals	**2296**	**46119**	48	281	817	1141	9	**2149**	**44461**

COYOTE CREEK AGRIVOLTAIC RANCH
COUNTY OF SACRAMENTO
TREE INVENTORY

Tag #	Tag Not on Tree	2020 Data	Old Tag #	Protected Single-Stem 6"+ DBH	Protected Multi-Stem 10"+ DBH	Protected Non-Native 19"+ DBH	Offsite	Encroachment	Remove	Common Name	Species	Multi-Stem (in.)	DBH (in.)	Protected Tree Removal Mitigation (in.)	Ht. Dia. Measured At (in.)	Canopy Radius (ft.)	Condition Rating	Notes
28				Yes			No			Blue Oak	*Quercus douglasii*		28		54	11	1 Extreme Structure or Health Problems	Swollen base with large decayed roots. Swollen trunk 8 feet up. Major lead failure leaving massive decay pocket. Two branches left on north side. Moderate vigor. Poor canopy structure.
98	*	X				Yes			19	California Buckeye	*Aesculus californica*		19	19	12	14	3 Fair - Minor Problems	**Protected tree, not readily accessible. Tag # assigned but not placed on tree.**
99	*	X	A	Yes			Yes			Valley Oak	*Quercus lobata*		35	35	36	4	3 Fair - Minor Problems	**Protected tree, not readily accessible. Tag # assigned but not placed on tree.** Off property, south of fence. Branches overhang property, codominant at 5 feet. Mistletoe. Dead branches to 3 inches.
100										Elderberry	*Sambucus*				54		5 Excellent	
101										Elderberry	*Sambucus*				54		5 Excellent	
103										Elderberry	*Sambucus*				54		5 Excellent	
104										Elderberry	*Sambucus*				54		5 Excellent	
105										Elderberry	*Sambucus*				54		5 Excellent	
403										Fremont Cottonwood	*Populus fremontii*		5		54	8	2 Major Structure or Health Problems	Twisted trunk. Vertical growth.
500										Blue Oak	*Quercus douglasii*				54		0 Dead	Large.
500							No			Blue Oak	*Quercus douglasii*				54		0 Dead	Tree is dead.
500							No			Blue Oak	*Quercus douglasii*				54		0 Dead	Half has broken off.
500										Blue Oak	*Quercus douglasii*				54		0 Dead	
500										Blue Oak	*Quercus douglasii*				54		0 Dead	
500										Blue Oak	*Quercus douglasii*				54		0 Dead	

500							No			Blue Oak	*Quercus douglasii*				54		0 Dead	Completely hollowed-out from fire damage. Total failure.
500										Blue Oak	*Quercus douglasii*				54		0 Dead	Completely on ground. Almost entirely burned.
500										Blue Oak	*Quercus douglasii*				54		0 Dead	
500							No			Blue Oak	*Quercus douglasii*				54		0 Dead	Still almost fully intact. Completely dead.
500				Yes			No			Blue Oak	*Quercus douglasii*				54		0 Dead	Still almost fully intact.
500										Blue Oak	*Quercus douglasii*				54		0 Dead	Last 20 feet remain.
500										Blue Oak	*Quercus douglasii*				54		0 Dead	Only 9 feet remain.
500										Blue Oak	*Quercus douglasii*				54		0 Dead	Uprooted. Leaning on tree to southeast.
500							No			Blue Oak	*Quercus douglasii*				54		0 Dead	Dead. Still intact.
500										Blue Oak	*Quercus douglasii*				54		0 Dead	Standing dead.
500							No			Blue Oak	*Quercus douglasii*				54		0 Dead	Uprooted.
500				Yes			No			Blue Oak	*Quercus douglasii*				54		0 Dead	Dead. Still standing.
500							No			Blue Oak	*Quercus douglasii*		10		54		0 Dead	Intact. Still standing.

500										Blue Oak	*Quercus douglasii*		10		54		0 Dead	Still standing.
500										Blue Oak	*Quercus douglasii*		14		54		0 Dead	10 feet remain standing.
500							No			Blue Oak	*Quercus douglasii*		22		54		0 Dead	Half intact.
500										Blue Oak	*Quercus douglasii*				54		0 Dead	Two feet of base remain.
500										Blue Oak	*Quercus douglasii*		21		54		0 Dead	Halfway intact.
500										Blue Oak	*Quercus douglasii*				54		0 Dead	Uprooted.
500										Blue Oak	*Quercus douglasii*				54		0 Dead	Uprooted.
500										Blue Oak	*Quercus douglasii*				54		0 Dead	10 feet remain. Failed branches still attached.
500										Blue Oak	*Quercus douglasii*		11		54		0 Dead	Still standing.
500							No			Blue Oak	*Quercus douglasii*				54		0 Dead	Still standing.
500										Blue Oak	*Quercus douglasii*				54		0 Dead	Failed at base.
500										Blue Oak	*Quercus douglasii*				54		0 Dead	Failed at base.
500							No			Blue Oak	*Quercus douglasii*				54		0 Dead	Dead. 18 feet still standing.

531		X		Yes					0	Blue Oak	*Quercus douglasii*		32	0	54	30	1 Extreme Structure or Health Problems	Buried flare west up grade. Only remaining live branch is 18-inch lateral east at 8 feet. Every other branch and top broken out in dead 15% foliage remaining. Vigor extremely poor. Density extremely poor.
532		X		Yes					31	Blue Oak	*Quercus douglasii*		31	31	54	24	2 Major Structure or Health Problems	Swollen flare. Was Codominant at 4 feet. 16-inch codominant leader to south failed. Decay at wound in trunk. Significant dead branches decay and wounds. Vigor fair to poor. Density fair to poor.
533		X		Yes					34	Blue Oak	*Quercus douglasii*		34	34	24	24	2 Major Structure or Health Problems	Buried flare. Two large leader breakouts mid branch and back to trunk. Decay and wounds east. Lateral growing to ground south. Vigor fair to poor. Density fair.
534		X		Yes					0	Blue Oak	*Quercus douglasii*		33	33	54	0	0 Dead	Long time dead.
535		X		Yes						Blue Oak	*Quercus douglasii*		29	29	54	33	2 Major Structure or Health Problems	Flare normal. Bark from base to 25 feet showing signs of fungus and rot. 15 inch leader break out back to trunk at 20 feet decay and wounds. Vigor fair to poor. Density fair.
536		X		Yes				22		Valley Oak	*Quercus lobata*		22	22	54	21	3 Fair - Minor Problems	Swollen flare east west. Less than severe dead branches. Codominant at 6 feet. Vigor fair. Density fair.
537		X			Yes					Blue Oak	*Quercus douglasii*	11,19	22	30	54	18	3 Fair - Minor Problems	Buried flare. Codominant at base with some inclusion. Codominant at 6 feet. Growing into canopy west. Fair vigor. Fair density.
538		X		Yes						Blue Oak	*Quercus douglasii*		18	18	54	18	3 Fair - Minor Problems	Buried flare. Codominant at 18 feet. Fair density. Fair vigor.
539		X		Yes						Blue Oak	*Quercus douglasii*		26	26	36	21	3 Fair - Minor Problems	Buried flare. Codominant at 4 feet. Minor mistletoe. Fair vigor and density.
540		X		Yes						Blue Oak	*Quercus douglasii*		20	20	54	21	2 Major Structure or Health Problems	Swollen flare Northwest some basal decay. Codominant at 24 feet. Suppression north east one-sided leaning canopy south. Vigor fair to poor density
541		X		Yes						Blue Oak	*Quercus douglasii*		15	0	54	18	1 Extreme Structure or Health Problems	Buried flare. Basal decay up trunk to 4 feet. Hardwood 70% hollow at trunk. Suppression above One-sided leaning canopy west. Codominant at 12 feet. Vigor fair to poor. Density fair.
542		X		Yes						Blue Oak	*Quercus douglasii*		13	0	54	18	1 Extreme Structure or Health Problems	Buried flare. Codominant at 8 feet. Severe die back of outer canopy. At the corner of growth. Bark dying or dead from base to top of canopy. Vigor extremely poor. Density poor.
543		X		Yes						Blue Oak	*Quercus douglasii*		11	11	54	21	2 Major Structure or Health Problems	Buried flare. Basal bark decay south wood exposed bark compartmentalized suppressed from above trunk severe lean northwest at Bobo at 6 feet. Significant dead branches in canopy. Vigor poor. Density poor.

544		X		Yes						Blue Oak	*Quercus douglasii*		20	20	54	15	2 Major Structure or Health Problems	Swollen flare east. Basal decay East exposed wood compartmentalize bark. Codominant at 12 feet. Minor mistletoe Vigor fair. Density fair.
545		X		Yes						Blue Oak	*Quercus douglasii*		16	16	54	18	3 Fair - Minor Problems	Buried flare. Adjacent to another trunk 5 inches. Codominant at 6 feet. Suppressed west of Canterbury Lane east. Fair density. Fair vigor.
546		X		Yes						Blue Oak	*Quercus douglasii*		20	20	54	27	3 Fair - Minor Problems	Buried flare northeast adjacent to other trunk 5 inches. Swollen flare southwest. Suppression northeast leaning canopy southwest. Codominant at 12 feet. Vigor fair. Density fair.
547		X		Yes						Blue Oak	*Quercus douglasii*		11	11	12	5	3 Fair - Minor Problems	Buried flare. Codominant at 3 feet. Vigor and density fair.
548		X		Yes						Blue Oak	*Quercus douglasii*		9	9	54	5	2 Major Structure or Health Problems	Buried flare. Trunk wound west at 12 inches decayed with 60% hollow at trunk. Codominant at 8 feet. Vigor fair. Density fair.
549				No						Blue Oak	*Quercus douglasii*		5		54	6	2 Major Structure or Health Problems	Buried flare. Trunk wound from 12-36 inches. Compartmentalized bark exposed. Codominant at 5 feet. Vigor fair. Density fair.
550		X		Yes						Blue Oak	*Quercus douglasii*		8	8	54	10	2 Major Structure or Health Problems	Buried flare. Shrunk wound at 12 inches compartmentalize bark exposed wood. Codominant at 4 feet. Vigor fair. Density fair.
551				No						Blue Oak	*Quercus douglasii*		5		54	5	2 Major Structure or Health Problems	Buried flare. Suppressed east. One-sided. Leaning canopy west. Vigor fair. Density fair.
552				No						Blue Oak	*Quercus douglasii*		5		54	6	3 Fair - Minor Problems	Buried flare. Suppress north/south. Vigor fair. Density fair.
553		X		Yes						Blue Oak	*Quercus douglasii*		6	6	54	6	3 Fair - Minor Problems	Buried flare. Suppression northeast. Growing into canopy southwest. Vigor and density fair.
554		X		Yes						Blue Oak	*Quercus douglasii*		7	7	54	8	3 Fair - Minor Problems	Buried flare. Codominant at 3 feet. Growing into canopy east and west. Vigor and density fair.
555		X		Yes						Blue Oak	*Quercus douglasii*		6	6	54	6	2 Major Structure or Health Problems	Buried flare. Bow at 12 inches. Suppressed east. Leaning canopy west. Vigor fair. Density fair.
556		X		Yes						Blue Oak	*Quercus douglasii*		12	12	54	15	3 Fair - Minor Problems	Buried flare. Codominant at 15 feet. Vigor fair. Density fair.
557		X		Yes						Blue Oak	*Quercus douglasii*		18	18	54	18	3 Fair - Minor Problems	Buried flare. Codominant at 8 feet. Growing into canopy. Vigor fair. Density fair.
558		X		Yes						Blue Oak	*Quercus douglasii*		10	10	54	12	2 Major Structure or Health Problems	Buried flare. Codominant at 10 feet. Suppressed north. One-sided leaning canopy south. Vigor and density fair.
559				No						Blue Oak	*Quercus douglasii*		5		54	3	2 Major Structure or Health Problems	Buried flare. Suppressed above. Vigor fair. Density fair.

560		X		Yes						Blue Oak	*Quercus douglasii*		13	13	36	15	3 Fair - Minor Problems	Buried flare. Growing in rocks north, west and south. Codominant at 4 feet. Vigor fair. Density fair.
562		X		Yes						Blue Oak	*Quercus douglasii*		6	6	54	6	2 Major Structure or Health Problems	Buried flare. Suppressed above. Canopy leans southwest. Vigor fair. Density fair.
563		X		Yes						Blue Oak	*Quercus douglasii*		6	6	54	9	2 Major Structure or Health Problems	Buried flare. Suppression above. Canopy lean. One-sided southwest.
564				No						Blue Oak	*Quercus douglasii*		4		54	3	1 Extreme Structure or Health Problems	Buried flare. Codominant at 5 feet. 1 of 2 leaders dead. Tip dieback from existing live leader. Vigor poor. Density poor.
565		X		Yes						Blue Oak	*Quercus douglasii*		9	9	12	9	3 Fair - Minor Problems	Buried flare. Growing in between rocks north and south. Codominant at 3 feet. Vigor fair. Density fair.
566		X		Yes						Blue Oak	*Quercus douglasii*		8	8	36	5	3 Fair - Minor Problems	Buried flare. Basal decay west. Codominant at 6 feet. Vigor fair. Density fair.
567		X		Yes						Blue Oak	*Quercus douglasii*		6	6	36	5	3 Fair - Minor Problems	Buried flare. Codominant at 4 feet. Suppressed north. Vigor fair. Density fair.
568				No						Blue Oak	*Quercus douglasii*		5		54	6	2 Major Structure or Health Problems	Buried flare. Growing in rocks north/west/south. Suppressed above. One-sided leaning canopy south. Sprouts from calluses from livestock from base to 3 feet. Vigor poor. Density fair.
569		X		Yes						Blue Oak	*Quercus douglasii*		12	12	12	10	2 Major Structure or Health Problems	Buried flare. Codominant at 2 feet. Suppressed above. One-sided canopy. Leans south. Vigor fair. Density fair.
570		X		Yes						Blue Oak	*Quercus douglasii*		13	13	54	15	3 Fair - Minor Problems	Buried flare. Growing in rocks north. Codominant at 12 feet. Vigor fair. Density fair.
571		X		Yes						Blue Oak	*Quercus douglasii*		16	16	54	21	3 Fair - Minor Problems	Buried flare. Codominant at 5 feet. Minor mistletoe. Vigor fair. Density fair.
572		X		Yes						Blue Oak	*Quercus douglasii*		8	8	54	21	2 Major Structure or Health Problems	Buried flare. Codominant at 6 feet. Suppressed north, south and west. Severe leaning. One-sided canopy east. Vigor fair to poor. Density fair.
573				No						Blue Oak	*Quercus douglasii*		4		54	3	2 Major Structure or Health Problems	Buried flare. Suppressed above. Vigor fair. Density fair.
574		X		Yes						Blue Oak	*Quercus douglasii*		12	12	54	24	2 Major Structure or Health Problems	Buried flare. Sign of fungus at base. Suppressed above. Severe overextended lean south. Vigor fair to poor. Density fair.
575		X		Yes						Blue Oak	*Quercus douglasii*		12	12	54	18	3 Fair - Minor Problems	Buried flare. Codominant at 12 feet. Suppressed west. Vigor fair. Density fair.
576		X		Yes						Blue Oak	*Quercus douglasii*		6	6	54	8	2 Major Structure or Health Problems	Buried flare. Burrow at 24 inches north trunk. Bow southeast at 12 inches. Codominant at 8 feet. Suppression north. Vigor fair to poor. Density fair.

577		X		Yes						Blue Oak	*Quercus douglasii*		9	9	54	18	2 Major Structure or Health Problems	Buried flare. One-sided leaning canopy southeast. Vigor fair. Density fair.
578				No						Blue Oak	*Quercus douglasii*		4		54	3	2 Major Structure or Health Problems	Buried flare. Suppressed above. Vigor fair to poor. Density fair.
579				No						Blue Oak	*Quercus douglasii*		5		54	3	1 Extreme Structure or Health Problems	Buried flare. Poor taper growing in between rocks north/south. Trunk wound at 36 inches compartmentalized bark. Decayed heartwood. Density fair. Vigor fair to poor.
580		X		Yes						Blue Oak	*Quercus douglasii*		16	16	36	21	3 Fair - Minor Problems	Buried flare. Codominant at 4 feet. Vigor fair. Density fair.
581		X		Yes						Blue Oak	*Quercus douglasii*		7	7	54	8	2 Major Structure or Health Problems	Buried flare. Suppressed north. One-sided leaning trunk south. Vigor fair to poor. Density poor.
582		X		Yes						Blue Oak	*Quercus douglasii*		7	0	54	4	1 Extreme Structure or Health Problems	Swollen flare east. Trunk wound at 24 inches. Rotten hardwood. Codominant at 4 feet. Suppressed north. Vigor fair. Density fair.
583		X		Yes						Blue Oak	*Quercus douglasii*		6	6	54	8	2 Major Structure or Health Problems	Swollen flare northeast. Significant dead branches lower canopy. Suppressed west. One-sided leaning canopy east. Vigor fair to poor.
584		X		Yes						Blue Oak	*Quercus douglasii*		8	8	12	6	3 Fair - Minor Problems	Codominant at 36 inches. Suppressed west. Vigor fair. Density fair.
585		X		Yes						Blue Oak	*Quercus douglasii*		14	0	24	12	1 Extreme Structure or Health Problems	Buried flare. Basal decay up to 8 feet west side. Bark dead rotten to hardwood. 60% hollow at trunk. Codominant at 36 inches. Vigor fair to poor. Density fair to poor.
586				No						Blue Oak	*Quercus douglasii*		5		54	6	2 Major Structure or Health Problems	Buried flare. Suppression north. One-sided leaning canopy south. Vigor fair. Density fair.
587		X		Yes						Blue Oak	*Quercus douglasii*		7	7	54	5	2 Major Structure or Health Problems	Buried flare. Multiple bark wounds west side to 36 inches. Compartmentalized decay and wounds. Codominant at 4 feet. Vigor fair. Density fair.
588				No						Blue Oak	*Quercus douglasii*		4		54	3	2 Major Structure or Health Problems	Buried flare. Bow at 6 inches. Growing into canopy north. Vigor fair to poor. Density fair.
589				No						Blue Oak	*Quercus douglasii*		5		54	6	1 Extreme Structure or Health Problems	Buried flare. Growing in between rocks. Trunk wound at 24 inches. Compartmentalized bark. Rotten heartwood. 90% hollow at trunk. Canopy lean west. Vigor poor. Density fair.
590		X		Yes						Blue Oak	*Quercus douglasii*		29	29	54	27	3 Fair - Minor Problems	Buried flare. Codominant at 15 feet. Less than severe dead branches lower canopy. Vigor fair. Density fair.

592				No						Blue Oak	*Quercus douglasii*		5		54	5	1 Extreme Structure or Health Problems	Buried flare. Growing in rocks. Trunk wound from base to 36 inches west side. Dead bark rotten into sapwood. Severe leaning canopy north. Vigor fair to poor. Density poor.
730		X		Yes						Blue Oak	*Quercus douglasii*		12	12	54	21	3 Fair - Minor Problems	Buried flare. Growing in rocks. Codominant at 6 feet. Vigor fair. Density fair.
731		X		Yes						Blue Oak	*Quercus douglasii*		7	7	54	6	3 Fair - Minor Problems	Buried flare. Suppression above canopy. Leaning east. Vigor fair. Density fair.
732		X		Yes						Blue Oak	*Quercus douglasii*		11	11	54	18	3 Fair - Minor Problems	Buried flare. Codominant at 8 feet. Vigor fair. Density fair.
733		X		Yes						Blue Oak	*Quercus douglasii*		12	12	54	15	2 Major Structure or Health Problems	Buried flare swollen southeast. Codominant at 4 feet. Growing in the canopy north. One-sided leaning canopy south. Vigor fair. Density fair.
734		X		Yes						Blue Oak	*Quercus douglasii*		7	7	54	6	2 Major Structure or Health Problems	Trunk bow at base to north, then continues vertical growth. Livestock wounds to the bark, west side, with wood exposed. Vigor fair. Density fair.
735		X		Yes						Blue Oak	*Quercus douglasii*		12	12	36	9	3 Fair - Minor Problems	Buried flare. Codominant at 36 inches. Vigor fair. Density fair.
736		X		Yes						Blue Oak	*Quercus douglasii*		13	13	54	15	3 Fair - Minor Problems	Codominant at 5 feet. Minor mistletoe. Vigor fair. Density fair.
737		X		Yes						Blue Oak	*Quercus douglasii*		8	8	54	8	3 Fair - Minor Problems	Buried flare. Bow at 12 inches. Codominant at 10 feet. Vigor fair. Density fair.
738		X		Yes						Blue Oak	*Quercus douglasii*		8	0	54	9	1 Extreme Structure or Health Problems	Buried flare growing in rocks. Trunk wound west from base to 3 feet. Compartmentalize bark and exposed rotten hardwood. Vigor fair to poor. Density fair.
739		X		Yes						Blue Oak	*Quercus douglasii*		7	7	54	7	3 Fair - Minor Problems	Buried flare. Growing adjacent to tree 10 inches north. Growing into canopy north. Vigor fair. Density fair.
740		X		Yes						Blue Oak	*Quercus douglasii*		22	22	24	21	2 Major Structure or Health Problems	Swollen flare. Codominant at 4 feet. Epicormic growth throughout bark and lower canopy vigor.
741		X		Yes						Blue Oak	*Quercus douglasii*		15	15	54	18	3 Fair - Minor Problems	Buried flare. Codominant at 6 feet. Growing into canopy south. Vigor fair. Density fair.
742		X		Yes						Blue Oak	*Quercus douglasii*		15	15	12	15	2 Major Structure or Health Problems	Swollen flare north growing in rocks. Codominant at 4 feet. Bark disturbance west side from livestock. Compartmentalize bark exposed wood. Growing in the canopy north. Vigor fair. Density fair.
743		X		Yes						Blue Oak	*Quercus douglasii*		21	21	54	18	3 Fair - Minor Problems	Swollen flare north and south. Codominant at 6 feet. Less than severe dead branches lower canopy. Vigor fair. Density fair.
744				No						Blue Oak	*Quercus douglasii*		5		54	3	2 Major Structure or Health Problems	Flare buried. Growing in rocks. Codominant at 5 feet. Vigor fair. Density fair.
745		X		Yes						Blue Oak	*Quercus douglasii*		18	18	54	15	3 Fair - Minor Problems	Swollen flare east and west. Some bark decay at ground. Codominant at 8 feet. Vigor fair. Density fair.

746		X		Yes						Blue Oak	*Quercus douglasii*		7	7	54	5	2 Major Structure or Health Problems	Buried flare growing in rocks. Bow in trunk at 12 inches east, then corrects itself vertical. Codominant at 6 feet. Vigor fair. Density fair.
747		X		Yes						Blue Oak	*Quercus douglasii*		24	24	54	21	3 Fair - Minor Problems	Buried flare. Codominant at 8 feet. Growing into canopy southwest. Vigor fair. Density fair.
748		X		Yes						Blue Oak	*Quercus douglasii*		9	9	54	10	2 Major Structure or Health Problems	Buried flare west up grade. Suppressed by tree to north. Severe one-sided leaning canopy south. Growing into canopy above. Vigor fair to poor. Density fair.
749		X		Yes						Blue Oak	*Quercus douglasii*		15	15	24	15	2 Major Structure or Health Problems	Swollen flare north. Codominant at 5 feet. Growing into canopy north. Suppression from north canopy growing south. Vigor fair. Density fair.
750				No						Blue Oak	*Quercus douglasii*		4		54	3	2 Major Structure or Health Problems	Buried flare. Growing in rocks. Callused bark and sprouts north side from livestock. Bark wounds up trunk. Vigor fair. Density fair.
751		X		Yes						Blue Oak	*Quercus douglasii*		16	16	54	24	3 Fair - Minor Problems	Buried flare. Codominant at 6 feet. Vigor fair. Density fair.
752		X		Yes						Blue Oak	*Quercus douglasii*		7	7	54	5	2 Major Structure or Health Problems	Buried flare. Growing on top of cut bank from seasonal creek. Growing into canopies north and south. Vigor fair. Density fair.
753		X		Yes						Blue Oak	*Quercus douglasii*		13	13	54	15	3 Fair - Minor Problems	Buried flare. Codominant at 10 feet. Vigor fair. Density fair.
754		X		Yes						Blue Oak	*Quercus douglasii*		8	0	54	5	1 Extreme Structure or Health Problems	Buried flare trunk from base to 24 inches. Bark wound compartmentalize and exposed decayed wood from livestock. Codominant at 5 feet. Vigor fair. Density fair.
755		X		Yes						Blue Oak	*Quercus douglasii*		11	11	54	12	3 Fair - Minor Problems	Buried flare. Cut bank of seasonal creek. Less than severe dead branches in canopy. Vigor fair.
756		X		Yes						Blue Oak	*Quercus douglasii*		25	25	54	30	3 Fair - Minor Problems	Buried flare. Codominant at 10 feet. Growing into canopy south. Vigor fair. Density fair.
757		X		Yes						Blue Oak	*Quercus douglasii*		18	18	54	24	3 Fair - Minor Problems	Swollen flare north. Codominant at 5 feet. Growing into canopy south. Vigor fair. Density fair.
758		X		Yes						Blue Oak	*Quercus douglasii*		18	18	36	21	3 Fair - Minor Problems	Buried flare south. Growing on bank of seasonal creek south. Codominant at 6 feet. Vigor fair. Density fair.
759		X		Yes						Blue Oak	*Quercus douglasii*		20	20	54	18	3 Fair - Minor Problems	Buried flare growing on bank of seasonal creek south. Codominant at 4 feet. Minor mistletoe. Vigor fair. Density fair.
760		X		Yes						Blue Oak	*Quercus douglasii*		8	0	6	3	1 Extreme Structure or Health Problems	Buried flare south growing on cut bank of seasonal creek south. 50% mistletoe. Vigor fair to poor. Density poor.
836		X		Yes						Blue Oak	*Quercus douglasii*		11	11	54	9	2 Major Structure or Health Problems	Buried flare. Codominant at 10 feet. Suppressed above. Vigor fair to poor. Density fair.

837		X		Yes						Blue Oak	*Quercus douglasii*		16.5	16.5	54	15	3 Fair - Minor Problems	Buried flare going down 18 feet. Suppressed. East canopy bows in west at 15 feet. Density fair. Vigor fair.
838		X		Yes						Blue Oak	*Quercus douglasii*		21	21	54	21	3 Fair - Minor Problems	Buried flare. Codominant at 15 feet. Vigor fair. Density fair.
839		X		Yes						Blue Oak	*Quercus douglasii*		12	12	54	10	2 Major Structure or Health Problems	Buried flare. Suppression north. One-sided canopy leans south. Vigor fair to poor. Density fair.
840		X		Yes						Blue Oak	*Quercus douglasii*		12	12	54	10	3 Fair - Minor Problems	Swollen flare. Evidence of a bark fungus on trunk from base to 10 feet. Suppressed above. Vigor fair. Density fair.
841		X		Yes						Blue Oak	*Quercus douglasii*		20	20	54	21	3 Fair - Minor Problems	Buried flare. Codominant at 8 feet. Vigor fair. Density fair.
842		X		Yes					25	Blue Oak	*Quercus douglasii*		25	25	54	24	2 Major Structure or Health Problems	Swollen flare. Codominant at 18 feet. Multiple leader breakouts. Decay in wound at trunk. One-sided leaning canopy south. Vigor fair to poor. Density fair.
843		X		Yes						Blue Oak	*Quercus douglasii*		21	21	54	21	2 Major Structure or Health Problems	Swollen flare north. Suppression west. Codominant at 12 feet. Dead leader south at 12 feet. Decay in wound. Vigor fair to poor. Density fair.
844		X		Yes						Blue Oak	*Quercus douglasii*		31	31	12	32	3 Fair - Minor Problems	Buried flare. Codominant at 4 feet. Leaning canopy southeast. Vigor fair to poor. Density fair.
845		X		Yes						Blue Oak	*Quercus douglasii*		14	14	54	9	3 Fair - Minor Problems	Swollen flare. North suppression above bow in trunk northwest at 15 feet. Vigor fair. Density fair.
846		X		Yes						Blue Oak	*Quercus douglasii*		17	17	54	27	2 Major Structure or Health Problems	Swollen flare northwest. Suppression east. Severe leaning. One-sided canopy west. Vigor fair. Density fair.
847		X		Yes						Blue Oak	*Quercus douglasii*		12	12	54	21	2 Major Structure or Health Problems	Buried flare. Codominant at 10 feet growing into canopy south and north. Vigor fair to poor. Density fair.
849		X		Yes						Blue Oak	*Quercus douglasii*		21	21	12	18	2 Major Structure or Health Problems	Buried flare. Codominant at 2 feet. Some inclusion. Suppressed north and south. Trunk wound at 10 feet. 60% hollow at trunk. Vigor fair to poor. Density fair.
850		X		Yes						Blue Oak	*Quercus douglasii*		17	0	54	21	1 Extreme Structure or Health Problems	Buried flare. Codominant at 12 feet. Dead leader from 4-12 feet. Compartmentalized. 50% hollow at trunk. Suppressed north. One-sided leaning canopy south. Vigor poor. Density fair.
851		X		Yes						Blue Oak	*Quercus douglasii*		28	28	12	12	3 Fair - Minor Problems	Swollen flare west. Codominant at 36 inches. Less than severe deadwood lower canopy. Density fair. Vigor fair to poor.
852		X		Yes						Blue Oak	*Quercus douglasii*		14	14	54	18	2 Major Structure or Health Problems	Buried flare suppression. East trunk bows west at 10 feet. Vigor fair

853		X		Yes						Blue Oak	*Quercus douglasii*		8	8	54	12	2 Major Structure or Health Problems	Buried flare suppressed above. Codominant at 15 feet. Vigor fair. Density fair.
854		X		Yes						Blue Oak	*Quercus douglasii*		17	17	54	21	3 Fair - Minor Problems	Buried flare. Codominant at 30 feet. Vigor fair. Density fair.
855		X		Yes						Blue Oak	*Quercus douglasii*		10	0	54	6	1 Extreme Structure or Health Problems	Buried flare. Suppressed above. Trunk wound from 6-10 feet. Compartmentalized 50% hollow. Top is wound sprouts. Vigor poor. Density poor.
856		X		Yes						Blue Oak	*Quercus douglasii*		7	0	54	9	1 Extreme Structure or Health Problems	Buried flare. Basal decay north. Seam and bark west from base to 4 feet. Suppression east. One-sided leaning canopy southwest.
857		X		Yes						Blue Oak	*Quercus douglasii*		14	14	54	24	3 Fair - Minor Problems	Buried flare. Seam in bark with decay at 10-13 feet. Codominant at 28 feet. Vigor fair. Density fair.
858		X		Yes						Blue Oak	*Quercus douglasii*		30	30	54	24	3 Fair - Minor Problems	Buried flare. Codominant at 12 feet. Vigor fair. Density fair.
859		X		Yes						Blue Oak	*Quercus douglasii*		29	29	54	24	2 Major Structure or Health Problems	Buried flare. Codominant at 15 feet. Multiple broken branches in lower canopy decay and wounds. Vigor fair to poor. Density fair.
860		X	841	Yes						Blue Oak	*Quercus douglasii*		35	35	54	30	3 Fair - Minor Problems	Buried flare. Codominant at 20 feet. Less than severe dead branches in lower canopy. Vigor fair. Density fair.
861		X		Yes						Blue Oak	*Quercus douglasii*		31	31	54	27	2 Major Structure or Health Problems	Swollen flare. Slight lean east. Signs of lifting in soil west.
862		X	879	Yes				38		Blue Oak	*Quercus douglasii*		38	38	54	30	3 Fair - Minor Problems	Buried flare. Codominant at 20 feet. Large laterals at 5 feet growing to the ground west, south and north. Vigor fair. Density fair.
863		X		Yes					30	Blue Oak	*Quercus douglasii*		30	30	54	24	3 Fair - Minor Problems	Buried flare. Codominant at 18 feet. Vigor fair. Density fair.
864		X	882	Yes					31	Blue Oak	*Quercus douglasii*		31	31	54	24	2 Major Structure or Health Problems	Codominant at 12 feet. 14-inch breakout with tear west. Wound decayed. Significant dead branches lower canopy. Vigor fair to poor. Density fair.
865		X	883	Yes					27	Blue Oak	*Quercus douglasii*		27	27	54	21	3 Fair - Minor Problems	Flare buried north. Codominant at 18 feet. Multiple lateral failures at trunk decay and wound. Vigor fair. Density fair.
866		X	884	Yes					0	Blue Oak	*Quercus douglasii*		35	0	54	24	1 Extreme Structure or Health Problems	Flare swollen large lateral breakout at 10 feet. Decay in wound from 12 feet to base. 50% hollow at trunk. Codominant leader failure at 22 feet. Wound decayed. Took out half canopy. Vigor extremely poor. Density poor.
867		X	876	Yes					27	Blue Oak	*Quercus douglasii*		27	27	54	27	3 Fair - Minor Problems	Buried flare. Codominant at 15 feet. Vigor fair. Density fair.

868		X		Yes					26	Blue Oak	*Quercus douglasii*		26	26	54	24	2 Major Structure or Health Problems	Buried flare. Codominant at 5 feet. Recent 12-inch lateral breakout at trunk tearing off the bark south side at 30 feet. Exposed sapwood. 20% mistletoe. Vigor fair to poor. Density fair.
869		X	877	Yes					0	Blue Oak	*Quercus douglasii*		58	0	54	28	1 Extreme Structure or Health Problems	Swollen flare. Codominant at 32 feet. 2 lateral breakouts at trunk south site. Compartmentalization decay and wounds. 30% hollow at trunk. Severe wounds throughout canopy from breakouts. Decay in wound. Vigor poor. Density fair.
870		X	863	Yes					38	Blue Oak	*Quercus douglasii*		38	38	54	24	3 Fair - Minor Problems	Swollen flare. Codominant at 15 feet. Vigor fair. Density fair.
871		X		Yes					23	Blue Oak	*Quercus douglasii*		23	23	36	15	3 Fair - Minor Problems	Buried flare east. Codominant at 8 feet. Minor mistletoe. Vigor fair. Density fair.
872		X	861	Yes					33	Blue Oak	*Quercus douglasii*		33	33	54	27	3 Fair - Minor Problems	Buried flare west up grade. Codominant at 18 feet. 10% mistletoe. Suppression north. One-sided canopy growth. Leans southwest. Vigor fair to poor. Density fair to poor.
873		X	860	Yes					30	Blue Oak	*Quercus douglasii*		30	30	12	17	3 Fair - Minor Problems	Buried flare in north up grade. Codominant at 6 feet. Vigor fair. Density fair.
874		X	859	Yes					14	Blue Oak	*Quercus douglasii*		14	14	36	10	3 Fair - Minor Problems	Swollen flare. Codominant at 4 feet. Suppressed east. Vigor fair. Density fair.
875		X	858	Yes					10	Blue Oak	*Quercus douglasii*		10	10	36	8	2 Major Structure or Health Problems	Flare buried. Codominant at 4 feet. Suppressed from above. One-sided leaning canopy west. Vigor fair to poor. Density fair.
876		X	857	Yes					25	Blue Oak	*Quercus douglasii*		25	25	12	24	2 Major Structure or Health Problems	Buried flare west up grade. Growing into canopy north. Vigor fair. Density fair.
877		X	856	Yes					35	Blue Oak	*Quercus douglasii*		35	35	54	27	3 Fair - Minor Problems	Buried flare west up grade. Codominant at 18 feet. Density fair. Vigor fair.
878		X	870	Yes					0	Blue Oak	*Quercus douglasii*		63	0	54	45	1 Extreme Structure or Health Problems	Swollen flare. Codominant at 35 feet. Decay from base to 20 feet east side. Severe dead branches and breakout wounds to trunk throughout canopy. Vigor poor. Density poor.
879		X	868	Yes					43	Valley Oak	*Quercus lobata*		43	43	54	45	3 Fair - Minor Problems	Swollen flare. Fruiting body on surface root 2 feet west from trunk. Codominant at 20 feet. Less than severe deadwood canopy. Vigor fair. Density fair.
880		X	869	Yes					43	Valley Oak	*Quercus lobata*		43	43	54	30	3 Fair - Minor Problems	Swollen flare south. Codominant at 10 feet. Vigor fair. Density fair.
881		X	866	Yes					0	Valley Oak	*Quercus lobata*		36	0	54	21	2 Major Structure or Health Problems	Flare normal. Codominant at 18 feet. Multiple leaders at trunk throughout canopy decay and wounds. Vigor fair to poor. Density fair to poor.
882		X	865	Yes					0	Valley Oak	*Quercus lobata*		46	0	54	27	1 Extreme Structure or Health Problems	Swollen flare 360°. Lateral failure at 8 feet. East compartmentalized. 60% hollow at trunk. Casing down bark to ground. Multiple leader failures at trunk. Decay and wounds. Vigor poor. Density poor.

883		X		Yes					0	Valley Oak	*Quercus lobata*		39	0	54	21	2 Major Structure or Health Problems	Buried flare west. 24-inch codominant lead failure east. Compartmentalized large open wound into sap wood. Took out half the canopy. Vigor poor. Density poor.
884		X		Yes					42	Valley Oak	*Quercus lobata*		42	42	54	24	2 Major Structure or Health Problems	Swollen flare east and west. Codominant at 8 feet. Failure in lateral at 10 feet. Compartmentalize open wound east facing. Beehive. Vigor fair. Density fair.
885		X		Yes					0	Blue Oak	*Quercus douglasii*		42	0	12	10	1 Extreme Structure or Health Problems	Flare swollen over mature fruit tree. Bark on trunk is calloused from livestock. Vigor extremely poor. Density poor.
886		X				Yes			20	Fruit	*Fruit sp.*	11,11,12	20	34	54	12	2 Major Structure or Health Problems	Flare swollen. Lower trunk callused from livestock. Multiple bark wounds in leaders. Vigor poor. Density fair.
887		X			Yes				0	Blue Oak	*Quercus douglasii*	8,8,8,9,9,10	21	0	54	6	2 Major Structure or Health Problems	Flare swollen. Codominant at base with weak attachments. Basal bark callused from livestock. Vigor poor. Density fair.
888		X		Yes					0	Valley Oak	*Quercus lobata*		49	0	54	30	1 Extreme Structure or Health Problems	Flare normal. 4 large diameter lateral breakouts at trunk exposing hardwood. Decay in wounds. Vigor poor. Density poor.
889		X		Yes					42	Valley Oak	*Quercus lobata*		42	42	54	30	2 Major Structure or Health Problems	Buried flare. Swollen north. Multiple branch breakouts from trunk. Vigor poor. Density poor.
890		X	867	Yes					47	Valley Oak	*Quercus lobata*		47	47	54	33	2 Major Structure or Health Problems	Buried flare. Trunk wound at 4 feet compartmentalized decay and wound. Multiple leader breakouts. Lower canopy decay and wounds. Vigor fair. Density fair.
891		X			Yes				0	Blue Oak	*Quercus douglasii*	6,15,16	23	0	54	10	1 Extreme Structure or Health Problems	Flare swollen west. Codominant at base. Leader dead in the middle. Vigor poor. Density fair.
892		X		Yes					0	Blue Oak	*Quercus douglasii*		51	0	54	24	1 Extreme Structure or Health Problems	Swollen flare. Was codominant at 12 feet. Codominant leaders failed, taking out entire top of tree. The only remaining foliage is from 3 injury sprouts south. Down to 5% foliage. Vigor extremely poor. Density extremely poor.
893		X		Yes					0	Blue Oak	*Quercus douglasii*		45	0	54	24	1 Extreme Structure or Health Problems	Basal decay north side. North side of the tree dead from top of 18 inch leader down to the base. 60% dead tissue north side of trunk. Severe broken limbs. Half canopy remaining. Vigor poor. Density poor.
894		X		Yes					35	Blue Oak	*Quercus douglasii*		35	35	54	18	3 Fair - Minor Problems	Buried flare. Codominant at 18 feet. Less than severe broken branches in dead branches. Vigor fair. Density fair.

895		X		Yes					43	Blue Oak	*Quercus douglasii*		43	43	54	41	2 Major Structure or Health Problems	Flare swollen west. Codominant at 12 feet. Multiple broken lateral mid branch and to trunk. Decay and wounds. Vigor fair to poor. Density fair.
896		X		Yes					0	Blue Oak	*Quercus douglasii*		46	0	54	45	1 Extreme Structure or Health Problems	Swollen flare. 32-inch top broken out on the ground. Every lateral remaining is broken. Only foliage on the tree is coming from epicormic sprouts, primarily from a 22-inch lateral south at 8 feet. Vigor extremely poor. Density extremely poor.
897		X		Yes					60	Valley Oak	*Quercus lobata*		60	60	54	27	2 Major Structure or Health Problems	Swollen flare. Codominant at 15 feet. Significant amount of dead branches. Wounds at mid-branch and at trunk. Vigor fair to poor. Density fair.
898		X		Yes					33	Valley Oak	*Quercus lobata*		33	33	54	24	3 Fair - Minor Problems	Swollen flare north. Codominant at 6 feet. Less than severe dead branches in lower canopy. Density fair. Vigor fair.
899		X		Yes					0	Valley Oak	*Quercus lobata*		41	0	54	18	1 Extreme Structure or Health Problems	Swollen flare. Original top breakout at 15 feet. Rotten wood down to base. 60% hollow at trunk. Vigor poor. Density fair to poor.
900		X		Yes					0	Blue Oak	*Quercus douglasii*		41	0	54	24	1 Extreme Structure or Health Problems	Buried flare. Codominant at 12 feet. Two 16-inch lateral failures at 6 feet south side. Compartmentalization in trunk wounds with decay. 50% hollow at trunk. Severe dead branches throughout canopy. Significant epicormic growth. Vigor poor. Density poor.
1501				Yes			No			Interior Live Oak	*Quercus wislizenii*		6.5		54	10	2 Major Structure or Health Problems	Young. Short. Crowded canopy. Covered in poison oak on steep slope. 10 feet from creek.
1502				Yes			No			Valley Oak	*Quercus lobata*		40		54	45	3 Fair - Minor Problems	Codominant trunks at 10 feet. No obvious defects. Good root flare. Good canopy structure.
1503				Yes			No			Interior Live Oak	*Quercus wislizenii*		48		54	35	1 Extreme Structure or Health Problems	Extensive decay. 3 codominant stems, 2 of which are dead. Branch on south side broken but remains attached.
1504				Yes			No			Blue Oak	*Quercus douglasii*		28		54	30	3 Fair - Minor Problems	Codominant at 12 feet. Leans entirely south. No obvious defects. Good vigor.
1505				Yes			No			Blue Oak	*Quercus douglasii*		35		54	35	3 Fair - Minor Problems	Codominant at 8 feet. Leans south. No obvious defects. Good vigor.
1506				Yes			No			Blue Oak	*Quercus douglasii*		16		54	22	2 Major Structure or Health Problems	Base somewhat buried. Heavy lean north. Mature epicormic growth. Moderate deadwood. Some dead foliage. Suppressed by surrounding canopies. Moderate vigor.
1507				Yes			No			Blue Oak	*Quercus douglasii*		45		54	50	3 Fair - Minor Problems	Codominant at 8 feet. Leans west. Good vigor. No obvious defects.
1508				Yes			No			Willow	*Salix*		26		54	20	1 Extreme Structure or Health Problems	Heavy northwest lean. Probably uprooted slightly at some point. Dense branch structure. Moderate deadwood.

1509				Yes			No			Willow	*Salix*		22		54	18	1 Extreme Structure or Health Problems	Codominant at 9 feet. Canopy leans southwest.
1510				No			No			Willow	*Salix*		18		54	20	2 Major Structure or Health Problems	Two main trunks start at ground. Leans north. Large amount of epocormic growth. Large dead branch. Poor canopy structure. Covered by adjacent canopy. Moderate vigor.
1511				No			No			Willow	*Salix*		18		54	25	2 Major Structure or Health Problems	Five trunks spread out all directions from ground level. Trunks low to ground. Moderate deadwood. Good vigor.
1512				Yes			No			Interior Live Oak	*Quercus wislizenii*		54		54	21	1 Extreme Structure or Health Problems	Retrenched old oak. Extensive decay at base. Extensive decay all through trunk. Moderate response growth. Poor canopy. Moderate vigor.
1513				Yes			No			Willow	*Salix*		19		54	20	2 Major Structure or Health Problems	Buried base on north side. Four trunks start at ground level, one splintered but still alive. Each trunk has had main leader breaks. Canopy mainly comprised of epicormic growth. Fair vigor.
1514				Yes			No			Willow	*Salix*		23		54	18	1 Extreme Structure or Health Problems	Severe decay at base. Codominant branch at 5 feet broken off. Lots of deadwood throughout entire tree. Fair vigor. Poor canopy structure.
1515				Yes			No		0	Blue Oak	*Quercus douglasii*		24	0	54	25	2 Major Structure or Health Problems	Minor fire damage at base. Moderate vigor. Many dead branches. Decay in branches. Top of tree is dead.
1516				Yes			No		0	Blue Oak	*Quercus douglasii*		40	0	54	22	2 Major Structure or Health Problems	Good trunk flare. Fire damage on base, leaving 40% of tissue dead. Poor canopy structure. Large decayed branches throughout canopy. Large dead top of canopy. Poor to moderate vigor.
1517				Yes			No			Blue Oak	*Quercus douglasii*		37		54	55	2 Major Structure or Health Problems	Good trunk flare. Minor fire damage on base on south side. Codominant at 15 feet. Moderate deadwood in canopy. Major failer at some point on south side 18 feet up. Good canopy structure. Good vigor.
1518				Yes			No			Interior Live Oak	*Quercus wislizenii*		33		54	48	3 Fair - Minor Problems	Good trunk flare. No obvious defects. Codominant at 10 feet. Good amount of deadwood below canopy. Good canopy structure. Strong vigor.
1519				Yes			No			Interior Live Oak	*Quercus wislizenii*		50		54	38	3 Fair - Minor Problems	Some basal decay on southwest. Codominant stems start at 4.5 feet. Good canopy structure. Many codominant branches. No major breaks. Good vigor.
1521				Yes			No			Blue Oak	*Quercus douglasii*		7		54	11	3 Fair - Minor Problems	Growing on slope. Base partially buried east side. Crowded codominant main leaders. Good vigor.
1522				Yes			No	26		Blue Oak	*Quercus douglasii*		26		54	29	3 Fair - Minor Problems	Good trunk flare. Good canopy structure. Minor decay on some branches. Good vigor.

1523				Yes			No		0	Interior Live Oak	*Quercus wislizenii*		28	0	54	28	1 Extreme Structure or Health Problems	Hollow trunk. 50% decayed. Heavy lean northeast. Major vertical crack completely through main leader. Poor canopy structure. Large broken branches. Moderate vigor.
1524				Yes			No	34		Blue Oak	*Quercus douglasii*		34		54	48	3 Fair - Minor Problems	Partially uprooted long ago. Most of main trunk is at a 45° angle. Good canopy structure and vigor.
1525				Yes			No		28	Blue Oak	*Quercus douglasii*		28		54	22	3 Fair - Minor Problems	Good trunk flare. No obvious defects on base. Codominant trunks at 11 feet. Canopy leans northwest. Exposed south trunk. Good vigor.
1526				Yes			No	50		Interior Live Oak	*Quercus wislizenii*		50		54	45	1 Extreme Structure or Health Problems	Completely hollowed-out base and up through main trunk. Top has high risk of failure due to weight. Moderate canopy structure. One large dead branch on north side. Good vigor.
1527				Yes			No			Valley Oak	*Quercus lobata*		30		54	20	3 Fair - Minor Problems	Good tension wood at base. No obvious defects. Leans northwest. Good branch structure. Some dead branches. Good canopy. Good vigor.
1528				Yes			No		37	Blue Oak	*Quercus douglasii*		37		54	25	4 Good - No Apparent Problems	Good base flare. Good branch structure. Good canopy structure. Good vigor.
1529				Yes			No		47	Blue Oak	*Quercus douglasii*		47		54	16	2 Major Structure or Health Problems	Swollen base. Major decay from large branch failures on all sides. Poor canopy structure. Moderate vigor.
1530				Yes			No		28	Blue Oak	*Quercus douglasii*		28		54	17	3 Fair - Minor Problems	Good base flare. No obvious defects. Codominant at 6 feet. One medium break on main branch. Moderate canopy structure. Good vigor.
1531				Yes			No		0	Blue Oak	*Quercus douglasii*		45		54	13	1 Extreme Structure or Health Problems	Large decay pocket with large bees nest 5 feet on west side. Major 25-foot leader broken off. One long overextended branch left. Moderate vigor.
1532				Yes			No		27	Blue Oak	*Quercus douglasii*		27		54	15	3 Fair - Minor Problems	Good base and branch structure. One large break in canopy. Good canopy structure and vigor.
1533				Yes			No		29	Blue Oak	*Quercus douglasii*		29		54	15	3 Fair - Minor Problems	Swollen base. No obvious defects. Leans northeast. Good branch structure. Good canopy structure. Good vigor.
1534				Yes			No		35	Blue Oak	*Quercus douglasii*		35		54	13	2 Major Structure or Health Problems	Swollen base. No obvious defects on base. Lop-sided branch structure toward northeast. One medium break on north side 15 feet up. Moderate canopy structure. Good vigor.
1535				Yes			No		0	Blue Oak	*Quercus douglasii*		33	0	54	13	2 Major Structure or Health Problems	30% base decayed south side. Large decay 18 feet up. Moderate canopy structure. Good vigor.
1536				Yes			No		45	Blue Oak	*Quercus douglasii*		45		54	18	2 Major Structure or Health Problems	Good base flare. Old wound sealed over and swollen. Codominant at 7 feet up. Moderate branch structure. Number of large breaks in canopy. Moderate canopy structure. Good vigor.

1537				Yes			No			Blue Oak	*Quercus douglasii*		33		54	12	2 Major Structure or Health Problems	Base swollen with decay. Dying bark. Moderate branch structure. Two large breaks in secondary leader. Moderate vigor.
1538				Yes			No			Blue Oak	*Quercus douglasii*		22		54		2 Major Structure or Health Problems	Swollen base. First 20 feet of trunk covered in wound wood. Stunted branches. Covered by other tree on south side. Moderate canopy structure. Good vigor.
1539				Yes			No			Blue Oak	*Quercus douglasii*		18		54	10	3 Fair - Minor Problems	Healthy base. Leans northeast. Moderate canopy structure. Some dead and broken branches. Good vigor.
1540				Yes			No		20	Blue Oak	*Quercus douglasii*		20		54	9	2 Major Structure or Health Problems	Swollen base. Good branch structure. Two visible medium breaks in canopy. Good vigor.
1541				Yes			No		18	Blue Oak	*Quercus douglasii*		18		54	15	2 Major Structure or Health Problems	No obvious defects on base. Moderate branch structure. Overextended branch with deadwood on northeast. Moderate canopy structure. Dead top leader.
1542				Yes			No		50	Blue Oak	*Quercus douglasii*		50		54	25	3 Fair - Minor Problems	Good base flare. One 8-inch hole with good wound wood surrounding opening. Five large old breaks in first 25 feet. Good response growth. Good canopy structure. Good vigor.
1543				Yes			No		36	Blue Oak	*Quercus douglasii*		36		54	23	3 Fair - Minor Problems	Good flare. Good branch structure. Couple medium to large breaks. Good canopy structure. Good vigor.
1544				Yes			No		0	Blue Oak	*Quercus douglasii*		32		54	20	1 Extreme Structure or Health Problems	Good base flare. Codominant stem failed 5 feet up, leaving large scar and decay. Moderate branch structure. Moderate canopy structure. Moderate vigor.
1545				Yes			No		21	Blue Oak	*Quercus douglasii*		21		54	15	3 Fair - Minor Problems	Healthy base. No obvious defects on trunk. Moderate branch structure. Good canopy structure. Moderate vigor.
1546				Yes			No		0	Blue Oak	*Quercus douglasii*		17	0	54	11	2 Major Structure or Health Problems	Base partially buried. Leans east. Suppressed growth because of adjacent tree. Dead/dying bark 10 feet up on trunk. Poor canopy structure. Moderate vigor.
1547				Yes			No		24	Blue Oak	*Quercus douglasii*		24		54	12	2 Major Structure or Health Problems	Good base flare. Many breaks throughout tree. Moderate canopy structure. Moderate vigor.
1548				Yes			No		22	Blue Oak	*Quercus douglasii*		22		54	13	2 Major Structure or Health Problems	Good base flare. No obvious defects. One large stem failure northwest side. Poor branch and canopy structure. Moderate vigor.
1549				Yes			No			Blue Oak	*Quercus douglasii*		40		54	25	2 Major Structure or Health Problems	Good base flare. Good branch structure. Much epicormic growth throughout branches. Moderate deadwood. Moderate canopy structure. Moderate to low vigor.

1551				Yes			No	28		Blue Oak	*Quercus douglasii*		28		54	8	2 Major Structure or Health Problems	Healthy base. Codominant branches 7 feet up, both swollen/decayed. Tree in retrenchment, leaving it small. Moderate vigor. Moderate canopy structure.
1552				Yes			No		30	Blue Oak	*Quercus douglasii*		30		54	20	2 Major Structure or Health Problems	Good base flare. Codominant at 7 feet. Good branch structure. Over 10 visible branch failures. Moderate to high deadwood. Good canopy structure. Good vigor.
1553				Yes			No		0	Blue Oak	*Quercus douglasii*		33	0	54	19	2 Major Structure or Health Problems	Good base flare. Dead bark 16 feet up. Leans east. Moderate canopy structure. Moderate amount of deadwood. High epicormic growth. Moderate vigor.
1554				Yes			No		0	Blue Oak	*Quercus douglasii*		30	0	54	16	1 Extreme Structure or Health Problems	Swollen trunk 2 feet up. Large decay in base. Poor trunk structure. Moderate canopy structure. Moderate vigor.
1555				Yes						Blue Oak	*Quercus douglasii*		29		54	20	3 Fair - Minor Problems	Weak attachments. Epicormic growth.
1556				Yes						Blue Oak	*Quercus douglasii*		23.5		54	18	3 Fair - Minor Problems	Leans south. Low branches.
1557										Blue Oak	*Quercus douglasii*		18		54	11	1 Extreme Structure or Health Problems	
1558				Yes						Blue Oak	*Quercus douglasii*		28.5		54	22	3 Fair - Minor Problems	One-sided west. Base surrounded by rocks.
1559				Yes						Blue Oak	*Quercus douglasii*		30		54	17	1 Extreme Structure or Health Problems	Only live growth is epicormic. Leans west.
1560										Blue Oak	*Quercus douglasii*		11		54	14	3 Fair - Minor Problems	
1561				Yes						Blue Oak	*Quercus douglasii*		27		54	15	1 Extreme Structure or Health Problems	Basal cavity west side. Codominant at 8 feet with weak attachment.
1562				Yes						Blue Oak	*Quercus douglasii*		20.5		54	7	1 Extreme Structure or Health Problems	Canopy failure.
1563				Yes						Blue Oak	*Quercus douglasii*		35.5		54	20	1 Extreme Structure or Health Problems	Large limb failure. Rest leans south.
1564				Yes						Blue Oak	*Quercus douglasii*		33		54	20	1 Extreme Structure or Health Problems	Canopy failure. Slight lean east.
1565				Yes						Blue Oak	*Quercus douglasii*		23.5		54	18	3 Fair - Minor Problems	Leans west. Epicormic growth.

1566				Yes						Blue Oak	*Quercus douglasii*		20		54	4	1 Extreme Structure or Health Problems	Canopy failure. Mostly dead hollow sound when tagged.
1567				Yes						Blue Oak	*Quercus douglasii*		27		54	30	1 Extreme Structure or Health Problems	Epicormic growth. Small limb deadwood.
1568				Yes						Blue Oak	*Quercus douglasii*		44		54	45	3 Fair - Minor Problems	Rock on north side. Small limb deadwood.
1569				Yes					40	Blue Oak	*Quercus douglasii*		40		54	30	3 Fair - Minor Problems	Large limb failure north side with weak attachments and 3-inch inclusion at crotch.
1570				Yes					0	Blue Oak	*Quercus douglasii*		42		54	35	1 Extreme Structure or Health Problems	Three inclusion split to ground north side. Sparse foliage. Epicormic growth.
1571				Yes					40	Blue Oak	*Quercus douglasii*		40.5		54	40	3 Fair - Minor Problems	Weak attachments 10 feet. Low branching.
1572				Yes					0	Blue Oak	*Quercus douglasii*		28.5	0	54	15	1 Extreme Structure or Health Problems	Canopy failure. Remaining leans southeast.
1573				Yes					37	Blue Oak	*Quercus douglasii*		36.5		54	20	3 Fair - Minor Problems	Leans south, one-sided.
1574				Yes					18	Blue Oak	*Quercus douglasii*		18		54	15	3 Fair - Minor Problems	Small limb deadwood.
1575				Yes				17		Blue Oak	*Quercus douglasii*		17		54	15	3 Fair - Minor Problems	Small limb deadwood.
1576				Yes						Blue Oak	*Quercus douglasii*		17		54	15	3 Fair - Minor Problems	Small limb deadwood, epicormic growth.
1577				Yes						Blue Oak	*Quercus douglasii*		27.5		54	20	2 Major Structure or Health Problems	Small limb deadwood, epicormic growth, basal cavity north side.
1578				Yes						Blue Oak	*Quercus douglasii*		24		54	20	3 Fair - Minor Problems	Small limb deadwood, epicormic growth.
1579				Yes						Blue Oak	*Quercus douglasii*		14		54	15	3 Fair - Minor Problems	Small limb deadwood, low epicormic growth.
1580				Yes						Blue Oak	*Quercus douglasii*		21.5		54	15	3 Fair - Minor Problems	Weak attachments 8 feet. Epicormic growth.
1581				Yes						Blue Oak	*Quercus douglasii*		9		54	10	3 Fair - Minor Problems	Epicormic growth, suppressed.
1582				Yes						Blue Oak	*Quercus douglasii*		12		54	10	3 Fair - Minor Problems	Low epicormic growth. Surrounded by rock.
1583				Yes						Blue Oak	*Quercus douglasii*		6		54	5	3 Fair - Minor Problems	Suppressed.
1584				Yes						Blue Oak	*Quercus douglasii*		18		54	15	3 Fair - Minor Problems	Suppressed. Weak attachments at 8 feet. One-sided east.
1585				Yes						Blue Oak	*Quercus douglasii*		10		54	5	3 Fair - Minor Problems	Suppressed. One-sided east.

1586				Yes						Blue Oak	*Quercus douglasii*		12		54	15	2 Major Structure or Health Problems	One-sided north. Small limb deadwood. Trunk decay.
1587				Yes						Blue Oak	*Quercus douglasii*		11.5		54	10	3 Fair - Minor Problems	One-sided north. Small limb deadwood.
1588				Yes						Blue Oak	*Quercus douglasii*		12		54	15	3 Fair - Minor Problems	Leans north. One-sided. Suppressed.
1589				Yes						Blue Oak	*Quercus douglasii*		16.5		54		2 Major Structure or Health Problems	Basal cavity north side. Leans west.
1590				Yes						Blue Oak	*Quercus douglasii*		11		54	5	2 Major Structure or Health Problems	Suppressed. Low epicormic growth.
1591				Yes						Blue Oak	*Quercus douglasii*		9		54	10	3 Fair - Minor Problems	Leans east.
1592				Yes						Blue Oak	*Quercus douglasii*		11.5		54		3 Fair - Minor Problems	Small limb deadwood. Epicormic growth.
1593				Yes						Blue Oak	*Quercus douglasii*		10		54	12	3 Fair - Minor Problems	Small limb deadwood. Epicormic growth.
1594				Yes						Blue Oak	*Quercus douglasii*		9		54	15	3 Fair - Minor Problems	Canopy leans west. Suppressed.
1595				Yes						Blue Oak	*Quercus douglasii*		14.5		54	20	3 Fair - Minor Problems	Small limb deadwood. Epicormic growth.
1596				Yes						Blue Oak	*Quercus douglasii*		11		54	5	3 Fair - Minor Problems	Low epicormic growth. Sparse canopy.
1597				Yes						Blue Oak	*Quercus douglasii*		15		54	15	3 Fair - Minor Problems	Weak attachments 10 feet. Epicormic growth.
1598				Yes						Blue Oak	*Quercus douglasii*		15		54	12	3 Fair - Minor Problems	One-sided west. Epicormic growth.
1599				Yes						Blue Oak	*Quercus douglasii*		13		54	12	3 Fair - Minor Problems	One-sided southwest. Epicormic growth.
1600				Yes						Blue Oak	*Quercus douglasii*		25		54	20	3 Fair - Minor Problems	One-sided southeast. Suppressed.
1601				Yes						Blue Oak	*Quercus douglasii*		18.5		54	12	3 Fair - Minor Problems	
1602				Yes						Blue Oak	*Quercus douglasii*		16		54	18	3 Fair - Minor Problems	One-sided east. Suppressed. Epicormic growth. Growing over rock on north side.
1603				Yes						Blue Oak	*Quercus douglasii*		14		54	15	3 Fair - Minor Problems	One-sided east. Suppressed. Epicormic growth. Base surrounded by rock.
1604				Yes						Blue Oak	*Quercus douglasii*		15		54	12	3 Fair - Minor Problems	One-sided east. Suppressed. Epicormic growth. Base surrounded by rock.
1605				Yes						Blue Oak	*Quercus douglasii*		11.5		54	12	2 Major Structure or Health Problems	Codominant at base. North branch dead. Existing epicormic growth. One-sided east.
1606				Yes						Blue Oak	*Quercus douglasii*		22.5		54	18	3 Fair - Minor Problems	Weak attachments starting at 8 feet. Epicormic growth. Medium deadwood.
1607				Yes						Blue Oak	*Quercus douglasii*		15		54	15	3 Fair - Minor Problems	Low epicormic growth.

1608				Yes						Blue Oak	*Quercus douglasii*		8		54	10	3 Fair - Minor Problems	Low epicormic growth. Sparse canopy.
1609				Yes						Blue Oak	*Quercus douglasii*		14		54	10	3 Fair - Minor Problems	One-sided southeast. Surrounded by rock. Epicormic growth.
1610				Yes						Blue Oak	*Quercus douglasii*		14		54	15	3 Fair - Minor Problems	One-sided west. Surrounded by rock. Epicormic growth.
1611				Yes						Blue Oak	*Quercus douglasii*	7,9	11		54	15	3 Fair - Minor Problems	Codominant at 2 feet. Tip dieback. Epicormic growth.
1612				Yes						Blue Oak	*Quercus douglasii*		16		54	22	3 Fair - Minor Problems	Nearby small tree failed on this tree at 12 feet north.
1613				Yes						Blue Oak	*Quercus douglasii*		11		54	15	3 Fair - Minor Problems	Leans/one-sided west. Epicormic growth.
1614				Yes						Blue Oak	*Quercus douglasii*		14.5		54	20	3 Fair - Minor Problems	Epicormic growth. Tip dieback.
1615				Yes				13		Blue Oak	*Quercus douglasii*		13		54	20	3 Fair - Minor Problems	One-sided east. Suppressed.
1616				Yes					13	Blue Oak	*Quercus douglasii*		13.5		54	10	3 Fair - Minor Problems	Tip dieback. Epicormic growth.
1617				Yes					11	Blue Oak	*Quercus douglasii*		10.5		54	15	3 Fair - Minor Problems	Leans east. Suppressed. Tip dieback. Epicormic growth.
1618				Yes				11		Blue Oak	*Quercus douglasii*		11		54	15	3 Fair - Minor Problems	Leans east. Suppressed.
1619				Yes					8	Blue Oak	*Quercus douglasii*		8		54	12	3 Fair - Minor Problems	Leans north. Suppressed.
1620				Yes					13	Blue Oak	*Quercus douglasii*		13		54	12	3 Fair - Minor Problems	One-sided east.
1621				Yes						Blue Oak	*Quercus douglasii*		9		54	6	3 Fair - Minor Problems	Tip dieback. Low epicormic growth.
1622				Yes						Blue Oak	*Quercus douglasii*		13		54	20	3 Fair - Minor Problems	Tip dieback. Low epicormic growth. Leans north.
1623				Yes						Blue Oak	*Quercus douglasii*		22		54	25	1 Extreme Structure or Health Problems	Weak attachments at 6 feet. North limb dead. Basal cavity east.
1624				Yes						Blue Oak	*Quercus douglasii*		10		54	20	3 Fair - Minor Problems	Leans east. Small branch deadwood.
1625				Yes				29		Blue Oak	*Quercus douglasii*		29		54	35	3 Fair - Minor Problems	Small branch deadwood.
1626				Yes						Blue Oak	*Quercus douglasii*		7.5		54	10	3 Fair - Minor Problems	Leans west. Suppressed. Surrounded by rock.
1627								19		Blue Oak	*Quercus douglasii*	10,16	19		24	12	3 Fair - Minor Problems	Forks at 1 foot with 2-inch inclusion. Surrounded by rock.
1628				Yes						Blue Oak	*Quercus douglasii*		22.5		54	18	3 Fair - Minor Problems	Weak attachments at 10 feet. Surrounded by rock. Leans south.
1629				Yes						Blue Oak	*Quercus douglasii*		15		54	15	3 Fair - Minor Problems	Small branch deadwood. Surrounded by rock.
1630				Yes						Blue Oak	*Quercus douglasii*		12		54	12	3 Fair - Minor Problems	Trunk growing into rock northeast side. One-sided east.
1631				Yes						Blue Oak	*Quercus douglasii*		22		54	20	3 Fair - Minor Problems	Codominant at 10 feet with included bark. Small branch deadwood.
1632				Yes						Blue Oak	*Quercus douglasii*		10		54	15	3 Fair - Minor Problems	Leans south. Growing out of rock.

1633				Yes						Blue Oak	*Quercus douglasii*		6		54	5	3 Fair - Minor Problems	Leans south. Growing out of rock. Suppressed.
1634				Yes						Blue Oak	*Quercus douglasii*		13		54	5	3 Fair - Minor Problems	Closing split in bark to 3 feet south side. Growing out of rock.
1635				Yes					10	Blue Oak	*Quercus douglasii*		10		54	15	3 Fair - Minor Problems	Leans north. Epicormic growth.
1636				Yes					19	Blue Oak	*Quercus douglasii*		19.5		54	15	3 Fair - Minor Problems	One-sided west.
1637				Yes					14	Blue Oak	*Quercus douglasii*		14		54	15	3 Fair - Minor Problems	One-sided west.
1638				Yes					19	Blue Oak	*Quercus douglasii*		18.5		54	18	3 Fair - Minor Problems	Small branch deadwood.
1639				Yes					17	Blue Oak	*Quercus douglasii*		17		54	12	3 Fair - Minor Problems	Small branch deadwood.
1640				Yes					16	Blue Oak	*Quercus douglasii*		16		54	12	3 Fair - Minor Problems	Slight lean north. Suppressed. Small branch failures.
1641				Yes					15	Blue Oak	*Quercus douglasii*		15		54	12	3 Fair - Minor Problems	
1642				Yes					11	Blue Oak	*Quercus douglasii*		11.5		54	10	3 Fair - Minor Problems	Canopy leans east. Sparse canopy. Suppressed.
1643				Yes					0	Blue Oak	*Quercus douglasii*		10.5	0	54	10	1 Extreme Structure or Health Problems	Canopy leans west. Sparse canopy. Suppressed. Epicormic growth. Basal cavity east.
1644				Yes					9	Blue Oak	*Quercus douglasii*		9		54	20	3 Fair - Minor Problems	Leans east. Suppressed. Base surrounded by rock. Epicormic growth.
1645				Yes				12		Blue Oak	*Quercus douglasii*		12		54	12	3 Fair - Minor Problems	Leans east. Suppressed. Small branch deadwood. Epicormic growth.
1646					Yes					Blue Oak	*Quercus douglasii*	12,12	17		36	20	3 Fair - Minor Problems	Forks at 3 feet. Small branch deadwood. Epicormic growth.
1647				Yes						Blue Oak	*Quercus douglasii*		7		54	5	2 Major Structure or Health Problems	Sparse canopy. Sparse foliage. Suppressed. Epicormic growth.
1648				Yes						Blue Oak	*Quercus douglasii*		9		54	12	2 Major Structure or Health Problems	Sparse canopy. Suppressed. Canopy leans west.
1649				Yes						Blue Oak	*Quercus douglasii*		8		54	5	2 Major Structure or Health Problems	Canopy failure. Suppressed.
1650				Yes					6	Blue Oak	*Quercus douglasii*		6		54	4	2 Major Structure or Health Problems	Leans north. Suppressed. Growing out of rock.
1651					Yes					Blue Oak	*Quercus douglasii*	9.5,9.5	13		54	10	1 Extreme Structure or Health Problems	Basal cavity north. Forks at 4 feet.
1652				Yes						Blue Oak	*Quercus douglasii*		12.5		54	10	3 Fair - Minor Problems	Canopy leans south. Suppressed. One-sided.

1653				Yes				26.5		Blue Oak	*Quercus douglasii*		26.5		54	22	3 Fair - Minor Problems	Base surrounded by rock/mistletoe.
1654					Yes				14	Blue Oak	*Quercus douglasii*	9,11	14		54	15	3 Fair - Minor Problems	Low branching forks at 2 feet. Reaction wood from old limb south side at base.
1655				Yes					12	Blue Oak	*Quercus douglasii*		12		54	10	3 Fair - Minor Problems	Base surrounded by rock. Epicormic growth.
1656				Yes					13	Blue Oak	*Quercus douglasii*		13		54	10	3 Fair - Minor Problems	Epicormic growth. Small limb deadwood.
1657				Yes					14.5	Blue Oak	*Quercus douglasii*		14.5		54	12	3 Fair - Minor Problems	Epicormic growth. Small limb deadwood. Two old closing wounds west side at base.
1658					Yes				17	Blue Oak	*Quercus douglasii*	11,12.5	17		54	15	3 Fair - Minor Problems	Forks at 2 feet. Epicormic growth. Small limb deadwood. One-sided east. Suppressed.
1659				Yes					12	Blue Oak	*Quercus douglasii*		12		54	8	3 Fair - Minor Problems	Small limb deadwood. Epicormic growth.
1660				Yes					9.5	Blue Oak	*Quercus douglasii*		9.5		54	5	3 Fair - Minor Problems	Small limb deadwood. Epicormic growth. Suppressed. Multiple closing trunk wounds.
1661				Yes					12.5	Blue Oak	*Quercus douglasii*		12.5		54	10	3 Fair - Minor Problems	One-sided west. Suppressed. Epicormic growth. Weak attachments at 5 feet.
1662				Yes					23.5	Blue Oak	*Quercus douglasii*		23.5		54	12	3 Fair - Minor Problems	Small limb deadwood. Epicormic growth. Mistletoe.
1663				Yes					18	Blue Oak	*Quercus douglasii*		18		54	15	3 Fair - Minor Problems	Epicormic growth. Mistletoe. Base surrounded by rock.
1664				Yes					9	Blue Oak	*Quercus douglasii*		9		54	6	3 Fair - Minor Problems	Epicormic growth. Mistletoe. Base surrounded by rock.
1665				Yes					13.5	Blue Oak	*Quercus douglasii*		13.5		54	10	3 Fair - Minor Problems	Epicormic growth. Mistletoe. Base surrounded by rock.
1666				Yes					9.5	Blue Oak	*Quercus douglasii*		9.5		54	5	3 Fair - Minor Problems	Epicormic growth. Base surrounded by rock. One-sided west.
1667				Yes					12.5	Blue Oak	*Quercus douglasii*		12.5		54	6	3 Fair - Minor Problems	Base surrounded by rock.
1668				Yes					13.5	Blue Oak	*Quercus douglasii*		13.5		54	6	3 Fair - Minor Problems	Base leans east then corrects at 2 feet. Epicormic growth. Mistletoe.
1669					Yes				0	Blue Oak	*Quercus douglasii*	8,13	15	0	54	12	1 Extreme Structure or Health Problems	Basal decay. Epicormic growth. Decay branches. Splits at 1 foot.
1670					Yes				13	Blue Oak	*Quercus douglasii*	7,11.5	13		54	12	3 Fair - Minor Problems	Forks at 2 feet. Base growing out of rock. Epicormic growth.
1671				Yes					9	Blue Oak	*Quercus douglasii*		9		54	6	3 Fair - Minor Problems	Base growing out of rock.
1672				Yes					12.5	Blue Oak	*Quercus douglasii*		12.5		54	6	3 Fair - Minor Problems	Base growing out of rock. Epicormic growth.
1673				Yes					23	Blue Oak	*Quercus douglasii*		23		54	22	3 Fair - Minor Problems	Base growing out of rock. Epicormic growth. Sparse foliage. Small limb deadwood.
1674				Yes					8	Blue Oak	*Quercus douglasii*		8		54	6	3 Fair - Minor Problems	Base growing out of rock.
1675					Yes				12	Blue Oak	*Quercus douglasii*	8,9	12		54	6	3 Fair - Minor Problems	Forks at 3 feet. Base growing out of rock.
1676				Yes					17.5	Blue Oak	*Quercus douglasii*		17.5		54	10	3 Fair - Minor Problems	Small limb deadwood. Base growing out of rock.

1677					Yes				0	Blue Oak	*Quercus douglasii*	29,29	41	0	54	25	1 Extreme Structure or Health Problems	Large codominant failure south limb. Low branching on remaining.
1678				Yes					23.5	Blue Oak	*Quercus douglasii*		23.5		54	22	3 Fair - Minor Problems	Epicormic growth.
1679				Yes						Blue Oak	*Quercus douglasii*		9.5		54	10	3 Fair - Minor Problems	Epicormic growth. Small limb deadwood. Base surrounded by rock.
1680										Blue Oak	*Quercus douglasii*	5,10,17	20		54	12	3 Fair - Minor Problems	Forks at 3 feet. Epicormic growth. Small limb deadwood. Base surrounded by rock.
1681				Yes						Blue Oak	*Quercus douglasii*		20.5		54	15	3 Fair - Minor Problems	Small limb deadwood. Epicormic growth.
1682					Yes					Blue Oak	*Quercus douglasii*	7.5,8.5,11,15	22		54	15	3 Fair - Minor Problems	Weak attachments at 1 foot. Small limb deadwood. Epicormic growth. Surrounded by rock.
1683				Yes						Blue Oak	*Quercus douglasii*		11.5		54	15	3 Fair - Minor Problems	Small limb deadwood. Epicormic growth.
1684					Yes					Blue Oak	*Quercus douglasii*	7.5,9.5,10	16		54	10	3 Fair - Minor Problems	Forks at 1 foot. Small limb deadwood. Epicormic growth.
1685				Yes						Blue Oak	*Quercus douglasii*		10		54	10	3 Fair - Minor Problems	Small limb deadwood. Epicormic growth.
1686				Yes						Blue Oak	*Quercus douglasii*		16		54	12	3 Fair - Minor Problems	Small limb deadwood. Epicormic growth. Mistletoe. Surrounded by rock. 7.5-inch south limb.
1687					Yes					Blue Oak	*Quercus douglasii*	6.5,7,10.5	14		54	10	3 Fair - Minor Problems	Forks at 1 foot. Surrounded by rock. Small limb deadwood.
1688					Yes					Blue Oak	*Quercus douglasii*	8.5,10	13		54	10	3 Fair - Minor Problems	Forks at 1 foot. Surrounded by rock. Small limb deadwood. Mistletoe.
1689					Yes					Blue Oak	*Quercus douglasii*	10,15,15.5	24		54	20	3 Fair - Minor Problems	Forks at 4 feet. Growing along edge of creek. Small limb deadwood.
1690				Yes						Blue Oak	*Quercus douglasii*		14		54	15	3 Fair - Minor Problems	Growing along edge of creek. Small limb deadwood. Epicormic growth.
1691				Yes						Blue Oak	*Quercus douglasii*		20		54	15	3 Fair - Minor Problems	Above average deadwood. Surrounded by rock.
1692				Yes						Blue Oak	*Quercus douglasii*		9		54	5	3 Fair - Minor Problems	Surrounded by rock.
1693				Yes						Blue Oak	*Quercus douglasii*		12		54	8	3 Fair - Minor Problems	Surrounded by rock.
1694				Yes						Blue Oak	*Quercus douglasii*		19		54	10	3 Fair - Minor Problems	Surrounded by rock. Growing on slope.
1695				Yes						Blue Oak	*Quercus douglasii*		12.5		54	12	3 Fair - Minor Problems	Surrounded by rock. Growing on slope. Epicormic growth.
1696				Yes						Valley Oak	*Quercus lobata*		33		54	35	3 Fair - Minor Problems	Small limb deadwood. Epicormic growth.
1697					Yes					Interior Live Oak	*Quercus wislizenii*	13, 14.5, 15	25		54	15	3 Fair - Minor Problems	Forks at 2 feet. Surrounded by rocks. Growing on slope. Trunk leans downhill.
1698				Yes						Blue Oak	*Quercus douglasii*		14		54	10	3 Fair - Minor Problems	Surrounded by rocks. Growing on slope. One-sided east.
1699				Yes						Blue Oak	*Quercus douglasii*		23		54	20	3 Fair - Minor Problems	Surrounded by rocks. Growing on slope.
1700				Yes						Blue Oak	*Quercus douglasii*		20.5		54	15	3 Fair - Minor Problems	Growing on slope. Surrounded by rocks. Small branch deadwood. Epicormic growth.

COYOTE CREEK AGRIVOLTAIC RANCH
COUNTY OF SACRAMENTO
TREE INVENTORY

1701				Yes						Blue Oak	*Quercus douglasii*		13		54	10	3 Fair - Minor Problems	Growing on slope. Surrounded by poison oak. DBH estimated.
1702	*			Yes						Blue Oak	*Quercus douglasii*		11		54	15	3 Fair - Minor Problems	Protected tree at bottom of steep slope and not readily accessible. Tag # assigned but not placed on tree.
1703				Yes						Blue Oak	*Quercus douglasii*		8.5		54	10	3 Fair - Minor Problems	Growing on slope. One-sided southeast.
1704					Yes					Blue Oak	*Quercus douglasii*	8,9.5	12		24	10	3 Fair - Minor Problems	Forks at 2 feet. Growing on slope. One-sided north.
1705				Yes						Blue Oak	*Quercus douglasii*		20		54	10	3 Fair - Minor Problems	Growing on slope.
1706				Yes						Blue Oak	*Quercus douglasii*		12		54	10	3 Fair - Minor Problems	Growing on slope. One-sided west.
1707				Yes						Blue Oak	*Quercus douglasii*		8		54	5	3 Fair - Minor Problems	Growing on slope. One-sided west.
1708				Yes						Blue Oak	*Quercus douglasii*		30		54	30	3 Fair - Minor Problems	Growing on slope. Small limb deadwood.
1709				Yes						Blue Oak	*Quercus douglasii*		13		54	15	3 Fair - Minor Problems	Growing on slope. Small limb deadwood. Leans east.
1710				Yes						Blue Oak	*Quercus douglasii*		24		54	20	3 Fair - Minor Problems	Growing on slope. Small limb deadwood. One-sided southeast. Suppressed.
1711				Yes						Blue Oak	*Quercus douglasii*		9		54	10	3 Fair - Minor Problems	Growing on slope. Surrounded by poison oak.
1712	*				Yes					Blue Oak	*Quercus douglasii*	9,9	13		54	10	3 Fair - Minor Problems	Protected tree growing on slope, surrounded by poison oak, and not readily accessible. Tag # assigned but not placed on tree.
1713				Yes						Blue Oak	*Quercus douglasii*		19		54	15	3 Fair - Minor Problems	Growing on slope. Small limb deadwood. Epicormic growth.
1714				Yes						Blue Oak	*Quercus douglasii*		8.5		54	6	3 Fair - Minor Problems	One-sided south. Epicormic growth.
1715	*			Yes						Blue Oak	*Quercus douglasii*		6		54	5	2 Major Structure or Health Problems	Protected tree with large rattlesnake at base and not readily accessible. Tag # assigned but not placed on tree. Cavity west side.
1716				Yes						Blue Oak	*Quercus douglasii*		24		54	20	2 Major Structure or Health Problems	Dead bark east side. Small branch deadwood. Epicormic growth.
1717				Yes						Blue Oak	*Quercus douglasii*		20.5		54	10	3 Fair - Minor Problems	Small branch deadwood. Epicormic growth.
1718				Yes						Blue Oak	*Quercus douglasii*		15		54	12	3 Fair - Minor Problems	Small branch deadwood. Epicormic growth. Mistletoe.
1719				Yes						Willow	*Salix*		21		54	15	3 Fair - Minor Problems	Growing along creek.
1720					Yes					Blue Oak	*Quercus douglasii*	8.5,10,10	16		24	15	3 Fair - Minor Problems	Forsk at 2 feet. Growing uphill from creek. Epicormic growth.
1721				Yes						Blue Oak	*Quercus douglasii*		6		54	5	3 Fair - Minor Problems	Growing uphill from creek. Epicormic growth.
1722				Yes						Interior Live Oak	*Quercus wislizenii*		30		54	20	2 Major Structure or Health Problems	Growing uphill from creek. Epicormic growth. Large branch failure with decay west side.

1723					Yes					Interior Live Oak	*Quercus wislizenii*	16.5,28	33		12	25	2 Major Structure or Health Problems	Forks at 1 foot. Growing uphill from creek. Epicormic growth. Multiple larger limb failures.
1724				Yes						Interior Live Oak	*Quercus wislizenii*		29		54	20	2 Major Structure or Health Problems	Growing uphill from creek. Cavity west side.
1725	*				Yes					Willow	*Salix*	13,19,28	36		12	25	2 Major Structure or Health Problems	Protected tree growing in creek and not readily accessible. Tag # assigned but not placed on tree. Forks at 1 foot.
1726					Yes					Blue Oak	*Quercus douglasii*	7,11	13		12	12	3 Fair - Minor Problems	Forks at base. Growing uphill from creek.
1727				Yes						Blue Oak	*Quercus douglasii*		7.5		54	5	3 Fair - Minor Problems	Growing uphill from creek.
1728				Yes						Blue Oak	*Quercus douglasii*		33		54	30	2 Major Structure or Health Problems	Growing uphill from creek. Multiple large limb failures.
1729				Yes						Blue Oak	*Quercus douglasii*		15.5		54	20	3 Fair - Minor Problems	Growing uphill from creek. Leans east. One-sided/suppressed.
1730				Yes						Blue Oak	*Quercus douglasii*		12.5		54	12	3 Fair - Minor Problems	Growing alongside creek and surrounded by rock.
1731				Yes			No			Valley Oak	*Quercus lobata*		37		54	21	3 Fair - Minor Problems	Healthy base. Old lower limb scars with wound wood 5 feet up. Low branches. Epicormic growth. Medium deadwood. Good canopy structure. Good vigor.
1732				Yes			No			Valley Oak	*Quercus lobata*		40		54	30	3 Fair - Minor Problems	No defects on base. Good flare. Major codominant leads at 10 feet. Oak galls. Minor epicormic growth. Low deadwood. Good canopy. Good vigor.
1733				Yes			No			Blue Oak	*Quercus douglasii*		35.5		54	23	1 Extreme Structure or Health Problems	Major branch failure at base. Extensive fire damage on base going 8 feet up. Rattlesnake at base. One-sided leaning east. Low branches. Medium deadwood. Dead 15 foot top. Medium vigor.
1734				Yes			No	37		Valley Oak	*Quercus lobata*		37		54	19	2 Major Structure or Health Problems	Swollen base. Medium deadwood. Epicormic growth. Poor branch structure. Medium breaks in canopy. Medium vigor.
1735				Yes			No		35	Valley Oak	*Quercus lobata*		35		54	25	3 Fair - Minor Problems	Healthy base. Good base flare. Low branches. Epicormic growth. Medium deadwood. Sparse foliage. Good canopy structure.
1736				Yes			No		0	Blue Oak	*Quercus douglasii*		35	0	54	17	2 Major Structure or Health Problems	Dead bark from fire damage at base 2 feet up. Large breaks and decay pockets throughout branches. High deadwood. Poor branch and canopy structure. Canopy has medium dead branch. Canopy has widow maker at top.

1737				Yes			No		40	Blue Oak	*Quercus douglasii*		40		54	23	3 Fair - Minor Problems	Healthy base. Large burl north side. High deadwood. Old medium breaks on 2 main lower branches. Somewhat one-sided east. Medium to poor canopy structure. Medium vigor.
1738				Yes			No		40	Blue Oak	*Quercus douglasii*		40		54	25	2 Major Structure or Health Problems	Fire damage at base. One-sided west. 2 large breaks on codominant south lead. Low branches. Medium decay pocket on north lead. Good vigor.
1739				Yes			No		0	Blue Oak	*Quercus douglasii*		38	0	54	17	2 Major Structure or Health Problems	Good base flare. Epicormic growth on base 3 feet up. Swollen wound wood 4 feet up east side. Mainly one-sided north. Old medium break in canopy. Poor canopy structure. Medium vigor.
1740				Yes			No		40	Blue Oak	*Quercus douglasii*		40		54	16	3 Fair - Minor Problems	Healthy base. Multiple large burls at 4 feet. High deadwood. Medium epicormic growth. Crowded branches. Low branches. Good vigor.
1741				Yes			No		31	Blue Oak	*Quercus douglasii*		31		54	18	4 Good - No Apparent Problems	Healthy base. Good branch structure. Good canopy structure. Good vigor.
1742				Yes			No			Blue Oak	*Quercus douglasii*		27		54	20	2 Major Structure or Health Problems	No defects on base. Very sparse foliage. Epicormic growth.
1743				Yes			No			Blue Oak	*Quercus douglasii*		46		54	20	2 Major Structure or Health Problems	Good base flare. Small decay south side. Codominant at 8 feet. Low branches. 3 large breaks on north lead. One large break on southeast lead. Medium canopy structure. Good vigor.
1744					Yes		No			Blue Oak	*Quercus douglasii*	14,18	23		54	18	2 Major Structure or Health Problems	Two-foot vertical crack in base north side. Low branches. Epicormic growth. Sparse foliage. Low vigor. Medium deadwood. Medium break southwest branch.
1745				Yes			No			Blue Oak	*Quercus douglasii*		46.5		54	23	2 Major Structure or Health Problems	Good base flare with no base defects. Codominant at 12 feet. Low branches. Many large breaks in both leads, leaving tree overexposed. Medium vigor. Epicormic growth. Poor canopy structure.
1746				Yes			No			Blue Oak	*Quercus douglasii*		21		54	20	2 Major Structure or Health Problems	Swollen base with cracked dead bark. Minor fire damage west side. Low branches. Medium deadwood. Epicormic growth. Sparse foliage. Thin canopy.
1747				Yes			No			Blue Oak	*Quercus douglasii*		24		54	20	2 Major Structure or Health Problems	Good base flare. Minor base damage west side. Medium to high deadwood. Sparse canopy. Dead tips. High epicormic growth.
1748				Yes			No			Blue Oak	*Quercus douglasii*		17.5		54	11	2 Major Structure or Health Problems	Good base. Medium dead branch at 7 feet. Suppressed by tree on north side. High epicormic growth. High deadwood.
1749				Yes			No			Blue Oak	*Quercus douglasii*		15.5		54	13	2 Major Structure or Health Problems	Good base. Suppressed by tree on south side. Medium deadwood. High epicormic growth.

1750				Yes			No			Blue Oak	*Quercus douglasii*		21		54	19	2 Major Structure or Health Problems	Fire damage on base southwest side. High epicormic growth. Dead tips.
1751				Yes			No			Blue Oak	*Quercus douglasii*		22		54	6	2 Major Structure or Health Problems	Good base. High epicormic growth. Dead tips. Dense foliage. Suspect medium breaks at top with poor visibility.
1752				Yes			No	30		Blue Oak	*Quercus douglasii*		30		54	24	3 Fair - Minor Problems	Good base. Good branch structure. Medium deadwood. Medium epicormic growth.
1753				Yes			No			Blue Oak	*Quercus douglasii*		33.5		54	28	2 Major Structure or Health Problems	Good base. Unhealthy crumbling bark throughout tree. Sparse foliage. Epicormic growth. Medium deadwood.
1754				Yes			No			Blue Oak	*Quercus douglasii*		20		54	15	3 Fair - Minor Problems	Good base. Minor fire damage west side of base. Small dead branches at 8 feet. One-sided east. Good canopy structure. Good vigor.
1755				Yes			No			Blue Oak	*Quercus douglasii*		35		54	25	3 Fair - Minor Problems	Good base flare. Good branch structure. Low branches. Crowded main leads 8 feet up. Medium deadwood. Good canopy structure.
1756				Yes			No			Blue Oak	*Quercus douglasii*		26		54	20	3 Fair - Minor Problems	Good basal flare. Heavy equipment damage in multiple spots on base 1-3 feet up on south side. Medium epicormic growth. Medium deadwood. Good branch structure. Good canopy structure. Medium vigor.
1757				Yes			No			Blue Oak	*Quercus douglasii*		42.5		54	24	3 Fair - Minor Problems	Good base flare. Codominant at 5 feet. Partially suppressed by tree on northwest side. Good canopy and branch structure. Medium high deadwood. Good vigor.
1758				Yes			No			Blue Oak	*Quercus douglasii*		19		54	20	2 Major Structure or Health Problems	Fire damage 25% of base on west side. Poor branch structure. Medium deadwood. Medium epicormic growth. One-sided. Suppressed by other trees.
1759				Yes			No			Blue Oak	*Quercus douglasii*		22.5		54	15	3 Fair - Minor Problems	Good base, no defects. Codominant at 9 feet. One-sided toward west. Epicormic growth. Medium vigor.
1760				Yes			No			Blue Oak	*Quercus douglasii*		19		54	8	1 Extreme Structure or Health Problems	Rotten base. 5-foot vertical open wound on trunk southwest. High epicormic growth. One-sided southwest. High deadwood.
1761				Yes			No			Blue Oak	*Quercus douglasii*		18		54	17	3 Fair - Minor Problems	Good base. Medium deadwood. One-sided. Medium canopy structure. Medium vigor.
1762				Yes			No			Blue Oak	*Quercus douglasii*		17.5		54	16	3 Fair - Minor Problems	Good base. High epicormic growth. Medium vigor.
1764				Yes			No			Blue Oak	*Quercus douglasii*		21		54	15	2 Major Structure or Health Problems	Minor fire damage on base. Codominant at 8 feet. Both leads grow toward west. One-sided west. Medium epicormic growth. Suppressed by tree on southeast.
1765				Yes			No			Blue Oak	*Quercus douglasii*		22		54	23	2 Major Structure or Health Problems	Good base. Minor fire damage. Codominant at 8 feet. High epicormic growth. Medium deadwood. Dead top lead.

1765				Yes			No			Blue Oak	*Quercus douglasii*		19.5		54	10	1 Extreme Structure or Health Problems	Base suspected to be hollow. Large decay pocket at 5 feet that goes straight down trunk as far as can be seen. One-sided west. High epicormic growth. Dead tips.
1766				Yes			No			Blue Oak	*Quercus douglasii*		20		54	18	2 Major Structure or Health Problems	Good base codominant at 8 feet. Small dead branches 9 feet. High deadwood. Epicormic growth. Sparse foliage.
1767				Yes			No			Blue Oak	*Quercus douglasii*		23		54	14	1 Extreme Structure or Health Problems	Rotten base. Large vertical decay pocket south side. One-sided southeast. Poor canopy structure. Sparse foliage.
1768				Yes			No			Blue Oak	*Quercus douglasii*		30		54	27	1 Extreme Structure or Health Problems	Good base. Overextended branches. Low branches. Medium-high deadwood. Epicormic growth. Main lead failer. Big decay pocket 18 feet up. Sparse foliage.
1769				Yes			No			Blue Oak	*Quercus douglasii*		21.5		54	16	3 Fair - Minor Problems	Good base. Low branches. High deadwood. Poor canopy structure.
1770				Yes			No			Blue Oak	*Quercus douglasii*		23.5		54	18	2 Major Structure or Health Problems	Good base. High epicormic growth. High deadwood. High exposure on west side.
1771				Yes			No			Blue Oak	*Quercus douglasii*		14		54	6	1 Extreme Structure or Health Problems	Poor trunk structure. Medium decay pocket at 7 feet. High deadwood. Epicormic growth. Burnt leaves. Sparse foliage.
1772				Yes			No			Blue Oak	*Quercus douglasii*		29		54	29	1 Extreme Structure or Health Problems	Large vertical crack starting at base and going up to 8 feet. Crowded leads. Large break at 9 feet on east side. Poor canopy structure. High deadwood. Decay on branches.
1773				Yes			No			Blue Oak	*Quercus douglasii*		29		54	20	2 Major Structure or Health Problems	Included bark on base. Codominant at 6 feet. Medium dead branch in middle of codominant union. Epicormic growth. Poor branch structure. Medium deadwood.
1774				Yes			No			Blue Oak	*Quercus douglasii*		25		54	14	1 Extreme Structure or Health Problems	Codominant lead failer at 6 feet left large decay pocket running through trunk to the ground. One-sided west. Poor branch structure. Medium deadwood. Medium vigor.
1775				Yes			No			Blue Oak	*Quercus douglasii*		15		54	14	2 Major Structure or Health Problems	Good base. Poor trunk structure. One-sided southwest. Medium epicormic growth. Poor canopy structure. Foliage at end of long branches. Low vigor.
1776				Yes			No			Blue Oak	*Quercus douglasii*		23.5		54	24	3 Fair - Minor Problems	Good base flare. Codominant at 10 feet. Good branch structure. Low branches on southwest side. Good canopy structure. Medium deadwood. Good vigor.
1777				Yes			No			Blue Oak	*Quercus douglasii*		27		54	24	3 Fair - Minor Problems	Good base flare with no obvious defects. Medium dead branch at 9 feet on northeast side. Low branches. Medium epicormic growth. Good branch and canopy structure. Medium vigor.

1778				Yes			No			Blue Oak	*Quercus douglasii*		18		54	14	2 Major Structure or Health Problems	Some vertical cracks with wound wood on base and trunk on southwest side. Heavy lean east. Low branches. Suppressed by tree to west. Medium deadwood. Medium vigor.
1779				Yes			No			Blue Oak	*Quercus douglasii*		32		54	20	1 Extreme Structure or Health Problems	Included bark and crumbling bark at base. Large vertical decay with crack running from codominant union. Dead/dying bark above codominant union on both leads. Sparse foliage. Medium-high deadwood.
1780				Yes			No			Blue Oak	*Quercus douglasii*		33.5		54	30	3 Fair - Minor Problems	Good base flare. Good branch structure. Epicormic growth. Small to medium burls throughout tree. Medium deadwood. Low branches. Good canopy structure. Good vigor.
1781				Yes			No			Blue Oak	*Quercus douglasii*		23.5		54	15	1 Extreme Structure or Health Problems	Multiple small to medium vertical cracks starting at base and running up to codominant union at 8 feet with included bark. Decay in codominant union. Multiple major decay pockets on both main leads. Epicormic growth. High deadwood. Low vigor.
1782				Yes			No			Blue Oak	*Quercus douglasii*		24.5		54	17	2 Major Structure or Health Problems	Good base minor fire damage on south side. Medium but suspected deep decay pocket on trunk 5 feet up on south side. Overcrowded main leader union. One-sided west. Epicormic growth. Large mistletoe in canopy.
1783				Yes			No			Blue Oak	*Quercus douglasii*		13.5		54	6	1 Extreme Structure or Health Problems	Rotten base. 2 decay pockets on trunk run to ground. Fully suppressed. Epicormic growth. Poor branch and canopy structure.
1784				Yes			No			Blue Oak	*Quercus douglasii*		26		54	24	2 Major Structure or Health Problems	Good base. Medium branch structure. Low branches. Medium high deadwood. Medium vigor.
1785				Yes			No			Blue Oak	*Quercus douglasii*		28.5		54	26	3 Fair - Minor Problems	Good base and base flare. No defects on trunk. Codominant at 10 feet. Low branches. Medium deadwood. Good branch structure. Medium vertical decay on back side of east leader. Good canopy structure. Good vigor.
1786				Yes			No			Blue Oak	*Quercus douglasii*		16		54	10	2 Major Structure or Health Problems	Swollen base with minor fire damage west side. One-sided west. Poor branch structure. Epicormic growth. Suppressed east. Poor canopy structure. Medium vigor.
1787				Yes			No			Blue Oak	*Quercus douglasii*		22		54	16	3 Fair - Minor Problems	Good base. Good base flare. Low branches. One-sided southeast. Suppressed northwest side. Epicormic growth. Good canopy structure. Good vigor.
1788				Yes			No			Blue Oak	*Quercus douglasii*		21.5		54	12	3 Fair - Minor Problems	Good base. Included bark at codominant union. Medium-high deadwood. Crowded branch structure. Good canopy structure. Minor mistletoe. Good vigor.

1789				Yes			No			Blue Oak	*Quercus douglasii*		8		54	5	2 Major Structure or Health Problems	Good base. Rocks at base. High deadwood. High epicormic growth. Suppressed on southeast.
1790				Yes			No			Blue Oak	*Quercus douglasii*		9.5		54	12	3 Fair - Minor Problems	Good base. Rocks at base. Crowded interior branches. Medium deadwood. Good vigor.
1791				Yes			No			Blue Oak	*Quercus douglasii*		10		54	9	2 Major Structure or Health Problems	Vertical crack with decay with wound wood on north side running 8 inches from base to 4 feet up on trunk. One-sided south. Epicormic growth. Suppressed on north. Low/medium vigor.
1792				Yes			No			Blue Oak	*Quercus douglasii*		7.5		54	4	3 Fair - Minor Problems	Good base. One-sided toward west. Small branch interior deadwood. Low epicormic growth. Medium vigor.
1793				Yes			No			Blue Oak	*Quercus douglasii*		9		54	5	3 Fair - Minor Problems	Good base. Small amount of included bark at south base. Epicormic growth. One mistletoe. Medium deadwood. Good vigor.
1794				Yes			No			Blue Oak	*Quercus douglasii*		10		54	6	2 Major Structure or Health Problems	Base on slope with dead bark south side. High deadwood. Mistletoe in canopy. Medium vigor.
1795				Yes			No			Blue Oak	*Quercus douglasii*		9		54	9	2 Major Structure or Health Problems	Good base. Codominant at 5 feet. Crowded branch structure. High deadwood. Mistletoe. Medium vigor.
1796				Yes			No			Blue Oak	*Quercus douglasii*	4,5	6		54	4	2 Major Structure or Health Problems	Good base. Codominant at 4 feet. Poor branch structure. Overcrowded branches. Suppressed. Epicormic growth. High mistletoe. High deadwood. Medium/low vigor.
1797				Yes			No			Blue Oak	*Quercus douglasii*		9		54	6	2 Major Structure or Health Problems	Rock at base. Good base. One-sided north. Epicormic growth. Medium deadwood. Low vigor. Mistletoe.
1798				Yes			No			Blue Oak	*Quercus douglasii*		10		54	9	2 Major Structure or Health Problems	Swollen base. Growing on slope. Multiple decay pockets on trunk. Included bark at codominant union. Medium deadwood. Foliage primarily at tips of canopy. Low vigor.
1799				Yes			No			Blue Oak	*Quercus douglasii*		8.5		54	6	2 Major Structure or Health Problems	Rock at base. Included bark south side of base. Medium deadwood. Epicormic growth. One-sidednorth. Suppressed south side. Medium vigor.
1800				Yes			No			Blue Oak	*Quercus douglasii*		8		54	5	2 Major Structure or Health Problems	Swollen base. High deadwood. Epicormic growth. Overcrowded branches. Suppressed west side. Low vigor.
1801			20	Yes			No	36		Blue Oak	*Quercus douglasii*		36.5		54	28	3 Fair - Minor Problems	Good base. Good base flare. Large limb wound 12 feet up trunk on southwest. Large limb wound southern leader. Low branches. Dead branches. Good branch and canopy structure. Good vigor.
1802				Yes			No		0	Blue Oak	*Quercus douglasii*		35.5	0	54	17	2 Major Structure or Health Problems	Swollen base. Hollow base. Hole into tree 3 feet up from base. Numerous old large limb breaks. Tree in retrenchment. Medium/good canopy structure. Good vigor.

1803				Yes			No		28	Blue Oak	*Quercus douglasii*		28		54	22	3 Fair - Minor Problems	Good base and base flare. Medium deadwood. Some included bark on main leaders. Low branches. Good branch structure. Good canopy structure. Good vigor.
1804			203	Yes			No		45	Valley Oak	*Quercus lobata*		45		54	32	3 Fair - Minor Problems	Good base and base flare. Medium deadwood. Low branches. High epicormic growth. Oak galls. Good branch and canopy structure. Medium/good vigor.
1805				Yes			No			Blue Oak	*Quercus douglasii*		31.5		54	27	3 Fair - Minor Problems	Good base and base flare. Good branch structure. Low branches. Epicormic growth. Minor mistletoe. Good canopy structure. Good vigor.
1806				Yes			No			Blue Oak	*Quercus douglasii*		29.5		54	29	2 Major Structure or Health Problems	Good base and base flare. Good/medium branch structure. High/medium-sized deadwood. High epicormic growth. Good canopy structure. Medium vigor.
1807				Yes			No			Blue Oak	*Quercus douglasii*		42.5		54	21	2 Major Structure or Health Problems	Elevated tension buttress roots west side. Swollen base. Small but deep decay pocket in codominant union. Low branches. Medium deadwood. One large main leader break on north side. Good canopy structure. Medium vigor.
1808				Yes			No			Blue Oak	*Quercus douglasii*		12.5		54	7	2 Major Structure or Health Problems	Included bark on base. Poor trunk structure. Medium deadwood. Suppressed east and west. One-sided west. Most foliage at top. Medium vigor.
1809				Yes			No			Blue Oak	*Quercus douglasii*		29.5		54	25	2 Major Structure or Health Problems	Swollen base. Included bark. Good branch structure. Low branches south side. Epicormic growth. Sparse foliage and deadwood on top of canopy. Medium vigor.
1810				Yes			No	21		Blue Oak	*Quercus douglasii*		21		54	11	2 Major Structure or Health Problems	Good base. Medium deadwood. One-sided south. Low branches south. Epicormic growth. Low vigor.
1811				Yes			No	0		Blue Oak	*Quercus douglasii*		21		54	20	1 Extreme Structure or Health Problems	Swollen base. Poor branch structure. High epicormic growth. High deadwood. Main lead on northeast side break. 2 main overextended branches remain. One-sided east. Poor vigor.
1812				Yes			No		0	Blue Oak	*Quercus douglasii*		29		54	20	1 Extreme Structure or Health Problems	Good base. Old wound wood on trunk. High deadwood. High epicormic growth. Low vigor. Low branches.
1813				Yes			No		0	Blue Oak	*Quercus douglasii*		30.5		54	17	1 Extreme Structure or Health Problems	Swollen base. 50% of base has dead bark. Poor branch structure. Dead tips. High epicormic growth. Both main leaders failed, leaving large breaks with decay. Wood pecker holes. Low vigor.
1814				Yes			No		22	Blue Oak	*Quercus douglasii*		22		54	21	2 Major Structure or Health Problems	Good base. Crumbling bark on trunk and branches. High epicormic growth. One-sided east. High epicormic growth. Low vigor.
1815				Yes			No		0	Blue Oak	*Quercus douglasii*		22	0	54	21	2 Major Structure or Health Problems	Good base. One-sided east. Epicormic growth. Overexposed bark west side. Poor canopy structure. Medium deadwood. Poor vigor.

1816				Yes			No		12	Blue Oak	*Quercus douglasii*		12		54	10	2 Major Structure or Health Problems	Good base. Low branch northeast. Medium deadwood. Completely suppressed by surrounding trees. Poor canopy structure. Medium vigor.
1817				Yes			No		0	Blue Oak	*Quercus douglasii*		21	0	54	17	2 Major Structure or Health Problems	Swollen base. Open crack with included bark northwest. One-sided toward east. Low branches. High epicormic growth. Poor canopy structure.
1818				Yes			No		0	Blue Oak	*Quercus douglasii*		11	0	54	9	2 Major Structure or Health Problems	Good base. Poor trunk structure. Epicormic growth. Almost fully suppressed by surrounding trees. One-sided. Poor vigor.
1819				Yes			No		21	Blue Oak	*Quercus douglasii*		21		54	19	2 Major Structure or Health Problems	Good base. Epicormic growth. Oak galls. Medium deadwood. One-sided southeast. Poor canopy structure. Medium vigor.
1820				Yes			No		0	Blue Oak	*Quercus douglasii*		20.5	0	54	16	1 Extreme Structure or Health Problems	Swollen base. Sunburned dead bark on base and trunk. Medium breaks and decay going up trunk. Poor branch structure. Low branch south. Sparse foliage. Poor canopy structure. One-sided. Low vigor.
1821				Yes			No		0	Blue Oak	*Quercus douglasii*		19	0	54	18	2 Major Structure or Health Problems	Minor decay on base southwest. Medium deadwood. High epicormic growth. Mistletoe. Poor canopy structure. Low vigor.
1822				Yes			No			Valley Oak	*Quercus lobata*		65.5		54	18	1 Extreme Structure or Health Problems	Good base. 4 massive main leads completely broken off, leaving very large decay. 2 branches remain west side. Remaining branches subject to failers due to lack of wind dampening. Low branches west. One-sided west. Existing foliage looks healthy.
1823				Yes			No			Valley Oak	*Quercus lobata*		42.5		54	30	3 Fair - Minor Problems	Good base. Good trunk structure with no visible defects. One large break east side. Low branches west side. Medium deadwood. Good branch structure. Mistletoe in canopy. Good canopy structure. Good vigor.
1824				Yes			No		28	Blue Oak	*Quercus douglasii*		28		54	19	3 Fair - Minor Problems	Medium decay with wound wood east side of base. Crowded codominant union. Low branches. Medium deadwood. Good branch structure. Good canopy structure. Good vigor.
1826				Yes			No		28	Blue Oak	*Quercus douglasii*		28		54	20	3 Fair - Minor Problems	Good base and base flare. No visible defects up the trunk. Low branches. Medium/high deadwood in interior. Good branch structure. Minor mistletoe. Good canopy structure. Good vigor.
1826				Yes			No	44		Blue Oak	*Quercus douglasii*		44		54	30	3 Fair - Minor Problems	Good base. Codominant at 5 feet. Good branch structure. Medium deadwood. Medium/high mistletoe. Good canopy structure. Low branches. Good vigor.

1828			318	Yes			No			Blue Oak	*Quercus douglasii*		35		54	15	1 Extreme Structure or Health Problems	Rotten base down to ground and up through trunk from large leader failer. One-sided south. Poor branch and canopy structure. Low vigor.
1828				Yes			No			Blue Oak	*Quercus douglasii*		32.5		54	28	2 Major Structure or Health Problems	Good base. Leave break north side. Low branches. Medium deadwood. Sparse foliage. Medium branch structure. Medium canopy structure. Medium vigor.
1829				Yes			No			Blue Oak	*Quercus douglasii*		33		54	20	3 Fair - Minor Problems	Good base. Uprooted long ago toward east but re-rooted, leaving trunk horizontal but strong structure. Low branches. Good branch structure. Minor epicormic growth. Medium deadwood. Good canopy structure. Good vigor.
1830				Yes			No			Blue Oak	*Quercus douglasii*		31		54	24	2 Major Structure or Health Problems	Good base. Epicormic growth. Good branch structure. Low vigor. Sparse foliage. Medium deadwood. Medium canopy structure.
1831				Yes			No	52		Blue Oak	*Quercus douglasii*		52		54	29	3 Fair - Minor Problems	Good base and base flare. Good branch structure. Low branches. Minor epicormic growth. Medium mistletoe. Good canopy structure. Good vigor.
1832					Yes				23	Blue Oak	*Quercus douglasii*	11.5,20	23		24	20	3 Fair - Minor Problems	Forks at 2 feet with included bark. Epicormic growth.
1833				Yes					0	Blue Oak	*Quercus douglasii*		23.5	0	54	20	2 Major Structure or Health Problems	Large split base to 3 feet south side. Another large crack at crotch 4 feet cavity on large branch east side.
1834				Yes					33.5	Blue Oak	*Quercus douglasii*		33.5		54	22	3 Fair - Minor Problems	Old closing wound south side with epicormic growth. Small branch deadwood. Trunk curves east then south.
1835				Yes					0	Blue Oak	*Quercus douglasii*		34	0	54	30	1 Extreme Structure or Health Problems	Canopy failure. Bark flaking off. Multiple dead limbs. Epicormic growth.
1836				Yes					36	Blue Oak	*Quercus douglasii*		36		54	20	3 Fair - Minor Problems	Small limb deadwood. Epicormic growth.
1837				Yes					0	Blue Oak	*Quercus douglasii*		22.5	0	54	25	2 Major Structure or Health Problems	Small limb deadwood. Epicormic growth only live growth.
1838				Yes					9.5	Blue Oak	*Quercus douglasii*		9.5		54	20	2 Major Structure or Health Problems	Leans east. Sparse canopy. Epicormic growth.
1839				Yes					11	Blue Oak	*Quercus douglasii*		11		54	6	3 Fair - Minor Problems	Small limb deadwood. Epicormic growth.
1840				Yes					0	Blue Oak	*Quercus douglasii*		7	0	54	6	1 Extreme Structure or Health Problems	Neighboring tree failed on top of it. No canopy.

1841				Yes					0	Blue Oak	*Quercus douglasii*		10.5	0	54	10	1 Extreme Structure or Health Problems	1/3 canopy dead. Epicormic growth. Basal crack with decay east side.
1842				Yes					14	Blue Oak	*Quercus douglasii*		14		54	12	3 Fair - Minor Problems	One-sided west. Epicormic growth.
1843				Yes					14.5	Blue Oak	*Quercus douglasii*		14.5		54	12	3 Fair - Minor Problems	One-sided south. Epicormic growth.
1844				Yes					0	Blue Oak	*Quercus douglasii*		21	0	54	10	1 Extreme Structure or Health Problems	Basal decay north and east. Small branch deadwood. Epicormic growth.
1845				Yes					0	Blue Oak	*Quercus douglasii*		16.5	0	54	12	1 Extreme Structure or Health Problems	Weak attachments at 5 feet with 2-3-inch inclusion. Small branch deadwood. Epicormic growth.
1846				Yes					16	Blue Oak	*Quercus douglasii*		16		54	18	3 Fair - Minor Problems	One-sided southeast. Epicormic growth.
1847				Yes					0	Blue Oak	*Quercus douglasii*		18.5	0	54	20	1 Extreme Structure or Health Problems	Mostly dead. Epicormic growth.
1848				Yes					11	Blue Oak	*Quercus douglasii*		11		54	12	3 Fair - Minor Problems	Epicormic growth. Canopy leans east. Multi-closing wounds from previous branches.
1849				Yes					15	Blue Oak	*Quercus douglasii*		15		54	18	3 Fair - Minor Problems	Epicormic growth. One-sided east. Small branch deadwood.
1850				Yes					12	Blue Oak	*Quercus douglasii*		12		54	6	3 Fair - Minor Problems	One-sided west. Small branch deadwood. Epicormic growth.
1851				Yes					10	Blue Oak	*Quercus douglasii*		10		54	10	3 Fair - Minor Problems	One-sided west. Small branch deadwood. Epicormic growth.
1852				Yes					21	Blue Oak	*Quercus douglasii*		21		54	15	3 Fair - Minor Problems	Sparse canopy west side. Small branch deadwood. Epicormic growth.
1853				Yes					10.5	Blue Oak	*Quercus douglasii*		10.5		54	15	3 Fair - Minor Problems	One-sided west. Small branch deadwood. Epicormic growth.
1854				Yes					10	Blue Oak	*Quercus douglasii*		10		54	6	3 Fair - Minor Problems	One-sided west. Small branch deadwood. Epicormic growth.
1855				Yes					12.5	Blue Oak	*Quercus douglasii*		12.5		54	15	3 Fair - Minor Problems	One-sided west. Small branch deadwood. Epicormic growth.
1856				Yes					13	Blue Oak	*Quercus douglasii*		13		54	12	3 Fair - Minor Problems	One-sided northwest. Small branch deadwood. Epicormic growth.
1857				Yes					14	Blue Oak	*Quercus douglasii*		14		54	12	2 Major Structure or Health Problems	One-sided northwest. Small branch deadwood. Epicormic growth only live growth.
1858				Yes					16	Blue Oak	*Quercus douglasii*		16		54	12	2 Major Structure or Health Problems	One-sided northwest. Small branch deadwood. Epicormic growth only live growth.
1859				Yes					13.5	Blue Oak	*Quercus douglasii*		13.5		54	20	2 Major Structure or Health Problems	Leans southeast. Small limb deadwood. Epicormic growth.

1860				Yes					23	Blue Oak	*Quercus douglasii*		23		54	20	2 Major Structure or Health Problems	Main leader dead. Tip dieback. Epicormic growth. Weak attachments.
1861				Yes					14	Blue Oak	*Quercus douglasii*		14		54	20	3 Fair - Minor Problems	Small limb deadwood. Epicormic growth.
1862				Yes					0	Blue Oak	*Quercus douglasii*		9.5	0	54	6	2 Major Structure or Health Problems	Small limb deadwood. Epicormic growth. Sparse canopy.
1863				Yes					0	Blue Oak	*Quercus douglasii*		9.5	0	54	6	1 Extreme Structure or Health Problems	Cavity at 6 foot north side with basal decay. Small limb deadwood. Epicormic growth. Sparse canopy.
1864				Yes					11	Blue Oak	*Quercus douglasii*		11		54	10	3 Fair - Minor Problems	Small limb deadwood Epicormic growth. Sparse canopy.
1865				Yes					18	Blue Oak	*Quercus douglasii*		18		54	25	2 Major Structure or Health Problems	Strong lean west. Small limb deadwood. Epicormic growth. Sparse canopy. Mistletoe.
1866				Yes					35	Blue Oak	*Quercus douglasii*		35		54	30	3 Fair - Minor Problems	Weak attachments at 5 feet. Small limb deadwood. Epicormic growth. Sparse canopy west side. Suppressed.
1867				Yes					0	Blue Oak	*Quercus douglasii*		12	0	54	10	2 Major Structure or Health Problems	Basal decay. Epicormic growth. Leans east. Suppressed.
1868				Yes					14	Blue Oak	*Quercus douglasii*		14		54	40	2 Major Structure or Health Problems	Basal decay. Epicormic growth. Leans southwest. Suppressed.
1869				Yes					17.5	Blue Oak	*Quercus douglasii*		17.5		54	30	2 Major Structure or Health Problems	Basal decay. Epicormic growth. Leans east. Suppressed.
1870				Yes					22	Blue Oak	*Quercus douglasii*		22		54	20	3 Fair - Minor Problems	Sparse canopy north. Small limb deadwood. Epicormic growth.
1871				Yes					13.5	Blue Oak	*Quercus douglasii*		13.5		54	25	3 Fair - Minor Problems	Canopy leans. One-sided west. Small limb deadwood. Epicormic growth.
1872				Yes					34	Blue Oak	*Quercus douglasii*		34		54	20	3 Fair - Minor Problems	Sparse canopy north. Suppressed. Mistletoe. Codominant 5 feet with included bark.
1873				Yes					30.5	Blue Oak	*Quercus douglasii*		30.5		54	30	2 Major Structure or Health Problems	Above average deadwood. Multiple bark defects. Epicormic growth.
1874				Yes					0	Blue Oak	*Quercus douglasii*		20	0	54	15	2 Major Structure or Health Problems	Main leader dead. Small limb deadwood. Epicormic growth. Bark defects.

1875				Yes					34.5	Blue Oak	*Quercus douglasii*		34.5		54	18	2 Major Structure or Health Problems	Retrenchment. Main leader dead. Small limb deadwood. Dense foliage at branch tips.
1876				Yes					0	Blue Oak	*Quercus douglasii*		19.5	0	54	20	1 Extreme Structure or Health Problems	Leans south. Multiple trunk cavities.
1877				Yes					0	Blue Oak	*Quercus douglasii*		22	0	54	15	1 Extreme Structure or Health Problems	Main leader failed. Small limb deadwood. Epicormic growth.
1878				Yes					18	Blue Oak	*Quercus douglasii*		18		54	15	3 Fair - Minor Problems	Small limb deadwood. Epicormic growth.
1879				Yes					19.5	Blue Oak	*Quercus douglasii*		19.5		54	15	2 Major Structure or Health Problems	Above average deadwood. Epicormic growth. Tip dieback.
1880				Yes					26	Blue Oak	*Quercus douglasii*		26		54	18	3 Fair - Minor Problems	Small branch deadwood. Epicormic growth.
1881				Yes					29	Blue Oak	*Quercus douglasii*		29		54	22	3 Fair - Minor Problems	Low limbs south side. Small branch deadwood. Epicormic growth.
1882				Yes					18	Blue Oak	*Quercus douglasii*		18		54	12	3 Fair - Minor Problems	Sparse canopy north. Small branch deadwood. Epicormic growth.
1883				Yes					21	Blue Oak	*Quercus douglasii*		21		54	12	3 Fair - Minor Problems	Thin canopy. Small branch deadwood.
1884				Yes					14	Blue Oak	*Quercus douglasii*		14		54	10	3 Fair - Minor Problems	One-sided east. Small branch deadwood. Epicormic growth.
1885				Yes					8.5	Blue Oak	*Quercus douglasii*		8.5		54	15	3 Fair - Minor Problems	One-sided east. Small branch deadwood. Epicormic growth.
1886				Yes					0	Blue Oak	*Quercus douglasii*		17.5	0	54	10	1 Extreme Structure or Health Problems	Leans east. One-sided. Trunk cavity with decay west side. Small branch deadwood. Epicormic growth.
1887				Yes					29.5	Blue Oak	*Quercus douglasii*		29.5		54	20	3 Fair - Minor Problems	Large branch failure north. Epicormic growth.
1888				Yes					22.5	Blue Oak	*Quercus douglasii*		22.5		54	20	3 Fair - Minor Problems	Small limb deadwood. Epicormic growth.
1889				Yes					29	Blue Oak	*Quercus douglasii*		29		54	12	3 Fair - Minor Problems	Canopy leans southeast. Small limb deadwood. Epicormic growth.
1890				Yes					23	Blue Oak	*Quercus douglasii*		22.5		54	20	2 Major Structure or Health Problems	Canopy leans southeast. Multiple large limb failures. Epicormic growth.
1891				Yes					25	Blue Oak	*Quercus douglasii*		25.5		54	25	2 Major Structure or Health Problems	Canopy leans east. Multiple large limb failures. Epicormic growth.
1892				Yes					0	Blue Oak	*Quercus douglasii*		35	0	54	25	1 Extreme Structure or Health Problems	Main leader failed, remaining limb has large crack with compression wood at attachment.

1893				Yes						Blue Oak	*Quercus douglasii*		34		54	25	3 Fair - Minor Problems	Weak attachments starting at 6 feet.
1894				Yes						Blue Oak	*Quercus douglasii*		10		54	20	1 Extreme Structure or Health Problems	Mostly dead. South side limb has epicormic growth.
1895				Yes						Blue Oak	*Quercus douglasii*		17.5		54	22	1 Extreme Structure or Health Problems	Dead limb from base on west side. Remaining branch mostly dead with some epicormic growth.
1896				Yes						Blue Oak	*Quercus douglasii*		15.5		54	20	1 Extreme Structure or Health Problems	Leans east. Mostly dead with epicormic growth.
1897				Yes						Blue Oak	*Quercus douglasii*		11		54	12	2 Major Structure or Health Problems	Leans north. One-sided. Epicormic growth.
1898										Blue Oak	*Quercus douglasii*		10		54	3	1 Extreme Structure or Health Problems	Die back, limb failures
1899				Yes						Blue Oak	*Quercus douglasii*		17.5		54	20	2 Major Structure or Health Problems	Canopy leans south. One-sided suppressed. Epicormic growth. Small limb deadwood.
1900				Yes						Blue Oak	*Quercus douglasii*		19.5		54	30	3 Fair - Minor Problems	
1901				Yes						Blue Oak	*Quercus douglasii*		9.5		54	6	3 Fair - Minor Problems	
1902				Yes						Blue Oak	*Quercus douglasii*		14		54	15	3 Fair - Minor Problems	Canopy leans southwest. Suppressed. Epicormic growth.
1903				Yes						Blue Oak	*Quercus douglasii*		12.5		54	15	3 Fair - Minor Problems	Canopy leans north. Suppressed. Epicormic growth.
1904				Yes						Blue Oak	*Quercus douglasii*		21.5		54	20	2 Major Structure or Health Problems	One-sided east. Large branch failures. Epicormic growth.
1905				Yes						Blue Oak	*Quercus douglasii*		18.5		54	25	3 Fair - Minor Problems	One-sided northeast.
1906				Yes			No			Blue Oak	*Quercus douglasii*		31		54	16	1 Extreme Structure or Health Problems	Rotten base. Main leader failer south side, leaving large 6-foot opening. Large decay at base of remaining leader. Epicormic growth. Sparse/dead foliage. Low vigor.
1907				Yes			No			Blue Oak	*Quercus douglasii*		19		54	10	2 Major Structure or Health Problems	Dead/crumbling bark at base and on trunk. Fire damage primarily on north side. Acorn galleries. Epicormic growth. Poor branch structure. Low vigor. Dead canopy.

1908				Yes			No			Blue Oak	*Quercus douglasii*		32		54	17	2 Major Structure or Health Problems	Good base and base flare. Acorn gallery on trunk. One large lower limb break 20 feet up on southwest side. Vertical crack in main leader 25 feet up on north side. Medium deadwood. Good canopy structure. Good vigor.
1909				Yes						Blue Oak	*Quercus douglasii*		17.5		54	18	3 Fair - Minor Problems	Small branch deadwood. Epicormic growth.
1910				Yes						Blue Oak	*Quercus douglasii*		11.5		54	12	3 Fair - Minor Problems	Codominant with included bark at 6 feet. Small branch deadwood. Epicormic growth.
1911				Yes						Blue Oak	*Quercus douglasii*		19		54	15	2 Major Structure or Health Problems	Trunk cavity west side at 5 feet. One-sided canopy southeast. Epicormic growth.
1912				Yes						Blue Oak	*Quercus douglasii*		7.5		54	10	2 Major Structure or Health Problems	Leans north. Small branch deadwood.
1912				Yes			No			Blue Oak	*Quercus douglasii*		23		54	17	2 Major Structure or Health Problems	Crumbling bark and small decay south side. Codominant at 6 feet. Medium deadwood. Low branches south. Medium/high epicormic growth. Medium canopy structure. Medium/poor vigor.
1913					Yes					Blue Oak	*Quercus douglasii*	5.5,13.5	15		54	15	3 Fair - Minor Problems	Codominant at base. Epicormic growth.
1914				Yes						Blue Oak	*Quercus douglasii*		15.5		54	20	3 Fair - Minor Problems	Small limb deadwood. Epicormic growth.
1915				Yes						Blue Oak	*Quercus douglasii*		11.5		54	12	2 Major Structure or Health Problems	Multiple limb failures. Poor structure.
1916				Yes						Blue Oak	*Quercus douglasii*		10		54	6	1 Extreme Structure or Health Problems	Basal decay. Sparse canopy. Epicormic growth.
1917				Yes						Blue Oak	*Quercus douglasii*		9.5		54	15	3 Fair - Minor Problems	One-sided north. Epicormic growth.
1918				Yes						Blue Oak	*Quercus douglasii*		6.5		54	6	3 Fair - Minor Problems	Sparse canopy. Suppressed.
1919				Yes						Blue Oak	*Quercus douglasii*		8.5		54	12	3 Fair - Minor Problems	Trunk growing around rock. Small limb deadwood.
1920				Yes						Blue Oak	*Quercus douglasii*		11		54	12	1 Extreme Structure or Health Problems	Basal cavity with decay west side. One-sided southeast.
1921				Yes						Blue Oak	*Quercus douglasii*		10		54	15	1 Extreme Structure or Health Problems	Basal cavity with decay north side. One-sided east. Epicormic growth.
1922				Yes						Blue Oak	*Quercus douglasii*		11		54	18	1 Extreme Structure or Health Problems	Base surrounded by rock. One-sided north small branch deadwood. Epicormic growth.

1923				Yes						Blue Oak	*Quercus douglasii*		15.5		54	18	3 Fair - Minor Problems	Codominant at 12 feet with 1-2-inch inclusion.
1924				Yes						Blue Oak	*Quercus douglasii*		24		54	18	3 Fair - Minor Problems	One-sided southeast. Small branch deadwood.
1925				Yes						Blue Oak	*Quercus douglasii*		20.5		54	25	3 Fair - Minor Problems	Sparse canopy. Suppressed.
1926				Yes						Blue Oak	*Quercus douglasii*		8.5		54	15	3 Fair - Minor Problems	One-sided west. Epicormic growth.
1927				Yes						Blue Oak	*Quercus douglasii*		16		54	25	3 Fair - Minor Problems	One-sided southwest. Suppressed. Small branch deadwood. Epicormic growth.
1928				Yes						Blue Oak	*Quercus douglasii*		16		54	25	2 Major Structure or Health Problems	One-sided southeast. Suppressed. Above average deadwood. Epicormic growth. Mistletoe. Multiple partially closed previous branch sites.
1929				Yes						Blue Oak	*Quercus douglasii*		20		54	20	2 Major Structure or Health Problems	One-sided southwest. Suppressed. Large trunk wound east side. Epicormic growth.
1930				Yes						Blue Oak	*Quercus douglasii*		23		54	20	1 Extreme Structure or Health Problems	Codominant at 12 feet. South limb dead. Trunk decay west side.
1931				Yes						Blue Oak	*Quercus douglasii*		28		54	15	3 Fair - Minor Problems	One-sided west. Low branching.
1932				Yes						Blue Oak	*Quercus douglasii*		12		54	12	2 Major Structure or Health Problems	One-sided east. Sparse canopy. Epicormic growth.
1933				Yes						Blue Oak	*Quercus douglasii*		15		54	15	3 Fair - Minor Problems	One-sided west. Suppressed. Codominant at 6 feet.
1934				Yes						Blue Oak	*Quercus douglasii*		17		54	12	3 Fair - Minor Problems	One-sided west. Suppressed. Low branching. Epicormic growth.
1935				Yes						Blue Oak	*Quercus douglasii*		19		54	20	3 Fair - Minor Problems	One-sided west. Suppressed. Epicormic growth. Codominant at 6 feet with 1-2-inch inclusion.
1936				Yes						Blue Oak	*Quercus douglasii*		13		54	15	1 Extreme Structure or Health Problems	Leans southwest. Suppressed. Very sparse foliage or canopy. Epicormic growth.
1937				Yes						Blue Oak	*Quercus douglasii*		17		54	20	1 Extreme Structure or Health Problems	Canopy leans south. Very sparse foliage. Epicormic growth.
1938				Yes						Blue Oak	*Quercus douglasii*		21.5		54	25	3 Fair - Minor Problems	One-sided northeast. Suppressed. Epicormic growth.
1939				Yes						Blue Oak	*Quercus douglasii*		13		54	20	3 Fair - Minor Problems	Small branch deadwood. Epicormic growth.
1940				Yes						Blue Oak	*Quercus douglasii*		18.5		54	20	3 Fair - Minor Problems	Small branch deadwood. Epicormic growth. Codominant at 6 feet with 2-inch inclusion.
1941				Yes						Blue Oak	*Quercus douglasii*		16		54	22	3 Fair - Minor Problems	One-sided north. Suppressed. Codominant at 6 feet with 1-inch inclusion. Small branch deadwood. Epicormic growth.

1942				Yes						Blue Oak	*Quercus douglasii*		18		54	15	3 Fair - Minor Problems	Weak attachments starting at 6 feet. Small branch deadwood.
1943				Yes						Blue Oak	*Quercus douglasii*		15.5		54	15	3 Fair - Minor Problems	Leans west. Suppressed. Weak attachments starting at 6 feet. Small branch deadwood. Epicormic growth.
1944				Yes						Blue Oak	*Quercus douglasii*		11		54	15	3 Fair - Minor Problems	One-sided south. Suppressed. Epicormic growth.
1945				Yes						Blue Oak	*Quercus douglasii*		13.5		54	18	3 Fair - Minor Problems	Small limb deadwood. Epicormic growth.
1946				Yes						Blue Oak	*Quercus douglasii*		17.5		54	15	3 Fair - Minor Problems	One-sided south. Small limb deadwood. Epicormic growth.
1947				Yes						Blue Oak	*Quercus douglasii*		10.5		54	10	1 Extreme Structure or Health Problems	Basal cavity north side. Codominant at 6 feet with 2-3-inch inclusion. One-sided west. Small limb deadwood. Epicormic growth.
1948				Yes						Blue Oak	*Quercus douglasii*		15		54	18	3 Fair - Minor Problems	Small limb deadwood. Epicormic growth.
1949				Yes			No			Blue Oak	*Quercus douglasii*		10		54	11	3 Fair - Minor Problems	Good base. No visible trunk defects. Epicormic growth. One-sided north. Medium vigor.
1950				Yes			No			Blue Oak	*Quercus douglasii*		15		54	15	2 Major Structure or Health Problems	Decay and included bark on base east. Epicormic growth on trunk. Partially closed 8-inch wound on southwest. Codominant at 5 feet. Medium deadwood. Poor canopy structure.
1951				Yes			No			Blue Oak	*Quercus douglasii*		6.5		54	6	2 Major Structure or Health Problems	Swollen base. Rotten base. Open decay east side of trunk 2 feet up. Epicormic growth. Poor canopy structure. Low vigor.
1952				Yes			No			Blue Oak	*Quercus douglasii*		12		54		2 Major Structure or Health Problems	Good base. Partially closed wound 3 feet north. One-sided south. Heavy lean south. Epicormic growth. Low branch south. Medium vigor.
1953				Yes			No			Blue Oak	*Quercus douglasii*		13.5		54	13	3 Fair - Minor Problems	Good base. No visible defects on trunk. One-sided southwest. Medium deadwood. One mistletoe patch. Good vigor.
1954				Yes			No			Blue Oak	*Quercus douglasii*		7		54	7	2 Major Structure or Health Problems	Partially closed wound cracks southwest of base. Epicormic growth. One-sided south. Medium deadwood. Medium vigor.
1955				Yes			No			Blue Oak	*Quercus douglasii*		13.5		54	15	2 Major Structure or Health Problems	Good base. Partially closed wound northeast 4 feet on trunk. Poor trunk structure. Heavy lean southwest. Poor canopy structure. Medium vigor.
1956				Yes			No			Blue Oak	*Quercus douglasii*		14		54	12	3 Fair - Minor Problems	Decay and dead bark on base west side. Epicormic growth. Medium deadwood. Good canopy structure. Good vigor.
1957				Yes			No			Blue Oak	*Quercus douglasii*		8		54	5	2 Major Structure or Health Problems	Good base. Closed wound on trunk north side. High epicormic growth. Medium deadwood. Dead branch tips. Poor canopy structure. Low vigor.

1958				Yes			No			Blue Oak	*Quercus douglasii*		12		54	12	3 Fair - Minor Problems	Good base. Multiple partially closed wounds up trunk. One mistletoe patch west side 6 feet up trunk. Good branch structure. Small deadwood. Good canopy structure and vigor.
1959				Yes			No			Blue Oak	*Quercus douglasii*	7,8	11		54	8	2 Major Structure or Health Problems	Codominant DBH. Good base. High epicormic growth. Medium deadwood. Poor canopy and branch structure. Low vigor.
1960				Yes			No			Blue Oak	*Quercus douglasii*		9.5		54	9	2 Major Structure or Health Problems	Good base. No visible defects on trunk. High epicormic growth. Medium deadwood. Suppressed by surrounding trees. Poor canopy structure. Low vigor.
1961				Yes			No			Blue Oak	*Quercus douglasii*		14		54	15	3 Fair - Minor Problems	Good base. Codominant at 3 feet. Medium-sized dead branch north side 6 feet up. Epicormic growth. Good canopy structure. Medium vigor.
1962				Yes			No			Blue Oak	*Quercus douglasii*	6,6	8		12	7	2 Major Structure or Health Problems	Good base. Codominant at 1 foot. Epicormic growth. Poor canopy structure. Low vigor.
1963				Yes			No			Blue Oak	*Quercus douglasii*	8.5,8.5	12		54	15	3 Fair - Minor Problems	Good base. Codominant at 3 feet. Epicormic growth. Good canopy structure. Medium vigor. Medium deadwood.
1964				Yes			No			Blue Oak	*Quercus douglasii*		7.5		54	10	3 Fair - Minor Problems	Crumbling bark on base. Included bark north base. No visible defects on trunk. One-sided east. Good branch structure. Good canopy structure and vigor.
1965				Yes			No			Blue Oak	*Quercus douglasii*		12.5		54	9	2 Major Structure or Health Problems	Swollen base. Crumbling bark on base. 3-inch decay on north base. High epicormic growth. Dead leader in canopy west side. Dead tips in canopy. Low vigor.
1966				Yes						Blue Oak	*Quercus douglasii*		7		54	12	3 Fair - Minor Problems	Leans east. Tip dieback. Epicormic growth.
1967				Yes						Blue Oak	*Quercus douglasii*		10.5		54	10	3 Fair - Minor Problems	Sparse canopy. Epicormic growth.
1968				Yes						Blue Oak	*Quercus douglasii*		6		54	10	1 Extreme Structure or Health Problems	Basal decay south. Leans south. Tip dieback. Sparse canopy. Epicormic growth.
1969				Yes						Blue Oak	*Quercus douglasii*		7.5		54	6	3 Fair - Minor Problems	Sparse canopy. Epicormic growth.
1970				Yes						Blue Oak	*Quercus douglasii*		6.5		54	6	3 Fair - Minor Problems	Sparse canopy. Epicormic growth.
1971				Yes						Blue Oak	*Quercus douglasii*		9.5		54	12	3 Fair - Minor Problems	Sparse canopy. Epicormic growth.
1972				Yes						Blue Oak	*Quercus douglasii*		8		54	6	3 Fair - Minor Problems	One-sided south. Suppressed.
1973				Yes						Blue Oak	*Quercus douglasii*		17.5		54	15	3 Fair - Minor Problems	Codominant 10 feet. Slight lean south.
1974				Yes						Blue Oak	*Quercus douglasii*		8		54	12	3 Fair - Minor Problems	Leans southwest.
1975				Yes						Blue Oak	*Quercus douglasii*		7.5		54	20	3 Fair - Minor Problems	Leans west. Suppressed. Sparse canopy.

1976				Yes						Blue Oak	*Quercus douglasii*		6		54	10	3 Fair - Minor Problems	Leans west. Suppressed. Sparse canopy. Epicormic growth.
1977				Yes						Blue Oak	*Quercus douglasii*		7		54	6	3 Fair - Minor Problems	Sparse canopy. Epicormic growth.
1978				Yes						Blue Oak	*Quercus douglasii*		11		54	10	3 Fair - Minor Problems	Epicormic growth.
1979				Yes						Blue Oak	*Quercus douglasii*		9.5		54	10	3 Fair - Minor Problems	Epicormic growth
1980				Yes						Blue Oak	*Quercus douglasii*		9		54	15	3 Fair - Minor Problems	Canopy leans north. Epicormic growth.
1981				Yes						Blue Oak	*Quercus douglasii*		8.5		54	12	2 Major Structure or Health Problems	Canopy leans west. Epicormic growth. Previous canopy failure.
1982				Yes						Blue Oak	*Quercus douglasii*		11		54	20	3 Fair - Minor Problems	Canopy leans north. Epicormic growth. Small limb deadwood.
1983				Yes						Blue Oak	*Quercus douglasii*		9		54	6	3 Fair - Minor Problems	Canopy leans east. Epicormic growth. Small limb deadwood. Sparse canopy.
1984				Yes						Blue Oak	*Quercus douglasii*		12.5		54	10	3 Fair - Minor Problems	Canopy one-sided south.
1985				Yes						Blue Oak	*Quercus douglasii*		12		54	10	3 Fair - Minor Problems	Closing split in bark at base northwest side. Epicormic growth.
1986				Yes						Blue Oak	*Quercus douglasii*		10.5		54	18	3 Fair - Minor Problems	Leans southwest. Epicormic growth.
1987				Yes						Blue Oak	*Quercus douglasii*		11		54	15	3 Fair - Minor Problems	Canopy leans south.
1988				Yes					24	Blue Oak	*Quercus douglasii*		24		54	22	3 Fair - Minor Problems	Weak attachments at 10 feet. Small limb deadwood. Epicormic growth.
1989				Yes					14	Blue Oak	*Quercus douglasii*		14		54	18	3 Fair - Minor Problems	Sparse canopy north. Small limb deadwood. Epicormic growth.
1990				Yes						Blue Oak	*Quercus douglasii*		23		54	25	3 Fair - Minor Problems	Sparse canopy north. Small limb deadwood. Epicormic growth.
1991				Yes						Blue Oak	*Quercus douglasii*		13		54	12	1 Extreme Structure or Health Problems	Basal decay south. Leans east. One-sided. Epicormic growth. Small limb deadwood.
1992				Yes						Blue Oak	*Quercus douglasii*		14		54	18	3 Fair - Minor Problems	Codominant at 6 feet with 1-2-inch inclusion. Epicormic growth. Small limb deadwood.
1993				Yes						Blue Oak	*Quercus douglasii*		14		54	18	2 Major Structure or Health Problems	One-sided east. Sparse canopy. Weak attachments. Epicormic growth. Small limb deadwood.
1994				Yes					45	Blue Oak	*Quercus douglasii*		44.5		54	25	3 Fair - Minor Problems	Multi codominant at 6 feet 2-inch inclusions.
1995				Yes						Blue Oak	*Quercus douglasii*		23.5		54	18	3 Fair - Minor Problems	Multi codominant starting at 5 feet. Small limb deadwood.
1996				Yes						Blue Oak	*Quercus douglasii*		20		54	15	1 Extreme Structure or Health Problems	Basal decay north. One-sided south. Small limb deadwood.

1997				Yes						Blue Oak	*Quercus douglasii*		10.5		54	5	1 Extreme Structure or Health Problems	Mostly dead. Tip dieback with some epicormic growth.
1998					Yes					Blue Oak	*Quercus douglasii*	12,15	19		54	18	2 Major Structure or Health Problems	Codominant at base. Weak attachments. Above average deadwood.
1999				Yes						Blue Oak	*Quercus douglasii*		12.5		54	6	1 Extreme Structure or Health Problems	Mostly dead with some epicormic growth.
2000				Yes						Blue Oak	*Quercus douglasii*		18.5		54	25	3 Fair - Minor Problems	Codominant at 10 feet 3-4-inch inclusion. Slight lean east.
2001				Yes						Blue Oak	*Quercus douglasii*		36		54	25	1 Extreme Structure or Health Problems	Severe trunk cavity north. Substantial ant nest.
2002				Yes						Blue Oak	*Quercus douglasii*		12		12	10	3 Fair - Minor Problems	Mistletoe.
2003					Yes					Blue Oak	*Quercus douglasii*	6,10	12		54	8	3 Fair - Minor Problems	
2004				Yes						Blue Oak	*Quercus douglasii*		10		54	10	2 Major Structure or Health Problems	Flat trunk at codominant.
2005				Yes						Blue Oak	*Quercus douglasii*		15		54	12	3 Fair - Minor Problems	
2006				Yes						Blue Oak	*Quercus douglasii*		7		54	6	3 Fair - Minor Problems	
2007				Yes						Blue Oak	*Quercus douglasii*		10		54	6	3 Fair - Minor Problems	Excessive mistletoe.
2008				Yes						Blue Oak	*Quercus douglasii*		6		54	8	3 Fair - Minor Problems	Mistletoe.
2009				Yes						Blue Oak	*Quercus douglasii*		8		6	4	3 Fair - Minor Problems	Mistletoe.
2010				Yes						Blue Oak	*Quercus douglasii*		16		54	10	3 Fair - Minor Problems	
2011				Yes						Blue Oak	*Quercus douglasii*		11		54	12	3 Fair - Minor Problems	Slight lean east.
2012				Yes						Blue Oak	*Quercus douglasii*		8		18	6	3 Fair - Minor Problems	
2013				Yes						Blue Oak	*Quercus douglasii*		12		36	10	3 Fair - Minor Problems	Mistletoe. Epicormic growth.
2014				Yes						Blue Oak	*Quercus douglasii*		32		54	20	3 Fair - Minor Problems	Small branch deadwood. Epicormic growth.
2015				Yes						Blue Oak	*Quercus douglasii*		36.5			25	3 Fair - Minor Problems	Bird hole damage.
2016				Yes						Blue Oak	*Quercus douglasii*		32		54	30	2 Major Structure or Health Problems	Large branch failures north side.

2017				Yes			Yes			Blue Oak	*Quercus douglasii*		26		54	18	2 Major Structure or Health Problems	Epicormic growth.
2018				Yes			Yes			Blue Oak	*Quercus douglasii*		28		54	18	2 Major Structure or Health Problems	Epicormic growth. Large branch failures north side. Bird hole.
2019				Yes			No			Blue Oak	*Quercus douglasii*		25		54	20	1 Extreme Structure or Health Problems	Top of canopy dead. Large branch failures. Epicormic growth.
2020				Yes						Blue Oak	*Quercus douglasii*		20		54	32	1 Extreme Structure or Health Problems	One-sided canopy. Leans east.
2021				Yes						Blue Oak	*Quercus douglasii*		22		54	20	3 Fair - Minor Problems	
2022				Yes						Blue Oak	*Quercus douglasii*		13		54	18	3 Fair - Minor Problems	Leans south. 6-inch limb failure north side.
2023				Yes						Blue Oak	*Quercus douglasii*		27		54	20	3 Fair - Minor Problems	Good vigor.
2024				Yes						Blue Oak	*Quercus douglasii*		33		54	30	3 Fair - Minor Problems	Trunk and canopy leans north.
2025				Yes						Blue Oak	*Quercus douglasii*		27		54	25	3 Fair - Minor Problems	Leans south.
2026				Yes						Blue Oak	*Quercus douglasii*		12		54	25	3 Fair - Minor Problems	Leans south. Suppressed.
2027				Yes						Blue Oak	*Quercus douglasii*		22		54	20	3 Fair - Minor Problems	Leans south. One-sided/suppressed.
2028				Yes						Blue Oak	*Quercus douglasii*		16		54	20	3 Fair - Minor Problems	Leans south.
2029				Yes						Blue Oak	*Quercus douglasii*		24		54	20	1 Extreme Structure or Health Problems	Main limb failure fire damage.
2030				Yes						Blue Oak	*Quercus douglasii*		19		54	25	3 Fair - Minor Problems	Half of canopy leans north.
2031				Yes						Blue Oak	*Quercus douglasii*		14		54	15	3 Fair - Minor Problems	Small branch deadwood.
2032				Yes						Blue Oak	*Quercus douglasii*		13		54	18	3 Fair - Minor Problems	Leans east with branches in ground. Suppressed.
2033				Yes						Blue Oak	*Quercus douglasii*		18			20	3 Fair - Minor Problems	
2034				Yes						Blue Oak	*Quercus douglasii*		14		54	18	3 Fair - Minor Problems	Leans west/suppressed.
2035				Yes						Blue Oak	*Quercus douglasii*		22.5		24	30	3 Fair - Minor Problems	One-sided south.
2036				Yes						Blue Oak	*Quercus douglasii*		26		54	30	3 Fair - Minor Problems	One-sided east. Low epicormic growth.
2037				Yes						Blue Oak	*Quercus douglasii*		26		54	28	3 Fair - Minor Problems	Good vigor.

2038				Yes						Blue Oak	*Quercus douglasii*		28		54	27	3 Fair - Minor Problems	Large inclusion at 15 feet north. Epicormic growth.
2039				Yes						Blue Oak	*Quercus douglasii*		20		36	15	3 Fair - Minor Problems	Epicormic growth. Small limb defects.
2040				Yes						Blue Oak	*Quercus douglasii*		19		54	20	3 Fair - Minor Problems	
2041				Yes						Blue Oak	*Quercus douglasii*		12		54	15	3 Fair - Minor Problems	Sparse canopy. Leans west. Suppressed.
2042				Yes						Blue Oak	*Quercus douglasii*		19		54	21	3 Fair - Minor Problems	One-sided east.
2043				Yes						Blue Oak	*Quercus douglasii*		27		54	28	2 Major Structure or Health Problems	Cavity at crotch. Callusing north side.
2044				Yes						Blue Oak	*Quercus douglasii*		22		54	25	3 Fair - Minor Problems	Canopy one-sided/leaning west.
2045				Yes						Blue Oak	*Quercus douglasii*		28		54	30	3 Fair - Minor Problems	Canopy one-sided/leaning south.
2046				Yes						Blue Oak	*Quercus douglasii*		24		54	20	3 Fair - Minor Problems	Leans west. Suppressed.
2047				Yes						Blue Oak	*Quercus douglasii*		24		54	18	3 Fair - Minor Problems	Small branch deadwood.
2048				Yes						Blue Oak	*Quercus douglasii*		36		54	35	3 Fair - Minor Problems	Small branch deadwood.
2049				Yes						Blue Oak	*Quercus douglasii*		27.5		54	22	3 Fair - Minor Problems	Small branch deadwood.
2050				Yes						Blue Oak	*Quercus douglasii*		30		54	25	3 Fair - Minor Problems	Small branch deadwood. One-sided east.
2051				Yes						Blue Oak	*Quercus douglasii*		20		54	18	2 Major Structure or Health Problems	Multiple limb failures and deadwood.
2052				Yes						Blue Oak	*Quercus douglasii*		30		54	20	2 Major Structure or Health Problems	Multiple trunk cankers.
2053				Yes						Blue Oak	*Quercus douglasii*		22		54	20	3 Fair - Minor Problems	Small branch deadwood.
2054				Yes						Blue Oak	*Quercus douglasii*		35.5		24	30	3 Fair - Minor Problems	Small branch deadwood.
2055				Yes						Blue Oak	*Quercus douglasii*						3 Fair - Minor Problems	
2056				Yes						Blue Oak	*Quercus douglasii*		32			28	3 Fair - Minor Problems	
2057				Yes						Blue Oak	*Quercus douglasii*		24			18	3 Fair - Minor Problems	Low epicormic growth.
2058				Yes						Blue Oak	*Quercus douglasii*		17			15	3 Fair - Minor Problems	Low epicormic growth.
2059				Yes						Blue Oak	*Quercus douglasii*		34			25	3 Fair - Minor Problems	Moderate previous limb failures. Leans east.
2060				Yes						Blue Oak	*Quercus douglasii*		34			25	3 Fair - Minor Problems	Moderate previous limb failures. Leans west.

2061				Yes						Blue Oak	*Quercus douglasii*		18		54	12	2 Major Structure or Health Problems	Bird holes. 70% bark damage/fire damage. Epicormic growth.
2062				Yes						Blue Oak	*Quercus douglasii*		24		54	25	3 Fair - Minor Problems	Epicormic growth.
2063				Yes						Blue Oak	*Quercus douglasii*		25		54	25	3 Fair - Minor Problems	Epicormic growth. Small branch deadwood. Bark damage north side.
2064				Yes						Blue Oak	*Quercus douglasii*		27.5		54	25	3 Fair - Minor Problems	Epicormic growth. Large limb failures northeast side.
2065				Yes						Blue Oak	*Quercus douglasii*		7		54	10	3 Fair - Minor Problems	Epicormic growth.
2066				Yes						Blue Oak	*Quercus douglasii*		9		54	10	3 Fair - Minor Problems	Epicormic growth.
2067				Yes						Blue Oak	*Quercus douglasii*		7			8	3 Fair - Minor Problems	Epicormic growth.
2068				Yes						Blue Oak	*Quercus douglasii*		6		54	6	3 Fair - Minor Problems	
2069				Yes						Blue Oak	*Quercus douglasii*		6			6	3 Fair - Minor Problems	
2070				Yes						Blue Oak	*Quercus douglasii*		6			6	3 Fair - Minor Problems	Epicormic growth.
2071				Yes						Blue Oak	*Quercus douglasii*		6			6	1 Extreme Structure or Health Problems	Trunk cavity with decay.
2072				Yes						Interior Live Oak	*Quercus wislizenii*		12		54	6	1 Extreme Structure or Health Problems	Trunk cavity. Missing canopy.
2073				Yes						Interior Live Oak	*Quercus wislizenii*		12		54	12	1 Extreme Structure or Health Problems	Dead canopy.
2074				Yes						Blue Oak	*Quercus douglasii*		9		54	12	3 Fair - Minor Problems	Leans east.
2075				Yes						Blue Oak	*Quercus douglasii*		11		54	15	3 Fair - Minor Problems	6-inch branch failure south.
2076				Yes						Blue Oak	*Quercus douglasii*		9		54	12	3 Fair - Minor Problems	
2077				Yes						Blue Oak	*Quercus douglasii*		7		54	20	3 Fair - Minor Problems	Leans east.
2078					Yes					Interior Live Oak	*Quercus wislizenii*	6,11,11,12	21		54	18	2 Major Structure or Health Problems	4 stems with weak attachments.
2079				Yes						Blue Oak	*Quercus douglasii*		8		54	12	2 Major Structure or Health Problems	
2080				Yes						Blue Oak	*Quercus douglasii*		6		54	4	3 Fair - Minor Problems	Suppressed.

2081				Yes						Blue Oak	*Quercus douglasii*		10		54	10	2 Major Structure or Health Problems	Tip dieback.
2082				Yes						Blue Oak	*Quercus douglasii*		11		54	12	3 Fair - Minor Problems	
2083				Yes						Blue Oak	*Quercus douglasii*		9		36	12	3 Fair - Minor Problems	
2084				Yes						Blue Oak	*Quercus douglasii*		7		36	10	3 Fair - Minor Problems	Canopy leans east. Epicormic growth.
2085				Yes						Blue Oak	*Quercus douglasii*		6		54	10	3 Fair - Minor Problems	Canopy/trunk lean south. Epicormic growth.
2086				Yes						Blue Oak	*Quercus douglasii*		6		54	6	3 Fair - Minor Problems	Epicormic growth.
2087				Yes						Blue Oak	*Quercus douglasii*		6		54	6	3 Fair - Minor Problems	Epicormic growth.
2088				Yes						Blue Oak	*Quercus douglasii*		7		54	8	3 Fair - Minor Problems	Epicormic growth.
2089				Yes						Blue Oak	*Quercus douglasii*		6			8	3 Fair - Minor Problems	Small limb failures.
2090				Yes						Blue Oak	*Quercus douglasii*		6			8	3 Fair - Minor Problems	
2091				Yes						Blue Oak	*Quercus douglasii*		11		54	15	3 Fair - Minor Problems	6-inch dead limb west side.
2092				Yes						Blue Oak	*Quercus douglasii*		14		12	12	3 Fair - Minor Problems	Epicormic growth.
2093				Yes						Blue Oak	*Quercus douglasii*		6		54	8	3 Fair - Minor Problems	Epicormic growth.
2094				Yes						Blue Oak	*Quercus douglasii*		6		54	10	3 Fair - Minor Problems	
2095				Yes						Blue Oak	*Quercus douglasii*		10		54	12	3 Fair - Minor Problems	Smaller limb deadwood.
2096					Yes					Blue Oak	*Quercus douglasii*	6,6	8		54	10	3 Fair - Minor Problems	
2097				Yes						Blue Oak	*Quercus douglasii*		6		54	15	3 Fair - Minor Problems	Leans west.
2098				Yes						Interior Live Oak	*Quercus wislizenii*		8		54	20	3 Fair - Minor Problems	
2099					Yes					Interior Live Oak	*Quercus wislizenii*	9,10	13		54	15	2 Major Structure or Health Problems	Trunk cavity.
2100				Yes						Blue Oak	*Quercus douglasii*		9		54	18	2 Major Structure or Health Problems	
2101					Yes					Interior Live Oak	*Quercus wislizenii*	7,8	11		54	10	3 Fair - Minor Problems	
2102				Yes						Interior Live Oak	*Quercus wislizenii*		6		54	8	1 Extreme Structure or Health Problems	Bark decay. Trunk cavity.

2103				Yes						Interior Live Oak	*Quercus wislizenii*		14		36	15	3 Fair - Minor Problems	One-sided east.
2104					Yes					Interior Live Oak	*Quercus wislizenii*	10,11,12	19		36	21	2 Major Structure or Health Problems	Severe inclusion south side.
2105				Yes						Blue Oak	*Quercus douglasii*		25		54	25	2 Major Structure or Health Problems	Exposed roots on creek bank west side.
2106				Yes						Blue Oak	*Quercus douglasii*		26		54	30	3 Fair - Minor Problems	Exposed roots on creek bank west side.
2107				Yes						Blue Oak	*Quercus douglasii*		27			30	3 Fair - Minor Problems	
2108				Yes						Blue Oak	*Quercus douglasii*		28		54	30	3 Fair - Minor Problems	Leans east.
2109				Yes						Blue Oak	*Quercus douglasii*		37			30	1 Extreme Structure or Health Problems	Severe trunk cavity.
2110				Yes						Blue Oak	*Quercus douglasii*		26		54	30	3 Fair - Minor Problems	
2111				Yes				39		Blue Oak	*Quercus douglasii*		39		54	32	3 Fair - Minor Problems	
2112				Yes						Blue Oak	*Quercus douglasii*		12			25	1 Extreme Structure or Health Problems	Severe bow in trunk and lean north.
2113				Yes						Interior Live Oak	*Quercus wislizenii*		12		54	10	3 Fair - Minor Problems	Growing along creekside.
2114				Yes						Blue Oak	*Quercus douglasii*		16		12	12	3 Fair - Minor Problems	
2115					Yes					Blue Oak	*Quercus douglasii*	9,10	13		54	15	2 Major Structure or Health Problems	Dieback.
2116				Yes						Blue Oak	*Quercus douglasii*		10			12	3 Fair - Minor Problems	
2117				Yes						Blue Oak	*Quercus douglasii*		10			10	3 Fair - Minor Problems	
2118				Yes						Blue Oak	*Quercus douglasii*		12		54	15	3 Fair - Minor Problems	
2119					Yes					Pacific Willow	*Salix lucida*	17,20	26		54	15	1 Extreme Structure or Health Problems	Major trunk cavity decay.
2120				Yes					41	Blue Oak	*Quercus douglasii*		41		54	35	3 Fair - Minor Problems	Old limb failure at 15 feet.
2121				Yes					27.5	Blue Oak	*Quercus douglasii*		27.5		54	30	2 Major Structure or Health Problems	One-sided east. Small limb failures. Epicormic growth.

2122				Yes					21	Blue Oak	*Quercus douglasii*		21		54	25	3 Fair - Minor Problems	Small limb failures. Epicormic growth.
2123				Yes					0	Blue Oak	*Quercus douglasii*		21	0	45	35	2 Major Structure or Health Problems	Failed limbs on the ground on south side. Epicormic growth with weak attachments.
2124				Yes					30	Blue Oak	*Quercus douglasii*		30		54	18	3 Fair - Minor Problems	Small branch deadwood. Epicormic growth.
2125				Yes					28	Blue Oak	*Quercus douglasii*		28	0	54	0	0 Dead	Standing dead.
2126				Yes					26	Blue Oak	*Quercus douglasii*		26		54	20	3 Fair - Minor Problems	
2127				Yes					36	Blue Oak	*Quercus douglasii*		36		54	25	3 Fair - Minor Problems	Low branching south side.
2128				Yes					20	Blue Oak	*Quercus douglasii*		20		54	25	2 Major Structure or Health Problems	50% bark loss from fire.
2129				Yes					0	Blue Oak	*Quercus douglasii*		18	0	54	20	1 Extreme Structure or Health Problems	Canopy failure.
2130				Yes					0	Blue Oak	*Quercus douglasii*		32	0	54	30	1 Extreme Structure or Health Problems	Canopy failure.
2131				Yes					0	Blue Oak	*Quercus douglasii*		26	0	54	25	1 Extreme Structure or Health Problems	Canopy failure.
2132				Yes					31	Blue Oak	*Quercus douglasii*		31		54	30	3 Fair - Minor Problems	Leans east.
2133				Yes					49	Blue Oak	*Quercus douglasii*		49		54	35	2 Major Structure or Health Problems	Severe inclusion. Canker.
2134				Yes					0	Blue Oak	*Quercus douglasii*		26	0	54	25	2 Major Structure or Health Problems	Large failure. Poor structure.
2135				Yes					36	Blue Oak	*Quercus douglasii*		36		54	30	3 Fair - Minor Problems	Small limb deadwood.
2136				Yes					29	Blue Oak	*Quercus douglasii*		29		54	25	3 Fair - Minor Problems	Small limb deadwood. Low branching.
2137				Yes					0	Blue Oak	*Quercus douglasii*		40	0	54	21	1 Extreme Structure or Health Problems	2 large failures at crotch.
2138				Yes					24	Blue Oak	*Quercus douglasii*		24		54	20	3 Fair - Minor Problems	Small limb deadwood.

2139				Yes					0	Blue Oak	*Quercus douglasii*		37.5	0	54	30	1 Extreme Structure or Health Problems	Large cavity from fire, east side.
2140				Yes					0	Blue Oak	*Quercus douglasii*		18	0		20	1 Extreme Structure or Health Problems	Failure at crotch.
2141				Yes					0	Blue Oak	*Quercus douglasii*		28.5	0	54	30	1 Extreme Structure or Health Problems	Failure large west side. Epicormic growth. Basal cavity west side.
2142				Yes					0	Blue Oak	*Quercus douglasii*		24	0	54	30	1 Extreme Structure or Health Problems	One-sided canopy north. 50% bark loss from fire. Trunk cavity. Mulit failures.
2143				Yes						Blue Oak	*Quercus douglasii*		35		54	30	3 Fair - Minor Problems	Leans south. Epicormic growth.
2144				Yes						Blue Oak	*Quercus douglasii*		32		54	39	3 Fair - Minor Problems	
2145				Yes						Blue Oak	*Quercus douglasii*		35		54	0	0 Dead	Standing dead.
2146				Yes						Interior Live Oak	*Quercus wislizenii*		32		54	35	1 Extreme Structure or Health Problems	Large failures. Decay trunk cavity.
2147				Yes						Blue Oak	*Quercus douglasii*		20		54	18	3 Fair - Minor Problems	
2148				Yes						Blue Oak	*Quercus douglasii*		17		54	15	3 Fair - Minor Problems	
2149				Yes						Blue Oak	*Quercus douglasii*		24		54	30	3 Fair - Minor Problems	Bird holes. One-sided west.
2150				Yes						Blue Oak	*Quercus douglasii*		17		54	20	3 Fair - Minor Problems	Leans east.
2151				Yes						Blue Oak	*Quercus douglasii*		30		48	25	3 Fair - Minor Problems	Leans east.
2152				Yes						Blue Oak	*Quercus douglasii*		31		54	30	2 Major Structure or Health Problems	Severe inclusion at crotch.
2153				Yes						Blue Oak	*Quercus douglasii*		27		54	25	2 Major Structure or Health Problems	One-sided west.
2154				Yes						Blue Oak	*Quercus douglasii*		24		54	15	1 Extreme Structure or Health Problems	Trunk cavity with decay.

2155				Yes						Blue Oak	*Quercus douglasii*		18		54	18	1 Extreme Structure or Health Problems	Small limb deadwood.
2156				Yes						Blue Oak	*Quercus douglasii*		34		54	30	2 Major Structure or Health Problems	50% bark loss from fire.
2157				Yes						Blue Oak	*Quercus douglasii*		21		54	20	2 Major Structure or Health Problems	Swelling on bark sounded hollow when tag placed.
2158				Yes						Blue Oak	*Quercus douglasii*		21		54	25	3 Fair - Minor Problems	
2159				Yes						Blue Oak	*Quercus douglasii*		24		54	15	2 Major Structure or Health Problems	Main stem failed south side.
2160				Yes						Blue Oak	*Quercus douglasii*		32		54	20	3 Fair - Minor Problems	
2161				Yes						Blue Oak	*Quercus douglasii*		24		54	20	3 Fair - Minor Problems	
2162				Yes						Blue Oak	*Quercus douglasii*		19		54	15	3 Fair - Minor Problems	Small branch deadwood. Epicormic growth.
2163				Yes						Blue Oak	*Quercus douglasii*		30		54	25	3 Fair - Minor Problems	Small branch deadwood. Epicormic growth.
2164				Yes						Blue Oak	*Quercus douglasii*		24		54	25	3 Fair - Minor Problems	
2165				Yes						Blue Oak	*Quercus douglasii*		31		54	21	2 Major Structure or Health Problems	Large failures.
2166				Yes						Blue Oak	*Quercus douglasii*		30		54	25	3 Fair - Minor Problems	
2167				Yes						Blue Oak	*Quercus douglasii*		26		54	25	1 Extreme Structure or Health Problems	Buttress root south side, no connection. Epicormic growth.
2168				Yes						Blue Oak	*Quercus douglasii*		27		54	25	1 Extreme Structure or Health Problems	Beehive on north side. Main limb may have decay.
2169				Yes						Blue Oak	*Quercus douglasii*		32.5		54	20	1 Extreme Structure or Health Problems	Retrenchment tip dieback. Cankers on trunk.
2170				Yes						Blue Oak	*Quercus douglasii*		31		54	25	3 Fair - Minor Problems	Low branching. Leans southwest.
2171				Yes						Blue Oak	*Quercus douglasii*		19		54	15	3 Fair - Minor Problems	Small branch deadwood.

2172				Yes						Blue Oak	*Quercus douglasii*		24		54	12	1 Extreme Structure or Health Problems	Limb failures with decay. Hollow when tag placed.
2173				Yes						Blue Oak	*Quercus douglasii*		26		54	20	3 Fair - Minor Problems	
2174				Yes						Blue Oak	*Quercus douglasii*		27		54	20	2 Major Structure or Health Problems	Leans north. Large limb failure.
2175				Yes						Blue Oak	*Quercus douglasii*		25		54	30	1 Extreme Structure or Health Problems	Leans south. Cavity north side.
2176				Yes					30.5	Blue Oak	*Quercus douglasii*		30.5		54	25	2 Major Structure or Health Problems	Large limb failure, south side, with decay.
2177				Yes					37	Blue Oak	*Quercus douglasii*		37		54	30	2 Major Structure or Health Problems	Canopy failure. 50% bark loss from fire.
2178				Yes					0	Blue Oak	*Quercus douglasii*		38	0	54	35	2 Major Structure or Health Problems	60% bark loss from fire. Codominant limb failure. Remaining limb decay.
2179				Yes					0	Blue Oak	*Quercus douglasii*		29	0	54	25	2 Major Structure or Health Problems	Large trunk cavity east side.
2180				Yes					24	Blue Oak	*Quercus douglasii*		24		54	20	3 Fair - Minor Problems	Response growth trunk north side.
2181				Yes					18	Blue Oak	*Quercus douglasii*		18		54	18	2 Major Structure or Health Problems	Suppressed/leans south.
2182				Yes					30.5	Blue Oak	*Quercus douglasii*		30.5		54	25	3 Fair - Minor Problems	
2183				Yes					0	Blue Oak	*Quercus douglasii*		45.5	0	54	21	2 Major Structure or Health Problems	Canopy failure. Cavity south side.
2184				Yes					27	Blue Oak	*Quercus douglasii*		27		54	25	2 Major Structure or Health Problems	Leans south with branches to ground. Large limb failures.
2185				Yes					33	Blue Oak	*Quercus douglasii*		33		54	20	2 Major Structure or Health Problems	16-inch lateral to ground south. Tip dieback. Large failure northeast.

2186				Yes					30	Blue Oak	*Quercus douglasii*		30		54	18	2 Major Structure or Health Problems	Canopy failure.
2187				Yes					41.5	Blue Oak	*Quercus douglasii*		41.5		36	25	3 Fair - Minor Problems	Small limb deadwood.
2188				Yes					0	Blue Oak	*Quercus douglasii*		42.5	0	54	32	2 Major Structure or Health Problems	Trunk cavity southeast side.
2189				Yes					32	Blue Oak	*Quercus douglasii*		32		54	30	3 Fair - Minor Problems	Slight lean south. Mistletoe.
2190				Yes					34	Blue Oak	*Quercus douglasii*		34		54	35	3 Fair - Minor Problems	
2191				Yes					20	Blue Oak	*Quercus douglasii*		20		54	30	3 Fair - Minor Problems	One-sided south.
2192				Yes					25	Blue Oak	*Quercus douglasii*		25			20	3 Fair - Minor Problems	One-sided south.
2193				Yes					14	Blue Oak	*Quercus douglasii*		14		54	18	3 Fair - Minor Problems	Leans north.
2194				Yes					30	Blue Oak	*Quercus douglasii*		30		54	22	3 Fair - Minor Problems	Leans northwest.
2195				Yes					15	Blue Oak	*Quercus douglasii*		15		54	15	2 Major Structure or Health Problems	Leans north. Main branch failure.
2196				Yes					0	Blue Oak	*Quercus douglasii*		30	0	54	15	1 Extreme Structure or Health Problems	Cavity south side.
2197				Yes					0	Blue Oak	*Quercus douglasii*		43	0	54	35	1 Extreme Structure or Health Problems	70% bark loss from fire. Large limb failures.
2198				Yes					31.5	Blue Oak	*Quercus douglasii*		31.5		54	25	3 Fair - Minor Problems	
2199				Yes					0	Blue Oak	*Quercus douglasii*		45	0	54	35	1 Extreme Structure or Health Problems	Internal decay, sounded hollow. Cavity north side.
2200				Yes					32	Blue Oak	*Quercus douglasii*		32		54	40	3 Fair - Minor Problems	Response growth on multi old limbs.
2201				Yes					33	Blue Oak	*Quercus douglasii*		33		54	21	2 Major Structure or Health Problems	Canopy failure main branch.
2202				Yes					28	Blue Oak	*Quercus douglasii*		28		54	25	2 Major Structure or Health Problems	Canopy failure main branch.
2203				Yes					29	Blue Oak	*Quercus douglasii*		29		54	25	3 Fair - Minor Problems	Canopy failure main branch.

2204				Yes					30	Blue Oak	*Quercus douglasii*		30		54	30	3 Fair - Minor Problems	Canopy failure main branch.
2205				Yes					0	Blue Oak	*Quercus douglasii*		31	0	54	25	2 Major Structure or Health Problems	Large limb failure east side. Cavity.
2206				Yes					0	Blue Oak	*Quercus douglasii*		22	0	54	0	1 Extreme Structure or Health Problems	Failed tree at base growing on ground. Bug trunk cavity.
2207				Yes						Blue Oak	*Quercus douglasii*		25		54	15	2 Major Structure or Health Problems	Severe trunk cavity north side.
2208				Yes						Interior Live Oak	*Quercus wislizenii*		44		54	30	1 Extreme Structure or Health Problems	Severe trunk cavity burnt out 22 lateral north on ground.
2209				Yes					29.5	Blue Oak	*Quercus douglasii*		29.5		54	25	3 Fair - Minor Problems	Large limb failure north side. Epicormic growth.
2210				Yes					30.5	Blue Oak	*Quercus douglasii*		30.5		54	25	3 Fair - Minor Problems	Large limb failure. Bark defect north side.
2211				Yes					0	Blue Oak	*Quercus douglasii*		31	0	54	30	1 Extreme Structure or Health Problems	60% bark loss fire. Large limb failures.
2212				Yes						Blue Oak	*Quercus douglasii*		41		54	36	2 Major Structure or Health Problems	Callusing old large limb failures, north and east sides. Epicormic growth.
2213				Yes				36.5		Blue Oak	*Quercus douglasii*		36.5		54	45	2 Major Structure or Health Problems	Main limb failed, cavity.
2214				Yes						Blue Oak	*Quercus douglasii*		28		54	20	1 Extreme Structure or Health Problems	Failed. 60% burnt top. Growing on ground. Trunk cavity. Vertical growth off stump.
2215				Yes						Blue Oak	*Quercus douglasii*		25		54	18	2 Major Structure or Health Problems	Large codominant failure.
2216				Yes						Blue Oak	*Quercus douglasii*		23		54	18	2 Major Structure or Health Problems	Large limb failures, north side.
2217				Yes						Interior Live Oak	*Quercus wislizenii*		36		54	20	2 Major Structure or Health Problems	2 main large limb failures east and west sides with cavity.

2218				Yes						Blue Oak	*Quercus douglasii*		43		54	20	1 Extreme Structure or Health Problems	60% bark loss from fire. 3 large limb failures.
2219				Yes						Valley Oak	*Quercus lobata*		28		54		2 Major Structure or Health Problems	Growing out of 45-degree bank and rock. Limb failures. Poison oak.
2220				Yes						Blue Oak	*Quercus douglasii*		32		54	28	3 Fair - Minor Problems	Slight lean north. Low branching, east side.
2221			308	Yes				34		Interior Live Oak	*Quercus wislizenii*		34		54	30	1 Extreme Structure or Health Problems	Severe trunk cavity burnt out.
2222				Yes				30		Blue Oak	*Quercus douglasii*		30		54	25	3 Fair - Minor Problems	Low branching north side.
2223				Yes					0	Interior Live Oak	*Quercus wislizenii*		10	0	54	12	1 Extreme Structure or Health Problems	Failed at base. Growing on ground. Scald from fire.
2224				Yes						Interior Live Oak	*Quercus wislizenii*		22		54	21	3 Fair - Minor Problems	Small limb failures. Canopy leans north.
2225				Yes						Interior Live Oak	*Quercus wislizenii*		25		54	21	1 Extreme Structure or Health Problems	Canopy failure 60% bark loss fire.
2226				Yes						Interior Live Oak	*Quercus wislizenii*		35		54	25	3 Fair - Minor Problems	
2227				Yes					19	Blue Oak	*Quercus douglasii*		19		54	30	3 Fair - Minor Problems	
2228				Yes					25	Blue Oak	*Quercus douglasii*		25		54	20	3 Fair - Minor Problems	
2229				Yes					14	Interior Live Oak	*Quercus wislizenii*		14		54	8	3 Fair - Minor Problems	Hollow on west side.
2230				Yes					29	Blue Oak	*Quercus douglasii*		29		54	20	3 Fair - Minor Problems	Base growing in rock. Small limb deadwood. Epicormic growth.
2231				Yes					0	Valley Oak	*Quercus lobata*		47	0	54	25	1 Extreme Structure or Health Problems	Large cavity west side.
2232				Yes					0	Blue Oak	*Quercus douglasii*		12	0	54	30	2 Major Structure or Health Problems	One-sided south. Half dead.
2233				Yes					32	Blue Oak	*Quercus douglasii*		32		54	28	3 Fair - Minor Problems	Small limb deadwood.
2234				Yes					29	Blue Oak	*Quercus douglasii*		28.5		54	25	3 Fair - Minor Problems	Small limb deadwood.
2235				Yes					39	Blue Oak	*Quercus douglasii*		39			35	2 Major Structure or Health Problems	Large branch failures. Fire damage.

2236				Yes					0	Blue Oak	*Quercus douglasii*		27	0	54	15	1 Extreme Structure or Health Problems	Canopy failure.
2237				Yes					0	Blue Oak	*Quercus douglasii*		25	0	54	25	1 Extreme Structure or Health Problems	80% bark loss from fire.
2238				Yes					18	Interior Live Oak	*Quercus wislizenii*		18		54	18	1 Extreme Structure or Health Problems	Burnt out trunk cavity.
2239				Yes					32	Blue Oak	*Quercus douglasii*		32		54	20	3 Fair - Minor Problems	
2240				Yes					23	Blue Oak	*Quercus douglasii*		23.5		54	20	3 Fair - Minor Problems	
2242				Yes				26		Blue Oak	*Quercus douglasii*		26		54	25	3 Fair - Minor Problems	
2243				Yes						Blue Oak	*Quercus douglasii*		31		54	20	2 Major Structure or Health Problems	Large limb failures.
2244				Yes				32.5		Blue Oak	*Quercus douglasii*		32.5		54	40	3 Fair - Minor Problems	Leans north with branches 3 feet from ground.
2245				Yes						Blue Oak	*Quercus douglasii*		6		54	5	3 Fair - Minor Problems	
2246				Yes						Blue Oak	*Quercus douglasii*		5			5	3 Fair - Minor Problems	
2247				No						Blue Oak	*Quercus douglasii*		4			5	3 Fair - Minor Problems	
2248				Yes						Blue Oak	*Quercus douglasii*		7			5	3 Fair - Minor Problems	
2249				No						Blue Oak	*Quercus douglasii*		5			5	3 Fair - Minor Problems	
2250				No						Blue Oak	*Quercus douglasii*		5			5	3 Fair - Minor Problems	
2251				Yes						Blue Oak	*Quercus douglasii*		11		12	5	3 Fair - Minor Problems	
2252				Yes					8	Blue Oak	*Quercus douglasii*		8		54	5	3 Fair - Minor Problems	
2253				No					4	Blue Oak	*Quercus douglasii*		4			5	3 Fair - Minor Problems	
2254				Yes				11		Blue Oak	*Quercus douglasii*	6,9	11			5	3 Fair - Minor Problems	
2255				Yes					11	Blue Oak	*Quercus douglasii*	6,9	11			5	3 Fair - Minor Problems	
2256				Yes						Blue Oak	*Quercus douglasii*	6,9	11		12	5	3 Fair - Minor Problems	
2257				Yes				11		Blue Oak	*Quercus douglasii*	6,9	11		6	5	3 Fair - Minor Problems	
2258				Yes					11	Blue Oak	*Quercus douglasii*	6,9	11		54	5	3 Fair - Minor Problems	

2259				Yes					7	Blue Oak	*Quercus douglasii*		7		54	5	3 Fair - Minor Problems	
2260				Yes				7		Blue Oak	*Quercus douglasii*		7		54	5	3 Fair - Minor Problems	
2261				Yes				4		Blue Oak	*Quercus douglasii*		4		54	5	3 Fair - Minor Problems	
2262				No				5		Blue Oak	*Quercus douglasii*		5		36	5	3 Fair - Minor Problems	
2263				Yes				25		Blue Oak	*Quercus douglasii*		25.5		54	18	3 Fair - Minor Problems	Slight lean west.
2264				Yes						Blue Oak	*Quercus douglasii*		6		24	5	3 Fair - Minor Problems	Slight lean west.
2265				No					4	Blue Oak	*Quercus douglasii*		4		54	5	3 Fair - Minor Problems	Slight lean west.
2266				No					4	Blue Oak	*Quercus douglasii*		4		24	5	3 Fair - Minor Problems	Slight lean west.
2267				Yes				6		Blue Oak	*Quercus douglasii*		6		24	5	3 Fair - Minor Problems	
2268				No						Blue Oak	*Quercus douglasii*		5		54	5	3 Fair - Minor Problems	
2269				Yes						Blue Oak	*Quercus douglasii*		31		54	25	1 Extreme Structure or Health Problems	Large branch failures cavities north side. Canopy leans north.
2270				Yes						Blue Oak	*Quercus douglasii*		23.5		54	25	3 Fair - Minor Problems	Small branch deadwood. Epicormic growth.
2271				Yes						Blue Oak	*Quercus douglasii*		6		54	5	3 Fair - Minor Problems	
2272				No						Interior Live Oak	*Quercus wislizenii*		4		54	5	3 Fair - Minor Problems	
2273				No						Blue Oak	*Quercus douglasii*	3,3	4		54	5	3 Fair - Minor Problems	
2274				No						Blue Oak	*Quercus douglasii*		4		54	5	3 Fair - Minor Problems	
2275				No						Interior Live Oak	*Quercus wislizenii*		4		54	5	3 Fair - Minor Problems	
2276				No						Blue Oak	*Quercus douglasii*		4		54	5	3 Fair - Minor Problems	
2277				Yes						Blue Oak	*Quercus douglasii*		24		54	30	3 Fair - Minor Problems	
2278				Yes						Blue Oak	*Quercus douglasii*		10		6	5	3 Fair - Minor Problems	
2279				Yes						Blue Oak	*Quercus douglasii*		6		2	5	3 Fair - Minor Problems	
2280				Yes						Blue Oak	*Quercus douglasii*		12		24	10	3 Fair - Minor Problems	
2281				Yes						Blue Oak	*Quercus douglasii*		7		54	5	3 Fair - Minor Problems	
2282				No						Blue Oak	*Quercus douglasii*		4		54	8	3 Fair - Minor Problems	
2283				Yes						Blue Oak	*Quercus douglasii*		7		54	8	3 Fair - Minor Problems	

2284				Yes						Blue Oak	*Quercus douglasii*		11		54	12	3 Fair - Minor Problems	
2285				Yes					6	Blue Oak	*Quercus douglasii*		6		54	9	3 Fair - Minor Problems	
2285				Yes					10	Blue Oak	*Quercus douglasii*		10		6	8	3 Fair - Minor Problems	
2285				Yes					6	Blue Oak	*Quercus douglasii*		6		24	6	3 Fair - Minor Problems	
2286				Yes					14	Interior Live Oak	*Quercus wislizenii*		14		24	15	3 Fair - Minor Problems	
2287				Yes					6	Blue Oak	*Quercus douglasii*		6		24	6	3 Fair - Minor Problems	
2289				No					5	Blue Oak	*Quercus douglasii*		5		54	5	3 Fair - Minor Problems	
2290				Yes					7	Blue Oak	*Quercus douglasii*		7		54	8	3 Fair - Minor Problems	
2290				Yes					6	Blue Oak	*Quercus douglasii*		6		54	5	3 Fair - Minor Problems	
2291				Yes					6	Blue Oak	*Quercus douglasii*		6		54	5	3 Fair - Minor Problems	Forks at 4 feet.
2292				Yes					6	Blue Oak	*Quercus douglasii*		6		54	5	3 Fair - Minor Problems	Forks at 4 feet.
2293				Yes					8	Blue Oak	*Quercus douglasii*		8		6	8	3 Fair - Minor Problems	Forks at base.
2294				Yes					7	Blue Oak	*Quercus douglasii*		7		6	5	3 Fair - Minor Problems	Forks at base.
2295				Yes					6	Blue Oak	*Quercus douglasii*		6		6	5	3 Fair - Minor Problems	Forks at 2 feet,
2296				Yes					7	Blue Oak	*Quercus douglasii*		7		6	5	3 Fair - Minor Problems	Forks at base.
2297				Yes					7	Blue Oak	*Quercus douglasii*		7		54	5	3 Fair - Minor Problems	Vigor fair,
2298				Yes					7	Interior Live Oak	*Quercus wislizenii*		7		36	5	3 Fair - Minor Problems	Codominant at 36"
2299				Yes					9	Interior Live Oak	*Quercus wislizenii*		9		6	6	3 Fair - Minor Problems	Codominant at base
2300				Yes					31	Blue Oak	*Quercus douglasii*		31		54	20	3 Fair - Minor Problems	Forks at 6 feet. Canopy to ground all sides but north.
2301				No					5	Blue Oak	*Quercus douglasii*		5		54	5	3 Fair - Minor Problems	Vigor fair.
2302				Yes					6	Blue Oak	*Quercus douglasii*		6		54	5	3 Fair - Minor Problems	Vigor fair.
2303				No					4	Blue Oak	*Quercus douglasii*		4		54	5	3 Fair - Minor Problems	Vigor fair.
2304				Yes					7	Blue Oak	*Quercus douglasii*		7		6	5	3 Fair - Minor Problems	Forks at base.
2305				Yes					7	Blue Oak	*Quercus douglasii*		7		6	5	3 Fair - Minor Problems	Forks at 18" above grade
2306				Yes					7	Blue Oak	*Quercus douglasii*		7		6	5	3 Fair - Minor Problems	Forks at base.
2306				Yes					7	Blue Oak	*Quercus douglasii*		7		6	5	3 Fair - Minor Problems	Forks at base.

2307				No					5	Blue Oak	*Quercus douglasii*		5		42	5	3 Fair - Minor Problems	Forks at 42" above grade
2308				Yes					10	Blue Oak	*Quercus douglasii*		10		12	8	3 Fair - Minor Problems	Forks at 18" above grade
2309				Yes					10	Blue Oak	*Quercus douglasii*		10		6	6	3 Fair - Minor Problems	Forks at base.
2310				No					5	Blue Oak	*Quercus douglasii*		5		54	6	3 Fair - Minor Problems	Vigor fair.
2311				Yes					6	Blue Oak	*Quercus douglasii*		6		12	6	3 Fair - Minor Problems	Forks at 24" above grade
2312				No					4	Blue Oak	*Quercus douglasii*		4		42	5	3 Fair - Minor Problems	Vigor fair.
2313				No					5	Blue Oak	*Quercus douglasii*		5		24	5	3 Fair - Minor Problems	Forks at 24" above grade
2314				Yes					7	Blue Oak	*Quercus douglasii*		7		42	5	3 Fair - Minor Problems	Forks at 4 feet.
2315				Yes					11	Blue Oak	*Quercus douglasii*		11		6	8	3 Fair - Minor Problems	Forks at 12" above grade
2316				Yes					11	Blue Oak	*Quercus douglasii*		11		54	10	3 Fair - Minor Problems	Forks at 4 feet. Moderate mistletoe.
2317					No				6	Blue Oak	*Quercus douglasii*	4,4	6		54	8	3 Fair - Minor Problems	2 stem at ground.
2318				Yes					9	Blue Oak	*Quercus douglasii*		9		6		3 Fair - Minor Problems	Forks at base.
2318				Yes					9	Blue Oak	*Quercus douglasii*		9		6	8	3 Fair - Minor Problems	Vigor fair.
2319				Yes					8	Blue Oak	*Quercus douglasii*		8		42	8	3 Fair - Minor Problems	Forks at 42" above grade
2320				Yes					11	Blue Oak	*Quercus douglasii*		11		42	10	3 Fair - Minor Problems	Forks at 4 feet.
2321				Yes					6	Blue Oak	*Quercus douglasii*		6		42	6	3 Fair - Minor Problems	Vigor fair.
2322				Yes					6	Blue Oak	*Quercus douglasii*		6		42	6	3 Fair - Minor Problems	Vigor fair.
2323					No				5	Blue Oak	*Quercus douglasii*	3,4	5		42	8	3 Fair - Minor Problems	Forks at base.
2324				Yes					6	Blue Oak	*Quercus douglasii*		6		36	8	3 Fair - Minor Problems	Vigor fair.
2325				Yes					7	Blue Oak	*Quercus douglasii*		7		6	8	3 Fair - Minor Problems	Forks at 12" above grade
2326					No				5	Interior Live Oak	*Quercus wislizenii*		5		54	6	3 Fair - Minor Problems	Growing adjacent to small tree, west side.
2327					No				5	Blue Oak	*Quercus douglasii*		5		54	6	3 Fair - Minor Problems	Vigor fair.
2328				Yes					6	Blue Oak	*Quercus douglasii*		6		54	6	3 Fair - Minor Problems	Buried flare.
2329				Yes					10	Interior Live Oak	*Quercus wislizenii*		10		54	12	2 Major Structure or Health Problems	Canopy to ground. Poor structure. Bows in trunk. Weak attached. Codominant top.
2330				Yes					22.5	Blue Oak	*Quercus douglasii*		22.5		54	20	3 Fair - Minor Problems	Good scaffolding. Moderate mistletoe.

2331				Yes					14	Interior Live Oak	*Quercus wislizenii*		14		54	12	3 Fair - Minor Problems	Codominant at 5 feet.
2332					No				6	Blue Oak	*Quercus douglasii*	4,5	6		54	8	3 Fair - Minor Problems	Forks at base. Significant mistletoe.
2333					No				7	Blue Oak	*Quercus douglasii*	5,5	7		54	5	3 Fair - Minor Problems	Forks at base.
2334				Yes					7	Blue Oak	*Quercus douglasii*		7		6	5	3 Fair - Minor Problems	Forks at 18" above grade
2335				Yes					8	Blue Oak	*Quercus douglasii*		8		6	7	3 Fair - Minor Problems	Forks at 6" above grade
2336				Yes					8	Blue Oak	*Quercus douglasii*		8		6	7	3 Fair - Minor Problems	Forks at 6" above grade
2337				No					5	Interior Live Oak	*Quercus wislizenii*		5		54	8	2 Major Structure or Health Problems	Suppressed. Severe lean north.
2338				Yes					10	Blue Oak	*Quercus douglasii*		10		18	8	3 Fair - Minor Problems	Forks at 24" above grade
2339				Yes					9	Blue Oak	*Quercus douglasii*		9		18	10	3 Fair - Minor Problems	Growing adjacent to small trees, north and south sides.
2340				Yes					6	Blue Oak	*Quercus douglasii*		6		36	6	3 Fair - Minor Problems	Forks at 42" above grade
2341				Yes					8	Interior Live Oak	*Quercus wislizenii*		8		42	10	3 Fair - Minor Problems	Moderate lean west.
2342				Yes					9	Interior Live Oak	*Quercus wislizenii*		9		42	8	3 Fair - Minor Problems	Forks at 42" above grade
2343				No					5	Blue Oak	*Quercus douglasii*		5		54	5	3 Fair - Minor Problems	Forks at 6 feet.
2344					No				5	Interior Live Oak	*Quercus wislizenii*	3,3,3	5		54	10	3 Fair - Minor Problems	Forks at base.
2345				No					5	Blue Oak	*Quercus douglasii*		5		54	6	3 Fair - Minor Problems	Vigor fair.
2346				Yes					11	Blue Oak	*Quercus douglasii*		11		6	6	3 Fair - Minor Problems	Forks at base.
2347					No				5	Blue Oak	*Quercus douglasii*	3,4	5		42	8	3 Fair - Minor Problems	Forks at base.
2348				No					5	Blue Oak	*Quercus douglasii*		5		42	8	3 Fair - Minor Problems	Vigor fair.
2349				Yes					6	Blue Oak	*Quercus douglasii*		6		54	8	3 Fair - Minor Problems	Vigor fair.
2350				Yes					0	Interior Live Oak	*Quercus wislizenii*		8	0	54	10	2 Major Structure or Health Problems	Trunk cavities. Bark decay.
2351				No					4	Blue Oak	*Quercus douglasii*		4		54	10	3 Fair - Minor Problems	Suppressed. Canopy leans east.
2352				Yes					8	Interior Live Oak	*Quercus wislizenii*		8		54	10	2 Major Structure or Health Problems	Growing adjacent to trunk west.

2353				Yes					8	Blue Oak	*Quercus douglasii*		8		54	10	2 Major Structure or Health Problems	Growing adjacent to trunk east.
2354				Yes					10	Blue Oak	*Quercus douglasii*		10		36	10	3 Fair - Minor Problems	Forks at 36" above grade
2355				Yes					12	Blue Oak	*Quercus douglasii*		12		6	6	2 Major Structure or Health Problems	50% bark loss from fire. Epicormic canopy.
2356				Yes					0	Blue Oak	*Quercus douglasii*		8	0	42	8	2 Major Structure or Health Problems	Bows in trunk. Vigor poor.
2357				Yes					9	Blue Oak	*Quercus douglasii*		9		6	8	3 Fair - Minor Problems	Forks at 8" above grade. Flat trunk under fork
2358				Yes					6	Blue Oak	*Quercus douglasii*		6		42	8	3 Fair - Minor Problems	Buried flare.
2359				Yes					7	Blue Oak	*Quercus douglasii*		7		18	5	3 Fair - Minor Problems	Forks at 36" above grade.
2360				Yes					9	Blue Oak	*Quercus douglasii*		9		42	6	2 Major Structure or Health Problems	60% bark loss from fire. Epicormic canopy.
2361				Yes					7	Blue Oak	*Quercus douglasii*		7		42	8	2 Major Structure or Health Problems	60% bark loss from fire. Epicormic canopy.
2362				Yes					10	Blue Oak	*Quercus douglasii*		10		12	8	3 Fair - Minor Problems	Epicormic canopy.
2363				Yes					13	Blue Oak	*Quercus douglasii*		13		6	10	3 Fair - Minor Problems	Forks at 12" above grade
2364				Yes					8	Blue Oak	*Quercus douglasii*		8		6	5	3 Fair - Minor Problems	Forks at base.
2365				Yes					6	Blue Oak	*Quercus douglasii*		6		54	7	3 Fair - Minor Problems	Buried flare.
2366				Yes					11	Blue Oak	*Quercus douglasii*		11		6	10	3 Fair - Minor Problems	Forks at base.
2367				Yes					13	Blue Oak	*Quercus douglasii*		13		6	10	3 Fair - Minor Problems	Forks at base.
2368				No					5	Interior Live Oak	*Quercus wislizenii*		5		6	10	3 Fair - Minor Problems	Vigor good.
2369				No					5	Blue Oak	*Quercus douglasii*		5		42	6	3 Fair - Minor Problems	Vigor good.
2370				Yes					6	Blue Oak	*Quercus douglasii*		6		12	6	2 Major Structure or Health Problems	60% trunk loss from fire.
2371				Yes					8	Blue Oak	*Quercus douglasii*		8		12	6	3 Fair - Minor Problems	Forks at 24" above grade
2372				Yes					8	Blue Oak	*Quercus douglasii*		8		12	6	3 Fair - Minor Problems	Forks at 18" above grade

2373				Yes					9	Blue Oak	*Quercus douglasii*		9		6	6	3 Fair - Minor Problems	Forks at 12" above grade
2374				Yes					8	Blue Oak	*Quercus douglasii*		8		6	6	3 Fair - Minor Problems	Forks at base.
2375				Yes					6	Blue Oak	*Quercus douglasii*		6		6	6	3 Fair - Minor Problems	Forks at 42" above grade
2376				Yes					6	Blue Oak	*Quercus douglasii*		6		18	6	3 Fair - Minor Problems	Forks at 36" above grade.
2377				Yes					6	Blue Oak	*Quercus douglasii*		6		36	6	3 Fair - Minor Problems	Forks at 42" above grade
2378				Yes					6	Blue Oak	*Quercus douglasii*		6		36	6	3 Fair - Minor Problems	Forks at 42" above grade
2379				No					5	Blue Oak	*Quercus douglasii*		5		36	6	3 Fair - Minor Problems	Forks at 42" above grade
2380				No					5	Blue Oak	*Quercus douglasii*		5		24	6	3 Fair - Minor Problems	Forks at 36" above grade.
2381				Yes					42	Blue Oak	*Quercus douglasii*		42		54	25	3 Fair - Minor Problems	Canopy to ground.
2382				Yes					30.700001	Blue Oak	*Quercus douglasii*		30.7		54	30	2 Major Structure or Health Problems	Multiple large limb failures. Original top breakout.
2383				Yes					29	Blue Oak	*Quercus douglasii*		29		42	25	3 Fair - Minor Problems	Significant mistletoe.
2384				Yes					24	Blue Oak	*Quercus douglasii*		24		54	20	3 Fair - Minor Problems	Vigor good.
2385				Yes					0	Blue Oak	*Quercus douglasii*		40	0	54	25	1 Extreme Structure or Health Problems	Severe trunk cavities burned out by fire.
2386				Yes					31.5	Blue Oak	*Quercus douglasii*		31.5		54	20	3 Fair - Minor Problems	Codominant at 9 feet.
2387				Yes					26.5	Blue Oak	*Quercus douglasii*		26.5		54	18	3 Fair - Minor Problems	Codominant at 7 feet. Canopy to ground.
2388				Yes					32.5	Blue Oak	*Quercus douglasii*		32.5		54	20	3 Fair - Minor Problems	Codominant at 7 feet. Canopy to ground.
2389				Yes					39	Blue Oak	*Quercus douglasii*		39		54	22	3 Fair - Minor Problems	Codominant at 6 feet. Canopy to ground.
2390				Yes					32	Blue Oak	*Quercus douglasii*		32		24	18	3 Fair - Minor Problems	Forks at 36" above grade.
2391				Yes					17	Blue Oak	*Quercus douglasii*		17		54	20	3 Fair - Minor Problems	Suppressed. One-sided canopy. Leans west.
2392				Yes					16	Blue Oak	*Quercus douglasii*		16		54	18	3 Fair - Minor Problems	Bow in trunk at 12 feet.
2393				Yes					10	Blue Oak	*Quercus douglasii*		10		54	12	3 Fair - Minor Problems	Suppressed. Height stunted.
2394				Yes					27.5	Blue Oak	*Quercus douglasii*		27.5		42	28	3 Fair - Minor Problems	Forks at 6 feet. Upper trunk and canopy lean east.
2395				Yes					13	Blue Oak	*Quercus douglasii*		13		54	15	3 Fair - Minor Problems	Multiple branch failures.

2396				Yes					26.5	Blue Oak	*Quercus douglasii*		26.5		42	18	2 Major Structure or Health Problems	Large limb fail trunk tear east side. Forks at 5 feet.
2397				Yes					22	Blue Oak	*Quercus douglasii*		22		42	25	3 Fair - Minor Problems	Forks at 7 feet.
2398				Yes				32.5		Blue Oak	*Quercus douglasii*		32.5		54	25	3 Fair - Minor Problems	Forks at 9 feet. Canopy to ground, north side.
2399				Yes					21	Blue Oak	*Quercus douglasii*		21		54	28	3 Fair - Minor Problems	Trunk and one-sided canopy significant lean west.
2400				Yes					0	Blue Oak	*Quercus douglasii*		31.5	0	54	28	2 Major Structure or Health Problems	Severe trunk cavity at 8 feet.
2401				Yes					24	Blue Oak	*Quercus douglasii*		24		54	28	3 Fair - Minor Problems	Forks at 8 feet. Several limb failures.
2402				Yes					22	Blue Oak	*Quercus douglasii*		22		54	25	3 Fair - Minor Problems	Suppressed. Upper trunk and one-sided canopy severe lean south.
2403				Yes					28	Blue Oak	*Quercus douglasii*		28		54	30	3 Fair - Minor Problems	2 large limb failures. Large low lateral growing to ground west side.
2404				Yes					16	Blue Oak	*Quercus douglasii*		16		54	18	3 Fair - Minor Problems	Forks at 7 feet.
2405				Yes					26	Blue Oak	*Quercus douglasii*		26		54	25	3 Fair - Minor Problems	Canopy to ground south.
2406				Yes				35		Blue Oak	*Quercus douglasii*		35		54	30	1 Extreme Structure or Health Problems	Severely stressed. 1% of foliage remaining.
2407				Yes						Blue Oak	*Quercus douglasii*		29.5		42	20	2 Major Structure or Health Problems	Retrenching. Epicormic canopy.
2408				Yes				29.5		Blue Oak	*Quercus douglasii*		29.5		42	20	1 Extreme Structure or Health Problems	Main leader break out at 10 feet.
2409				Yes					0	Blue Oak	*Quercus douglasii*		35.5	0	42	30	2 Major Structure or Health Problems	Trunk cavity at 8 feet.
2410				Yes					0	Blue Oak	*Quercus douglasii*		29	0	54	18	1 Extreme Structure or Health Problems	50% bark loss from fire. Severe limb tear at 15 feet south.
2411				Yes					36	Blue Oak	*Quercus douglasii*		35.5		54	20	3 Fair - Minor Problems	Forks at 9 feet. Canopy to ground south.
2412				Yes					43	Blue Oak	*Quercus douglasii*		43		54	30	3 Fair - Minor Problems	Codominant at 10 feet. Canopy to ground south.
2413				Yes					31	Blue Oak	*Quercus douglasii*		31		54	25	3 Fair - Minor Problems	Codominant at 9 feet. Canopy to ground south.

2414				Yes					29	Blue Oak	*Quercus douglasii*		29.5		54	20	2 Major Structure or Health Problems	Lower trunk swollen from canker. Moderate mistletoe.
2415				Yes					19	Blue Oak	*Quercus douglasii*		18.5		54	20	3 Fair - Minor Problems	Trunk and canopy lean south. Moderate mistletoe.
2416				Yes					0	Blue Oak	*Quercus douglasii*		33.5	0	54	25	1 Extreme Structure or Health Problems	Root failure. Fell to ground south.
2417				Yes					36	Blue Oak	*Quercus douglasii*		36.5		54	32	3 Fair - Minor Problems	Swollen trunk west at 12"□Canopy to ground south.
2418				Yes					0	Interior Live Oak	*Quercus wislizenii*		18	0	54	16	1 Extreme Structure or Health Problems	60% bark loss from fire. 18"□codominant stem west side burned out and failed to ground.
2419				Yes						Blue Oak	*Quercus douglasii*		10		36	6	3 Fair - Minor Problems	Forks at 36" above grade.□
2420				Yes					8	Blue Oak	*Quercus douglasii*		8		36	6	3 Fair - Minor Problems	Forks at 42" above grade.□
2421				Yes					6	Blue Oak	*Quercus douglasii*		6		36	6	3 Fair - Minor Problems	Forks at 42" above grade.□
2422					No				6	Blue Oak	*Quercus douglasii*	3,5	6	6	36	6	3 Fair - Minor Problems	Forks at base.
2423				Yes					6	Blue Oak	*Quercus douglasii*		6		36	6	3 Fair - Minor Problems	Forks at 42" above grade.□
3063					No					Fremont Cottonwood	*Populus fremontii*	4,8.5	9		54	16	2 Major Structure or Health Problems	4" low west leans west. 8.5 vertical growth.
3192		X		Yes				45		Blue Oak	*Quercus douglasii*		45	45	54	36	2 Major Structure or Health Problems	Swollen root flare southwest. 3-foot circumference with decayed wood southwest. Multiple large breakouts. Above average deadwood. Poor condition. Dead 24-inch lateral to the north.
3193		X		Yes				30		Blue Oak	*Quercus douglasii*		30	30	54	38	3 Fair - Minor Problems	Good flare. Trunk wound east side at 10 feet. Cracked branch southeast at 18 feet. Dead branches to 6 inches. Sagging south branch touching ground and continued to grow.
3194		X		Yes						Blue Oak	*Quercus douglasii*		39	39	24	15	2 Major Structure or Health Problems	Flare good. Hollow leader to the south. More than 50% decayed wood in an open cavity from 6-12 feet. North leader broken and decayed at 15 feet. Vigor poor.
3195		X		Yes					37	Blue Oak	*Quercus douglasii*		37	37	54	37	2 Major Structure or Health Problems	Flare fair. Codominant at 10 feet decay in east and west lateral. South leader touching ground. Breakout in south leader decayed. Wood hollow. Above average deadwood and breakouts.
3201				No						Coulter Pine	*Pinus coulteri*		5.5		488		3 Fair - Minor Problems	Single leader root collar slightly buried, low laterals
3202				No						Coulter Pine	*Pinus coulteri*		6.5		54	8	3 Fair - Minor Problems	Flare slightly buried. Single leader. Self-correcting bow in lower 4-feet of trunk.

3203				No						Coulter Pine	*Pinus coulteri*		16.2		42	13	3 Fair - Minor Problems	Slightly buried flare. Low branches. Low south competing vertical leaders. Codominant at 25'.
3204				No						Coulter Pine	*Pinus coulteri*		15.2		42	13	2 Major Structure or Health Problems	Varied flare. Low laterals. Low competing vertical laterals north 4' west 5' north 9'. Codominant stems at 15'.
3205				No						Coulter Pine	*Pinus coulteri*		12.2		48	13	3 Fair - Minor Problems	Good flare. Vertical stem. Low vertical lateral south 5 feet. Low laterals. Codominant at 25 feet.
3206				No						Coulter Pine	*Pinus coulteri*		8.6		54	11	3 Fair - Minor Problems	
3207				No						Toyon	*Heteromeles arbutifolia*		4		54	7	2 Major Structure or Health Problems	3 leaders at base. Bark damage on stems. Dead branches to 2 inches.
3208				No						Toyon	*Heteromeles arbutifolia*		5		54	7	2 Major Structure or Health Problems	4 leaders at base with included bark, small dead branches to one inch.
3209				No						Toyon	*Heteromeles arbutifolia*		6		54	9	2 Major Structure or Health Problems	5 stems at base growing under Tree 3210. Dead.
3210				No						Coulter Pine	*Pinus coulteri*		13.2		54	11	2 Major Structure or Health Problems	Buried trunk, competing vertical lateral branches at 6, 8 and 10 feet. Codominant at 18 feet.
3211				No						Coulter Pine	*Pinus coulteri*		9.7		54	10	3 Fair - Minor Problems	Normal flare. Single stem. Balanced laterals.
3212				No						Coulter Pine	*Pinus coulteri*		14.2		6	16	1 Extreme Structure or Health Problems	Codominant at 1 foot with included bark. 2 vertical stems lean outward.
3213				No						Toyon	*Heteromeles arbutifolia*		6		54	8	2 Major Structure or Health Problems	5 stems at base with included bark. Damaged bark. Dead branches to 1 inch.
3214				No						Toyon	*Heteromeles arbutifolia*		4		54	7	1 Extreme Structure or Health Problems	3 stems at base 1-3 inches. One-sided crown east. Dead branches to 1 inch.
3215				No						Coulter Pine	*Pinus coulteri*		15.9		6	12	1 Extreme Structure or Health Problems	Codominant at 1 foot. Both stems stammers vertical, limited inside foliage.
3216				No						Coulter Pine	*Pinus coulteri*		17.4		6	15	1 Extreme Structure or Health Problems	
3217				No						Coulter Pine	*Pinus coulteri*		5		54	8	3 Fair - Minor Problems	Slightly buried flare. Single leader. No competing laterals.
3218				No						Coulter Pine	*Pinus coulteri*		8.5		54	9	3 Fair - Minor Problems	Slightly buried flare. Single leader.

3219				No						Coulter Pine	*Pinus coulteri*		11.3		54	11	3 Fair - Minor Problems	Normal flare. Single leader. Southwest vertical narrow crotch.
3220				No						Fremont Cottonwood	*Populus fremontii*		17.1		54	18	2 Major Structure or Health Problems	Closest Cottonwood on steep slope to drainage channel. Normal flare. Broken dead branch ends, many low shoots.
3392				Yes						Blue Oak	*Quercus douglasii*		22		54	22	3 Fair - Minor Problems	New Tag Sequence Multi codominant at 6 feet with low branching.
3393				Yes						Blue Oak	*Quercus douglasii*		17		54	12	3 Fair - Minor Problems	Basal decay east side. One-sided west. Epicormic growth.
3394				Yes						Blue Oak	*Quercus douglasii*		13		54	15	3 Fair - Minor Problems	Small limb deadwood, epicormic growth.
3395				Yes						Blue Oak	*Quercus douglasii*		19.5		54	15	3 Fair - Minor Problems	Codominant 10 feet with 2-inch inclusion. Above average deadwood. Epicormic growth.
3396				Yes						Blue Oak	*Quercus douglasii*		15		54	12	2 Major Structure or Health Problems	Twig dieback, epicormic growth.
3397				Yes						Blue Oak	*Quercus douglasii*		15.5		54	12	3 Fair - Minor Problems	Small limb deadwood, epicormic growth.
3501		X		Yes						Blue Oak	*Quercus douglasii*		10	10	54	8	2 Major Structure or Health Problems	Buried flare significant mistletoe. Vigor fair to poor. Density poor.
3502		X		Yes						Blue Oak	*Quercus douglasii*		10	10	54	4	2 Major Structure or Health Problems	Buried flare. Fruiting bodies and peeling bark signs of bark fungus Codominant at 5 feet. Vigor fair. Density fair.
3503		X	128	Yes						Blue Oak	*Quercus douglasii*		18	18	54	18	2 Major Structure or Health Problems	Buried flare. Growing on bank of mining cut out. Codominant at 12 feet. Significant mistletoe. Vigor fair to poor. Density poor.
3504		X	122	Yes						Blue Oak	*Quercus douglasii*		8	8	54	18	2 Major Structure or Health Problems	Buried flare in seasonal wash. Codominant at 15 feet. Suppressed south. One-sided leaving canopy north. Vigor fair. Density fair.
3505		X	124	Yes						Blue Oak	*Quercus douglasii*		12	12	54	21	2 Major Structure or Health Problems	Buried flare. Suppressed southeast. One-sided leaning canopy northwest. Significant mistletoe. Vigor fair. Density fair.
3506		X	123	Yes						Blue Oak	*Quercus douglasii*		17	17	54	21	3 Fair - Minor Problems	Buried flare. Codominant at 10 feet. Vigor fair. Density fair. Growing into canopy west.
3507		X	127	Yes						Blue Oak	*Quercus douglasii*		9	9	54	9	2 Major Structure or Health Problems	Buried flare. Codominant at 5 feet. Suppressed above. Leaning canopy west. Vigor fair. Density fair.
3508		X	126	Yes						Blue Oak	*Quercus douglasii*		17	17	12	21	3 Fair - Minor Problems	Buried flare on the bank of mining cut out. Codominant at 36 inches. Growing into canopy east. Vigor fair. Density fair.

3509		X		Yes						Blue Oak	*Quercus douglasii*		11	11	24	18	2 Major Structure or Health Problems	Buried flare. On bank 4 inches adjacent to tree east. Suppression north. One-sided leaning canopy south. Vigor fair to poor. Density fair.
3510		X		Yes						Blue Oak	*Quercus douglasii*		14	14	24	21	3 Fair - Minor Problems	Buried flare. On bank 4 inches adjacent to other tree west. Growing into canopy west. Significant mistletoe. Density Fair. Vigor fair.
3511		X		Yes						Blue Oak	*Quercus douglasii*		22	22	54	21	3 Fair - Minor Problems	Buried flare on bank. Exposed buttress roots on bank east and west. Codominant at 12 feet. Vigor fair. Density fair.
3512		X	120	Yes						Blue Oak	*Quercus douglasii*		9	9	54	15	2 Major Structure or Health Problems	Buried flare on bank. 10 inches adjacent tree east growing into canopy east and west. Vigor fair. Density fair.
3513		X		Yes						Blue Oak	*Quercus douglasii*		6	6	54	5	2 Major Structure or Health Problems	Buried flare. Suppressed above. Vigor fair to poor. Density poor.
3514		X	119	Yes						Blue Oak	*Quercus douglasii*		19	19	54	27	3 Fair - Minor Problems	Buried flare. Codominant at 10 feet. Vigor fair. Density fair.
3515		X	118	Yes						Blue Oak	*Quercus douglasii*		11	11	54	18	2 Major Structure or Health Problems	Buried flare. Suppressed above. One-sided leaning canopy east. Vigor fair to poor. Density fair to poor.
3516		X		Yes						Blue Oak	*Quercus douglasii*		22	22	54	24	2 Major Structure or Health Problems	Buried flare. South growing on bank. Tree adjacent east 6 inches. 10° lean west. One-sided canopy. Dead branches lower canopy. Vigor fair. Density fair.
3517		X		Yes						Blue Oak	*Quercus douglasii*		13	13	54	15	2 Major Structure or Health Problems	Buried flare. South on bank growing in rocks 6 6 inches of tree west. Suppression west. One-sided leaning canopy east. Codominant at 8 feet. Minor mistletoe. Vigor fair to poor. Density fair.
3518		X	116	Yes						Blue Oak	*Quercus douglasii*		29	29	54	18	3 Fair - Minor Problems	Buried flare. Codominant at 18 feet. Epicormic growth throughout canopy. Vigor fair. Density fair.
3519		X	115	Yes						Blue Oak	*Quercus douglasii*		38	38	54	27	3 Fair - Minor Problems	Flare normal. Codominant at 30 feet. Low lateral at 10 feet south. Growing a foot off the ground. Vigor fair. Density fair.
3520		X	111	Yes						Blue Oak	*Quercus douglasii*		15	15	54	21	3 Fair - Minor Problems	Buried flare. Growth throughout trunk and canopy. Vigor fair. Density fair.
3521		X	110	Yes						Blue Oak	*Quercus douglasii*		16	16	54	18	3 Fair - Minor Problems	Buried flare suppression east. One-sided canopy west. Vigor fair. Density fair.
3522		X	113	Yes						Blue Oak	*Quercus douglasii*		10	10	54	15	2 Major Structure or Health Problems	Buried flare. Suppression north. One-sided leaning canopy. Vigor fair. Density fair.
3523		X	112	Yes						Blue Oak	*Quercus douglasii*		11	11	54	15	2 Major Structure or Health Problems	Buried flare. Suppression west. One-sided leaning canopy east. Vigor fair. Density fair.
3524		X	114	Yes						Blue Oak	*Quercus douglasii*		10	10	54	5	3 Fair - Minor Problems	Buried flare. Growing in rocks. Vigor fair. Density fair.

3525		X	102	Yes						Blue Oak	*Quercus douglasii*		22	22	54	24	3 Fair - Minor Problems	Buried flare. Codominant at 10 feet. Vigor fair. Density fair.
3526		X	109	Yes						Blue Oak	*Quercus douglasii*		13	13	54	21	2 Major Structure or Health Problems	Buried flare. Suppression. One-sided leaning canopy north. Less than severe dead branches. Lower canopy grow throughout trunk and canopy. Vigor fair to poor. Density fair to poor.
3527		X	103	Yes						Blue Oak	*Quercus douglasii*		34	34	54	24	3 Fair - Minor Problems	Swollen flare. Codominant at 4 feet. Vigor fair. Density fair.
3528		X	104	Yes						Blue Oak	*Quercus douglasii*		23	23	54	24	2 Major Structure or Health Problems	Buried flare. Codominant at 6 feet. Suppression northeast. Leaning canopy southwest growing into canopy southwest. Vigor fair. Density fair.
3529		X	105	Yes						Blue Oak	*Quercus douglasii*		28	28	54	15	2 Major Structure or Health Problems	Buried flare. Codominant at 20 feet. Multiple large diameter branch failures. Mid branch and a trunk decay and wounds.
3530		X		Yes						Blue Oak	*Quercus douglasii*		17	17	54	30	2 Major Structure or Health Problems	Swollen flare north. Codominant at 6 feet. Suppression west. One-sided severely and canopy east. Significant dead branches. Vigor poor. Density poor. Growing at base of large oak tree west.
3531		X		Yes						Blue Oak	*Quercus douglasii*		41	41	54	30	3 Fair - Minor Problems	Swollen flare. Buried at 2 feet west. No sign of bore exit. Codominant at 6 feet. Vigor fair. Density fair.
3532		X		Yes						Blue Oak	*Quercus douglasii*		30	30	54	27	2 Major Structure or Health Problems	Swollen flare. Suppressed above. One-sided severe leaning canopy west. Significant broken branches with decay and wounds. Vigor fair to poor. Density fair.
3533		X	106	Yes						Blue Oak	*Quercus douglasii*		13	0	54	24	1 Extreme Structure or Health Problems	Buried flare. Trunk at 2 feet grows parallel to the ground. Foliage is epicormic growth from top of trunk. Suppressed above. Vigor poor. Density poor.
3534		X		Yes						Blue Oak	*Quercus douglasii*		26	26	54	18	3 Fair - Minor Problems	Buried flare south. Codominant at 6 feet. Significant mistletoe. Vigor fair. Density fair.
3535		X		Yes					32	Blue Oak	*Quercus douglasii*		32	32	54	27	3 Fair - Minor Problems	Swollen flare north. Growing on bank. Significant dead branches lower canopy. Vigor fair to poor. Density fair.
3536		X		Yes					0	Blue Oak	*Quercus douglasii*		24	0	54	24	2 Major Structure or Health Problems	Buried flare. Trunk located in bowl. Codominant at 12 feet. Significant bark peeling on scaffold branches in canopy. Mistletoe. Vigor poor. Density poor.
3537		X		Yes						Blue Oak	*Quercus douglasii*		12	12	54	8	3 Fair - Minor Problems	Buried flare. Codominant at 8 feet. Vigor fair. Density fair.
3538		X		Yes						Blue Oak	*Quercus douglasii*		7	7	54	12	3 Fair - Minor Problems	Swollen flare east. Bow in trunk west at 12 inches. Vigor fair. Density fair.
3539		X		Yes						Blue Oak	*Quercus douglasii*		10	10	36	9	3 Fair - Minor Problems	Swollen flare north. Growing on rocks. Codominant at 4 feet. Vigor fair. Density fair.
3540		X		Yes						Blue Oak	*Quercus douglasii*		8	8	12	5	3 Fair - Minor Problems	Buried flare on bank. Codominant at 3 feet. Vigor fair. Density fair.
3541		X		Yes						Blue Oak	*Quercus douglasii*		6	6	24	5	3 Fair - Minor Problems	Buried flare on bank. Vigor fair. Density fair.

3542				No						Blue Oak	*Quercus douglasii*		5		24	5	3 Fair - Minor Problems	Buried flare on bank growing into canopy west. Vigor fair. Density fair.
3543		X		Yes						Blue Oak	*Quercus douglasii*		10	10	24	9	3 Fair - Minor Problems	Buried flare on bank. Growing into canopy west. Vigor fair. Density fair.
3544		X		Yes						Blue Oak	*Quercus douglasii*		12	12	14	10	3 Fair - Minor Problems	Buried flare on bank. Growing into canopy east and west. Codominant at 8 feet. Vigor fair. Density fair.
3545		X		Yes						Blue Oak	*Quercus douglasii*		8	8	54	18	2 Major Structure or Health Problems	Buried flare top of bank. Suppression north. One-sided severe leaning canopy south. Minor mistletoe. Vigor fair. Density fair.
3546		X		Yes						Blue Oak	*Quercus douglasii*		12	0	24	18	1 Extreme Structure or Health Problems	Buried flare on bank. Dead bark fruiting bodies at 6 feet. Suppressed north. One-sided severe leaning canopy south. Mistletoe. Epicormic growth. Vigor poor. Density fair to poor.
3547		X		Yes						Blue Oak	*Quercus douglasii*		11	11	36	5	2 Major Structure or Health Problems	Buried flare. On bank. Codominant at 6 feet. Significant mistletoe. Vigor fair to poor. Density fair to poor.
3548		X		Yes						Blue Oak	*Quercus douglasii*		6	6	54	5	2 Major Structure or Health Problems	Buried flare. Multiple bows in lower trunk. Codominant at 8 feet. Vigor fair. Density fair.
3549		X		Yes						Blue Oak	*Quercus douglasii*		8	8	54	5	2 Major Structure or Health Problems	Buried flare. On bank. Growing into canopy south. Vigor fair. Density fair.
3550		X		Yes						Blue Oak	*Quercus douglasii*		10	10	24	8	2 Major Structure or Health Problems	Buried flare south. On bank swollen flare north. Codominant at 36 inches. Suppressed north leaning canopy south. Vigor fair. Density fair.
3551		X		Yes						Blue Oak	*Quercus douglasii*		8	8	24	8	2 Major Structure or Health Problems	Buried flare. On bank. Suppression west. Growing adjacent 6 inches. Vigor fair. Density fair.
3552		X		Yes						Blue Oak	*Quercus douglasii*		10	10	24	18	2 Major Structure or Health Problems	Buried flare. On bank growing 6 inches adjacent trees east and west. Suppression. One-sided severely and canopy south. Minor mistletoe. Vigor fair to poor. Density fair to poor.
3553		X		Yes						Blue Oak	*Quercus douglasii*		11	11	24	8	2 Major Structure or Health Problems	Buried flare. Growing 6 inches djacent tree east. Canopy growing into tree west. Codominant at 10 feet. Vigor fair. Density fair.
3554		X		Yes						Blue Oak	*Quercus douglasii*		13	13	24	18	2 Major Structure or Health Problems	Buried flare. On bank. Basal southwest. Compartmentalize bark exposed wood at base. Codominant at 10 feet. A lateral broke off mid-branch with decay and wound. One-sided canopy north. Vigor fair to poor. Density fair.
3555				No						Blue Oak	*Quercus douglasii*		4		54	6	2 Major Structure or Health Problems	Buried flare growing 1 foot adjacent tree. Suppressed. One-sided leaning canopy south. Vigor fair to poor. Density fair.

3556		X		Yes						Blue Oak	*Quercus douglasii*		9	9	36	15	2 Major Structure or Health Problems	Buried flare. On bank growing 2 feet adjacent tree west. Suppression above. Codominant at 8 feet. Growing in the canopy worst. Vigor fair to poor. Density fair. Minor mistletoe.
3557		X		Yes						Blue Oak	*Quercus douglasii*		12	12	54	21	2 Major Structure or Health Problems	Buried flare on bank. Growing 2 feet adjacent tree east. Suppression east. Growing into canopy west. Bow in trunk at 6 feet. Minor mistletoe. Vigor poor. Density poor.
3558		X		Yes						Blue Oak	*Quercus douglasii*		17	17	24	18	3 Fair - Minor Problems	Buried flare west on bank. Exposed buttress root south. Eroded soil in creek bed. Codominant at 4 feet. Vigor fair. Density fair.
3559		X		Yes						Blue Oak	*Quercus douglasii*		9	9	54	5	3 Fair - Minor Problems	Buried flare. Codominant at 10 feet. Significant mistletoe growing into canopy north. Vigor fair. Density fair.
3560		X		Yes						Blue Oak	*Quercus douglasii*		6	6	54	6	2 Major Structure or Health Problems	Buried flare. Growing 6 inches adjacent tree west. Growing into canopy west and east. Suppressed from above. Vigor fair. Density fair.
3561		X		Yes						Blue Oak	*Quercus douglasii*		11	11	54	15	3 Fair - Minor Problems	Buried flare. Growing 8 inches adjacent to tree. Growing into canopy tree west. Vigor fair. Density fair.
3562		X		Yes						Blue Oak	*Quercus douglasii*		8	0	54	10	1 Extreme Structure or Health Problems	Buried flare. On bank. Growing adjacent to larger tree a foot west. Growing through larger tree canopy with included bark with other tree at 12 feet. 30% cavity and inclusion. Vigor fair. Density fair to poor.
3563		X		Yes						Blue Oak	*Quercus douglasii*		18	18	12	21	2 Major Structure or Health Problems	Buried flare. On bank. Codominant at 24 inches. Suppression west. Growing into canopy west and east. Vigor fair to poor. Density fair.
3564		X		Yes						Blue Oak	*Quercus douglasii*		12	12	54	12	3 Fair - Minor Problems	Buried flare on bank swollen flare north. Growing in the canopy east and west. Codominant at 22 feet. Vigor fair. Density fair.
3565		X		Yes						Blue Oak	*Quercus douglasii*		7	7	54	5	2 Major Structure or Health Problems	Buried flare on bank. Growing next to tree 18 inches west. Growing into canopy east and west. Suppressed from above. Minor mistletoe. Canopy leans north. Vigor fair to poor. Density poor.
3566		X		Yes						Blue Oak	*Quercus douglasii*		8	8	54	8	2 Major Structure or Health Problems	Buried flare on bank. Codominant at 15 feet. Suppress from above. Vigor fair to poor. Density fair.
3567		X		Yes						Blue Oak	*Quercus douglasii*		8	8	54	6	2 Major Structure or Health Problems	Buried flare. Basal east. Seam in bark from base to 4 feet. Compartmentalize bark exposed wood. Codominant at 4 feet. Vigor fair. Density fair.
3568		X		Yes						Blue Oak	*Quercus douglasii*		22	22	54	18	2 Major Structure or Health Problems	Buried flare. Codominant at 8 feet. Severe mistletoe. Significant dead branches lower canopy. Vigor poor. Density poor.
3569		X		Yes						Blue Oak	*Quercus douglasii*		21	21	54	15	3 Fair - Minor Problems	Buried flare. Codominant at 8 feet. Vigor fair. Density fair.

3570		X		Yes						Blue Oak	*Quercus douglasii*		13	13	54	9	3 Fair - Minor Problems	Swollen flare. Exposed surface roots west and east. Codominant at 6 feet. Vigor fair. Density fair.
3571		X		Yes						Blue Oak	*Quercus douglasii*		8	8	54	6	2 Major Structure or Health Problems	Buried flare. Basal decay south. Compartmentalize bark exposed wood. Multiple bows in trunk. Codominant at 7 feet. Vigor fair. Density fair.
3572		X		Yes						Blue Oak	*Quercus douglasii*		30	30	54	21	3 Fair - Minor Problems	Swollen flare. Codominant at 10 feet. Vigor fair. Density fair.
3573				No						Blue Oak	*Quercus douglasii*		5		54		2 Major Structure or Health Problems	Swollen flare. Growing 4 feet adjacent to tree east. Suppressed west. Leaning canopy east. Vigor fair. Density fair.
3574				Yes						Blue Oak	*Quercus douglasii*		5		54	4	2 Major Structure or Health Problems	Buried flare growing and rocks growing 4 feet adjacent to tree to west growing into canopy west. Codominant at 4 feet. Vigor and density fair.
3575		X		Yes						Blue Oak	*Quercus douglasii*		6	6	54	6	2 Major Structure or Health Problems	Buried flare. Basal decay south compartmentalize bark decayed exposed wood callus southside from livestock. Bow in trunk at 12 inches Codominant at 4 feet. Vigor fair.
3576		X		Yes						Blue Oak	*Quercus douglasii*		10	10	54	10	3 Fair - Minor Problems	Buried flare. Codominant at 4 feet. Vigor fair. Density fair.
3577		X		Yes						Blue Oak	*Quercus douglasii*		8	0	24	5	1 Extreme Structure or Health Problems	Buried flare growing and rocks. Trunk wound at 12 inches south. Compartmentalize bark exposed decay hardwood. Codominant at 3 feet. Suppression south. One-sided leaning canopy north. Vigor fair. Density fair.
3578		X		Yes						Blue Oak	*Quercus douglasii*		8	8	54	6	3 Fair - Minor Problems	Buried flare. Growing in rocks. Codominant at 4 feet. Growing in canopy east. Vigor fair. Density fair.
3579				Yes						Blue Oak	*Quercus douglasii*		4		54	4	2 Major Structure or Health Problems	Buried flare. Basal decay east. Compartmentalized bark exposed decayed wood calluses from livestock at base. Vigor fair. Density fair. Growing into canopy west.
3580		X		Yes						Blue Oak	*Quercus douglasii*		6	6	54	4	3 Fair - Minor Problems	Buried flare. Growing in rocks. Growing into canopy west. Vigor fair. Density fair.
3581		X		Yes						Blue Oak	*Quercus douglasii*		8	8	54	9	3 Fair - Minor Problems	Buried flare. Growing and rocks. Codominant at 4 feet. Vigor fair. Density fair.
3582		X		Yes						Blue Oak	*Quercus douglasii*		13	13	54	8	3 Fair - Minor Problems	Buried flare. Codominant at 12 feet. Vigor fair. Density fair.
3583		X		Yes						Blue Oak	*Quercus douglasii*		16	16	54	15	3 Fair - Minor Problems	Swollen flare south. Basal decay compartmentalized bark exposed wood at base. Codominant at 4 feet. Vigor fair. Density fair.
3584		X		Yes						Blue Oak	*Quercus douglasii*		18	18	36	21	3 Fair - Minor Problems	Buried flare. Basal decay southeast. Compartmentalize bark exposed wood decay. Codominant at 12 feet. Vigor fair. Density fair.
3585		X		Yes						Blue Oak	*Quercus douglasii*		12	12	54	12	2 Major Structure or Health Problems	Buried flare. Swollen flare north. Growing into canopy south. Codominant at 10 feet. Vigor fair. Density fair.

3586		X		Yes						Blue Oak	*Quercus douglasii*		10	10	54	10	2 Major Structure or Health Problems	Buried flare. Growing in rocks. Growing into canopies north and south. Codominant at 8 feet. Vigor fair. Density fair.
3587		X		Yes						Blue Oak	*Quercus douglasii*		7	7	54	8	2 Major Structure or Health Problems	Buried flare. Growing and rocks. Swollen flare southeast. Codominant at 8 feet. Growing into canopy north. Vigor fair. Density fair.
3588		X		Yes						Blue Oak	*Quercus douglasii*		20	20	54	21	3 Fair - Minor Problems	Swollen flare north. Codominant at 6 feet. Vigor fair. Density fair.
3589		X		Yes						Blue Oak	*Quercus douglasii*		12	12	54	10	3 Fair - Minor Problems	Buried flare. Growing in rocks. Codominant at 4 feet. Vigor fair. Density fair.
3590		X		Yes						Blue Oak	*Quercus douglasii*		20	20	24	18	3 Fair - Minor Problems	Buried flare. Swollen flare northeast. Codominant at 36 inches. Growing into canopy southwest. Vigor fair. Density fair.
3591		X		Yes						Blue Oak	*Quercus douglasii*		7	7	54	4	2 Major Structure or Health Problems	Buried flare. Swollen south. Codominant at 10 feet. Suppressed above. Vigor fair to poor. Density fair to poor.
3592		X		Yes						Blue Oak	*Quercus douglasii*		16	16	54	21	3 Fair - Minor Problems	Buried flare. Codominant at 6 feet. Growing in the canopy east and west. Vigor fair. Density fair.
3593		X		Yes						Blue Oak	*Quercus douglasii*		12	12	36	9	2 Major Structure or Health Problems	Swollen flare. Surface root east. Codominant at 4 feet. Suppressed north. One-sided leaning canopy south. Vigor fair. Density fair.
3594				No						Blue Oak	*Quercus douglasii*		5		54	3	2 Major Structure or Health Problems	Buried flare growing 3 feet adjacent tree to north. Suppressed above leaning canopy south. Vigor and density fair.
3595		X		Yes						Blue Oak	*Quercus douglasii*		6	6	54	9	2 Major Structure or Health Problems	Buried flare. Growing in rocks. Suppressed north. One-sided leaning canopy south. Vigor fair. Density fair.
3596				No						Blue Oak	*Quercus douglasii*		5		54	5	1 Extreme Structure or Health Problems	Buried flare. Growing in rocks. Dying bark to 12 inches north, possible fungus. Compartmentalized exposed wood. Suppressed above. One-sided leaning canopy north. Vigor fair to poor. Density fair.
3597		X		Yes						Blue Oak	*Quercus douglasii*		9	0	54	8	1 Extreme Structure or Health Problems	Buried flare. No bark west side up to 36 inches. Compartmentalize exposed wood. Vigor fair to poor. Density poor.
3598				Yes						Blue Oak	*Quercus douglasii*		5		54	4	2 Major Structure or Health Problems	Buried flare. Codominant at 4 feet. Suppressed north. One-sided leaning canopy south. Growing into canopy north. Vigor fair. Density fair.
3599		X		Yes						Blue Oak	*Quercus douglasii*		7	0	54	6	1 Extreme Structure or Health Problems	Buried flare. Exposed wood from base to 3 feet west. Compartmentalize bark exposed wood boards and wood. Codominant at 7 feet. Growing into canopy south. Vigor fair to poor. Density fair.
3600		X		Yes						Blue Oak	*Quercus douglasii*		15	15	54	15	3 Fair - Minor Problems	Buried flare. Codominant at 5 feet. Vigor fair. Density fair.

3601		X	843	Yes						Blue Oak	*Quercus douglasii*		30	30	48	32	2 Major Structure or Health Problems	Good flare. Central leader. Codominant at 30 feet. Heavy mistletoe throughout crown. Dead branches to 2 inches.
3602		X	842	Yes						Valley Oak	*Quercus lobata*		25	25	54	25	2 Major Structure or Health Problems	Good flare. Codominant at 6 feet. One-sided crown southeast. Dead branches to 5 inches. Broken north low branch. Medium crown density. End weights.
3603		X	841	Yes						Valley Oak	*Quercus lobata*		39	39	54	47	2 Major Structure or Health Problems	Good flare. Codominant at 15 and 17 feet Mistletoe upper crown and south crown. End weights. Long foliage retention.
3604		X	599	Yes						Blue Oak	*Quercus douglasii*		31	31	24	30	2 Major Structure or Health Problems	Good flare. Codominant at 42 inches and 6 feet. Branches grow outward except south a vertical branch, end weights. Dead branches to 4 inches.
3605		X		Yes						Blue Oak	*Quercus douglasii*		35	0	36	27	1 Extreme Structure or Health Problems	Lean is 30 degrees. Crack in southwest trunk. Decay in main trunk east. Previous branch failure at 5 feet and 8 feet.
3606		X		Yes						Blue Oak	*Quercus douglasii*		23	23	42	24	3 Fair - Minor Problems	Good flare. 3 codominant leaders at 6 feet. Dead branches to 4 inches. Symmetric crown. Medium crown density.
3607		X		Yes						Blue Oak	*Quercus douglasii*		30	30	36	32	2 Major Structure or Health Problems	Normal flare. Cavity 3 inches north side. Leans 30 degrees northwest. Dead branches to 10 inches. End weights. Symmetric crown with lean. Medium crown density.
3608		X		Yes						Valley Oak	*Quercus lobata*		6	0	42	12	1 Extreme Structure or Health Problems	Decayed hollow trunk 0-10 feet. Suppressed retrenched growth. Small crown. Large surface root east.
3609		X		Yes						Blue Oak	*Quercus douglasii*		36	0	54	22	1 Extreme Structure or Health Problems	Cavity at north side. Hollow trunk south side 1-9 feet. Broken leaders south side. Remaining growth north side maximum 25 feet.
3610		X	598	Yes					17	Blue Oak	*Quercus douglasii*		17	17	36	24	2 Major Structure or Health Problems	Normal flare. Codominant at 4.5 feet. Medium crown density. Mistletoe, including bark. Dead branches to 2 inches.
3611		X	585	Yes					21	Blue Oak	*Quercus douglasii*		21	21	30	21	2 Major Structure or Health Problems	Normal flare. Included bark. Light mistletoe. Dead branches to 3 inches. End weights.
3612		X	584	Yes					0	Blue Oak	*Quercus douglasii*		17	0	48	25	2 Major Structure or Health Problems	Normal flare. Codominant at 12 feet. Trunk cavity 8 inches north side at 30 inches. Dead branches to 2 inches. Medium crown density.
3613		X	586	Yes					10	Blue Oak	*Quercus douglasii*		10	10	54	13	2 Major Structure or Health Problems	Normal flare. Codominant at 11 feet. One-sided crown south. Overgrown by Tree 3612. Small dead branches.

3614		X	587	Yes					11	Blue Oak	*Quercus douglasii*		11	11	48	18	2 Major Structure or Health Problems	Normal flare. One-sided crown southwest. Overgrown by Tree 3612. Codominant at 8, 8 and 12 feet with included bark.
3615		X	588	Yes					16	Blue Oak	*Quercus douglasii*		16	16	24	18	2 Major Structure or Health Problems	Codominant at 12 inches. Swollen base. Upright leaders that branch to 3 inches. Medium crown density.
3616		X	595	Yes					12	Blue Oak	*Quercus douglasii*		12	12	54	20	2 Major Structure or Health Problems	Normal flare. One-sided crown northeast, bends in trunk at 6, 8 and 10 feet. End weights. Dead branches to 3 inches.
3617		X	596	Yes					10	Blue Oak	*Quercus douglasii*		10	10	54	17	2 Major Structure or Health Problems	One-sided crown east. Normal flare. Bend in trunk at 11 feet. Dead branches to 2 inches, sprouting along stem.
3618		X	597	Yes					14	Blue Oak	*Quercus douglasii*		14	14	48	18	2 Major Structure or Health Problems	Normal flare. Low lateral north at 2 feet. Low lateral south at 4.5 feet. Small dead branches. Lateral north at 6 feet. Main leader one-sided crown south.
3619		X	702	Yes					14	Blue Oak	*Quercus douglasii*		14	14	24	24	2 Major Structure or Health Problems	Codominant at 30 inches. North leader leans northeast 40 degrees. South leader mostly vertical. Thin crown density. Narrow crown.
3620		X	703	Yes					14	Blue Oak	*Quercus douglasii*		14	14	54	22	2 Major Structure or Health Problems	18 inches from Tree 3619. Normal flare. One-sided crown east. Low laterals south at 5 feet and north at 6 feet. Codominant at 25 feet.
3621		X	704	Yes					16	Blue Oak	*Quercus douglasii*		16	16	24	25	2 Major Structure or Health Problems	Swollen flare from all the branch stub. Low lateral south at 42 inches. Mistletoe in main leader.
3622		X	705	Yes					14	Blue Oak	*Quercus douglasii*		14	14	24	16	2 Major Structure or Health Problems	Swollen flare. Codominant at 6 feet. South leader leans south. North leader leans northeast. Codominant in both leaders. One-sided crown east.
3623		X	706	Yes					19	Blue Oak	*Quercus douglasii*		19	19	36	28	3 Fair - Minor Problems	Swollen flare service root southeast 6 inches from 10 inches tree to north. Low lateral north at 6 feet. 3 codominant stems at 10 feet. Symmetric crown.
3624		X		Yes					0	Blue Oak	*Quercus douglasii*		10	0	36	15	1 Extreme Structure or Health Problems	Swollen flare south. 6 inches from Tree 3623. Dead north leaders. Suppressed growth west.
3625		X	713	Yes					17	Blue Oak	*Quercus douglasii*		17	17	54	20	2 Major Structure or Health Problems	Swollen flare. Bend in trunk from 2-6 feet. Codominant at 6 and 8 feet. Dead branches to 3 inches.
3626		X	714	Yes					17	Blue Oak	*Quercus douglasii*		17	17	24	26	2 Major Structure or Health Problems	Normal flare. Flatten trunk 4-5 feet. Possible included bark from 4-6 feet. Codominant at 6 and 7 feet. Tight branching vertical.

3627		X	715	Yes					13	Blue Oak	*Quercus douglasii*		13	13	54	23	2 Major Structure or Health Problems	Normal flare. One-sided crown east. Overgrown by Tree 3626. Codominant at 7 and 9 feet. Suppressed growth.
3628		X	719	Yes					11	Blue Oak	*Quercus douglasii*		11	11	54	14	3 Fair - Minor Problems	Normal flare. Vertical leader, low south lateral at 7 feet. Small dead branches the 2 inches. Crown mostly northwest.
3629		X	718	Yes					11	Blue Oak	*Quercus douglasii*		11	11	42	16	2 Major Structure or Health Problems	Normal flare. Swollen from old branch stub at 6 inches. Low north lateral at 4 feet. Low southwest lateral at 5 feet. One-sided crown east.
3630		X	717	Yes					0	Blue Oak	*Quercus douglasii*		18	0	12	21	1 Extreme Structure or Health Problems	Normal flare. Codominant at 30 inches with included bark. Both leaders codominant at 6 and 7 feet. Vertical one-sided growth southeast.
3631		X	716	Yes					14	Blue Oak	*Quercus douglasii*		14	14	48	24	2 Major Structure or Health Problems	Swollen flare. Codominant at 15 feet. Low east lateral at 5 feet. Suppressed growth. One-sided crown.
3632		X	720	Yes					13	Blue Oak	*Quercus douglasii*		13	13	42	19	2 Major Structure or Health Problems	Normal flare. Large low lateral west at 5 feet. One-sided crown and north. Dead branches to 3 inches.
3633		X	721	Yes					11	Blue Oak	*Quercus douglasii*		11	11	36	12	2 Major Structure or Health Problems	Normal flare. Codominant at 4 feet. Suppressed growth west on south leader. North leader leans west 20 degrees. End weights. Small dead branches. One-sided crown west.
3634		X	722	Yes					9	Blue Oak	*Quercus douglasii*		9	9	48	20	2 Major Structure or Health Problems	Normal flare. One-sided crown west. Trunk bends 20 degrees west starting at 6 feet.
3635		X	723	Yes					16	Blue Oak	*Quercus douglasii*		16	16	12	18	2 Major Structure or Health Problems	Normal flare. Trunk wounds east and west at 24 inches. Low south lateral 4 feet with included bark. Codominant at 6 feet. Dead branches to 3 inches. One-sided crown east.
3636		X	724	Yes					0	Blue Oak	*Quercus douglasii*		11	0	48	15	1 Extreme Structure or Health Problems	Normal flare. Tree bends 20-45 degrees starting at 6 feet. One-sided suppressed crown southwest. Dead branches to 4 inches.
3637		X	725	Yes					17	Blue Oak	*Quercus douglasii*		17	17	24	23	2 Major Structure or Health Problems	Normal flare touching dead stub northwest. Codominant with included bark at 4 feet. North leader one-sided crown north. South leader one-sided crown south. Dead branches to 2 inches. Mistletoe in upper crown.
3638		X	727	Yes					0	Blue Oak	*Quercus douglasii*		0	0	48	17	1 Extreme Structure or Health Problems	Swollen flare north, suppressed growth east. Codominant at 7 feet. Dead branches to 3 inches.
3639		X	726	Yes					7	Blue Oak	*Quercus douglasii*		7	7	54	10	2 Major Structure or Health Problems	Normal flare. Trunk leans 15 degrees. One-sided crown east. Small dead branches.

3640		X	728	Yes					0	Blue Oak	*Quercus douglasii*		14	0	36	13	1 Extreme Structure or Health Problems	Normal flare. Codominant at 4 feet. Suppressed growth and 90 degrees east. Flattened trunk 18-36 inches.
3641		X	730	Yes					14	Blue Oak	*Quercus douglasii*		14	14	36	14	2 Major Structure or Health Problems	Normal flare. Low north lateral at 42 inches. South leader suppressed. Growth west. Flattened trunk 18-36 inches.
3642		X	731	Yes					0	Blue Oak	*Quercus douglasii*		10	0	54	10	1 Extreme Structure or Health Problems	Lower trunk wound north 0-4 feet, canker, upright growth. One-sided crown east. Small bed branches.
3643		X	729	Yes					0	Blue Oak	*Quercus douglasii*		16	0	54	21	1 Extreme Structure or Health Problems	Normal flare. Trunk bends southeast at 9 feet to suppressed growth. One-sided crown southeast dead branches to 5 inches.
3644		X	732	Yes					8	Blue Oak	*Quercus douglasii*		8	8	54	9	2 Major Structure or Health Problems	Normal flare. Vertical growth narrow crown. Low west lateral 10 feet with included bark. Mostly narrow crown to east.
3645		X	733	Yes					16	Blue Oak	*Quercus douglasii*		16	16	54	24	2 Major Structure or Health Problems	Normal flare. Trunk bows north 15 degrees. Codominant at 7 feet. Mostly one-sided. Grows northwest. Dead branches to 3 inches.
3646		X	734	Yes					16	Blue Oak	*Quercus douglasii*		16	16	54	21	2 Major Structure or Health Problems	Normal flare. One-sided crown south. Southeast leader at 7 feet. Flatten trunk 36-72 inches collar that branches to 3 inches.
3647		X	735	Yes					13	Blue Oak	*Quercus douglasii*		13	13	54	18	3 Fair - Minor Problems	Normal flare. Low lateral at 6 feet. Codominant at 10 feet. Symmetric crown. Small dead branches.
3648		X	736	Yes					0	Blue Oak	*Quercus douglasii*		16	0	6	16	1 Extreme Structure or Health Problems	Swollen base. Codominant at 18 inches with included bark. One-sided growth east. Dead branches to 3 inches.
3649		X	737	Yes					16	Blue Oak	*Quercus douglasii*		16	16	54	26	3 Fair - Minor Problems	Normal flare. Codominant at 7 feet. North codominant grows north and south down vertical and southeast symmetric crown. Dead branches to 3 inches.
3650		X	738	Yes					20	Blue Oak	*Quercus douglasii*		20	20	18	30	2 Major Structure or Health Problems	Flattened base. Codominant at 4 feet. Crown one-sided south. Low laterals. Dead branches to 3 inches. End weights.
3651		X	740	Yes					17	Blue Oak	*Quercus douglasii*		17	17	54	19	3 Fair - Minor Problems	Normal flare. Codominant leader at 6 feet and 10 feet. Symmetric branching. Dead branches to 3 inches. Medium crown density.
3652		X	739	Yes					0	Blue Oak	*Quercus douglasii*		23	0	24	22	1 Extreme Structure or Health Problems	Swollen base. Codominant at 6 feet. Low southwest lateral at 4 feet. Trunk wound. Mostly one-sided crown north. Crossing branches, then branches to 3 inches. Wound on trunk at 4 feet north. Crown galls.

3653		X	741	Yes					14	Blue Oak	*Quercus douglasii*		14	14	54	15	2 Major Structure or Health Problems	Swollen trunk south. Boat in lower trunk self-correcting. One-sided crown mostly north. Dead branches to 5 inches. Sprouts along trunk.
3654		X	742	Yes					0	Blue Oak	*Quercus douglasii*		11	0	48	18	1 Extreme Structure or Health Problems	Swollen flare south. Flattened trunk at 24 inches. Codominant at 5 feet. Suppressed growth south and southwest.
3655		X	743	Yes					19	Blue Oak	*Quercus douglasii*		19	19	54	28	3 Fair - Minor Problems	Service roots northeast, southeast and southwest. Codominant at 6 and 9 feet. Dead branches to 3 inches. Mostly growth to east.
3656		X	744	Yes					0	Blue Oak	*Quercus douglasii*		17	0	36	24	1 Extreme Structure or Health Problems	Normal flare. Codominant at 5 feet. One-sided. Suppressed growth east and south both leaders.
3657		X	795	Yes					16	Blue Oak	*Quercus douglasii*		16	16	54	21	2 Major Structure or Health Problems	Normal flare. Lean northeast 15 degrees. One-sided crown east. East lateral branches dead branches to 4 inches. Medium crown density.
3658		X	796	Yes					17	Blue Oak	*Quercus douglasii*		17	17	54	19	2 Major Structure or Health Problems	Swollen flare. Codominant at 6 feet. Mostly south crown. Dead branches to 4 inches. Medium crown density.
3659		X	797	Yes					12	Blue Oak	*Quercus douglasii*		12	12	54	16	2 Major Structure or Health Problems	Swollen crown. Low west lateral at 12 inches. One-sided suppressed growth south. Dead branches to 4 inches
3660		X	798	Yes					17	Blue Oak	*Quercus douglasii*		17	17	12	15	2 Major Structure or Health Problems	Normal flare. Flattened trunk at base to 3 feet. Codominant at 3 feet with included bark going, down south leader at 6 feet. Mostly one-sided crown south and west. Dead branches to 3 inches. Thin crown density.
3661		X	799	Yes					18	Blue Oak	*Quercus douglasii*		18	18	36	21	3 Fair - Minor Problems	Codominant at 5 and 6 feet. Crown mostly south. Dead branches to 4 inches. Medium crown density.
3662		X	800	Yes					26	Blue Oak	*Quercus douglasii*		26	26	30	27	3 Fair - Minor Problems	Normal flare. Symmetrical crown. 3 codominant stems at 5 feet. Dead branches to 4 inches.
3663		X	801	Yes					11	Blue Oak	*Quercus douglasii*		11	11	54	12	2 Major Structure or Health Problems	Normal flare. Codominant at 8 feet. South leader and south branches extend south. Central leader vertical. Dead branches to 3 inches.
3664		X	802	Yes					16	Blue Oak	*Quercus douglasii*		16	16	24	21	2 Major Structure or Health Problems	3 codominant stems at 4 feet. One-sided crown south. Suppressed growth. Flattened flare south. Surface root southwest.
3665		X	807	Yes					14	Blue Oak	*Quercus douglasii*		14	14	54	16	2 Major Structure or Health Problems	Normal flare. Codominant at 6 feet. One-sided and suppressed growth south. Dead branches to 2 inches.

3666		X	808	Yes					18	Blue Oak	*Quercus douglasii*		18	18	12	19	2 Major Structure or Health Problems	Normal flare. Codominant at 30 inches with included bark. Growth mostly west. Dead branches to 2 inches. Low crown density.
3667		X	809	Yes					0	Blue Oak	*Quercus douglasii*		20	0	54	23	1 Extreme Structure or Health Problems	Swollen face west. Codominant at 6 feet. Suppressed growth west and south. Dead branches to 2 inches Medium crown density.
3668		X	810	Yes					19	Blue Oak	*Quercus douglasii*		19	19	54	27	2 Major Structure or Health Problems	Flattened base east. One-sided crown west that branches to 4 inches, end weights.
3669		X	811	Yes					0	Blue Oak	*Quercus douglasii*		13	0	54	22	1 Extreme Structure or Health Problems	Surface root north and south. Codominant at 6 feet. One-sided/suppressed growth west. Dead branches to 2 inches.
3670		X	812	Yes					18	Blue Oak	*Quercus douglasii*		18	18	24	19	2 Major Structure or Health Problems	Swallowed flare. Codominant at 5 feet. One-sided crown northwest. Dead branches to 2 inches.
3671		X	828	Yes					12	Blue Oak	*Quercus douglasii*		12	12	54	13	3 Fair - Minor Problems	Normal flare. Vertical growth. Codominant at 30 feet. Mistletoe on one upper branch.
3672		X	829	Yes					0	Blue Oak	*Quercus douglasii*		7	0	36	12	1 Extreme Structure or Health Problems	Normal flare. Codominant at 3 feet. Central leader dead in west turn leader lanes west. Small dead branches.
3673		X	830	Yes					13	Blue Oak	*Quercus douglasii*		13	13	54	16	2 Major Structure or Health Problems	Slight swelling flare, vertical growth. One-sided crown northwest, that branches to 3 inches, end weights. Medium crown density.
3674		X	831	Yes					0	Blue Oak	*Quercus douglasii*		20	0	12	12	1 Extreme Structure or Health Problems	Normal base. Codominant at 18 inches and 24 inches. Suppressed growth west. Dead branches to 4 inches. One-sided.
3675		X	832	Yes					15	Blue Oak	*Quercus douglasii*		15	15	42	15	2 Major Structure or Health Problems	Normal flare. One-sided crown west. Codominant at 17 feet. Dead branches to 3 inches. Medium crown density.
3676		X	833	Yes					7	Blue Oak	*Quercus douglasii*		7	7	54	8	2 Major Structure or Health Problems	Normal flare. Broken leader with decay at 4 feet north. Codominant at 6 feet. Low northwest lateral dead. Narrow vertical crown. Dead branches to 3 inches
3677		X	781	Yes					14	Blue Oak	*Quercus douglasii*		14	14	42	11	2 Major Structure or Health Problems	Flat south flare at 6 feet. Suppressed growth west. Dead branches to 3 inches. One-sided crown west.
3679		X	780	Yes					0	Blue Oak	*Quercus douglasii*		6	0	54	7	1 Extreme Structure or Health Problems	Trunk wound 12 inches. Dead lateral 12 inches. Bending trunk 3-6 feet with decay cavity east side 6 feet. Suppressed growth west. 12 inches from Tree 3680.

3680		X	778	Yes					10	Blue Oak	*Quercus douglasii*		10	10	36	9	2 Major Structure or Health Problems	Normal flare. 12 inches from Tree 3679. Codominant at 42 inches. Vertical and suppressed growth west. One-sided crown west. Dead branches to 4 inches.
3681		X	777	Yes					11	Blue Oak	*Quercus douglasii*		11	11	54	13	2 Major Structure or Health Problems	Normal flare. Bend in trunk from 12 inches to 5 feet. One-sided crown west. Codominant at 20 feet. Dead branches to 2 inches. Medium crown density.
3682		X	776	Yes					9	Blue Oak	*Quercus douglasii*		9	9	54	11	2 Major Structure or Health Problems	Normal flare. Bends and trunk at 4, 5 and 10 feet. Codominant at 11 feet. One-sided crown north and west. Small dead branches.
3683		X	775	Yes					9	Blue Oak	*Quercus douglasii*		9	9	54	13	2 Major Structure or Health Problems	Normal flare. Low lateral north at 6 feet. Hollow sound. Mostly one-sided crown north.
3684		X	773	Yes					12	Blue Oak	*Quercus douglasii*		12	12	48	12	2 Major Structure or Health Problems	Normal flare. Vertical growth. Dieback on branches. Dead branches to 3 inches.
3685		X	772	Yes					15	Blue Oak	*Quercus douglasii*		15	15	54	19	2 Major Structure or Health Problems	Normal flare. Straight trunk. Codominant at 30 feet. Dieback on lateral branches. Medium crown density.
3686		X	771	Yes					12	Blue Oak	*Quercus douglasii*		12	12	54	15	3 Fair - Minor Problems	Vertical trunk to 15 feet, then bends east. Dead branches to 2 inches. Medium crown density.
3688		X	760	Yes					0	Blue Oak	*Quercus douglasii*		20	0	6	19	1 Extreme Structure or Health Problems	Trunk leans southeast at base. Codominant stems at 12 inches. South stem leans south. North stem vertical wound in north stem at 5 feet on east side. Dead branches to 3 inches branch dieback. Thin crown density.
3689		X	756	Yes					13	Blue Oak	*Quercus douglasii*		13	13	54	14	3 Fair - Minor Problems	Normal flare. Buttress roots northeast, northwest and west. Codominant at 25 feet. Branch dieback. Dead branches to 3 inches. Medium crown density.
3690		X	748	Yes					10	Blue Oak	*Quercus douglasii*		10	10	54	14	2 Major Structure or Health Problems	Normal flare. Trunk leans 15 degrees northwest. One-sided crown northwest. Low western branches. Codominant at 30 feet. Small dieback of branches. Dead branches to 3 inches. One-sided crown northwest.
3691		X	749	Yes					10	Blue Oak	*Quercus douglasii*		10	10	54	10	2 Major Structure or Health Problems	Normal flare. 10 degree lean southwest. Low northeast lateral dieback. One-sided crown south. Dead branches to 3 inches.
3692		X	747	Yes					12	Blue Oak	*Quercus douglasii*		12	12	54	14	2 Major Structure or Health Problems	Normal flare. 10 degree lean north. One-sided crown north. Dead branches to 4 inches. End weights north. Low crown density.
3693		X	746	Yes					14	Blue Oak	*Quercus douglasii*		14	14	54	15	2 Major Structure or Health Problems	Normal flare. Trunk bends vertical. Codominant at 6 feet. North leader leans north. South leader vertical. Dead branches to 3 inches. Branch dieback. Thin crown density.

3694	*	X		Yes					12	Blue Oak	*Quercus douglasii*		12	12	54	19	2 Major Structure or Health Problems	Protected tree growing between rocks and not readily accessible. Tag # assigned but not placed on tree. Leans southwest 10 degrees. One-sided west. Codominant at 10 feet. Medium crown density. Small 6-inch tree barely 10 feet high growing to north.
3695		X	752	Yes					8	Blue Oak	*Quercus douglasii*		8	8	54	8	2 Major Structure or Health Problems	Normal flare. 6 inches from Tree 3696. One-sided crown east. 10 degree lean east. Small dead branches to 3 inches. Sprouts on trunk.
3696		X	751	Yes					12	Blue Oak	*Quercus douglasii*		12	12	54	13	2 Major Structure or Health Problems	Normal flare. Dead stub north side 36 inches. Trunk leans 15-20 degrees east. One-sided crowned east. Dead branches to 3 inches trunks roots. Medium crown density.
3697		X	753	Yes					14	Blue Oak	*Quercus douglasii*		14	14	54	16	3 Fair - Minor Problems	Normal flare. Codominant at 7 feet. Majority of crown southeast. Dead branches to 3 inches. Branch dieback.
3698		X	580	Yes					0	Blue Oak	*Quercus douglasii*		46	0	54	29	1 Extreme Structure or Health Problems	Significant trunk decay from base to 8 feet. 2 major leaders, hollow trunk, end weights, small dead branches.
3699		X	578	Yes					14	Blue Oak	*Quercus douglasii*		14	14	36	18	3 Fair - Minor Problems	Normal flare, edge tree. One-sided crown southwest. Codominant at 10 feet. Dead branches to 2 inches. Low dead northwest lateral. Medium crown density.
3700		X	575	Yes					13	Blue Oak	*Quercus douglasii*		13	13	36	12	2 Major Structure or Health Problems	Normal flare. One-sided crown west. Low lateral southwest 5 feet. Suppressed growth west.
3701		X	574	Yes					13	Blue Oak	*Quercus douglasii*		13	13	36	18	2 Major Structure or Health Problems	Normal flare, edge tree. Codominant with included bark at 5 feet. Suppressed growth west. Dead branches to 3 inches.
3702		X	572	Yes					15	Blue Oak	*Quercus douglasii*		15	15	536	13	3 Fair - Minor Problems	Normal flare. Low west lateral at 5 feet. One- sided crown west. Dead branches to 2 inches. Medium crown density.
3703		X	571	Yes					0	Blue Oak	*Quercus douglasii*		10	0	48	11	1 Extreme Structure or Health Problems	Normal flare. 12 inches from Tree 3704. Trunk leans 30 degrees north. Turning into suppressed growth north. Low west lateral at 4.5 feet.
3704		X	570	Yes					9	Blue Oak	*Quercus douglasii*		9	9	39	10	2 Major Structure or Health Problems	Slightly buried crown south. Lean north 5 degrees. Suppressed growth north. Codominant at 4.5 feet.
3705		X	573	Yes					14	Blue Oak	*Quercus douglasii*		14	14	54	16	2 Major Structure or Health Problems	Normal flare. Codominant at 6 feet. Dead broken branch at 6 feet. One-sided crown west. Mostly suppressed growth.
3706		X	554	Yes					11	Blue Oak	*Quercus douglasii*		11	11	54	16	3 Fair - Minor Problems	Normal flare. Vertical lateral at 9 feet. Mostly one-sided crown west. Upper crown more symmetrical. Small dead branches to 2 inches.

3707		X	552	Yes					13	Blue Oak	*Quercus douglasii*		13	13	54	17	2 Major Structure or Health Problems	Normal flare. Main leader twisted. Codominant at 9 feet. One-sided crown northwest, end weights, low north lateral. Leans north.
3708		X	551	Yes					0	Blue Oak	*Quercus douglasii*		10	0	54	9	1 Extreme Structure or Health Problems	Normal flare. Trunk wound southside 12 inches to 6 feet. Codominant at 8 feet. Dead branches to 3 inches. One-sided crown north. Suppressed growth.
3709		X	550	Yes					7	Blue Oak	*Quercus douglasii*		7	7	48	7	2 Major Structure or Health Problems	Bent truck is 0-3 feet. Low laterals dead broken off east and west. Suppressed growth northwest. Dead branches to 3 inches.
3710		X	548	Yes					14	Blue Oak	*Quercus douglasii*		14	14	54	15	3 Fair - Minor Problems	Normal flare, edge tree, mostly growth northwest. Low laterals south broken off. Dead branches to 4 inches. Medium crown density.
3711		X	547	Yes					0	Blue Oak	*Quercus douglasii*		7	0	54	6	1 Extreme Structure or Health Problems	Swollen base, broken low lateral at 6 inches. Mostly dead lower branches. Mostly suppressed growth northwest.
3712		X	546	Yes					10	Blue Oak	*Quercus douglasii*		10	10	36	11	2 Major Structure or Health Problems	Slightly buried flare. Low lateral southwest at 4 feet. Mostly dead lower crown. Mostly suppressed growth north.
3713		X	495	Yes					9	Blue Oak	*Quercus douglasii*		9	9	54	11	2 Major Structure or Health Problems	Normal flare. Bends in trunk to 4 feet. Low north lateral at 5 feet. Codominant at 7 feet. Dead branches to 3 inches. Medium crown density.
3714		X	494	Yes					7	Blue Oak	*Quercus douglasii*		7	7	54	9	3 Fair - Minor Problems	Normal flare. Vertical growth. Slight lean south. Dead branches to 3 inches.
3715		X	493	Yes					9	Blue Oak	*Quercus douglasii*		9	9	54	12	2 Major Structure or Health Problems	Swollen flare east. Bends in trunk 3-8 feet. One-sided suppressed growth west.
3716		X	492	Yes					14	Blue Oak	*Quercus douglasii*		14	14	42	19	3 Fair - Minor Problems	Normal flare. Codominant at 15 feet. Mostly one-sided growth west. Small dead branches to 2 inches. Medium crown density.
3717		X	465	Yes					16	Blue Oak	*Quercus douglasii*		16	16	54	15	3 Fair - Minor Problems	Slightly buried south flare. Vertical growth. Codominant at 15 feet. Mostly growth to west. Dead branches to 3 inches. Medium crown density.
3718		X	474	Yes					16	Blue Oak	*Quercus douglasii*		16	16	36	16	2 Major Structure or Health Problems	South flare slightly buried. Low laterals at 4.5 and 5.5 feet. Growth one-sided west. Dead branches to 3 inches.
3719		X	463	Yes					18	Blue Oak	*Quercus douglasii*		18	18	54	21	3 Fair - Minor Problems	Normal flare. Low large lateral southwest. Codominant at 14 feet. Dead branches to 3 inches. Medium crown density.
3720		X	461	Yes					11	Blue Oak	*Quercus douglasii*		11	11	36	13	2 Major Structure or Health Problems	Normal flare. Dead south lateral at 4 feet. One-sided suppressed growth west. Dead branches to 4 inches.

3721		X	460	Yes					7	Blue Oak	*Quercus douglasii*		7	7	54	6	2 Major Structure or Health Problems	Normal flare. Low dead south lateral at 36 inches. Vertical growth suppressing west. Trunk shoots.
3722		X	459	Yes					14	Blue Oak	*Quercus douglasii*		14	14	54	22	3 Fair - Minor Problems	Swollen flare south from old broken branch. Vertical growth. Codominant at 25 feet. Mostly branching west. Dead branches to 3 inches. Medium crown density.
3723		X	462	Yes					0	Blue Oak	*Quercus douglasii*		11	0	48	11	1 Extreme Structure or Health Problems	Normal flare. Low lateral west at 5 feet. Suppressed growth west. Dead branches to 3 inches.
3724		X	445	Yes					22	Blue Oak	*Quercus douglasii*		22	22	54	28	3 Fair - Minor Problems	Normal flare. Upright growth. Codominant at 12 feet. Symmetric crown. Medium crown density. Dead branches to 3 inches.
3725		X	444	Yes					22	Blue Oak	*Quercus douglasii*		22	22	48	30	3 Fair - Minor Problems	Surface roots at flare. Some root injury likely from cows, south and west sides. Codominant at 6 feet. Symmetric crown. Medium crown density. Dead branches to 3 inches.
3726		X	443	Yes					20	Blue Oak	*Quercus douglasii*		20	20	36	23	2 Major Structure or Health Problems	Crown east rocks at faced west. Leans west/one-sided. Mistletoe southwest. Dead branches to 3 inches.
3727		X	446	Yes					14	Blue Oak	*Quercus douglasii*		14	14	48	14	2 Major Structure or Health Problems	Normal flare. Codominant at 6 feet. One-sided and growth mostly suppressed north.
3728		X	447	Yes					14	Blue Oak	*Quercus douglasii*		14	14	36	14	2 Major Structure or Health Problems	Flare slightly buried. South swollen trunk from old brand stuff at 12 inches. Codominant at 6 feet. Suppressed the growth north common dead branches to 4 inches.
3729		X	448	Yes					12	Blue Oak	*Quercus douglasii*		12	12	54	11	2 Major Structure or Health Problems	Normal flare. 10 degree lean north. One-sided crown north. Low north lateral at 4.5 feet. Codominant at 6 feet. Dead branches to 3 inches.
3730		X	449	Yes					16	Blue Oak	*Quercus douglasii*		16	16	54	17	3 Fair - Minor Problems	Normal flare. Codominant at 6 feet with included bark. Low north lateral at 7 feet. Symmetric growth. Dead branches to 4 inches. Medium crown density.
3731		X		Yes					6	Blue Oak	*Quercus douglasii*		6	6	54	10	3 Fair - Minor Problems	Normal flare. Vertical growth dead lower laterals to 3 inches. Symmetric crown. Medium crown density.
3732		X	450	Yes					8	Blue Oak	*Quercus douglasii*		8	8	54	10	2 Major Structure or Health Problems	Normal flare. Swollen northeast trunk at 6 inches from all branch. Leans 10-20 degrees south starting at 6 feet. One-sided crown south. Dead branches to 4 inches.
3733		X	455	Yes					0	Blue Oak	*Quercus douglasii*		14	0	36	12	1 Extreme Structure or Health Problems	Low dead north lateral and 4 feet. Dieback through crown. Sprouts on trunk.

3734		X	454	Yes					20	Blue Oak	*Quercus douglasii*		20	20	30	32	3 Fair - Minor Problems	Swollen base from old branch wound west. Low lateral south at 4.5 feet. Codominant north leader 8 feet. Symmetric grows. Dead branches to 4 inches. Medium crown density. Flare slightly buried south side.
3735		X	476	Yes					14	Blue Oak	*Quercus douglasii*		14	14	48	24	3 Fair - Minor Problems	Normal flare. Low natural south. Codominant north leader 16 feet. Dead branches to 3 inches. Medium crown density.
3736		X	478	Yes					11	Blue Oak	*Quercus douglasii*		11	11	54	16	3 Fair - Minor Problems	Normal flare. Codominant at 9 feet. Symmetric crown. Dead branches to 3 inches. Medium crown density.
3737		X	47?	Yes					26	Blue Oak	*Quercus douglasii*		26	26	12	33	3 Fair - Minor Problems	Low south lateral at 3 feet. Codominant at 6 feet. Symmetric crown. Low branches. Dead branches to 3 inches. Good crown density.
3738		X	479	Yes					13	Blue Oak	*Quercus douglasii*		13	13	12	13	2 Major Structure or Health Problems	Swollen base broken stub north. Low south lateral 18 inches. Main leader vertical grow symmetric foliage that branches to 3 inches.
3739		X	480	Yes					9	Blue Oak	*Quercus douglasii*		9	9	54	11	3 Fair - Minor Problems	Slightly swollen flare west. Codominant at 8 feet. Included bark starting, vertical growth, lower branches dead to 20 feet. Symmetric crown that branches to 3 inches.
3740		X		Yes					11	Blue Oak	*Quercus douglasii*		11	11	54	16	3 Fair - Minor Problems	Normal flare. Swollen trunk from all branch ones to 8 feet. Codominant at 24 feet. Dead branches to 3 inches. Medium crown density. Twisted trunk from 4-15 feet.
3741		X	514	Yes					14	Blue Oak	*Quercus douglasii*		14	14	54	18	3 Fair - Minor Problems	Normal flare. Codominant at 6 feet with inclusion. Old branch northwest 4 feet. 3-inch cavity callous symmetric crown. Dead branches to 3 inches. Medium crown density.
3742		X	512	Yes					7	Blue Oak	*Quercus douglasii*		7	7	54	11	2 Major Structure or Health Problems	Swollen flare east. Trunk bends to 30 degrees southwest. One-sided crown southwest. Dead branches to 4 inches.
3743		X	511	Yes					11	Blue Oak	*Quercus douglasii*		11	11	54	14	2 Major Structure or Health Problems	Normal flare. Codominant at 5 feet. Dead branch with decay at 5.5 feet east. Lower dead branches south. Dead branches the 3 inches. Medium crown density.
3744		X	499	Yes					6	Blue Oak	*Quercus douglasii*		6	6	54	7	2 Major Structure or Health Problems	Swollen flare. Truck leans up to 25 degrees north. One-sided crown north. Dead branches to 2 inches. Sprouts on trunk.
3745		X	498	Yes					10	Blue Oak	*Quercus douglasii*		10	10	54	13	2 Major Structure or Health Problems	Normal flare. Swollen points on trunk 18-42 inches. One-sided crown northwest. Dead branches to 4 inches.
3746		X	500	Yes					9	Blue Oak	*Quercus douglasii*		9	9	54	10	3 Fair - Minor Problems	Normal flare. Low lateral southwest at 3 feet. Dead branches to 3 inches. Crown mostly north. Medium crown density.

3747		X	501	Yes					13	Blue Oak	*Quercus douglasii*		13	13	36	16	3 Fair - Minor Problems	Normal flare. Old branch stub 12 inches northeast. Codominant at 4 feet. Symmetric crown. Dead branches to 2 inches. Medium crown density.
3748		X	502	Yes					18	Blue Oak	*Quercus douglasii*		18	18	36	22	3 Fair - Minor Problems	Normal flare. 3 codominant stems at 6 feet. Decay cavity 3 inches in main crotch. Symmetric crown. Low east lateral at 4 feet. Dead branches to 3 inches. Medium crown density.
3749		X	581	Yes					18	Blue Oak	*Quercus douglasii*		18	18	24	19	3 Fair - Minor Problems	Normal flare. Codominant at 42 inches. Codominant at 6 feet. Symmetric crown. Medium crown density that branches to 3 inches.
3750		X	589	Yes					17	Blue Oak	*Quercus douglasii*		17	17	54	20	3 Fair - Minor Problems	Normal flare. Slightly twisted trunk, low west lateral at 5 feet. Codominant at 9 feet. Symmetric crown. Dead branches to 2 inches. Medium crown.
3751		X	582	Yes					12	Blue Oak	*Quercus douglasii*		12	12	54	22	2 Major Structure or Health Problems	Swollen base north side. Dead low lateral southwest 18 inches. Trunk leans northwest. One-sided crown northwest. Dead branches to 3 inches. Medium crown density.
3752		X	583	Yes					18	Blue Oak	*Quercus douglasii*		18	18	54	24	3 Fair - Minor Problems	Swollen flare north. Low lateral at 6 feet south. Codominant at 17 feet. Symmetric crown. Dead branches to 4 inches. Medium crown density.
3753		X	503	Yes					15	Blue Oak	*Quercus douglasii*		15	15	54	23	3 Fair - Minor Problems	Normal flare. Codominant at 6 feet. North leader leans north. South leader upright. Dead branches to 4 inches. Medium crown density.
3754		X	504	Yes					11	Blue Oak	*Quercus douglasii*		11	11	54	15	3 Fair - Minor Problems	Normal vertical growth. Codominant at 8 feet. Dead branches to 3 inches. Medium crown density.
3755		X	505	Yes					0	Blue Oak	*Quercus douglasii*		14	0	54	14	1 Extreme Structure or Health Problems	6 inches stem north at base rock and between 2 stems common large stem leans south. One-sided crown. Suppressed growth. Dead branches to 3 inches.
3756		X	507	Yes					9	Blue Oak	*Quercus douglasii*		9	9	54	12	2 Major Structure or Health Problems	Swollen lower trunk. Dead branches to 2 inches. One-sided crown southwest. Low crown density.
3757		X	506	Yes					20	Blue Oak	*Quercus douglasii*		20	20	24	23	3 Fair - Minor Problems	Buttressing base. 2 codominant stems at 4 and 5 feet. West lateral at 4.5 feet. Symmetric crown. Dead branches to 4 inches. Medium crown density.
3758		X	518	Yes					14	Blue Oak	*Quercus douglasii*		14	14	54	17	2 Major Structure or Health Problems	Normal flare. Decay cavity 6 inches deep at 42 inches. One-sided crown south. Dead branches to 3 inches. End weights south.
3759		X	590	Yes					17	Blue Oak	*Quercus douglasii*		17	17	24	20	2 Major Structure or Health Problems	Flare wound southwest. Codominant stems at 42 inches. Main crotch bark wound, swollen base. Dead branches to 4 inches. Crown mostly north.
3760		X	591	Yes					16	Blue Oak	*Quercus douglasii*		16	16	30	19	2 Major Structure or Health Problems	Swollen base east and north. Surface roots west. Codominant at 4.5 and 5.5 feet. Dead branches to 4 inches. End weights.

3761		X	712	Yes					16	Blue Oak	*Quercus douglasii*		16	16	12	16	2 Major Structure or Health Problems	Codominant at 18 inches with included bark. South lateral. Swollen trunk north. Dead branches to 3 inches. Medium crown density.
3762		X	535	Yes					0	Blue Oak	*Quercus douglasii*		15	0	42	19	2 Major Structure or Health Problems	8 inches tree 3 inches from base northwest. Trunk bends southeast 30 degrees with suppressed growth. Cavity east at 18 inches 6 inches deep, end weights.
3763		X	5496	Yes					0	Blue Oak	*Quercus douglasii*		8	0	54	9	2 Major Structure or Health Problems	Flare 3 inches from Tree 3762. Trunk bends east to 45 degrees. One-sided crown east. Cavity west 42 and 6 inches deep.
3764		X	534	Yes					13	Blue Oak	*Quercus douglasii*		13	13	54	12	2 Major Structure or Health Problems	Normal flare. Leans northeast 15 degrees. One-sided crown northeast. End weights.
3765		X	519	Yes					6	Blue Oak	*Quercus douglasii*		6	6	54	10	2 Major Structure or Health Problems	Normal flare. One-sided crown east. Suppressed growth east. Dead branch north 6 feet.
3766		X	538	Yes					16	Blue Oak	*Quercus douglasii*		16	16	54	17	2 Major Structure or Health Problems	Normal flare. Low west vertical lateral 42 inches. One-sided crown southeast. End weights. Dead branches to 3 inches.
3767		X	539	Yes					10	Blue Oak	*Quercus douglasii*		10	10	54	10	2 Major Structure or Health Problems	Normal flare. Low lateral southwest at 5 feet. One-sided crown south. Suppressed growth.
3768		X	558	Yes					15	Blue Oak	*Quercus douglasii*		15	15	54	27	2 Major Structure or Health Problems	Normal flare. Trunk leans southwest 15 degrees, increasing to 30 degrees. One-sided crown west. Dead branches to 3 inches, end weights.
3769		X	564	Yes					10	Blue Oak	*Quercus douglasii*		10	10	54	15	2 Major Structure or Health Problems	Normal flare. Straight trunk. Codominant at 15 feet. One branch leans north. One branch leans west. End weights. Dead branches to 5 inches. Thin crown density.
3770		X	565	Yes					12	Blue Oak	*Quercus douglasii*		12	12	54	14	2 Major Structure or Health Problems	Normal flare. Codominant at 7 feet. Crown mostly southwest with included bark bulge, end weights. Dead branches to 2 inches.
3771		X		Yes					10	Blue Oak	*Quercus douglasii*		10	10	42	10	2 Major Structure or Health Problems	Trunk next to Tree 3770. Codominant at 5 feet. Crown grows southeast. Suppressed.
3772		X	566	Yes					8	Blue Oak	*Quercus douglasii*		8	8	54	11	2 Major Structure or Health Problems	Trunk next to Tree 3773. Trunks touch. Suppressed growth south.
3772			566						8	Blue Oak	*Quercus douglasii*		8		54	11	2 Major Structure or Health Problems	Trunk next to and touching Tree 3773. Suppressed growth south.

3773		X		Yes					0	Blue Oak	*Quercus douglasii*		6	0	54	7	1 Extreme Structure or Health Problems	Trunk touching Tree 3772. Suppressed growth at 13 feet.
3774		X	570	Yes					16	Blue Oak	*Quercus douglasii*		16	16	42	21	3 Fair - Minor Problems	Normal flare. Lower north lateral 5 feet. Trunk leans south. Symmetric crown. Codominant at 16 feet. Dead branches to 3 inches. Medium crown density.
3775		X	576	Yes					0	Blue Oak	*Quercus douglasii*		7	0	42	12	1 Extreme Structure or Health Problems	Swollen flare. Trunk bends 0-3 feet. Codominant at 4.5 feet. Suppressed top growth. Dead branches to 2 inches.
3776		X	577	Yes					8	Blue Oak	*Quercus douglasii*		8	8	42	10	2 Major Structure or Health Problems	Normal flare. Codominant leaders at 5 feet with included bark. Suppressed growth southeast.
3777		X	452	Yes					23	Blue Oak	*Quercus douglasii*		23	23	36	25	2 Major Structure or Health Problems	Normal flare. Included bark from 5-7 feet dead branches to 3 inches. Symmetric crown.
3778		X	453	Yes					12	Blue Oak	*Quercus douglasii*		12	12	48	14	2 Major Structure or Health Problems	Normal flare. Trunk bends 4.5 feet raise west. One-sided crown west.
3779		X	421	Yes					0	Blue Oak	*Quercus douglasii*		34	0	48	28	2 Major Structure or Health Problems	Normal flare. Surface roots southeast. Trunk leans 10 degrees south. North leader at 10 feet with heavy decay. West leader at 5 feet end weights. Remaining south leaders with decay from previous break, end weights. One-sided crown south remaining.
3780		X	420	Yes					0	Blue Oak	*Quercus douglasii*		38	0	30	29	1 Extreme Structure or Health Problems	Buttressing base. Lower northwest lateral at 5 feet touching ground little northeast lateral at 5 feet as decay from previous pruning wounds. Top leader broken and decay present total tree height 30 feet.
3781		X	418	Yes				19		Blue Oak	*Quercus douglasii*		22	22	48	19	3 Fair - Minor Problems	Normal flare with large surface root south. Some decay at end of surface root. Vertical growth likely decay in parts of trunk and branches common symmetric key crown. Dead branches to 4 inches and upper crown.
3782		X		Yes				33		Blue Oak	*Quercus douglasii*		33	33	36	30	2 Major Structure or Health Problems	Surface roots west and south. Low north lateral at 6 feet with decay. East and west laterals both have previous breaks and decay and crown, end weights, mistletoe.
3783		X	416	Yes						Blue Oak	*Quercus douglasii*		19	19	48	19	3 Fair - Minor Problems	Normal flare. Trunk leans east. Partial self correct. Decay in west lateral. Mistletoe north then east crown. Medium crown density.
3784		X	415	Yes						Blue Oak	*Quercus douglasii*		21	21	24	22	3 Fair - Minor Problems	Normal flare. Codominant at 42 inches. Decay in crotch 42 inches 6 inches deep. Symmetric crowned. Good crown density.
3785		X		Yes						Blue Oak	*Quercus douglasii*		23	23	36	26	3 Fair - Minor Problems	Normal flare. North lateral at 5 feet. Codominant at 7 feet. Symmetric crown. Mistletoe.

3786		X	412	Yes						Blue Oak	*Quercus douglasii*		26	26	30	31	3 Fair - Minor Problems	Normal flare. Trunk bends south at 15 feet. Crown mostly south. Dead branches to 6 inches. Some decay from old pruning wounds.
3787		X	413	Yes						Blue Oak	*Quercus douglasii*		30	30	24	29	3 Fair - Minor Problems	Normal flare mostly eastern crown. Dead branches to 8 inches. Codominant at 6 feet. Some decay and trunk and branches not extensive.
3788		X	411	Yes						Blue Oak	*Quercus douglasii*		15	15	54	18	2 Major Structure or Health Problems	Normal flare. One-sided crown. Trunk starts leaning up to 45 degrees to the west at 8 feet. At 5 feet to old branch cavities 5 inches and 6 inches deep. Small dead branches.
3789		X	410	Yes						Blue Oak	*Quercus douglasii*		22	22	30	24	3 Fair - Minor Problems	Normal flare. Trunk leans 5-10 degrees south. Crown mostly south. Minor decay from previous branch wounds. Dead branches to 2 inches. Medium crown density.
3790		X	406	Yes						Blue Oak	*Quercus douglasii*		18	18	54	28	2 Major Structure or Health Problems	Normal flare. Trunk bends west at 20 feet. One-sided crown west. End weights. Dead branches to 3 inches. Medium crown density.
3791		X	403	Yes						Blue Oak	*Quercus douglasii*		22	22	54	28	3 Fair - Minor Problems	Normal flare. Trunk leans east appx. 15 degrees. Mostly one-sided crowned east. Dead branches north. Old branch cavities up to 6 inches. Medium crown density.
3794		X	423	Yes						Blue Oak	*Quercus douglasii*		18	18	42	21	3 Fair - Minor Problems	Normal flare. Codominant at 8 feet and 9 feet. Small dead branches to 2 inches, end weights. Medium crown density.
3795		X	422	Yes					37	Blue Oak	*Quercus douglasii*		37	37	30	35	2 Major Structure or Health Problems	Normal flare. Codominant at 7 feet, large branch north. Decay in branches small branch wounds. Mistletoe heavy east, end weights. Dead branches to 3 inches.
3796		X	197	Yes					60	Blue Oak	*Quercus douglasii*		60	60	54	34	2 Major Structure or Health Problems	Codominant at 10 feet. Low west lateral at 8 feet. Broken decay south leader. Broken decay east lateral. Broken decay north lateral.
3797		X	436	Yes					31	Blue Oak	*Quercus douglasii*		31	31	54	30	2 Major Structure or Health Problems	Normal flare, likely decay fungi north space likely Oakwood fungus south side. Very low crown density lots of branches. No foliage. Decent branch structure.
3798		X	207	Yes					0	Blue Oak	*Quercus douglasii*		53	0	54	33	2 Major Structure or Health Problems	Normal flare. Previous branch tear out southside 20 feet. Decay fungi previous tear-out southside 40 feet cavity. Mistletoe throughout. Crown previous tear outs is side 35, 38 and 40 feet. Decay and trunk from tear-out.
3798		X	435	Yes					25	Blue Oak	*Quercus douglasii*		25	25	36	38	3 Fair - Minor Problems	Normal flare. Trunk wound southeast 1-3 feet. Dead branches to 5 inches. Symmetric crown. Medium crown density.
3799		X	434	Yes					34	Blue Oak	*Quercus douglasii*		34	34	42	37	3 Fair - Minor Problems	Normal flare. Slight bend in trunk southeast at 4 feet. Self-correcting decent branch structure. Branch failures on lateral south and east. Prunable and retainable.

3800		X	432	Yes					31	Blue Oak	*Quercus douglasii*		31	31	48	30	3 Fair - Minor Problems	Swollen trunk flare. Surface roots north and south. Low lateral 6 feet west. Codominant at 10 feet. North lateral broken off at 15 feet. Symmetric crown. Medium crown density.
3887		X	770 sb 3687	Yes					7	Blue Oak	*Quercus douglasii*		7	7	54	9	2 Major Structure or Health Problems	Normal flare. Within 5 inches of Tree 3686. Trunk bends south 30 degrees. One-sided crown south.
3984		X	440	Yes						Blue Oak	*Quercus douglasii*		34	34	24	29	2 Major Structure or Health Problems	Swollen flare, north surface root, 3 codominant stems at 5 feet. West codominant decay cavity hollow to 12 inches. Dead branches to 7 inches. Old failures southwest leader, end weights. Medium crown density. West codominant hollow.
3985		X	439	Yes						Blue Oak	*Quercus douglasii*		28	28	54	25	3 Fair - Minor Problems	Normal flare. Codominant stems at 16 feet, 22 feet, symmetric crown. Dead branches to 3 inches. Medium crown density.
3986		X	437	Yes						Blue Oak	*Quercus douglasii*		24	24	36	19	2 Major Structure or Health Problems	Swollen base east. One-sided crown west, old failure north. Codominant at 6 feet, end weights. Dead branches to 2 inches.
3987		X	438	Yes						Blue Oak	*Quercus douglasii*		28	28	54	35	2 Major Structure or Health Problems	Normal flare. One-sided crown northeast theater split out, end weights dead branches the 2 inches. Medium crown density.
3988		X	442	Yes					33	Blue Oak	*Quercus douglasii*		33	33	54	27	2 Major Structure or Health Problems	Swollen flare. South broken central leader low branching at 12 feet symmetric crown. Medium crown density.
3989		X	441	Yes					55	Blue Oak	*Quercus douglasii*		55	55	54	35	2 Major Structure or Health Problems	Normal flare surface root southeast broken leaders Southwest vertical North and East decay and stem broken top retrenchment canopy. Medium crown density.
3990		X	428	Yes						Blue Oak	*Quercus douglasii*		28	28	54	22	2 Major Structure or Health Problems	Normal flare. Decay in main trunk east leader broken off. One-sided crown west. Medium crown density.
3991		X		Yes						Blue Oak	*Quercus douglasii*		14	14	54	19	3 Fair - Minor Problems	Large service root northwest. Growing along rocks. Swollen base southeast. No natural south small crown low branches. Symmetrical dead branch to 2 inches. Medium crown density.
3992		X	430	Yes						Blue Oak	*Quercus douglasii*		25	25	54	19	2 Major Structure or Health Problems	Normal flare. Swollen 12 inches west side old wound east leader broke off. One-sided crown west and wouthwest decay cavity in remaining leader.
3993		X	431	Yes						Blue Oak	*Quercus douglasii*		25	25	42	17	3 Fair - Minor Problems	Normal flare. 12-foot lateral east broken off. North lateral vertical. Symmetrical. Medium crown density.

3994		X	745	Yes						Blue Oak	*Quercus douglasii*		26	26	12	18	2 Major Structure or Health Problems	Narrow trunk. Codominant at 30 inches with included bark. South leader codominant at 8 feet symmetrical. North leader leans north 30 degrees. One-sided crown. Dead branches to 3 inches. Thin crown density.
3995		X		Yes						Blue Oak	*Quercus douglasii*		17	17	54	23	2 Major Structure or Health Problems	Swollen base growing between rocks. 20-degree lean to the east. Medium crown density based cavity 4.5 feet 12 inches deep.
3996		X		Yes						Blue Oak	*Quercus douglasii*		23	23	12	25	2 Major Structure or Health Problems	Swollen flare. Surface roots east and south. Codominant at 2 feet. South leader suppressed south and north leader vertical symmetric. Medium crown density.
3997		X		Yes						Blue Oak	*Quercus douglasii*		30	30	18	29	3 Fair - Minor Problems	Normal flare. Codominant at 5 feet. Symmetric foliage. Medium crown density with end weights.
3998		X		Yes						Blue Oak	*Quercus douglasii*		22	22	66	22	2 Major Structure or Health Problems	Swollen flare. Leans east 15 degrees. Hollow trunk for feed 90% through trunk, symmetric crown. Medium crown density.
3999		X		Yes						Blue Oak	*Quercus douglasii*		22	0	60	21	1 Extreme Structure or Health Problems	Hollow trunk large cavity southeast small openings east and west. Leans 30-45 degrees west mistletoe far west. One-sided crown west.
4000		X		Yes					30	Blue Oak	*Quercus douglasii*		30	30	54	24	3 Fair - Minor Problems	Hollow trunk. Swollen flare surface roots east and northwest. Leans south. Self-correcting. Decay in lateral branches. Low branches. Medium crown density.
4003				Yes			No			Fremont Cottonwood	*Populus fremontii*		22		54	20	1 Extreme Structure or Health Problems	Root flare buried. Trunk canker swollen up to 8 feet. Base narrower than trunk. 30° lean to east. Suppressed. Growing under Cottonwood to west. Vigor fair. Crown density fair.
4004				Yes						Fremont Cottonwood	*Populus fremontii*		35		48	35	2 Major Structure or Health Problems	Growing in drainage channel. Normal flare. Codominant at 9'. One-sided crown south. Southwest leader suppressed.
4005				Yes						Fremont Cottonwood	*Populus fremontii*		33		54	32	1 Extreme Structure or Health Problems	Growing in channel. Swollen flare, 14" north lateral at 3'. Broken branches on all leaders. One-sided crown south.
4006				Yes						Fremont Cottonwood	*Populus fremontii*		25		54	34	2 Major Structure or Health Problems	Growing in drain. Swollen flare, twisted trunk. One-sided east. Suppressed by Tree 4005, broken branches.
4007				No						Willow	*Salix*		10		24	30	1 Extreme Structure or Health Problems	Clump of Willows growing and drainage area on north side of property line fence, 50 1-3" stems.
4101		X		Yes					0	Blue Oak	*Quercus douglasii*		34	0	54	24	1 Extreme Structure or Health Problems	Swollen flare southeast. Decay on wood from 24-60 inches south side. Large codominant top failure northwest laying on ground. Codominant top failure severe decay. Vigor poor.

4102		X		Yes					0	Blue Oak	*Quercus douglasii*		30	0	54	27	2 Major Structure or Health Problems	Flare normal. Cavity northside 40 inches 80% hollow trunk at 40 inches. Minimal pet branches. 5% mistletoe. Vigor good.
4103		X		Yes					0	Blue Oak	*Quercus douglasii*		47	0	54	0	0 Dead	Tree long time dead. No top
4104		X		Yes					0	Blue Oak	*Quercus douglasii*		35	0	54	24	1 Extreme Structure or Health Problems	Flare normal. Codominant top failure. One-sided canopy southwest. Exposed cavity in remaining codominant leader. Severe fissure in trunk from breakout. Severe decay. Extremely poor vigor.
4105		X		Yes					0	Blue Oak	*Quercus douglasii*		28	0	54	0	0 Dead	Long time dead.
4106		X		Yes					33	Blue Oak	*Quercus douglasii*		33	33	54	30	2 Major Structure or Health Problems	Good flare. Low lateral growing up to ground south side. Codominant at 15 feet. 10% mistletoe. Some dead branches. Vigor fair to poor.
4107		X		Yes					0	Blue Oak	*Quercus douglasii*		31	0	54	20	1 Extreme Structure or Health Problems	Broken branches on every leader. Major codominant failure at 15 feet mature sprouts from the breakout decay at branch bark collar of low lateral. Hollow leaders decayed. Crown density fair. Vigor poor.
4108		X		Yes					0	Blue Oak	*Quercus douglasii*		35	0	54	21	1 Extreme Structure or Health Problems	No bark on north side from base to 20 feet. 90% rot. One-sided canopy to the south. Only 10% tissue feeding canopy major decay. Crown density poor. Vigor very poor.
4109		X		Yes					37	Blue Oak	*Quercus douglasii*		37	37	54	30	3 Fair - Minor Problems	Normal flare. Codominant at 10 feet. Large leader breakout 12 inch with tear. Vigor fair.
4110		X		Yes					0	Blue Oak	*Quercus douglasii*		25	25	54	0	0 Dead	Long time dead.
4111		X		Yes					0	Blue Oak	*Quercus douglasii*		31	0	54	15	1 Extreme Structure or Health Problems	Major top failure. 15% of foliage remaining. One-sided canopy southeast. Vigor extremely poor.
4112		X		Yes					0	Blue Oak	*Quercus douglasii*		23	0	54	0	0 Dead	Long time dead.
4113		X		Yes					28	Blue Oak	*Quercus douglasii*		28	28	54	40	3 Fair - Minor Problems	Flare normal. One-sided canopy. Suppressed growth south. Lean in trunk. Crown density good.
4114		X		Yes					37	Blue Oak	*Quercus douglasii*		37	37	54	21	3 Fair - Minor Problems	Flare normal. Multiple breakouts with decay at wound. Low lateral growing on ground. Crown density fair. Vigor fair.
4115		X		Yes					0	Blue Oak	*Quercus douglasii*		41	0	54	0	0 Dead	Long time dead.

COYOTE CREEK AGRIVOLTAIC RANCH
COUNTY OF SACRAMENTO
TREE INVENTORY

4116		X		Yes					43	Blue Oak	*Quercus douglasii*		43	43	48	30	3 Fair - Minor Problems	Flare normal. Codominant at 6 feet. Minor mistletoe. Crown good. Vigor fair.
4117		X		Yes					31	Blue Oak	*Quercus douglasii*		31	31	54	18	3 Fair - Minor Problems	Flare normal. Breakout wound at 12 feet with decay. Growing into canopy west. Crown density fair. Vigor fair.
4118		X		Yes					36	Blue Oak	*Quercus douglasii*		36	36	54	33	3 Fair - Minor Problems	Normal flare. Surface roots north and south. Codominant at 18 feet. Density fair. Vigor fair.
4119		X		Yes					0	Blue Oak	*Quercus douglasii*		35	0	54	0	0 Dead	Long time dead. Trunk failure at 8 feet. Large top on ground
4120		X		Yes					33	Blue Oak	*Quercus douglasii*		33	33	48	33	2 Major Structure or Health Problems	Flare normal. Codominant at 6 feet. 30% mistletoe. Vigor fair to poor. Crown density poor.
4121		X		Yes					30	Blue Oak	*Quercus douglasii*		30	30	54	27	3 Fair - Minor Problems	Swollen flare west. Codominant at 22 feet. Crown fair. Vigor fair.
4122		X		Yes					30	Blue Oak	*Quercus douglasii*		30	30	54	30	3 Fair - Minor Problems	Buried flare east side. One-sided canopy west side. Crown fair. Vigor fair.
4123		X		Yes					0	Blue Oak	*Quercus douglasii*		55	0	48	21	2 Major Structure or Health Problems	Normal flare. Large lead to failure south west side. Bark die back at wound. Multiple breakouts and canopy. Minor mistletoe. Vigor poor. Crown fair.
4124		X		Yes					33	Blue Oak	*Quercus douglasii*		33	33	54	21	3 Fair - Minor Problems	Normal flare. Multiple breakouts decay in wounds. Vigor fair. Crown density fair.
4125		X		Yes						Blue Oak	*Quercus douglasii*		31	31	54	24	3 Fair - Minor Problems	Swollen flare east. Codominant at 12 feet. Crown density fair. Vigor fair.
4126		X		Yes						Blue Oak	*Quercus douglasii*		47	0	54	15	1 Extreme Structure or Health Problems	Top of rise wind exposure. Swollen flare. Major cavity at 5 feet east side. 70% hollow. Unbalance crown southwest. Vigor poor. Crown fair.
4127		X		Yes						Blue Oak	*Quercus douglasii*		30	30	54	18	2 Major Structure or Health Problems	Top of rise wind exposure. Flare normal. Large codominant break, decay in wound. Multiple broken branches. Vigor poor. Crown fair.
4128		X		Yes						Blue Oak	*Quercus douglasii*		29	29	54	0	0 Dead	Long time dead.
4129		X		Yes						Blue Oak	*Quercus douglasii*		55	55	36	20	2 Major Structure or Health Problems	On hill side, wind exposure. Surface roots on southeast down hillside. Multiple breakouts. Decay in woodland. Dead branches. Vigor fair. Crown fair.
4130		X		Yes						Blue Oak	*Quercus douglasii*		29	29	54	25	2 Major Structure or Health Problems	Flare normal. Large lead break north side at 15 feet. Decay in wound less than severe. Dead branches throughout canopy. Vigor fair. Crown ratio fair. Suppression growth to north leaning downhill 10 degrees.
4131		X		Yes						Blue Oak	*Quercus douglasii*		30	30	54	24	2 Major Structure or Health Problems	Flare normal. Large lead failure at 8 feet. Decay and wound. Codominant at 22 feet with hollow cavity above average dead branches. Vigor poor crown density fair

4132		X		Yes						Blue Oak	*Quercus douglasii*		33	33	54	33	3 Fair - Minor Problems	Flare normal. Vertical growth structure Codominant at 20 feet. 10-inch lead breakout with the tear. Decay in wound. Average dead branches. Vigor fair. Crown density fair.
4133		X		Yes						Blue Oak	*Quercus douglasii*		37	37	54	33	2 Major Structure or Health Problems	Flare normal. Suppression lean on main trunk east. Above average broken branches. Decay in wound. Vigor fair to poor. Crown ratio poor.
4134		X		Yes						Blue Oak	*Quercus douglasii*		33	33	54	21	2 Major Structure or Health Problems	Normal flare. Low laterals growing on the ground north and south. Bore exit holes throughout trunk. Vigor fair. Crown density fair.
4135		X		Yes						Blue Oak	*Quercus douglasii*		29	29	54	40	3 Fair - Minor Problems	Flare normal. Codominant at 10 feet with some inclusion. 16-inch leader to east overextended. Average dead branches in canopy. Vigor fair. Crown density fair.
4136		X		Yes						Blue Oak	*Quercus douglasii*		36	36	54	36	3 Fair - Minor Problems	Flare normal. 90° large leader at 6 feet west larger than 2/3 trunk size. Vigor fair. Crown density fair.
4137		X		Yes						Blue Oak	*Quercus douglasii*		33	0	54	21	1 Extreme Structure or Health Problems	Flare normal. Codominant at 25 feet. Codominant breakouts north and south. Decay and wounds 50% hollow. Vigor poor. Crown ratio fair.
4138		X		Yes						Blue Oak	*Quercus douglasii*		36	36	54	30	3 Fair - Minor Problems	Flare normal. Average dead branches. Vigor fair. Crown density fair.
4139		X		Yes						Blue Oak	*Quercus douglasii*		22	22	54	24	3 Fair - Minor Problems	Flare normal. Vertical structure. Woodpecker hole at 18 feet southeast. Vigor fair. Crown density fair.
4140		X		Yes						Blue Oak	*Quercus douglasii*		24	24	54	24	2 Major Structure or Health Problems	Swollen flare north and southwest. Above average dead branches. Vigor poor. Crown density fair.
4141		X		Yes						Blue Oak	*Quercus douglasii*		41	41	54	30	2 Major Structure or Health Problems	Flare normal. Broken out top main leader 30 inches decay and wound. Vigor poor. Crown density fair.
4142		X		Yes						Blue Oak	*Quercus douglasii*		19	19	54	12	3 Fair - Minor Problems	Swollen flare south. Canopy growing into larger tree to the south. Minor mistletoe. Vigor fair. Crown density fair.
4143		X		Yes						Blue Oak	*Quercus douglasii*		44	44	48	48	2 Major Structure or Health Problems	Flare normal. Cavity south side at 8 feet 30% Hollow. Multiple large broken branches decay in wound. Vigor poor. Crown density fair to poor.
4144		X		Yes						Interior Live Oak	*Quercus wislizenii*		63	0	48	34	1 Extreme Structure or Health Problems	Swollen flare 360°. Codominant at 48 inches some inclusion. Multiple large leader breakouts decay in wounds. Cavities and woodpecker holes throughout canopy bark. Decay throughout canopy. Vigor poor. Crown density fair to poor.
4145		X		Yes						Blue Oak	*Quercus douglasii*		43	0	54	36	1 Extreme Structure or Health Problems	Swollen flare west side. Multiple large leader breakouts decay in wounds. Vigor poor. Crown density fair to poor.

4146		X		Yes						Blue Oak	*Quercus douglasii*		28	28	54	24	2 Major Structure or Health Problems	Swollen flare east. Codominant at 8 feet. 10-inch leader southeast broken decay in wound. Above average dead branches. Vigor fair. Crown density fair.
4147		X		Yes						Blue Oak	*Quercus douglasii*		36	36	54	36	2 Major Structure or Health Problems	Swollen flare north. Growing on a 10° slope southwest. 24-inch leader breakout decay in wound. Vigor fair. Crown density fair.
4148		X		Yes						Blue Oak	*Quercus douglasii*		48	48	54	30	2 Major Structure or Health Problems	Flare normal. Burls at 8 feet north, south and east. Codominant at 18 feet. Above average dead branches. Two 16-inch leaders broken. Decay and wounds.
4149		X		Yes						Blue Oak	*Quercus douglasii*		38	38	54	45	2 Major Structure or Health Problems	Tree growing on a 50° cut bank south facing. Large buttress roots exposed north side uphill. Can see through root crown. Underneath is eroded. Wound at 20 feet south side. Codominant at 24 feet. Vigor fair. Crown density fair.
4150		X		Yes						Blue Oak	*Quercus douglasii*		30	0	54	28	1 Extreme Structure or Health Problems	Tree growing out of a 90° cut bank facing south. Large buttress roots exposed north side. Can see through bottom of root crown because of erosion. Breakout at large leader southeast decay in wound. Cavity running the length of large leader to the southwest. Vigor poor. Density fair.
4151		X		Yes						Blue Oak	*Quercus douglasii*		35	35	54	21	2 Major Structure or Health Problems	Flare normal. Codominant at 15 feet. 18-inch leader broken off top. Decay in wound. One-sided canopy northwest. Vigor fair. Crown density fair.
4152		X		Yes						Blue Oak	*Quercus douglasii*		56	56	54	30	2 Major Structure or Health Problems	Normal flare. 24-inch codominant leader failed decay in tear cavity. Multiple broken leaders. Decay in wound. Mistletoe. Vigor poor. Crown density poor.
4153		X		Yes						Blue Oak	*Quercus douglasii*		28	28	54	22	3 Fair - Minor Problems	Flare normal. Vigor fair. Crown density fair.
4154		X		Yes						Blue Oak	*Quercus douglasii*		51	51	54	54	3 Fair - Minor Problems	Nice vertical structure. Flare normal. Average amount of dead branches. Vigor fair. Crown density good.
4155		X		Yes						Blue Oak	*Quercus douglasii*		22	22	54	12	3 Fair - Minor Problems	Root flare growing at 90° creekbank. Codominant at 12 feet with some inclusion. Vigor fair. Crown density fair.
4156		X		Yes						Blue Oak	*Quercus douglasii*		28	0	54	14	1 Extreme Structure or Health Problems	Trees roots are on a 90° creek bank. Tree failed and is on its side growing along the ground. Vigor poor. Crown density fair.
4157		X		Yes					0	Blue Oak	*Quercus douglasii*		42	0	54	40	2 Major Structure or Health Problems	Flare normal. Codominant at 24 feet so inclusion bark die-off and callusing throughout trunk and canopy. Large leader breakouts with decay and wounds. Vigor poor. Crown ratio poor.

4158		X		Yes					0	Blue Oak	*Quercus douglasii*		39	0	54	0	0 Dead	Long time dead.
4159		X		Yes					54	Blue Oak	*Quercus douglasii*		54	54	54	16	2 Major Structure or Health Problems	Flare normal. Above average dead branches. Multiple large breakouts. Decay in wounds. 40% mistletoe. Vigor poor.
4160		X		Yes					0	Blue Oak	*Quercus douglasii*		47	0	54	36	1 Extreme Structure or Health Problems	Swollen flare north. Codominant at 12 feet. Two 24-inch breakouts decay in wounds. One-sided canopy. Suppression to the north. Vigor fair to poor. Crown density fair.
4161		X		Yes					0	Blue Oak	*Quercus douglasii*		35	0	36	0	0 Dead	Long time dead.
4162		X		Yes				0		Blue Oak	*Quercus douglasii*		30	0	36	24	0 Dead	Long time dead.
4163		X		Yes						Blue Oak	*Quercus douglasii*		47	47	54	24	2 Major Structure or Health Problems	Swollen flare north and south. Low lateral growing onto the ground. Above average deadwood in canopy. Bark dieback present in canopy. Vigor poor. Crown density fair to poor. 30% mistletoe.
4164		X		Yes						Blue Oak	*Quercus douglasii*		32	32	54	30	2 Major Structure or Health Problems	Normal flare. Codominant at 22 feet. Multiple broken large leaders decay in wound. Vigor poor. Crown density fair. 10% mistletoe.
4165		X		Yes						Blue Oak	*Quercus douglasii*		29	29	54	24	2 Major Structure or Health Problems	Flare normal. Two 12-inch leader breakouts with decay in wound. Vigor fair. Crown density fair.
4166		X		Yes						Blue Oak	*Quercus douglasii*		38	0	54	30	1 Extreme Structure or Health Problems	Swollen flare north and south. Multiple 12-inch leader breakouts with decay and wounds. Codominant at 10 feet. Vigor fair to poor. 10% mistletoe.
4167		X		Yes						Interior Live Oak	*Quercus wislizenii*		47	0	54	36	1 Extreme Structure or Health Problems	Basal rot cavity west side from ground to 48 inches. 50% hollow. Large wound east side at 5 feet. Hollow wing decay. Above average dead branches in canopy. 30% twig dieback. Vigor poor. Crown density fair.
4168		X		Yes						Blue Oak	*Quercus douglasii*		28	28	54	27	2 Major Structure or Health Problems	Buried flare southeast. Suppression from tree canopy southeast. 10% mistletoe. 18-inch leader fail with decay and wounds. One-sided canopy northwest. Vigor fair. Crown density fair.
4169		X		Yes						Blue Oak	*Quercus douglasii*		32	0	54	21	1 Extreme Structure or Health Problems	Swollen flare north and south. Broken at 20- inch leader southwest. Tears scar 3 feet along trunk decay and wound. Above average dead branches in canopy. Vigor fair to poor. Crown density fair.

4170		X		Yes				29		Blue Oak	*Quercus douglasii*		29	29	54	12	2 Major Structure or Health Problems	Flare normal. Multiple broken leaders with decay in wounds. Codominant at 30 feet. Compartmentalized fissure from 30-36 feet. Vigor fair. Crown density fair.
4171		X		Yes				0		Blue Oak	*Quercus douglasii*		45	0	54	0	0 Dead	Long time dead.
4172		X		Yes						Blue Oak	*Quercus douglasii*		41	41	54	26	3 Fair - Minor Problems	Buried flare east side. Codominant at 10 feet. Three lower laterals south side growing on the ground. Average dead branches. Minor mistletoe. Vigor fair.
4173		X		Yes						Blue Oak	*Quercus douglasii*		29	29	54	21	2 Major Structure or Health Problems	Flare normal. Codominant at 24 feet. Average dead branches. Vigor fair. Crown density fair to poor.
4174		X		Yes						Blue Oak	*Quercus douglasii*		34	34	54	21	2 Major Structure or Health Problems	Flare normal. Codominant at 12 feet. Multiple 6-inch leaders broken decay in wounds. Vigor fair to poor. Crown density fair. 6-inch leader growing on the ground east side.
4175		X		Yes						Blue Oak	*Quercus douglasii*		31	31	54	27	2 Major Structure or Health Problems	Swollen flare north and south. Trunk on a 15° slope east with exposed roots east downhill side. Some dead branches. Vigor fair to poor. Crown density poor. Epicormic growth throughout canopy.
4176		X		Yes						Blue Oak	*Quercus douglasii*		23	23	54	0	0 Dead	Long time dead.
4177		X		Yes						Blue Oak	*Quercus douglasii*		24	0	54	21	1 Extreme Structure or Health Problems	Flare buried west side. On 15% grade. Previous codominant failure cavity from 5-10 feet. One-sided canopy south. Vigor poor. Crown density fair.
4178		X		Yes						Blue Oak	*Quercus douglasii*		26	26	54	15	3 Fair - Minor Problems	Flare normal. Trunk has 45° lean at 36 inches. Vigor fair. Crown density fair.
4179		X		Yes						Blue Oak	*Quercus douglasii*		51	51	54	0	0 Dead	Long time dead.
4180		X		Yes						Blue Oak	*Quercus douglasii*		39	0	54	16	1 Extreme Structure or Health Problems	Swollen flare west cavities at 12 feet. Three large breakouts top leaders with decay in wounds. 90% hollow. Vigor poor. Crown density fair.
4181		X		Yes					42	Valley Oak	*Quercus lobata*		42	42	54	30	3 Fair - Minor Problems	Swollen flare west. 8-inch break out 35 feet west limb hung in lower canopy. Epicormic growth on all leaders. Vigor fair. Crown density fair.
4182		X		Yes						Interior Live Oak	*Quercus wislizenii*		34	0	54	21	1 Extreme Structure or Health Problems	Swollen flare south. Codominant stem at base with included bark decayed from base to 8 feet. Trunk is 90% hollow. Codominant at 8 feet. Vigor fair to poor. Crown density fair.

4183		X		Yes						Blue Oak	*Quercus douglasii*		56	56	54	0	0 Dead	Long-time dead large top on ground failed at 10 feet.
4184		X		Yes						Blue Oak	*Quercus douglasii*		36	0	54	30	1 Extreme Structure or Health Problems	Flare normal. Codominant top and large lateral failed. 30% of crown remaining. Vigor poor. Density poor.
4185		X		Yes						Blue Oak	*Quercus douglasii*		36	36	54	0	0 Dead	Long time dead.
4186		X		Yes						Blue Oak	*Quercus douglasii*		39	39	54	24	3 Fair - Minor Problems	Flare buried west side up grade. Codominant at 12 feet with some inclusion.
4187		X		Yes						Blue Oak	*Quercus douglasii*		16	16	54	36	2 Major Structure or Health Problems	Flare buried west side up grade. Suppression east. Severe lean in crown west. Vigor fair to poor. Crown density fair. One-sided canopy west.
4188		X		Yes						Blue Oak	*Quercus douglasii*		7	7	54	12	2 Major Structure or Health Problems	Flare normal. Epicormic growth up trunk. Suppression from south. Severe lean in canopy northwest. Vigor fair. Crown density. One-sided canopy northwest.
4189		X		Yes						Blue Oak	*Quercus douglasii*		14	14	54	33	2 Major Structure or Health Problems	Flare normal. Suppression from east. Severe lean and canopy west. One-sided canopy west. Some mistletoe. Vigor fair to poor. Crown density fair.
4190		X		Yes						Blue Oak	*Quercus douglasii*		26	26	54	24	2 Major Structure or Health Problems	Flare normal. Codominant at 15 feet. Suppression northeast. Severe lean in canopy southwest. One-sided canopy southwest. Vigor fair. Crown density fair.
4191		X			Yes					Blue Oak	*Quercus douglasii*	10,10,12	19	0	54	30	1 Extreme Structure or Health Problems	Basal decay 50%. Dead 15-inch vertical stem. Codominant at base with weak attachments. 50% decay at base. Vigor fair to poor. Crown density poor. Growing under canopy to northeast.
4192		X			Yes					Blue Oak	*Quercus douglasii*	22,27	35	49	54	30	2 Major Structure or Health Problems	Flare buried north. Codominant at base inclusion. Suppression from north. Severe canopy lean southeast/southwest. One-sided growth southeast/southwest. Vigor fair to poor. Crown density fair.
4193		X		Yes						Blue Oak	*Quercus douglasii*		27	27	54	0	0 Dead	Long time dead.
4195		X		Yes						Blue Oak	*Quercus douglasii*		21	21	54	21	3 Fair - Minor Problems	Flare normal. Codominant at 6 feet. Vigor fair. Crown density fair.
4196		X		Yes						Blue Oak	*Quercus douglasii*		21	21	54	22	3 Fair - Minor Problems	Buried flare. Codominant. Suppression east. Canopy lean west. Vigor Fair. Crown density fair.
4197		X		Yes						Blue Oak	*Quercus douglasii*		17	17	54	30	3 Fair - Minor Problems	Flare buried west up grade. Codominant at 15 feet. Suppressed from west. Canopy lean east. Deadfall and 16-inch tree hung up south side. Vigor fair. Crown density fair.

4198		X		Yes						Blue Oak	*Quercus douglasii*		19	19	54	28	3 Fair - Minor Problems	Buried flare west up grade. Suppression east and south. Severe canopy lean northwest. Codominant at 12 feet. Vigor fair to poor. Crown density fair to poor.
4199		X		Yes						Blue Oak	*Quercus douglasii*		18	18	54	26	3 Fair - Minor Problems	Flare normal vertical growth. Codominant at 35 feet. Vigor fair. Crown density fair.
4200		X		Yes						Blue Oak	*Quercus douglasii*		21	21	54	0	0 Dead	Long dead failed at roots. Hung up in tree 18 feet north.
4201		X		Yes						Blue Oak	*Quercus douglasii*		18	0	54	9	1 Extreme Structure or Health Problems	Swollen flare north/south. Suppressed from west. Both codominant tops are dead at the corner of growth only. Vigor poor. Crown density poor.
4202		X		Yes						Blue Oak	*Quercus douglasii*		48	48	54	40	2 Major Structure or Health Problems	Swollen flare 360°. Codominant at 8 feet some inclusion. Broken lateral at trunk at 5 feet decay and wound. Over-mature. Above average deadwood in canopy. Vigor fair to poor. Crown density fair.
4203		X		Yes				46		Blue Oak	*Quercus douglasii*		46	46	54	48	3 Fair - Minor Problems	Swollen flare north. Codominant at 8 feet average dead branches. Vigor fair. Crown density fair.
4204		X		Yes						Blue Oak	*Quercus douglasii*		17	17	36	9	3 Fair - Minor Problems	Buried flare. Codominant at 5 feet. Vigor fair crown density.
4205		X		Yes						Blue Oak	*Quercus douglasii*		12	12	54	30	2 Major Structure or Health Problems	Normal flare. Suppressed. Leans north. One-sided top north. Vigor poor. Crown density fair.
4206		X		Yes						Blue Oak	*Quercus douglasii*		9	9	54	9	2 Major Structure or Health Problems	Flare buried south. Epicormic growth up trunk. Suppressed southwest and southeast. Vigor poor.
4207		X		Yes						Blue Oak	*Quercus douglasii*		11	11	54	15	2 Major Structure or Health Problems	Swollen flare south. Suppressed severely north. One-sided canopy north. Vigor fair to poor. Crown density fair.
4208		X		Yes						Blue Oak	*Quercus douglasii*		10	10	54	30	2 Major Structure or Health Problems	Buried flare northwest. Above average dead branches. Suppression south. Severe lean and canopy north. One-sided canopy north. Vigor fair. Crown density fair.
4209		X		Yes						Blue Oak	*Quercus douglasii*		33	0	54	45	1 Extreme Structure or Health Problems	Normal flare 20-inch central leader dead. Codominant at 10 feet. Overextended leaders to southwest. Large breakout leader. Decay and wound. Above average dead branches. Vigor poor. Crown density poor.
4210		X		Yes						Blue Oak	*Quercus douglasii*		14	14	54	27	2 Major Structure or Health Problems	Buried flare northwest. Codominant at 12 feet. Above average dead branches. Vigor fair to poor. Crown density fair.

4211		X		Yes						Blue Oak	*Quercus douglasii*		16.5	16.5	54	36	2 Major Structure or Health Problems	Buried flare southwest. Codominant at 20 feet. Suppression southeast. One-sided crown southwest. Vigor fair. Crown density fair.
4212		X		Yes						Blue Oak	*Quercus douglasii*		23	23	12	30	2 Major Structure or Health Problems	Flare normal. Codominant at 4 feet. Suppression east. Severe canopy lean west. Less than severe dead branches. Vigor fair. Crown density fair.
4213		X		Yes						Blue Oak	*Quercus douglasii*		21	21	12	27	2 Major Structure or Health Problems	Buried flare 360°. Codominant at 2 feet. Suppression east and north. Severe canopy lean southwest. One-sided canopy southwest. Vigor fair. Crown density fair.
4214		X		Yes						Blue Oak	*Quercus douglasii*		14	14	54	36	2 Major Structure or Health Problems	Buried flare west. Suppression east. Severe lean west. One-sided canopy west. Vigor fair. Crown density fair.
4215		X		Yes						Blue Oak	*Quercus douglasii*		14	14	54	24	2 Major Structure or Health Problems	Buried flare west up grade. Multiple breakouts decay and wounds. Suppressed south. Severe canopy lean north. One-sided canopy north. Vigor fair to poor. Crown density fair.
4216		X		Yes						Blue Oak	*Quercus douglasii*		28	0	54	10	1 Extreme Structure or Health Problems	Swollen flare. Codominant at 4 feet. Codominant tops broken out at 10 feet. Epicormic sprout foliage only 10%. Vigor extremely poor. Crown density poor.
4217		X		Yes						Blue Oak	*Quercus douglasii*		15	15	54	32	2 Major Structure or Health Problems	Buried flare southwest. Growing at base of large interior Live Oak. Included bark at base and 10 feet on a codominant leader. Suppression south. Severe canopy lean north. One-sided crown north. Vigor poor. Crown denisty poor.
4218		X		Yes						Blue Oak	*Quercus douglasii*		7	7	54	0	0 Dead	Long time dead. Failed at roots. Leaning in tree north.
4219		X		Yes						Blue Oak	*Quercus douglasii*		14	14	54	18	2 Major Structure or Health Problems	Buried flare west. Suppression south. Epicormic growth up trunk. Severe bow in trunk south to north at 22 feet. Vigor fair. Crown density fair.
4220		X		Yes						Blue Oak	*Quercus douglasii*		24	24	54	30	2 Major Structure or Health Problems	Buried flare west. Codominant at 24 feet. Vigor fair.
4221		X		Yes						Blue Oak	*Quercus douglasii*		9	9	54	7	2 Major Structure or Health Problems	Flare buried south. Suppression east. Severe canopy lean west. Crown density poor.
4222		X		Yes						Blue Oak	*Quercus douglasii*		16	0	18	8	1 Extreme Structure or Health Problems	Buried flare 360°. Codominant at 3 feet. Codominant tops dead broke out. Epicormic foliage only. Vigor extremely poor. Crown density poor.

4223		X		Yes						Blue Oak	*Quercus douglasii*		43	43	54	40	2 Major Structure or Health Problems	Buried flare east up grade. Codominant at 16 feet. Multiple 16-inch breakout leader. Decay and wounds. Over-mature. Vigor fair to poor. Crown density fair to poor.
4224		X		Yes						Blue Oak	*Quercus douglasii*		7	7	54	10	2 Major Structure or Health Problems	Buried flare east up grade. Growing under canopy north suppression. Severe canopy lean west. Vigor fair.
4225		X		Yes						Blue Oak	*Quercus douglasii*		25	25	54	26	2 Major Structure or Health Problems	Swollen flare north. Suppression east. Severe canopy lean west. Codominant at 6 feet. Tear in 16-inch leader east 4 feet long. Vigor poor. Crown density fair.
4226		X		Yes						Blue Oak	*Quercus douglasii*		11	11	54	30	2 Major Structure or Health Problems	Growing at base of tree west with included bark at base. Suppression east. Severe canopy lean west. One-sided canopy west. Vigor fair. Crown density fair.
4227		X		Yes						Blue Oak	*Quercus douglasii*		6	0	54	5	1 Extreme Structure or Health Problems	Flare buried west. One of two codominant tops broken. Vigor poor. Crown density poor.
4228		X		Yes						Blue Oak	*Quercus douglasii*		7	7	54	7	2 Major Structure or Health Problems	Flare buried west. Suppression west. Severe canopy lean. East epicormic sprouts. Severe dead branches. Vigor poor. Crown density poor. One-sided top east.
4229		X		Yes						Blue Oak	*Quercus douglasii*		14	14	54	12	2 Major Structure or Health Problems	Buried flare west. Suppression west. Severe canopy lean east. One-sided top east. Vigor fair.
4230		X		Yes						Blue Oak	*Quercus douglasii*		12	12	54	21	2 Major Structure or Health Problems	Buried flare southwest. Codominant at 10 feet. Suppression northwest. Severe canopy lean east. One-sided top east. Vigor fair to poor. Crown density fair to poor.
4231		X			Yes					Blue Oak	*Quercus douglasii*	12,21	24	33	54	24	2 Major Structure or Health Problems	Codominant at base with included bark at 36-48 inches. Suppression northwest. Severe canopy lean southeast. One-sided canopy southeast. Vigor fair. Crown density fair.
4232		X		Yes						Blue Oak	*Quercus douglasii*		31	31	12	0	0 Dead	Long time dead. Top on ground west.
4233		X		Yes						Blue Oak	*Quercus douglasii*		31	31	54	30	2 Major Structure or Health Problems	Flare normal. Codominant at 6 feet. Breakout tear scar from 12 feet down to 8 feet. Decay in wound east side. Vigor fair. Crown density fair.
4234		X			Yes					Blue Oak	*Quercus douglasii*	11,15	19	26	54	24	3 Fair - Minor Problems	Flare normal. Codominant at base with some inclusion. Vigor fair. Density fair.
4235		X			Yes					Blue Oak	*Quercus douglasii*	15,17	23	32	54	18	3 Fair - Minor Problems	Swollen flare west. Codominant at base. Codominant at 4 feet. Southwest leader less than severe dead branching. Vigor fair. Density fair.

4235					Yes					Blue Oak	*Quercus douglasii*	15,17	23		54	18	3 Fair - Minor Problems	Swollen flare west. Codominant at base and 4 feet southwest leader less than severe dead branching. Vigor fair. Density fair.
4236		X		Yes					24	Blue Oak	*Quercus douglasii*		24	24	54	24	3 Fair - Minor Problems	Normal flare. Codominant at 8 feet less than severe dead branches. Vigor fair. Density fair.
4237		X		Yes						Blue Oak	*Quercus douglasii*		25	25	54	21	3 Fair - Minor Problems	Flare normal. Codominant at 5 feet. Vigor fair. Density fair.
4238		X			Yes					Blue Oak	*Quercus douglasii*	10,15	18	25	54	18	3 Fair - Minor Problems	Swollen flare west. Codominant at 18 inches. Less than severe dead branches. Vigor fair. Density fair.
4239		X		Yes						Blue Oak	*Quercus douglasii*		34	34	12	27	3 Fair - Minor Problems	Normal flare. Codominant at 4 feet less than severe dead branches. Vigor fair. Density fair.
4240		X		Yes						Blue Oak	*Quercus douglasii*		19	19	48	21	3 Fair - Minor Problems	Normal flare. Codominant at 54 inches. Lateral at 48 inches west seam in bark. Vigor fair. Density fair.
4242		X		Yes						Blue Oak	*Quercus douglasii*		15	15	54	30	2 Major Structure or Health Problems	Flare buried west side. North lateral growing at base. Codominant at 16 feet. Low laterals dead. Vigor fair to poor. Density fair.
4243		X		Yes						Blue Oak	*Quercus douglasii*		11	11	54	0	0 Dead	Long time dead. Suppression south. Severe lean north. Dead canopy touching ground north.
4244		X			Yes					Blue Oak	*Quercus douglasii*	12,17	21	29	54	27	2 Major Structure or Health Problems	Normal flare. Codominant at base. Suppression southwest. Canopy leans east. Less than severe dead branches. Vigor fair. Density fair.
4245		X		Yes						Blue Oak	*Quercus douglasii*		15	15	54	18	3 Fair - Minor Problems	Buried flare. Codominant at 20 feet. Vigor fair. Density fair.
4246		X		Yes						Blue Oak	*Quercus douglasii*		15	15	54	0	0 Dead	Long time dead.
4247		X		Yes						Blue Oak	*Quercus douglasii*		12	12	54	18	2 Major Structure or Health Problems	Buried flare 360°. Burl at 18 inches northwest. Hollow hole in burl. Codominant at 25 feet. Suppression 360°. One-sided canopy. Vigor poor. Density poor.
4248		X		Yes						Blue Oak	*Quercus douglasii*		7	7	54	0	0 Dead	Long time dead.
4249		X		Yes						Blue Oak	*Quercus douglasii*		14	14	54	21	3 Fair - Minor Problems	Flare buried. Codominant at 20 feet. Growing into canopies at south. Vigor fair. Density fair.
4250		X		Yes						Blue Oak	*Quercus douglasii*		30	30	12	30	3 Fair - Minor Problems	Flare normal. Codominant at 36 inches. Inclusion at 36-48 inches. Less than severe deadwood. Vigor fair. Density fair.
4251		X		Yes						Blue Oak	*Quercus douglasii*		8	8	54	30	2 Major Structure or Health Problems	No flare. Burl south at 36 inches. Suppression east. Severe canopy lean west. Growing through canopy to the west with included bark with other tree. Vigor poor. Crown density poor.

4252		X		Yes						Blue Oak	*Quercus douglasii*		12	12	54	21	2 Major Structure or Health Problems	Buried flare west. Codominant at 8 feet. Included bark with tree to east. Suppression east. One-sided canopy west. Vigor fair. Density fair.
4253		X		Yes						Blue Oak	*Quercus douglasii*		17	17	54	18	2 Major Structure or Health Problems	Buried flare 360°. Codominant at 12 feet. Dead 7-inch leader at 8 feet. Vigor fair. Density fair.
4254		X		Yes						Blue Oak	*Quercus douglasii*		6	6	54	5	2 Major Structure or Health Problems	Flare normal. Multiple bows in trunk. Suppression 360°. Vigor poor. Density poor.
4255		X		Yes						Blue Oak	*Quercus douglasii*		16	16	54	24	3 Fair - Minor Problems	Swollen flare northeast. Codominant at 20 and 25 feet. Vigor fair. Density fair.
4256		X		Yes						Blue Oak	*Quercus douglasii*		7	7	54	8	2 Major Structure or Health Problems	Buried flare 360°. Suppressed 360°. Vigor poor. Density poor.
4257		X		Yes						Blue Oak	*Quercus douglasii*		9	9	54	21	2 Major Structure or Health Problems	Buried flare 360°. Suppressed northeast. Vigor fair. Crown density fair.
4258		X		Yes						Blue Oak	*Quercus douglasii*		6	6	54	6	2 Major Structure or Health Problems	Buried flare 360°. Suppressed 360°. Multiple bows in canopy trunk. Vigor poor.
4259		X		Yes						Blue Oak	*Quercus douglasii*		11	11	54	21	2 Major Structure or Health Problems	Flare normal. Suppression east. Severe crown west. One-sided crown west. Vigor fair. Density poor.
4260		X			Yes					Blue Oak	*Quercus douglasii*	5,9	10	14	54	18	2 Major Structure or Health Problems	Basal decay northwest. Suppression southeast. Severe canopy lean northwest. One-sided canopy northwest. Vigor fair. Density poor.
4261		X		Yes						Blue Oak	*Quercus douglasii*		12	12	54	24	2 Major Structure or Health Problems	Buried flare north. Suppression south. Severe lean in canopy west. One-sided canopy west. Codominant at 28 feet. Vigor fair. Density fair.
4262		X		Yes						Blue Oak	*Quercus douglasii*		8	8	54	0	0 Dead	Long time dead.
4263		X		Yes						Blue Oak	*Quercus douglasii*		12	12	54	18	2 Major Structure or Health Problems	Buried flare 360°. Suppression east. One-sided canopy west. Less than severe deadwood. Vigor poor. Density poor.
4264		X		Yes						Blue Oak	*Quercus douglasii*		8	8	54	15	2 Major Structure or Health Problems	Buried flare west. Suppression southeast. Severe canopy lean west. One-sided canopy west. Vigor poor. Density poor.

4265		X		Yes						Blue Oak	*Quercus douglasii*		16	16	54	15	2 Major Structure or Health Problems	Buried flare 360°. Suppressed. Epicormic growth up trunk west side.
4266		X		Yes						Blue Oak	*Quercus douglasii*		8	8	54	6	2 Major Structure or Health Problems	Buried flare 360°. Suppression 360°. Severe dead branches. Vigor poor. Density poor.
4267		X		Yes						Blue Oak	*Quercus douglasii*		22	22	54	33	3 Fair - Minor Problems	Normal flare. Codominant at 20 feet less than severe dead branches. Vigor fair. Density fair.
4268		X		Yes						Blue Oak	*Quercus douglasii*		8	8	54	8	2 Major Structure or Health Problems	Buried flare 360°. Suppression 360°. Severe canopy lean west. Dead top. Vigor poor. Crown density poor.
4269		X		Yes						Blue Oak	*Quercus douglasii*		8	8	54	21	2 Major Structure or Health Problems	Buried flare south. Suppression 360°. One-sided canopy south. Vigor poor. Crown density poor.
4270		X		Yes						Blue Oak	*Quercus douglasii*		7	7	54	16	2 Major Structure or Health Problems	Buried flare 360°. Suppression 360°. Severe canopy lean west. Vigor fair to poor. Density fair.
4271		X		Yes						Blue Oak	*Quercus douglasii*		8	8	54	16	2 Major Structure or Health Problems	Basal decay west. Suppression west. One-sided canopy east. Severe lean. Vigor poor. Density poor.
4272		X		Yes						Blue Oak	*Quercus douglasii*		30	30	54	31	2 Major Structure or Health Problems	Swollen flare east and west. Flat base northwest. Old lateral failure at 24 inches with decay in trunk. Multiple woodpecker holes. Severe dead branches. Over-mature vigor fair to poor. Density fair.
4273		X		Yes						Blue Oak	*Quercus douglasii*		7	7	54	18	2 Major Structure or Health Problems	Buried flare 360°. Suppression north. Severe canopy lean south. One-sided canopy south. Vigor fair to poor. Density fair.
4274		X		Yes						Blue Oak	*Quercus douglasii*		6	6	54	8	2 Major Structure or Health Problems	Buried flare west. Failure wound at 36 inches. Compartmentalized hollow. Severe canopy going south. Vigor poor. Density poor.
4275		X		Yes						Blue Oak	*Quercus douglasii*		12	12	54	15	3 Fair - Minor Problems	Buried flare northwest. Codominant at 24 feet. Vigor fair. Density fair.
4276		X		Yes						Blue Oak	*Quercus douglasii*		11	11	54	21	2 Major Structure or Health Problems	Buried flare 360°. Suppression north. One-sided canopy south. Codominant at 8 feet. Vigor fair to poor. Density fair to poor.
4277		X		Yes						Blue Oak	*Quercus douglasii*		9	0	54	12	1 Extreme Structure or Health Problems	Buried flare 360°. Growing into northwest adjacent tree with included bark at 10 feet. Epicormic growth. Dead top leader. Vigor poor. Density poor.

4278		X		Yes						Blue Oak	*Quercus douglasii*		19	19	54	21	2 Major Structure or Health Problems	Normal flare. Large leader breakout wound at 6 feet decay in wound. Codominant at 12 feet. Suppression north. One-sided severe lean. Vigor fair to poor. Density fair.
4279		X			Yes					Blue Oak	*Quercus douglasii*	8,9	12	17	54	14	2 Major Structure or Health Problems	Buried flare north and south. Codominant at base suppression northeast. One-sided canopy southwest with lean. Vigor fair to poor. Density fair.
4280		X		Yes						Blue Oak	*Quercus douglasii*		9	9	54	10	2 Major Structure or Health Problems	Buried flare. Dead failed tree at base east with inclusion with decay 12 feet. Codominant at 14 feet. Epicormic growth. Suppression east. One-sided canopy west. Vigor poor. Density poor.
4281		X		Yes					19	Blue Oak	*Quercus douglasii*		19	19	54	25	2 Major Structure or Health Problems	Buried flare south. Codominant at 6 feet. Less than severe branches. Vigor fair to poor. Density fair.
4282		X		Yes					21	Blue Oak	*Quercus douglasii*		21	21	12	18	3 Fair - Minor Problems	Swollen flare southwest. Codominant at 2 feet. Density fair. Vigor fair.
4283		X		Yes					0	Blue Oak	*Quercus douglasii*		20	0	36	0	0 Dead	Long time dead. Top broke out at 48 inches. Top on ground north.
4284		X		Yes					31	Blue Oak	*Quercus douglasii*		31	31	54	27	3 Fair - Minor Problems	Normal flare. Codominant at 5 feet. Less than severe dead branches. Vigor fair. Density fair.
4285		X		Yes					11	Blue Oak	*Quercus douglasii*		11	11	54	10	2 Major Structure or Health Problems	Buried flare east. Epicormic growth up entire trunk. Vigor fair. Density fair.
4286		X		Yes					14	Blue Oak	*Quercus douglasii*		14	14	54	15	2 Major Structure or Health Problems	Buried flare west. Suppression north. Codominant at 10 feet. 15% mistletoe. One-sided canopy southeast. Vigor fair to poor. Density fair.
4287		X		Yes					22	Blue Oak	*Quercus douglasii*		22	22	54	24	2 Major Structure or Health Problems	Swollen flare north and south. Codominant at 6 feet. Overextended suppression growth leaders north and south. Density fair. Vigor fair to poor.
4288		X		Yes					0	Blue Oak	*Quercus douglasii*		12	0	54	16	2 Major Structure or Health Problems	Buried flare 360°. Suppression south. One-sided canopy. Severe lean north. Severe dead branches. Vigor poor. Density poor.
4289		X		Yes					15	Blue Oak	*Quercus douglasii*		15	15	54	21	3 Fair - Minor Problems	Normal flare. Codominant at 12 feet. Sharing canopy with adjacent west. One-sided crown east. Vigor fair. Density fair.
4290		X		Yes					30	Blue Oak	*Quercus douglasii*		30	30	54	33	3 Fair - Minor Problems	Buried flare southwest. Codominant at 35 feet. Suppression 10° lean north. Less than severe dead branches. Vigor fair. Crown density fair.
4291		X		Yes					14	Blue Oak	*Quercus douglasii*		14	14	54	24	3 Fair - Minor Problems	Buried flare 360°. Suppressed northwest. One-sided canopy southeast. Vigor fair. Crown density fair.

4292		X		Yes						Blue Oak	*Quercus douglasii*		17	17	54	33	2 Major Structure or Health Problems	Buried flare 360°. Codominant at 10 feet. Severe dead branches. Suppression west. One-sided leaning canopy east. Vigor poor. Density poor.
4293		X		Yes					0	Blue Oak	*Quercus douglasii*		18	0	54	0	0 Dead	Long time dead. Failed at roots. Hung up in tree south.
4294				No						Blue Oak	*Quercus douglasii*		5		54	3	2 Major Structure or Health Problems	Buried flare. Cankers throughout trunk Multiple bows in trunk. Vigor and density poor.
4295				No					0	Blue Oak	*Quercus douglasii*		5	0	54	4	1 Extreme Structure or Health Problems	Buried flare south. Peeling bark. Epicormic growth only severe dead branches. Vigor and density poor.
4296		X		Yes						Blue Oak	*Quercus douglasii*		14	14	54	21	2 Major Structure or Health Problems	Buried flare west. Codominant at 20 feet. Suppression east. One-sided lean canopy to west. Dead tree from north hung up in tree. Vigor fair. Crown density fair.
4297		X		Yes				11		Blue Oak	*Quercus douglasii*		11	11	54	24	2 Major Structure or Health Problems	Swollen flare. Breakout wound. Compartmentalized hollow with decay at 12 feet. Suppression north. One-sided and severe lean south. Vigor fair to poor. Density fair.
4298		X		Yes					0	Blue Oak	*Quercus douglasii*		11	0	54	24	2 Major Structure or Health Problems	Basal cavity south 20%. Bows in trunk. Suppression northeast. One-sided canopy. Leaning southwest. Vigor poor. Density poor.
4299		X		Yes						Blue Oak	*Quercus douglasii*		15	0	54	30	1 Extreme Structure or Health Problems	Buried flare southwest. Codominant at 12 feet. One leader dead. Severe deadwood. Suppression from north and above. Severe lean. One-sided canopy southwest. Vigor poor. Crown density poor.
4300		X		Yes				9		Blue Oak	*Quercus douglasii*		9	0	54	6	1 Extreme Structure or Health Problems	Buried flare 360°. Growing a foot from large tree north. Suppression under canopy breakout from larger tree broke. Top main leader growing toward ground. Vigor poor. Density poor.
4301		X		Yes						Blue Oak	*Quercus douglasii*		25	25	54	33	2 Major Structure or Health Problems	Swollen flare east. 10-inch leader broke halfway. Decay in wounds Codominant at 24 feet. Vigor fair. Crown density fair.
4302		X		Yes						Blue Oak	*Quercus douglasii*		19	19	54	0	0 Dead	Long time dead.
4303		X		Yes						Blue Oak	*Quercus douglasii*		24	24	54	21	2 Major Structure or Health Problems	Flare normal. Dead callus bark up trunk to 20 feet. Codominant at 10 feet. Vigor fair. Crown density fair. Suppression east. One-sided canopy west.

4304		X		Yes						Blue Oak	*Quercus douglasii*		17	17	54	21	2 Major Structure or Health Problems	Buried flare 360°. Dead lateral at 48 inches. Decay in wound. Dead branches lower canopy. Suppression east. One-sided leaning canopy west. Vigor fair to poor. Density poor.
4305		X		Yes				19		Blue Oak	*Quercus douglasii*		19	19	54	30	3 Fair - Minor Problems	Flare normal. Codominant at 20 feet with inclusion. Less than severe dead branches. Vigor fair. Crown density fair.
4306		X		Yes				14		Blue Oak	*Quercus douglasii*		14	0	54	24	1 Extreme Structure or Health Problems	Buried flare west. Dead and callused bark from base throughout trunk to canopy. Severe deadwood and canopy. Vigor poor. Density poor. Suppression east. One-sided canopy. Leans west.
4307		X		Yes						Blue Oak	*Quercus douglasii*		16	16	54	24	3 Fair - Minor Problems	Buried flare 360°. Codominant at 10 feet. Less than severe dead branches. Vigor fair. Density fair.
4308		X		Yes					12	Blue Oak	*Quercus douglasii*		12	12	54	24	2 Major Structure or Health Problems	Swollen flare 360°. Codominant at 5 feet. Suppression northeast. One-sided leaning canopy southwest. Vigor fair to poor. Density fair to poor.
4309		X		Yes						Blue Oak	*Quercus douglasii*		11	11	54	15	3 Fair - Minor Problems	Buried flare 360°. Codominant at 8 feet. Growing into tree canopy south. Vigor fair. Density fair.
4310		X		Yes						Blue Oak	*Quercus douglasii*		21	21	54	0	0 Dead	Long time dead.
4311		X		Yes						Blue Oak	*Quercus douglasii*		21	0	54	18	1 Extreme Structure or Health Problems	Buried flare southeast. Codominant at 5 feet. Suppression from canopy above. No vertical top leaders. 12-inch and 6-inch breakouts south. Decay and wounds. Vigor poor. Density fair. Barbwire in trunk up to 36 inches 360°.
4312		X		Yes					25	Blue Oak	*Quercus douglasii*		25	25	54	24	3 Fair - Minor Problems	Flare normal. Codominant at 60 inches. Less than severe dead branches. Epicormic growth in lower canopy. Vigor fair. Density fair.
4313		X		Yes						Blue Oak	*Quercus douglasii*		15	15	54	21	3 Fair - Minor Problems	Flat base east and west. Buried flare 360°. Codominant at 10 feet. Vigor fair. Density fair.
4314		X		Yes						Blue Oak	*Quercus douglasii*		13	13	54	18	2 Major Structure or Health Problems	Buried flare 360°. Codominant at 10 feet. One lateral dead. Severe dead branches lower canopy self. Vigor poor. Density poor.
4315		X		Yes						Blue Oak	*Quercus douglasii*		29	29	54	33	3 Fair - Minor Problems	Buried flare 360°. Flat base south. Codominant at 30 feet. Minor mistletoe. Vigor fair. Density fair.
4316		X		Yes						Blue Oak	*Quercus douglasii*		16	16	54	21	2 Major Structure or Health Problems	Buried flare 360°. Swollen west. Suppression southeast. One-sided severe lean southwest. Vigor fair. Density poor.
4317		X		Yes						Blue Oak	*Quercus douglasii*		9	9	54	9	2 Major Structure or Health Problems	Buried flare west. Located 6 inches from larger tree. Growing under canopy. Suppression above. Vigor fair to poor. Density fair.

4319		X		Yes						Blue Oak	*Quercus douglasii*		14	14	54	0	0 Dead	Long time dead.
4320		X		Yes						Blue Oak	*Quercus douglasii*		11	11	54	30	2 Major Structure or Health Problems	Buried flare 360°. Swollen flare north. Suppression northeast. One-sided canopy. Severe lean southwest. Vigor poor. Density fair.
4321		X			Yes					Blue Oak	*Quercus douglasii*	13,14	19	27	54	36	2 Major Structure or Health Problems	Buried flare north and south. Codominant at base with some inclusion. Less than severe dead branches. Suppression north. One-sided crown. Leans south. Vigor fair. Density fair.
4322		X		Yes						Blue Oak	*Quercus douglasii*		14	14	54	21	2 Major Structure or Health Problems	Buried flare north. Swollen flare. Codominant at 22 feet. Suppression northeast. One-sided leaning canopy southwest. Vigor fair. Density fair.
4323		X		Yes						Blue Oak	*Quercus douglasii*		6	0	54	5	1 Extreme Structure or Health Problems	Buried flare 360° suppressed above. Terminal bud dead broke out. Only foliage is single lateral southwest. Vigor poor. Density poor.
4324		X		Yes						Blue Oak	*Quercus douglasii*		11	11	54	15	3 Fair - Minor Problems	Buried flare 360°. Codominant at 20 feet. Most of the severe branch dead. Growing into canopies north and south. Vigor fair to poor. Density fair.
4325		X		Yes						Blue Oak	*Quercus douglasii*		11	11	54	18	2 Major Structure or Health Problems	Buried flare north. Codominant at 5 feet. Severe dead branches lower canopy. Suppression northeast. One-sided canopy leaning southeast. Vigor poor. Density fair to poor.
4326		X		Yes						Blue Oak	*Quercus douglasii*		25	25	54	27	2 Major Structure or Health Problems	Buried flare south Codominant at 18 feet. Some terminal bug day off top canopy. Severe epicormic growth. Vigor fair to poor. Density fair.
4327		X		Yes						Blue Oak	*Quercus douglasii*		22	22	54	9	0 Dead	Long time dead.
4328		X		Yes					37	Valley Oak	*Quercus lobata*		37	37	54	27	3 Fair - Minor Problems	Flare normal. Codominant at 8 feet. Multiple 5-inch breakouts with decay in wounds. Vigor fair. Density fair.
4329		X		Yes				36		Blue Oak	*Quercus douglasii*		35	0	36	24	1 Extreme Structure or Health Problems	Flare normal. Codominant at 6 feet. 24-inch compartmentalize cavity south. 50% hollow. 18 and 16-inch breakouts east with decay in wounds. Vigor and density fair to poor.
4330		X		Yes						Blue Oak	*Quercus douglasii*		38	38	36	30	3 Fair - Minor Problems	Flat base east and west. Swollen flare south. 26-inch low lateral northeast overextended. Codominant at 22 feet. Minor mistletoe. Less than severe dead branches. Vigor fair. Density fair.
4331		X		Yes						Blue Oak	*Quercus douglasii*		50	0	36	36	1 Extreme Structure or Health Problems	Flare on cut bank of seasonal draw. 28 and 20-inch lateral failed north at inclusion continue to grow on the ground. 16-inch lateral south at 36 inches. Broken fruiting bodies in cavity. Vigor fair to poor. Density poor.

4332		X		Yes						Blue Oak	*Quercus douglasii*		34	34	54	32	3 Fair - Minor Problems	Flare buried south grade. Flare on cut bank. Codominant at 10 feet. Less than severe dead branches. 5% mistletoe. Vigor fair. Density fair.
4333		X		Yes						Blue Oak	*Quercus douglasii*		21	21	54	24	3 Fair - Minor Problems	Buried flare south. Flare on cut bank. Holes up entire trunk into canopy. Codominant at 12 feet. Fair vigor. Fair density.
4334		X			Yes					Blue Oak	*Quercus douglasii*	9,10	13	0	54	10	1 Extreme Structure or Health Problems	Tree is stump sprout from south. Codominant at 12 inches. Fair vigor. Fair density.
4335		X		Yes						Blue Oak	*Quercus douglasii*		36	0	24	40	1 Extreme Structure or Health Problems	Stump sprout originates in seasonal draw grows laterally on the ground for roughly 45 feet. Mature epicormic sprouts growing laterally from top of trunk. Vigor fair. Density fair.
4336		X		Yes						Blue Oak	*Quercus douglasii*		8	0	54	10	1 Extreme Structure or Health Problems	Flare growing out of cut bank of seasonal draw buried south. Codominant at 10 feet. Suppressed from above. Growing in canopy of tree north. 50% mistletoe. Severe dead branches. Vigor poor. Density poor.
4339		X		Yes						Blue Oak	*Quercus douglasii*		17	17	54	30	2 Major Structure or Health Problems	Flare on cut bank of seasonal draw. Codominant at 15 feet. 50% mistletoe. Severe dead branches. Vigor poor. Density fair.
4340		X			Yes					Interior Live Oak	*Quercus wislizenii*	21,22	30	0	54	33	1 Extreme Structure or Health Problems	Swollen flare north. Codominant at 12 inches. Failure of 20-inch leader at inclusion with decay in wound. Severe trunk lean south. Vigor fair. Density fair.
4341		X			Yes					Interior Live Oak	*Quercus wislizenii*	21,42	47	63	54	40	2 Major Structure or Health Problems	Flare in the cut bank of seasonal draw. Swollen flare. Multiple 10-inch plus breakouts the key in wounds fruiting bodies. Severe dieback of internal canopy twigs and foliage very dense. Vigor poor. Crown ratio poor.
4342		X		Yes						Valley Oak	*Quercus lobata*		36	36	54	30	2 Major Structure or Health Problems	Flare buried north. On cut bank of seasonal draw. 16-inch lateral breakout at 10 feet. Decay in wound. Codominant.
4343		X		Yes						Valley Oak	*Quercus lobata*		29	29	54	24	2 Major Structure or Health Problems	Swollen flare east. Trunk bows at 5 feet. 15% lean in canopy southwest. Multiple 5-inch plus breakouts decay in wounds. Vigor fair. Density fair.
4344		X		Yes						Valley Oak	*Quercus lobata*		36	36	54	30	3 Fair - Minor Problems	Flare in cut bank of seasonal draw buried flare up grade. Codominant at 6 feet. Suppression southeast. Trunk lean 10° north west. Vigor fair. Density fair.
4345		X		Yes						Valley Oak	*Quercus lobata*		58	58	54	36	3 Fair - Minor Problems	Swollen flare 270°. Nice scaffold structure Vigor fair. Density fair.
4346		X		Yes					0	Blue Oak	*Quercus douglasii*		45	0	54	40	2 Major Structure or Health Problems	Swollen flare west. 24-inch lateral failure at 6 feet. Compartmentalized still attached growing on ground. 50% hollow cavity with decay and wound. Multiple 10-inch plus breakouts with scoring decay in wound. Vigor fair to poor. Density fair to poor.

4347		X		Yes					42	Blue Oak	*Quercus douglasii*		42	42	54	30	2 Major Structure or Health Problems	Buried flare south. Wound at base north side. Compartmentalize expose cambium. 16-inch broken branch north. Codominant at 22 feet. Less than severe mistletoe. Vigor fair. Density fair.
4348		X		Yes					0	Blue Oak	*Quercus douglasii*		50	0	54	33	1 Extreme Structure or Health Problems	Swollen flare north and south. Codominant at 12 feet. Multiple large diameter broken branches through canopy. Decay and wounds. Vigor poor. Density fair to poor.
4349		X		Yes					0	Blue Oak	*Quercus douglasii*		33	0	54	33	2 Major Structure or Health Problems	Buried flare east up grade. Codominant at 6 feet. Cankers throughout canopy and small scaffold branches. 50% mistletoe. Vigor poor. Density fair to poor.
4350		X		Yes					36	Valley Oak	*Quercus lobata*		36	36	54	30	2 Major Structure or Health Problems	Normal flare. Codominant at 10 feet. Less than severe mistletoe growing into canopies of trees northeast. Less than severe dead branches. Vigor fair. Density fair.
4351		X		Yes					20	Blue Oak	*Quercus douglasii*		20	20	36	24	2 Major Structure or Health Problems	Buried flare east up grade. Codominant at 12 feet. Epicormic growth throughout canopy. Suppression east. One-sided leaning canopy west.
4352		X		Yes					27	Blue Oak	*Quercus douglasii*		27	27	54	30	3 Fair - Minor Problems	Buried flare. Codominant at 10 feet. Vigor fair. Density fair.
4353		X		Yes					11	Blue Oak	*Quercus douglasii*		11	11	54	16	2 Major Structure or Health Problems	Buried flare. Growing adjacent east to fallen dead tree. Suppressed east. One-sided leaning canopy west. Vigor poor. Density fair.
4354		X		Yes					24	Blue Oak	*Quercus douglasii*		24	24	12	16	3 Fair - Minor Problems	Buried flare. Tree adjacent to dead fallen 40-inch tree. Codominant at 3 feet. Vigor fair. Density fair.
4355		X		Yes					32	Blue Oak	*Quercus douglasii*		32	32	54	27	3 Fair - Minor Problems	Buried flare. Codominant at 15 feet. Vigor fair. Density fair.
4356		X		Yes					36	Blue Oak	*Quercus douglasii*		36	36	54	27	3 Fair - Minor Problems	Swollen flare 360 degrees. Codominant at 6 feet. Growing into canopy north. Vigor fair. Density fair.
4357		X		Yes					0	Blue Oak	*Quercus douglasii*		28	0	54	36	1 Extreme Structure or Health Problems	Flare normal. Codominant at 15 feet. Adjacent tree west top fail took out south canopy. Suppression west. Severe canopy lean east. Vigor poor. Density poor.
4358		X		Yes					0	Blue Oak	*Quercus douglasii*		37	0	54	27	1 Extreme Structure or Health Problems	Flare normal. Top broke out at 25 feet. Vigor poor. Density poor.
4359		X		Yes					9	Blue Oak	*Quercus douglasii*		9	9	54	8	3 Fair - Minor Problems	Buried flare 360 degrees. Bowed trunk east at 10 feet. Minor mistletoe. Vigor fair. Density fair.
4360		X		Yes					23	Blue Oak	*Quercus douglasii*		23	23	54	40	2 Major Structure or Health Problems	Buried flare 360 degrees. Codominant at 8 feet. Severe canopy lean southwest. Vigor fair. Density fair.
4361		X		Yes					13	Blue Oak	*Quercus douglasii*		13	13	54	6	3 Fair - Minor Problems	Buried flare. Codominant at 12 feet. Suppressed north and south. Vigor fair. Density fair.

4362		X		Yes					13	Blue Oak	*Quercus douglasii*		13	13	54	15	2 Major Structure or Health Problems	Buried flare. Suppression southwest. One-sided leaning canopy northeast. Vigor fair. Density fair.
4363		X		Yes					0	Blue Oak	*Quercus douglasii*		32	0	54	33	2 Major Structure or Health Problems	Buried flare. Codominant at 10 feet. East side cambium dead. East side codominant leader dead to top. Vigor poor. Density fair.
4364		X		Yes				48		Blue Oak	*Quercus douglasii*		48	48	54	30	3 Fair - Minor Problems	Swollen flare north. Two large breakout wounds at 8 feet. Decay in wounds. 20% hollow. Less than severe dead branches. Vigor fair to poor. Density fair.
4365		X		Yes						Blue Oak	*Quercus douglasii*		31	31	54	40	4 Good - No Apparent Problems	Codominant at 15 feet. Vigor fair. Density fair.
4366		X		Yes						Blue Oak	*Quercus douglasii*		29	29	54	40	3 Fair - Minor Problems	Buried flare. Codominant at 8 feet. 15% mistletoe. Vigor fair. Density fair.
4367		X		Yes						Blue Oak	*Quercus douglasii*		14	14	54	27	2 Major Structure or Health Problems	Buried flare. Codominant at 8 feet. Epicormic growth up trunk to top of canopy. Suppression west. One-sided leaning canopy east. Less than severe dead branches. Vigor fair to poor. Density fair to poor.
4368		X		Yes						Blue Oak	*Quercus douglasii*		14	14	54	21	3 Fair - Minor Problems	Buried flare. Good vertical structure. Vigor fair. Density fair.
4369		X		Yes						Blue Oak	*Quercus douglasii*		23	23	54	24	3 Fair - Minor Problems	Buried flare. Codominant at 8 feet. Epicormic growth at canopy. Minor mistletoe. Vigor fair. Density fair.
4370		X		Yes				30		Blue Oak	*Quercus douglasii*		30	30	54	27	3 Fair - Minor Problems	Swollen flare north. Codominant at 8 feet at corner of growth throughout canopy.
4371		X		Yes						Blue Oak	*Quercus douglasii*		18	18	54	33	2 Major Structure or Health Problems	Flare normal. Significant dead branches and canopy. Epicormic growth in canopy. Suppression east. One-sided leaning canopy northwest. Vigor fair to poor. Density fair.
4372		X		Yes						Blue Oak	*Quercus douglasii*		23	23	54	24	3 Fair - Minor Problems	Normal flare. Codominant at 10 feet. Growing into canopy southeast. Vigor fair. Density fair.
4373		X		Yes						Blue Oak	*Quercus douglasii*		14	14	54	15	2 Major Structure or Health Problems	Normal flare have a cormorant growth up trunk into canopy. Suppression north, west and south. One-sided canopy east. Vigor fair to poor. Density fair to poor.
4374		X		Yes						Blue Oak	*Quercus douglasii*		25	25	54	21	3 Fair - Minor Problems	Buried flare south. Codominant at 5 feet. Growing into canopies south. Vigor fair. Density fair.
4375		X		Yes						Blue Oak	*Quercus douglasii*		16	16	54	21	2 Major Structure or Health Problems	Buried flare west. Significant dead branches and canopy suppression north, west and south. One-sided leaning canopy east. Vigor fair. Density fair.
4377		X		Yes						Blue Oak	*Quercus douglasii*		22	22	54	27	2 Major Structure or Health Problems	Swollen flare west. Codominant at 6 feet. Suppression west. Leaning canopy east. Vigor fair. Density fair.

4378		X		Yes						Blue Oak	*Quercus douglasii*		12	12	54	21	2 Major Structure or Health Problems	Buried flare west. Codominant at 4 feet. Suppression south. One-sided leaning canopy north. Vigor fair. Density fair.
4379		X		Yes						Blue Oak	*Quercus douglasii*		21	21	54	27	3 Fair - Minor Problems	Swollen flare. Codominant at 25 feet. Minor mistletoe. Vigor fair. Density fair.
4380		X		Yes						Blue Oak	*Quercus douglasii*		15	15	54	15	3 Fair - Minor Problems	Normal flare. Codominant at 8 feet. Suppression west. One-sided leaning canopy east. Vigor fair. Density fair.
4381		X		Yes						Blue Oak	*Quercus douglasii*		15	15	54	18	3 Fair - Minor Problems	Buried flare north. Codominant at 10 feet. Vigor and density fair.
4382		X		Yes						Blue Oak	*Quercus douglasii*		19	19	54	24	3 Fair - Minor Problems	Flare normal. Codominant at 8 feet. Suppression north. One-sided/leaning with dead branches. Vigor fair. Density fair.
4383		X		Yes						Blue Oak	*Quercus douglasii*		14	14	54	18	2 Major Structure or Health Problems	Buried flare. Codominant at 5 feet. Significant dead branches. Suppression from above. One-sided leaning canopy. Vigor fair to poor. Density fair to poor.
4384		X		Yes						Blue Oak	*Quercus douglasii*		21	21	54	15	2 Major Structure or Health Problems	Swollen flare west. Suppression north. One-sided leaning canopy south. Vigor fair to poor. Density fair.
4385		X		Yes						Blue Oak	*Quercus douglasii*		16	16	54	24	2 Major Structure or Health Problems	Buried flare. Suppression south. One-sided leaning canopy north. Vigor fair to poor. Crown density fair to poor.
4386		X		Yes						Blue Oak	*Quercus douglasii*		12	12	54	30	2 Major Structure or Health Problems	Buried flare. Codominant at 20 feet. Suppression south. One-sided leaning canopy north. Vigor fair to poor. Density fair to poor.
4387		X		Yes						Blue Oak	*Quercus douglasii*		13	13	54	18	3 Fair - Minor Problems	Buried flare. Trunk seam compartmentalized. Callused bark west side 2 feet long at 12 inches height. Vigor fair. Density fair to poor.
4388		X		Yes						Blue Oak	*Quercus douglasii*		14	14	54	12	2 Major Structure or Health Problems	Buried flare south. Suppression above. Significant dead branches. Codominant at 6 feet. Vigor fair to poor. Density fair to poor.
4389		X		Yes						Blue Oak	*Quercus douglasii*		11	11	54	15	2 Major Structure or Health Problems	Trunk wound at base. West compartmentalize bark exposed cambium decayed. Codominant at 12 feet. Suppression above. One-sided leaning canopy northwest. Vigor fair. Density fair to poor.
4390		X		Yes						Blue Oak	*Quercus douglasii*		7	7	54	0	0 Dead	Long time dead.
4391		X		Yes						Blue Oak	*Quercus douglasii*		25	25	54	27	3 Fair - Minor Problems	Buried flare south. Codominant at 5 feet. Suppression east. Vigor fair. Density fair.
4392		X		Yes						Blue Oak	*Quercus douglasii*		7	7	54	6	2 Major Structure or Health Problems	Buried flare south. Codominant at 8 feet. Suppression above less than severe dead branches. Vigor poor. Density fair.

4393		X		Yes						Blue Oak	*Quercus douglasii*		17	17	54	18	3 Fair - Minor Problems	Buried flare. Flat base south and west. Codominant at 20 feet. Vigor fair. Density fair.
4394		X		Yes						Blue Oak	*Quercus douglasii*		14	14	54	30	2 Major Structure or Health Problems	Buried flare south. Suppression above. Severe bow in trunk at 12 feet with a severe lean south. Vigor fair. Density fair to poor.
4395		X		Yes						Blue Oak	*Quercus douglasii*		10	10	54	24	2 Major Structure or Health Problems	Buried flare south. Suppression south. One-sided leaning canopy north. Vigor fair. Density fair.
4396		X		Yes						Blue Oak	*Quercus douglasii*		24	24	54	21	2 Major Structure or Health Problems	Buried flare. Codominant at 5 feet. Significant dead branches. Epicormic grow throughout canopy. Multiple broken branches with decay and wounds. Vigor and density fair to poor.
4397		X		Yes						Blue Oak	*Quercus douglasii*		13	13	12	15	3 Fair - Minor Problems	Buried flare. Codominant at 4 feet. Growing into canopy east and west. Vigor and density fair.
4398		X		Yes						Blue Oak	*Quercus douglasii*		15	15	54	33	2 Major Structure or Health Problems	Swollen flare east. Codominant at 6 feet. Suppression north. One-sided leaning canopy southeast less than severe dead branches. Vigor fair. Density fair.
4399		X		Yes						Blue Oak	*Quercus douglasii*		12	12	54	24	2 Major Structure or Health Problems	Buried flare south. Codominant at 12 feet. Suppression north. Leaning canopy south. Vigor fair to poor. Density fair.
4400		X		Yes						Blue Oak	*Quercus douglasii*		17	17	54	27	2 Major Structure or Health Problems	Buried flare. Codominant at 8 feet. Suppression north. Growing into canopies leaning south. Vigor fair. Density fair.
4401		X		Yes						Blue Oak	*Quercus douglasii*		18	18	54	18	3 Fair - Minor Problems	Buried flare. Significant dead leaders lower canopy. Vigor fair to poor. Density fair to poor.
4402		X		Yes						Blue Oak	*Quercus douglasii*		15	15	54	21	3 Fair - Minor Problems	Swollen flare south. Codominant at 8 feet. Minor mistletoe suppressed east. Vigor fair. Density fair.
4403		X		Yes						Blue Oak	*Quercus douglasii*		19	19	54	21	3 Fair - Minor Problems	Buried flare. Codominant at 6 feet. Suppressed north. Epicormic growth throughout canopy. Vigor fair to poor. Density fair.
4404		X		Yes						Blue Oak	*Quercus douglasii*		11	11	54	15	3 Fair - Minor Problems	Buried flare suppression north. One-sided leaning canopy south. Vigor fair. Density fair.
4405		X		Yes						Blue Oak	*Quercus douglasii*		19	0	54	21	1 Extreme Structure or Health Problems	Exposed cambium north side from base to 3 feet. Cavity compartmentalized bark decay in wound. Codominant at 5 feet. Suppression east. Vigor fair to poor. Density fair.
4406		X		Yes						Blue Oak	*Quercus douglasii*		13	13	54	21	3 Fair - Minor Problems	Flat base north. Flat base south. Codominant at 22 feet. Suppression northeast. Less than severe dead branches. Vigor fair. Density fair.
4407		X		Yes						Blue Oak	*Quercus douglasii*		22	22	36	18	3 Fair - Minor Problems	Flare normal. Codominant at 5 feet. Less than severe dead branching. Growing into canopy north and west. Vigor fair. Density fair.
4408		X		Yes						Blue Oak	*Quercus douglasii*		24	24	54	21	3 Fair - Minor Problems	Normal flare. Codominant at 8 feet. Vigor fair. Density fair.
4408													24		54	21	3 Fair - Minor Problems	Normal flare. Codominant at 8 feet. Vigor and density fair.

4409		X		Yes						Blue Oak	*Quercus douglasii*		15	15	54	27	2 Major Structure or Health Problems	Buried flare. Codominant at 10 feet. Suppression south. One-sided leaning north. Vigor fair. Density fair.
4410		X		Yes						Blue Oak	*Quercus douglasii*		17	17	54	21	2 Major Structure or Health Problems	Buried flare. Codominant at 15 feet. Significant dead branches lower canopy. Suppression north and south. Vigor fair to poor. Density fair to poor.
4411		X		Yes						Blue Oak	*Quercus douglasii*		19	19	54	30	3 Fair - Minor Problems	Buried flare northeast. Codominant at 8 feet. Growing into canopy south and north. Less than severe dead branches. Vigor fair. Density fair.
4412		X		Yes						Blue Oak	*Quercus douglasii*		12	12	54	12	3 Fair - Minor Problems	Buried flare. Code dumb at 28 feet. Vigor fair. Density fair.
4413		X		Yes						Blue Oak	*Quercus douglasii*		20	20	36	21	3 Fair - Minor Problems	Flare normal. Codominant at 4 feet. Less than severe dead branching lower canopy. Growing into canopy southeast. Vigor fair to poor. Density fair to poor.
4414		X		Yes						Blue Oak	*Quercus douglasii*		17	17	54	27	3 Fair - Minor Problems	Flare normal. Codominant at 8 feet. Epicormic growth upper canopy. Growing into canopy north. Vigor fair. Density fair.
4415		X		Yes						Blue Oak	*Quercus douglasii*		30	30	54	27	3 Fair - Minor Problems	Buried flare south. Codominant at 18 feet. Growing into canopies north, west and south. Vigor fair. Density fair.
4416		X		Yes				19		Blue Oak	*Quercus douglasii*		19	19	54	24	4 Good - No Apparent Problems	Flare normal. Codominant at 10 feet. Minor mistletoe. Fair vigor. Fair density.
4417		X		Yes						Blue Oak	*Quercus douglasii*		21	0	12	21	1 Extreme Structure or Health Problems	Buried flare south. Codominant at 3 feet. Two of four dead leaders. Suppressed above. One-sided leaning canopy south. Vigor poor. Density fair.
4418		X		Yes						Blue Oak	*Quercus douglasii*		15	15	54	12	2 Major Structure or Health Problems	Buried flare. Codominant at 12 feet. Suppressed above. Significant deadwood throughout canopy. Vigor fair to poor. Density fair to poor.
4419		X		Yes						Blue Oak	*Quercus douglasii*		14	14	54	21	2 Major Structure or Health Problems	Buried flare. Woodpecker hole at 8 feet North area codominant at 18 feet throughout canopy. Less than severe dead branching. Suppressed south. Vigor fair. Density fair to poor.
4420		X		Yes						Blue Oak	*Quercus douglasii*		15	15	54	18	3 Fair - Minor Problems	Buried flare south. Codominant at 5 feet. Growing into canopy north and south. Vigor fair. Density fair.
4421		X		Yes						Blue Oak	*Quercus douglasii*		18	18	54	21	3 Fair - Minor Problems	Buried flare. Codominant at 10 feet. Growing into canopy north and south. Vigor fair. Density fair.
4422		X		Yes						Blue Oak	*Quercus douglasii*		20	20	54	27	3 Fair - Minor Problems	Buried flare. Codominant at 8 feet. Vigor fair. Density fair.
4422				Yes						Blue Oak	*Quercus douglasii*		20		54	27	3 Fair - Minor Problems	Buried flare. Codominant at 8 feet. Vigor and density fair.
4423		X		Yes						Blue Oak	*Quercus douglasii*		13	13	54	18	3 Fair - Minor Problems	Swollen flare east. Codominant at 25 feet. Growing in the canopy north and south. Vigor fair. Density fair.

4424		X		Yes						Blue Oak	*Quercus douglasii*		18	18	36	24	3 Fair - Minor Problems	Normal flare. Codominant at 4 feet. Growing into canopy north west and south. Less than severe dead branching. Vigor fair. Density fair.
4425		X		Yes						Blue Oak	*Quercus douglasii*		27	27	54	21	3 Fair - Minor Problems	Buried flare south. Codominant at 6 feet. Vigor fair. Density fair.
4426		X		Yes						Blue Oak	*Quercus douglasii*		25	25	54	24	3 Fair - Minor Problems	Swollen flare west surface root 4 inches east. Codominant at 8 feet. Vigor fair. Density fair.
4427		X		Yes						Blue Oak	*Quercus douglasii*		20	20	54	21	3 Fair - Minor Problems	Normal flare. Codominant at 8 feet. Growing into canopy north. Vigor fair. Density fair.
4428		X		Yes						Blue Oak	*Quercus douglasii*		43	43	54	30	2 Major Structure or Health Problems	Swollen flare. 24-inch lateral breakoff at 6 feet decay in wound. Took 1/4 of canopy. Minor mistletoe. Vigor fair. Density fair.
4429		X		Yes						Blue Oak	*Quercus douglasii*		35	35	54	0	3 Fair - Minor Problems	
4430		X		Yes						Blue Oak	*Quercus douglasii*		35	35	54	24	3 Fair - Minor Problems	Swollen flare 360°. Vigor fair. Density fair.
4431		X		Yes						Blue Oak	*Quercus douglasii*		44	44	54	21	3 Fair - Minor Problems	Flat flare north and east. Codominant at 6 feet. Multiple woodpecker holes on the scaffold branches. Large trunk leader breakout at 12 feet decay in wound. Vigor fair. Density fair.
4432		X		Yes						Blue Oak	*Quercus douglasii*		18	18	54	34	2 Major Structure or Health Problems	Buried flare west up grade. Codominant at 12 feet. Suppressed west and south. One-sided canopy lean northeast. Epicormic growth throughout trunk and canopy. Vigor fair to poor. Density fair.
4433		X		Yes						Blue Oak	*Quercus douglasii*		14	14	54	18	3 Fair - Minor Problems	Buried flare west up grade. Codominant at 10 feet. Vigor fair. Density fair.
4434		X		Yes						Blue Oak	*Quercus douglasii*		17	17	54	15	3 Fair - Minor Problems	Buried flare west up grade. Codominant at 6 feet. Growing into canopy east and south. Vigor fair. Density fair.
4435		X		Yes						Blue Oak	*Quercus douglasii*		12	12	54	10	3 Fair - Minor Problems	Buried flare west up grade. Less than severe dead branches. Epicormic growth up trunk. Vigor fair. Density fair.
4436		X		Yes						Blue Oak	*Quercus douglasii*		14	14	54	16	2 Major Structure or Health Problems	Buried flare. Codominant at 4 feet. Suppressed above. Vigor fair to poor. Density fair.
4437		X		Yes						Blue Oak	*Quercus douglasii*		20	20	54	30	2 Major Structure or Health Problems	Buried flare and west up grade. Suppression southeast. Leaning canopy northeast. Epicormic growth throughout canopy. Less than severe dead branches. Vigor fair to poor. Density fair.
4438		X		Yes						Blue Oak	*Quercus douglasii*		14	14	54	15	3 Fair - Minor Problems	Buried flare west up grade. Growing into canopies north and southwest. Codominant at 18 feet. Vigor fair. Density fair.
4439		X		Yes						Blue Oak	*Quercus douglasii*		15	15	54	21	2 Major Structure or Health Problems	Buried flare west up grade. Epicormic growth up trunk southside. Less than severe dead branches. Vigor fair to poor. Density fair.
4440		X		Yes						Blue Oak	*Quercus douglasii*		22	22	54	27	3 Fair - Minor Problems	Normal flare. Codominant at 6 feet. Growing into canopy northeast. Vigor fair. Density fair.

4441		X		Yes						Blue Oak	*Quercus douglasii*		25	0	54	12	1 Extreme Structure or Health Problems	Basal decay up to 4 feet west. 30% hollow. Decay in every leader. Only 10% foliage remaining. Density very poor. Vigor extremely poor.
4442		X		Yes						Blue Oak	*Quercus douglasii*		30	30	54	27	2 Major Structure or Health Problems	Buried flare west up grade. Codominant at 6 feet. Suppression north. One-sided leaning canopy south. Vigor fair. Density fair.
4443		X		Yes						Blue Oak	*Quercus douglasii*		28	28	54	25	3 Fair - Minor Problems	Buried flare west up grade. Codominant at 12 feet. Vigor fair. Density fair.
4444		X		Yes				47		Valley Oak	*Quercus lobata*		47	47	54	40	3 Fair - Minor Problems	Swollen flare. Codominant at 18 feet. Less than severe dead branches. Vigor fair. Density fair.
4445		X		Yes					60	Valley Oak	*Quercus lobata*		60	60	54	50	2 Major Structure or Health Problems	Swollen flare. Exposed cambium from base to 2 feet east side. Over-mature. Significant deadwood and wounds in canopy. Vigor fair to poor. Density fair.
4446		X		Yes				33		Valley Oak	*Quercus lobata*		33	33	54	45	2 Major Structure or Health Problems	Buried flare. Suppressed from above. Codominant at 10 feet. One-sided crown lean south. Vigor fair to poor. Density fair.
4447		X		Yes						Valley Oak	*Quercus lobata*		30	30	12	30	2 Major Structure or Health Problems	Swollen flare 10° lean east. Codominant at 2 feet. Trunk lateral dead east decay and wounds. Tree growing in between 2 uprooted trees north and south. Vigor fair.
4448		X		Yes				49		Blue Oak	*Quercus douglasii*		49	49	54	33	2 Major Structure or Health Problems	Swollen flare. Codominant at 8 feet. Multiple 10-inch breakouts. Decay in wounds. Scaffold branches growing to ground north and east. Vigor fair to poor. Density fair.
4449		X		Yes				56		Blue Oak	*Quercus douglasii*		56	56	54	36	3 Fair - Minor Problems	Normal flare. Codominant at 20 feet. Good upright structure. Vigor fair. Density fair.
4450		X		Yes					30	Blue Oak	*Quercus douglasii*		30	30	54	15	2 Major Structure or Health Problems	Indented flare. Flat flare south. Codominant at 12 feet. Vigor fair. Density fair.
4451		X		Yes					34	Blue Oak	*Quercus douglasii*		34	34	54	24	3 Fair - Minor Problems	Flare normal. Codominant at 20 feet. 14-inch breakout on lower lateral branch decay and wound. Minor mistletoe. Vigor fair. Density fair.
4452		X		Yes					44	Blue Oak	*Quercus douglasii*		44	44	54	27	2 Major Structure or Health Problems	Swollen flare. Codominant at 8 feet. 30% mistletoe. Epicormic growth on scaffold branches entire canopy. Vigor fair to poor. Density fair.
4453		X		Yes				40		Blue Oak	*Quercus douglasii*		40	40	54	27	3 Fair - Minor Problems	Buried flare west up grade. Swollen flare north. Codominant at 12 feet. Significant breakout branches decay and wounds. Vigor fair to poor. Density fair.
4454		X		Yes				44		Blue Oak	*Quercus douglasii*		44	44	54	30	2 Major Structure or Health Problems	Buried flare west side up grade. Multiple large trunk leader breakouts with decay and wounds. Severe trunk seam cavity on 16-inch leader west dead. Bark compartmentalized. 50% hollow decay and wound. Vigor fair to poor. Density fair.

4455		X		Yes					0	Blue Oak	*Quercus douglasii*		43	0	54	24	2 Major Structure or Health Problems	Buried flare north. Breakout wounds at trunk at 8 feet north. Compartmentalized decay and wounds. 30% hollow at trunk. Codominant at 10 feet. Significant failed branches in canopy. Vigor fair to poor. Density fair.
4456		X		Yes					0	Blue Oak	*Quercus douglasii*		50	0	54	30	1 Extreme Structure or Health Problems	Flare normal. Over-mature. Codominant at 18 feet. Large breakouts on north side with decay and wounds. Only half canopy left. Severe dead limbs throughout canopy. Epicormic foliage only. 10% foliage left. Vigor extremely poor. Density extremely poor.
4457		X		Yes					19	Blue Oak	*Quercus douglasii*		19	19	36	10	3 Fair - Minor Problems	Buried flare. Growing on small rise amongst large boulders. Codominant at 4 feet. Density fair. Vigor fair.
4458		X		Yes					59	Valley Oak	*Quercus lobata*		59	59	12	21	2 Major Structure or Health Problems	Flare normal. Codominant at 4 feet. Large diameter breakouts of central leader and large leader. Decay in wounds. Over mature. Vigor fair to poor. Density poor.
4459		X		Yes					56	Valley Oak	*Quercus lobata*		56	56	54	24	2 Major Structure or Health Problems	Buried flare. Codominant at 15 feet. Large 24-inch failed branch wound at 12 feet north side hollow into trunk. Decay and wounds. Multiple branch failure wounds with decay. Vigor fair. Density fair.
4460		X		Yes					57	Valley Oak	*Quercus lobata*		57	57	54	24	2 Major Structure or Health Problems	Flare buried. Codominant at 15 feet. Multiple branch failures at trunk. Decay in wound. Significant dead branches through canopy. Vigor fair to poor. Density fair.
4461		X		Yes					0	Valley Oak	*Quercus lobata*		52	0	54	20	1 Extreme Structure or Health Problems	Buried flare east. 30-inch codominant lead broke out tore down from 20 feet to base exposing hardwood half of trunk that has left 90% hollow. Only branches are old epicormic sprouts. Vigor extremely poor. Density extremely poor.
4462		X		Yes				54		Valley Oak	*Quercus lobata*		54	54	54	27	2 Major Structure or Health Problems	Flare normal. Codominant at 18 feet. Significant dead branches in canopy. Multiple broken limbs decay and wound Vigor fair to poor. Density fair.
4463		X		Yes					0	Valley Oak	*Quercus lobata*		57	0	54	21	1 Extreme Structure or Health Problems	Swollen flare north codominant 20 feet. Multiple 24+ inch failures at trunk south and central leader decay in one. 50% hollow at trunk. 40% of canopy removed. Vigor poor. Density fair to poor.
4464		X		Yes					0	Valley Oak	*Quercus lobata*		75	0	54	21	1 Extreme Structure or Health Problems	Swollen flare. 32-inch dead codominant from base to 12 feet east side. Main trunk compartmentalizing. Around 50% hollow at trunk. 28-inch breakout. Codominant at 12 feet west. Compartmentalized decay in large wound. Vigor fair to poor. Density fair to poor.
4465		X		Yes					26	Valley Oak	*Quercus lobata*		26	26	54	21	3 Fair - Minor Problems	Buried flare west. Codominant at 10 feet. Epicormic grow throughout canopy. Vigor fair to poor. Density fair.

4466		X		Yes					32	Valley Oak	*Quercus lobata*		32	32	54	21	3 Fair - Minor Problems	Buried flare west. Codominant at 12 feet. Broken branch 10-inch south at 15 feet decay and wound. Less than severe dead branches and canopy. Vigor fair. Density fair.
4467		X		Yes					14	Blue Oak	*Quercus douglasii*		14	14	54	9	3 Fair - Minor Problems	Flare buried. Poor taper. Growing in between two rocks north and south. Codominant at 6 feet. Growing into canopy west. Vigor fair. Density fair.
4468		X		Yes					51	Blue Oak	*Quercus douglasii*		51	51	54	27	2 Major Structure or Health Problems	Swollen flare north Codominant at 18 feet. 28-inch leader failed decay and wound took out 30% of canopy. Vigor fair to poor. Density fair.
4469		X		Yes					0	Blue Oak	*Quercus douglasii*		57	0	54	21	1 Extreme Structure or Health Problems	Flare normal. Breakout of a large codominant leader north of the bark at 12 feet of base, exposing hardwood. Decay and wound. Fruiting bodies. Severe amount of branch failures at trunk through canopy. Only 30% canopy remaining. Vigor extremely poor. Density poor.
4470		X		Yes					44	Blue Oak	*Quercus douglasii*		44	44	54	30	3 Fair - Minor Problems	Buried flare east. Codominant at 8 feet. Minor mistletoe. Vigor fair. Density fair.
4471		X		Yes					38	Blue Oak	*Quercus douglasii*		38	38	12	27	3 Fair - Minor Problems	Swollen flare flat north. Less than severe dead branches lower canopy. Codominant at 5 feet. Vigor fair. Density fair.
4472		X		Yes					24	Blue Oak	*Quercus douglasii*		24	24	54	18	3 Fair - Minor Problems	Buried flare. Codominant at 8 feet. Growing into canopy north and south. Vigor fair. Density fair.
4473		X		Yes					37	Blue Oak	*Quercus douglasii*		37	37	54	33	3 Fair - Minor Problems	Buried flare. Codominant at 18 feet. 15% mistletoe. Vigor fair. Density fair to poor.
4474		X		Yes					24	Blue Oak	*Quercus douglasii*		24	24	54	30	3 Fair - Minor Problems	Buried flare. Codominant at 24 feet. Canopy leaning south. Growing into canopy west. Vigor fair. Density fair.
4475		X		Yes					29	Blue Oak	*Quercus douglasii*		29	29	54	27	3 Fair - Minor Problems	Swollen flare west. Codominant at 5 feet. Suppression East one-sided leading canopy west. Less than severe dead branches. Vigor fair. Density fair.
4476		X		Yes					6	Blue Oak	*Quercus douglasii*		6	6	54	5	2 Major Structure or Health Problems	Buried flare east. Suppress from above. Vigor fair to poor. Density fair.
4477		X		Yes					12	Blue Oak	*Quercus douglasii*		12	12	54	8	3 Fair - Minor Problems	Swollen flare west. Suppressed north and south. Vigor fair. Density fair.
4478		X		Yes					14	Blue Oak	*Quercus douglasii*		14	14	36	10	2 Major Structure or Health Problems	Swollen flare north Codominant at 4 feet. Suppressed from above. Vigor fair to poor. Density fair.
4479		X		Yes					12	Blue Oak	*Quercus douglasii*		12	12	54	21	2 Major Structure or Health Problems	Buried flare. Suppression north. One-sided leaning canopy south. Vigor fair. Density fair.
4480		X		Yes					33	Blue Oak	*Quercus douglasii*		33	33	54	30	3 Fair - Minor Problems	Buried flare flat north and east. Codominant at 4 feet. Less than severe dead branches lower canopy. Vigor fair. Density fair.

4481		X		Yes			0.02		14	Blue Oak	*Quercus douglasii*		14	14	54	15	2 Major Structure or Health Problems	Buried flare. Growing 4 inches adjacent to taller tree south. Suppression from above. Codominant at 20 feet. One-sided leaning canopy north. Density fair. Vigor fair to poor
4482		X		Yes					27	Blue Oak	*Quercus douglasii*		27	27	54	30	3 Fair - Minor Problems	Buried flare east up grade. Codominant at 12 feet. Vigor fair. Density fair.
4483		X		Yes					44	Valley Oak	*Quercus lobata*		44	44	54	36	3 Fair - Minor Problems	Flare normal. Codominant at 22 feet. Significant dead and broken branches in upper canopy. 16-inch lateral at 12 feet overextended growing to ground. Vigor fair to poor. Density fair.
4484		X		Yes					49	Blue Oak	*Quercus douglasii*		49	49	24	41	2 Major Structure or Health Problems	Flare normal. Codominant at 36 inches. 16-inch broken leader at branch decay in wound. Suppressed west. One-sided leaning canopy east. Vigor fair. Density fair.
4485		X		Yes					37	Blue Oak	*Quercus douglasii*		37	37	54	30	3 Fair - Minor Problems	Swollen flare north. Codominant at 10 feet. Less than severe deadwood lower canopy. Vigor fair. Density fair.
4486		X		Yes					34	Blue Oak	*Quercus douglasii*		34	34	54	30	3 Fair - Minor Problems	Buried flare east. Codominant at 5 feet. Significant dead and broken branches made canopy. Vigor fair to poor. Density fair.
4487		X		Yes					32	Blue Oak	*Quercus douglasii*		32	32	12	24	2 Major Structure or Health Problems	Buried flare. Codominant at 36 inches. Suppression north. One-sided canopy southeast. Vigor fair. Density fair.
4488		X		Yes					12	Blue Oak	*Quercus douglasii*		12	12	54	15	2 Major Structure or Health Problems	Swollen flare north. Suppressed above. One-sided leaning canopy east. Vigor fair to poor. Density fair to poor.
4489		X		Yes					23	Blue Oak	*Quercus douglasii*		23	23	54	24	3 Fair - Minor Problems	Flare normal. Growing into canopy north. Codominant at 12 feet. Minor mistletoe. Less than severe broken branches upper canopy. Vigor fair to poor. Density fair.
4490		X		Yes					16	Blue Oak	*Quercus douglasii*		16.5	16.5	12	18	2 Major Structure or Health Problems	Swollen flare west. Codominant at 28 feet. Suppressed west. One-sided leaning canopy East growing into canopy east. Vigor fair to poor. Density fair.
4491		X		Yes					22	Blue Oak	*Quercus douglasii*		22	22	54	30	2 Major Structure or Health Problems	Buried flare. Codominant at 20 feet. Suppression west. Severe lean. One-sided canopy north. Growing into canopy north. Vigor fair. Density fair.
4492		X		Yes					26	Blue Oak	*Quercus douglasii*		26	26	12	40	3 Fair - Minor Problems	Buried flare. Suppression south. Codominant at 6 feet. Leaning north. Vigor fair. Density fair.
4493		X		Yes					13	Blue Oak	*Quercus douglasii*		13	13	54	21	2 Major Structure or Health Problems	Buried flare. Codominant at 15 feet. Epicormic growth. Suppressed above. One-sided leaning canopy east. Vigor fair. Density fair.
4494		X		Yes					37	Blue Oak	*Quercus douglasii*		37	37	54	21	3 Fair - Minor Problems	Swollen flare. Codominant at 6 feet. Minor mistletoe. Vigor fair. Density fair.
4495		X	871	Yes						Blue Oak	*Quercus douglasii*		43	43	54	30	2 Major Structure or Health Problems	Flare normal. Multiple 16-inch broken branches decay and wound south. 30-inch breakout leader west at 12 feet. Decay and wound.

4496		X	872	Yes					40	Valley Oak	*Quercus lobata*		40	40	54	23	2 Major Structure or Health Problems	Swollen flare north. 14-inch leader breakout south at 12 feet decay and wound 50% hollow at trunk at break. Vigor fair. Density fair.
4497		X		Yes						Blue Oak	*Quercus douglasii*		43	43	54	40	3 Fair - Minor Problems	Buried flare. Codominant at 28 feet. Less than severe dead branches in canopy. Vigor fair. Density fair.
4498		X		Yes						Blue Oak	*Quercus douglasii*		10	10	54	24	2 Major Structure or Health Problems	Buried flare. Suppressed south. One-sided leaning canopy northeast. Vigor fair. Density fair.
4499		X		Yes						Blue Oak	*Quercus douglasii*		16	16	54	33	2 Major Structure or Health Problems	Buried flare. Codominant at 10 feet. Suppressed south. Severe leaning canopy overextended northeast. Vigor fair. Density fair.
4500		X		Yes						Blue Oak	*Quercus douglasii*		24	24	54	24	3 Fair - Minor Problems	Buried flare. Poor taper. Codominant at 8 feet. Vigor fair. Density fair.
5202		X		Yes						Blue Oak	*Quercus douglasii*		16	0	36	15	1 Extreme Structure or Health Problems	Swollen flare flat north and south. Codominant at 36 inches. Bark issues at inclusion. Exposed wood on both leaders at 3 feet. Compartmentalized bark decayed wood. Growing into canopy west. Vigor poor. Density fair.
5203		X		Yes						Blue Oak	*Quercus douglasii*		16	16	36	15	3 Fair - Minor Problems	Buried flare. North swollen flare south. Codominant at 36 inches. Growing into canopy east. Vigor fair. Density fair.
5204		X		Yes						Blue Oak	*Quercus douglasii*		17	17	12	9	3 Fair - Minor Problems	Buried flare south. Swollen flare north. Codominant at 24 inches. Vigor fair. Density fair.
5205		X		Yes						Blue Oak	*Quercus douglasii*		13	13	36	9	3 Fair - Minor Problems	Buried flare. Codominant at 4 feet. Vigor fair. Density fair.
5206		X		Yes						Blue Oak	*Quercus douglasii*		25	25	24	15	3 Fair - Minor Problems	Buried flare. Codominant at 36 inches. Growing into canopy north. Vigor fair. Density fair.
5207		X		Yes						Blue Oak	*Quercus douglasii*		13	13	12	12	2 Major Structure or Health Problems	Buried flare. Basal decay east. Compartmentalize bark exposed wood. Codominant at 2 feet. Suppression south. Vigor fair. Density fair.
5208		X		Yes						Blue Oak	*Quercus douglasii*		18	0	36	8	1 Extreme Structure or Health Problems	Swollen flare. Trunk wounds at 12 inches. Compartmentalize bark exposed wood south and north, possibly from livestock. Codominant at 36 inches. Growing into canopy southwest. Vigor fair. Density fair.
5209		X		Yes						Blue Oak	*Quercus douglasii*		12	12	54	15	2 Major Structure or Health Problems	Buried flare. Codominant at 12 feet. Suppression west. One-sided leaning canopy east growing into canopy east. Vigor fair. Density fair.
5210		X		Yes						Blue Oak	*Quercus douglasii*		12	12	12	10	2 Major Structure or Health Problems	Flare swollen flat east and west. Basal decay compartmentalize bark exposed wood at base. Growing in the canopy north and south. Suppressed from above. Vigor fair. Density fair.
5211		X		Yes					23	Blue Oak	*Quercus douglasii*		23	23	54	21	3 Fair - Minor Problems	Buried flare. Codominant at 6 feet. Vigor fair. Density fair.

5212		X		Yes				32		Blue Oak	*Quercus douglasii*		32	32	6	21	3 Fair - Minor Problems	Buried flare. Codominant at base. Codominant at 6 feet. Growing into canopy east. Vigor fair. Density fair.
5213		X		Yes				15		Blue Oak	*Quercus douglasii*		15	15	54	24	3 Fair - Minor Problems	Buried flare. Growing in the canopy west and east. Codominant at 6 feet. One-sided leaning canopy south. Vigor fair. Density fair to poor.
5214		X		Yes						Blue Oak	*Quercus douglasii*		15	15	54	24	2 Major Structure or Health Problems	Buried flare swollen west. Codominant at 20 feet. Suppressed north. One-sided leaning canopy south growing into canopies 360°. Vigor fair to poor. Density fair to poor.
5215		X		Yes						Blue Oak	*Quercus douglasii*		14	14	54	18	2 Major Structure or Health Problems	Swollen flare west. Codominant at 18 feet. Suppression above. One-sided leaning canopy east. Growing into canopies south, west and east. Vigor fair to poor. Density fair to poor.
5216		X		Yes						Blue Oak	*Quercus douglasii*		13	13	54	18	2 Major Structure or Health Problems	Buried flare. Codominant at 10 feet. Suppression north. One-sided cleaning canopy south. Vigor fair. Density fair.
5217		X		Yes						Blue Oak	*Quercus douglasii*		17	17	54	15	3 Fair - Minor Problems	Buried flare. Codominant at 6 feet. Vigor fair. Density fair.
5218		X		Yes						Blue Oak	*Quercus douglasii*		14	14	54	18	3 Fair - Minor Problems	Swollen flare north. Codominant at 6 feet. Density fair. Vigor fair.
5219		X		Yes						Blue Oak	*Quercus douglasii*		8	8	54	10	2 Major Structure or Health Problems	Swollen flare west. Decay at base. Compartmentalized bark. Bow in trunk at base. Codominant at 5 feet. Growing into canopies west and east. Vigor fair. Density fair.
5220		X		Yes						Blue Oak	*Quercus douglasii*		7	7	54	6	2 Major Structure or Health Problems	Buried flare growing and rocks. Codominant at 4 feet. Growing into canopies west and east, Vigor fair. Density fair.
5221				Yes						Blue Oak	*Quercus douglasii*		5		54	4	1 Extreme Structure or Health Problems	Buried flare. Growing 3 feet from tree to south. Suppressed from above. Vigor fair. Crown density fair to poor.
5222		X		Yes						Blue Oak	*Quercus douglasii*		9	9	54	8	2 Major Structure or Health Problems	Buried flare. Growing 3 feet from tree east. Codominant at 8 feet. Growing in the canopies east and west. Vigor fair. Density fair.
5223				No						Blue Oak	*Quercus douglasii*		5		54	6	2 Major Structure or Health Problems	Swollen flare north, growing in rocks. Growing 3 feet from tree to west. Growing into canopies east and west. Vigor and density fair to poor.
5224				No						Blue Oak	*Quercus douglasii*		5		24	8	2 Major Structure or Health Problems	Buried flare. Bow in trunk at 6 inches. Codominant at 24 inches. Growing 2 feet from tree to east. Growing into canopies east and west. Vigor and density fair to poor.
5225				No						Blue Oak	*Quercus douglasii*		5		54	8	2 Major Structure or Health Problems	Swollen flare west. Growing 1 foot from tree to west. Codominant at 4 feet. Suppression northwest. One-sided leaning canopy southeast. Growing into canopy west and east. Vigor and density fair.

5226		X		Yes						Blue Oak	*Quercus douglasii*		15	15	48	12	3 Fair - Minor Problems	Buried flare. Codominant at 4 feet. Vigor fair. Density fair.
5227		X		Yes						Blue Oak	*Quercus douglasii*		13	13	48	12	3 Fair - Minor Problems	Swollen flare northwest. Codominant at 4 feet. Vigor fair. Density fair.
5228		X		Yes						Blue Oak	*Quercus douglasii*		14	0	36	10	1 Extreme Structure or Health Problems	Buried flare. Cavity southside from base to 24 inches. Compartmentalize bark decay in hardwood. Codominant at 48 inches. Growing into canopy east. Vigor fair to poor. Density fair.
5229		X		Yes						Blue Oak	*Quercus douglasii*		6	6	54	6	2 Major Structure or Health Problems	Buried flare. Bows in trunk at 12 and 36 inches. Growing 3 feet from tree to south and growing into canopies south and west. Vigor fair to poor. Density fair.
5230		X		Yes						Blue Oak	*Quercus douglasii*		8	8	54	8	2 Major Structure or Health Problems	Buried flare. Growing 3 feet from tree north and west. Codominant at 4 feet. Growing into canopies north, west and south. Vigor fair. Density fair to poor.
5231		X		Yes						Blue Oak	*Quercus douglasii*		13	13	54	15	3 Fair - Minor Problems	Swollen flare north. Growing into canopies west and south. Codominant at 5 feet. Vigor fair. Density fair.
5232		X		Yes						Blue Oak	*Quercus douglasii*		10	10	54	8	2 Major Structure or Health Problems	Swollen flare north. Bark injury from base to 36 inches possible livestock abrasion. Compartmentalized bark exposed decaying sapwood. Codominant at 4 feet. Suppression north. One-sided leaning canopy south. Vigor fair to poor. Density fair.
5233		X		Yes						Blue Oak	*Quercus douglasii*		7	7	54	5	2 Major Structure or Health Problems	Buried flare bow and trunk at 12 inches bark wounds at base and 36 inches compartmentalized bark south. Exposed sapwood decay in wounds. Possible livestock abrasion. Codominant at 4 feet. Vigor fair. Density fair.
5234		X		Yes					0	Blue Oak	*Quercus douglasii*		46	0	54	30	1 Extreme Structure or Health Problems	Normal flare. Codominant at 10 feet. Multiple leaders dead broken mid branch or at trunk decay in wounds. Severe amount of dead. Vigor poor. Density poor.
5235		X		Yes					33	Valley Oak	*Quercus lobata*		33	33	54	26	2 Major Structure or Health Problems	Swollen flare. Codominant at 18 feet. No vertical structure at codominant because of suppression. Multiple broken lateral mid-branch and a trunk minor mistletoe. Vigor fair to poor. Density fair to poor.
5236		X		Yes					40	Valley Oak	*Quercus lobata*		40	40	54	35	3 Fair - Minor Problems	Flare normal. Codominant at 10 feet. Less than severe dead branches in lower canopy. Vigor fair. Density fair.
5237		X		Yes					29	Blue Oak	*Quercus douglasii*		29	29	54	21	2 Major Structure or Health Problems	Flare normal. Codominant at 12 feet. Severe amount of broken branches at main branch in the trunk. Vigor poor.
5238		X		Yes				40		Blue Oak	*Quercus douglasii*		40	40	54	27	2 Major Structure or Health Problems	Buried flare. Codominant at 26 feet. Severe amount of broken branches. Significant mistletoe. Vigor poor. Density fair.

5239		X		Yes					48	Blue Oak	*Quercus douglasii*		48	48	54	27	3 Fair - Minor Problems	Swollen flare west. Codominant at 22 feet. Growing into canopy above from tree to east. Vigor fair. Density fair.
5240		X		Yes					0	Blue Oak	*Quercus douglasii*		51	0	54	30	2 Major Structure or Health Problems	Swollen flare. Cavity at base east side. Compartmentalized bark cavity. 25% hollow at trunk.
5241		X		Yes						Blue Oak	*Quercus douglasii*		26	26	54	27	3 Fair - Minor Problems	Flare buried north up grade with exposed surface roots south downgrade. Growing on hillside. Codominant at 22 feet. 25% mistletoe. Less than severe broken branches. Vigor fair. Density fair.
5242		X		Yes						Blue Oak	*Quercus douglasii*		17	17	54	21	3 Fair - Minor Problems	Buried flare east up grade. Codominant at 8 feet. Suppressed west. One-sided leaning canopy east. Vigor fair. Density fair.
5243		X		Yes						Blue Oak	*Quercus douglasii*		36	36	54	27	3 Fair - Minor Problems	Buried flare north up grade. Exposed surface roots. Growing on hillside. Codominant at 8 feet. Growing into canopy northwest. 10% mistletoe. Vigor fair. Density fair.
5244		X		Yes						Blue Oak	*Quercus douglasii*		36	36	36	27	3 Fair - Minor Problems	Buried flare. Codominant at 4 feet. 5% mistletoe. Vigor fair. Density fair.
5245		X		Yes						Blue Oak	*Quercus douglasii*		8	8	54	5	3 Fair - Minor Problems	Buried flare growing in rocks. Codominant at 5 feet. Vigor fair. Density fair.
5246		X		Yes						Blue Oak	*Quercus douglasii*		10	10	54	8	2 Major Structure or Health Problems	Buried flare north up grade. Codominant at 8 feet. 40% mistletoe. Vigor fair to poor. Density fair. Growing into canopy east.
5247		X		Yes						Blue Oak	*Quercus douglasii*		15	15	24	8	2 Major Structure or Health Problems	Buried flare north up grade. Codominant at 4 feet. 30% mistletoe. Growing into canopy west. Vigor fair to poor. Density fair.
5248		X		Yes						Blue Oak	*Quercus douglasii*		13	13	24	9	3 Fair - Minor Problems	Buried flare north up grade. Codominant at 36 inches. Vigor fair. Density fair.
5249		X		Yes						Blue Oak	*Quercus douglasii*		9	9	36	6	3 Fair - Minor Problems	Buried flare growing in rocks. Codominant at 6 feet. Vigor fair. Density fair.
5250		X		Yes						Blue Oak	*Quercus douglasii*		9	9	54	6	3 Fair - Minor Problems	Buried flare. Codominant at 6 feet. Bow in trunk at 24 inches. Vigor fair. Density fair.
5251		X		Yes					25	Blue Oak	*Quercus douglasii*		25	25	54	15	2 Major Structure or Health Problems	Swollen flare. West flat side north and south. Multiple broken limbs at trunk decay and wounds lower canopy north and south. Vigor fair to poor. Density fair.
5252		X		Yes					29	Blue Oak	*Quercus douglasii*		29	29	54	21	2 Major Structure or Health Problems	Swollen flare northwest. Flat sides northeast and southwest. Less than severe dead branches. Vigor fair. Density fair.
5253		X		Yes					0	Blue Oak	*Quercus douglasii*		32	0	54	24	1 Extreme Structure or Health Problems	Swollen flare. East side highest codominant broken. Multiple large diameter branch failures at trunk in mid-branch east side with decay and wounds. One-sided canopy west. Vigor poor. Density poor.

5254		X		Yes					26	Blue Oak	*Quercus douglasii*		26	26	54	18	3 Fair - Minor Problems	Swollen flare north. Codominant at 18 feet. Minor mistletoe and dead branches lower canopy. Vigor fair. Density fair.
5255		X		Yes						Blue Oak	*Quercus douglasii*		15	15	54	15	3 Fair - Minor Problems	Buried flare east up grade and growing on bank. Codominant at 10 feet. Growing in the canopy east. Vigor fair. Density fair.
5256		X		Yes						Blue Oak	*Quercus douglasii*		9	9	54	12	2 Major Structure or Health Problems	Buried flare north up grade. Growing on the side of the bank. Codominant at 4 feet. Suppressed above growing into canopy of trees south. Vigor fair to poor. Density fair to poor.
5257		X		Yes						Blue Oak	*Quercus douglasii*		7	0	54	8	1 Extreme Structure or Health Problems	Buried flare east up grade. Codominant at 5 feet. Suppressed from above. One-sided leaning canopy west. Vigor poor. Density poor.
5258		X		Yes						Blue Oak	*Quercus douglasii*		19	19	24	15	3 Fair - Minor Problems	Buried flare north up grade. Codominant at 36 inches. Growing into canopy west. Vigor fair. Density fair to poor.
5259		X		Yes					34	Blue Oak	*Quercus douglasii*		34	34	54	21	3 Fair - Minor Problems	Buried flare. Codominant at 18 feet. Vigor fair. Density fair.
5260		X		Yes						Blue Oak	*Quercus douglasii*		31	31	54	24	3 Fair - Minor Problems	Buried flare. Codominant at 20 feet. 5% mistletoe. Vigor fair. Density fair.
5261		X		Yes				12		Blue Oak	*Quercus douglasii*		12	12	54	10	3 Fair - Minor Problems	Buried flare growing in rocks. Minor mistletoe. Vigor fair. Density fair.
5262		X		Yes						Blue Oak	*Quercus douglasii*		12	12	54	10	3 Fair - Minor Problems	Buried flare. Codominant at 8 feet. Growing in the canopy south. Vigor fair. Density fair.
5263		X		Yes						Blue Oak	*Quercus douglasii*		8	8	54	8	2 Major Structure or Health Problems	Buried flare. Growing in rocks up to 12 inches the trunk exposed surface roots west. Codominant at 6 feet. Growing into canopy west. Vigor fair. Density fair.
5264		X		Yes						Blue Oak	*Quercus douglasii*		22	22	12	21	3 Fair - Minor Problems	Buried flare. Growing in rocks. Codominant at 36 inches. Bark wound at codominant leader at 8 feet decay and wounds. Vigor fair. Density fair.
5265		X		Yes						Blue Oak	*Quercus douglasii*		12	12	54	12	3 Fair - Minor Problems	Buried flare. Growing in rocks Codominant at 12 feet. Vigor fair. Density fair.
5266				Yes						Blue Oak	*Quercus douglasii*		3		54	5	3 Fair - Minor Problems	Buried flare. Growing 3 inches adjacent to 24-inch tall rock. Codominant at 48 inches. Vigor and density fair.
5267		X		Yes						Blue Oak	*Quercus douglasii*		7	7	54	5	3 Fair - Minor Problems	Buried flare growing in rocks. Codominant at 8 feet. Growing into canopy north. Vigor fair. Density fair.
5268		X		Yes						Blue Oak	*Quercus douglasii*		12	12	54	5	2 Major Structure or Health Problems	Buried flare north up grade. Growing out of bank. Growing in rocks. Trunk goes west at 12 inches, then corrects itself at 48 inches. Codominant at 8 feet. Growing into canopies west and south. Vigor fair. Density fair.
5269		X		Yes						Blue Oak	*Quercus douglasii*		17	17	12	15	3 Fair - Minor Problems	Buried flare. Growing and rocks. Codominant at 6 feet. Vigor fair. Density fair.
5270		X		Yes						Blue Oak	*Quercus douglasii*		9	9	54	6	3 Fair - Minor Problems	Buried flare. Bow and twist in trunk at 12 and 36 inches. Codominant at 6 feet. Vigor fair. Density fair.
5271		X		Yes						Blue Oak	*Quercus douglasii*		7	7	36	4	3 Fair - Minor Problems	Buried flare. Growing in rocks. Codominant at 4 feet. Vigor fair. Density fair.

5272		X		Yes						Blue Oak	*Quercus douglasii*		15	15	36	15	3 Fair - Minor Problems	Buried flare. Codominant at 48 inches. Minor mistletoe growing into canopy of trees north. Vigor fair. Density fair.
5273		X		Yes						Blue Oak	*Quercus douglasii*		8	8	36	10	2 Major Structure or Health Problems	Buried flare. Growing in rocks. Codominant at 8 feet. Suppression south. One-sided canopy north. Vigor and density fair.
5274		X		Yes						Blue Oak	*Quercus douglasii*		27	27	54	18	2 Major Structure or Health Problems	Buried flare. Flat side west. Codominant at 6 feet. 25% mistletoe. Vigor fair to poor. Density fair to poor.
5275		X		Yes				18		Blue Oak	*Quercus douglasii*		18	18	54	15	2 Major Structure or Health Problems	Severely swollen flare north. Codominant at 8 feet. Vigor fair to poor. Density fair.
5276		X		Yes					0	Blue Oak	*Quercus douglasii*		17	0	12	18	1 Extreme Structure or Health Problems	Buried flare. Trunk wound east from base to 4 feet. Compartmentalize bark. Exposed sap wound. Multiple decayed leaders. Vigor poor. Density poor.
5277		X		Yes				18		Blue Oak	*Quercus douglasii*		18	18	54	15	3 Fair - Minor Problems	Buried flare. Codominant at 4 feet. Growing into canopy southeast. Vigor fair. Density fair.
5278		X		Yes					24	Blue Oak	*Quercus douglasii*		24	24	24	15	3 Fair - Minor Problems	Swollen flare east. Codominant at 48 inches. 5% mistletoe. Vigor fair. Density fair.
5279		X		Yes					18	Blue Oak	*Quercus douglasii*		18	18	54	18	2 Major Structure or Health Problems	Swollen flare west. Codominant at 20 feet. One-sided leaning canopy northeast. Vigor fair. Density fair.
5280		X		Yes					0	Blue Oak	*Quercus douglasii*		17	17	54	0	0 Dead	Long time dead.
5281		X		Yes					22	Blue Oak	*Quercus douglasii*		22	22	54	15	3 Fair - Minor Problems	Buried flare. Codominant at 30 feet. Minor mistletoe. Vigor poor. Density fair to poor.
5282		X		Yes					23	Blue Oak	*Quercus douglasii*		23	23	48	18	3 Fair - Minor Problems	Buried flare. Codominant at 48 inches. Minor mistletoe. Vigor fair. Density fair.
5283		X		Yes					21	Blue Oak	*Quercus douglasii*		21	21	54	21	2 Major Structure or Health Problems	Buried flare. Codominant at 8 feet. 30% mistletoe. Growing into canopy southeast. Vigor fair to poor. Density fair to poor. Growing in seasonal creekbed.
5284		X		Yes					21	Blue Oak	*Quercus douglasii*		21	21	54	18	2 Major Structure or Health Problems	Buried flare. Bark wound at base north. Compartmentalized bark exposed sapwood. Codominant at 5 feet. 15% mistletoe growing into canopy northwest. Vigor fair to poor. Density fair.
5285		X		Yes					36	Blue Oak	*Quercus douglasii*		36	36	12	24	2 Major Structure or Health Problems	Buried flare. Codominant at 5 feet. 15% mistletoe. Vigor fair to poor. Density fair.
5286		X		Yes					24	Blue Oak	*Quercus douglasii*		24	24	54	21	3 Fair - Minor Problems	Buried flare growing on bank of seasonal creek bed. Codominant at 8 feet. Growing into canopy north. Minor mistletoe. Vigor fair. Density fair.

5287		X		Yes					0	Blue Oak	*Quercus douglasii*		13	0	36	18	1 Extreme Structure or Health Problems	Buried flare. Growing in bed of seasonal creek. Suppression above. One-sided leaning canopy south. 30% mistletoe. Vigor poor. Density poor.
5288		X		Yes					10	Blue Oak	*Quercus douglasii*		10	10	54	15	2 Major Structure or Health Problems	Buried flare growing on bank of seasonal creekbed. Trunk lean is 10° west to 36 inches, then corrects itself with bow in trunk. Codominant at 5 feet. 10% mistletoe. Vigor fair. Density fair.
5289		X		Yes					24	Blue Oak	*Quercus douglasii*		24	24	54	25	2 Major Structure or Health Problems	Swollen flare south. Growing in rocks. Codominant at 12 feet. 40% mistletoe. Growing into canopy west. Vigor poor. Density poor.
5290		X		Yes					29	Blue Oak	*Quercus douglasii*		29	29	24	24	3 Fair - Minor Problems	Swollen flare. Growing in rocks Codominant at 8 feet. Growing into canopy east and north. 8-inch lateral south growing to ground. Vigor fair. Density fair.
5291		X		Yes					29	Blue Oak	*Quercus douglasii*		29	29	54	24	2 Major Structure or Health Problems	Swollen flare in north and south. Codominant at 8 feet. 10% mistletoe. Growing into canopy south. Vigor fair to poor. Density fair.
5293		X		Yes					6	Blue Oak	*Quercus douglasii*		6	6	54	8	3 Fair - Minor Problems	Buried flare growing in rocks. Growing 3 feet from tree west. Growing into canopy west. Codominant at 4 feet. Vigor fair. Density fair.
5294		X		Yes						Blue Oak	*Quercus douglasii*		27	27	54	21	2 Major Structure or Health Problems	Swollen flare. Basal rats south. Codominant at 20 feet. 40% mistletoe. Vigor fair to poor. Density poor.
5295		X		Yes						Blue Oak	*Quercus douglasii*		10	10	12	9	3 Fair - Minor Problems	Buried flare. Growing on the raised rock. Codominant at 6 feet. Mistletoe. Suppressed southwest . Vigor fair. Density fair.
5296		X		Yes						Blue Oak	*Quercus douglasii*		16	16	54	21	3 Fair - Minor Problems	Buried flare. Codominant at 10 feet. Minor mistletoe. Suppressed south. One-sided leaning canopy north. Vigor fair to poor. Density fair to poor.
5297		X		Yes						Blue Oak	*Quercus douglasii*		26	26	54	18	3 Fair - Minor Problems	Buried flare east. Codominant at 12 feet. Vigor fair. Density fair.
5298		X		Yes						Blue Oak	*Quercus douglasii*		41	0	54	21	1 Extreme Structure or Health Problems	Major with east side from base to 4 feet compartmentalized bark. 90% hollow in trunk. Codominant at 7 feet. 14-inch lateral at 7 degrees 5-foot wound break with decay in sapwood. Vigor fair to poor. Density fair.
5299		X		Yes						Blue Oak	*Quercus douglasii*		38	38	54	18	3 Fair - Minor Problems	Buried flare east. Codominant at 24 feet. 12-inch lateral at 12 feet broken off. Middle branch decay and wound. Vigor fair. Density fair.
5300		X		Yes						Blue Oak	*Quercus douglasii*		6	6	54	5	3 Fair - Minor Problems	Buried flare growing and rocks. Codominant at 6 feet. Growing into canopy west. Vigor fair. Density fair.
5303		X		Yes						Blue Oak	*Quercus douglasii*		9	9	54	12	2 Major Structure or Health Problems	Buried flare. Codominant at 7 feet. Suppressed west. Severe cleaning one-sided canopy east. Vigor fair to poor. Density fair.

5304		X		Yes						Blue Oak	*Quercus douglasii*		36	36	24	27	3 Fair - Minor Problems	Buried flare east. Codominant at 4 feet. Vigor fair. Density fair.
5305		X		Yes						Blue Oak	*Quercus douglasii*		33	33	6	24	3 Fair - Minor Problems	Buried flare. Growing into canopy east. Vigor fair. Density fair.
5306		X		Yes						Blue Oak	*Quercus douglasii*		35	35	36	21	3 Fair - Minor Problems	Buried flare east. Codominant at 4 feet. Growing into canopy north. Vigor fair. Density fair.
5307		X		Yes						Blue Oak	*Quercus douglasii*		47	47	12	24	3 Fair - Minor Problems	Buried flare. Dead branches lower canopy. Vigor fair. Density fair.
5308		X		Yes						Blue Oak	*Quercus douglasii*		6	0	54	4	1 Extreme Structure or Health Problems	Buried flare. Decay wound at 24 inches. Suppressed above. Vigor poor. Density poor.
5309		X		Yes				31		Blue Oak	*Quercus douglasii*		31	31	12	27	2 Major Structure or Health Problems	Swollen flare. Codominant at 36 inches. Suppressed east. One-sided leaning canopy west. Vigor fair. Density fair to poor.
5310		X		Yes				30		Blue Oak	*Quercus douglasii*		22	22	54	30	3 Fair - Minor Problems	Swollen flare north. Vigor fair. Density fair.
5311		X		Yes						Blue Oak	*Quercus douglasii*		18	18	36	27	2 Major Structure or Health Problems	Buried flare. Wound suppressed east. One-sided leaning canopy west. Vigor poor. Density poor.
5312		X		Yes						Blue Oak	*Quercus douglasii*		15	15	54	32	2 Major Structure or Health Problems	Swollen flare. Codominant. Growing into canopy north and south. Vigor fair. Density fair.
5313		X		Yes						Blue Oak	*Quercus douglasii*		17	17	54	24	2 Major Structure or Health Problems	Swollen flare east. Growing into canopy south and north. Vigor fair. Density fair.
5314		X		Yes				11		Blue Oak	*Quercus douglasii*		11	11	54	15	2 Major Structure or Health Problems	Suppressed above. Vigor fair to poor. Density fair to poor.
5315		X		Yes				21		Blue Oak	*Quercus douglasii*		21	21	54	18	3 Fair - Minor Problems	Buried flare. Codominant at 18 feet. Vigor fair. Density fair.
5316		X		Yes					0	Blue Oak	*Quercus douglasii*		9	0	54	9	2 Major Structure or Health Problems	Buried flare. Suppressed above. One-sided leaning canopy east. Vigor poor. Density poor.
5317		X		Yes					0	Blue Oak	*Quercus douglasii*		32	0	48	24	1 Extreme Structure or Health Problems	Swollen flare south. Uprooted and fell to southeast and growing along ground 30 feet. Dead 10-inch lateral on ground. Vigor poor. Density poor.
5318		X		Yes						Blue Oak	*Quercus douglasii*		27	27	36	30	3 Fair - Minor Problems	Buried flare. Codominant at 10 feet. Growing into canopy north. Vigor fair. Density fair.
5319		X		Yes						Blue Oak	*Quercus douglasii*		25	25	54	27	2 Major Structure or Health Problems	Buried flare. One-sided leaning canopy west. Vigor fair. Density fair.
5320		X		Yes						Blue Oak	*Quercus douglasii*		26	26	54	24	3 Fair - Minor Problems	Buried flare. Codominant at 5 feet. One-sided west. Vigor fair. Density fair.

5321		X		Yes						Blue Oak	*Quercus douglasii*		32	32	54	0	0 Dead	Uprooted dead and lying on ground south.
5322		X		Yes						Blue Oak	*Quercus douglasii*		30	0	54	30	1 Extreme Structure or Health Problems	Uprooted and lying on the ground south. Canopy mostly epicormic growth. Vigor and density extremely poor.
5323		X		Yes						Blue Oak	*Quercus douglasii*		15	0	54	18	1 Extreme Structure or Health Problems	Buried flare. Codominant at base. North codominant leader dead. Codominant leader broke at inclusion. Lying on the ground to south. Vigor poor. Density poor.
5324		X		Yes						Blue Oak	*Quercus douglasii*		45	45	36	30	2 Major Structure or Health Problems	Buried flare. Codominant at 4 feet. Suppression east. One-sided leaning canopy west. Vigor fair. Density fair. Barbed-wire southside up to 2 feet.
5325		X		Yes						Blue Oak	*Quercus douglasii*		22	22	54	21	2 Major Structure or Health Problems	Buried flare. Codominant at 8 feet. Southeast leader is dead. Significant deadwood lower canopy. Vigor poor. Density poor.
5326		X		Yes						Blue Oak	*Quercus douglasii*		26	26	54	24	3 Fair - Minor Problems	Buried flare. Growing into canopies west and south. Vigor fair. Density fair.
5327		X		Yes						Blue Oak	*Quercus douglasii*		28	28	54	21	3 Fair - Minor Problems	Buried flare. Codominant at 7 feet. Vigor fair. Density fair.
5376	sb 4376	X		Yes						Blue Oak	*Quercus douglasii*		15	15	54	24	2 Major Structure or Health Problems	Flare normal less than severe dead branches. Codominant at 15 feet. Suppression west. One-sided leaning canopy east.
8701				Yes					36	Fremont Cottonwood	*Populus fremontii*		36	36	54	27	3 Fair - Minor Problems	Multiple 12-inch branch failures in upper canopy.
8702				Yes					0	Fremont Cottonwood	*Populus fremontii*		27	0	54	24	2 Major Structure or Health Problems	Cavity at base, tip dieback upper central canopy.
8703				No					0	Fremont Cottonwood	*Populus fremontii*		16	0	54	21	3 Fair - Minor Problems	Understory tree leans northeast, included bark at 48 inches above grade.
8704				Yes					6	Interior Live Oak	*Quercus wislizenii*		6	6	54	9	4 Good - No Apparent Problems	2 small flush cuts on trunk at 48 inches above grade.
8705				No					6	California sycamore	*Platanus racemosa*		6	6	54	9	4 Good - No Apparent Problems	
8706				Yes					7	Interior Live Oak	*Quercus wislizenii*		7	7	54	12	3 Fair - Minor Problems	Slightly buried trunk, irrigation bunker to close to trunk.
8707				No					8	California sycamore	*Platanus racemosa*		8	8	54	12	3 Fair - Minor Problems	Slightly buried root flare, irrigation bunker to close to trunk.
8708				No					0	Valley Oak	*Quercus lobata*		5	0	54	6	3 Fair - Minor Problems	Buried root flare. Low 2-inch codominant stem.
8709				Yes					7	Interior Live Oak	*Quercus wislizenii*		7	7	54	9	3 Fair - Minor Problems	Irrigation bubbler to close to trunk.

8710				No					8	California sycamore	*Platanus racemosa*		8	8	54	12	3 Fair - Minor Problems	Codominant stem at 10 inches above grade with inclusion. Irrigation bubbler too close to trunk.
8711				Yes			Yes		9	Valley Oak	*Quercus lobata*		9	9	54	15	4 Good - No Apparent Problems	Irrigation bubbler too close to trunk.
8712				No					6	California sycamore	*Platanus racemosa*		6	6	54	6	4 Good - No Apparent Problems	Irrigation bubbler too close to trunk, anthracnose.
8713				No					6	California sycamore	*Platanus racemosa*		6	6	54	6	4 Good - No Apparent Problems	Irrigation bubbler too close to trunk. 2-inch water sprout at 6 inches above grade stubbed off
8714				No					0	Valley Oak	*Quercus lobata*		5	0	54	6	3 Fair - Minor Problems	Irrigation bubbler too close to trunk, self correcting bow in trunk.
8715				No					6	California sycamore	*Platanus racemosa*		6	6	54	6	3 Fair - Minor Problems	Codominant 2-inch stem at 24 inches above grade.
8716				No					14	Black Walnut	*Juglans nigra*		14	14	12	12	3 Fair - Minor Problems	3-7 inch stems at 24 inches above grade.
8717				No					0	Chinese pistache	*Pistacia chinensis*		14	0	6	15	3 Fair - Minor Problems	Low branching at 12 inches above grade. Failed Grey Pine broke limbs to west.
8718				No					0	Chinese pistache	*Pistacia chinensis*		14	0	6	15	3 Fair - Minor Problems	Low branching at 12 inches above grade, inclusion at grade. Failed Grey Pine broke limbs to the west.
8719				No					0	Chinese pistache	*Pistacia chinensis*		15	0	10	15	3 Fair - Minor Problems	2 inclusions at 16 inches above grade.
8720				No					0	Chinese pistache	*Pistacia chinensis*		6	0	10	9	3 Fair - Minor Problems	Included bark at 16 inches above grade.
8721				Yes					0	Fremont Cottonwood	*Populus fremontii*		50	0	54	24	1 Extreme Structure or Health Problems	Main central leader at 12 feet bole height broke leaving cavity at remaining 27-inch stem.
8722				Yes					0	Fremont Cottonwood	*Populus fremontii*		26	0	54	21	2 Major Structure or Health Problems	Growing on steep bank, understory tree. Cavities at flare, tip dieback.
8723				Yes					38	Fremont Cottonwood	*Populus fremontii*		38	38	54	30	3 Fair - Minor Problems	Growing on steep bank, root flare buried.
8724				No					0	Fremont Cottonwood	*Populus fremontii*		18	0	54	30	3 Fair - Minor Problems	Growing on steep bank, root flare buried, understory tree leans up hill, low canopy.
8725				Yes					0	Fremont Cottonwood	*Populus fremontii*		60	0	54	24	2 Major Structure or Health Problems	Large cavity at base. Codominant stem at 4 feet above grade. Tip dieback, large nest in canopy.
8801				Yes			No			Blue Oak	*Quercus douglasii*		38.5		54	32	3 Fair - Minor Problems	Good base and base flare. Crowded codominant union. Low branches. Epicormic growth. Medium branch structure. Good canopy structure and vigor.
8802			5401	Yes			No			Blue Oak	*Quercus douglasii*		32		54	20	3 Fair - Minor Problems	Good base. Low branches. Medium deadwood. Epicormic growth. Good branch and canopy structure. Good vigor.

8803			5402	Yes			No			Blue Oak	*Quercus douglasii*		14		54	16	3 Fair - Minor Problems	Good base rocks at base. One-sided west. Partially suppressed. Medium deadwood. Good canopy structure and vigor.
8804			5394	Yes			No			Blue Oak	*Quercus douglasii*	10,13	16		54	19	2 Major Structure or Health Problems	Good base. Codominant at 2 feet. Epicormic growth. Medium/high deadwood. Suppressed by surrounding trees. Poor canopy structure. Medium vigor.
8805				Yes			No			Blue Oak	*Quercus douglasii*		8.5		54	9	2 Major Structure or Health Problems	Good base. Rocks at base. Closed wounds on trunk. Suppressed by surrounding trees. One-sided southwest. Poor canopy structure. Medium vigor.
8806			5395	Yes			No			Blue Oak	*Quercus douglasii*		11.5		54	7	2 Major Structure or Health Problems	Swollen base. Closed wounds on trunk. One-sided west. Medium deadwood. Poor canopy structure. Medium/low vigor.
8807			5398	Yes			No			Blue Oak	*Quercus douglasii*		16		54	17	2 Major Structure or Health Problems	Decay on base west. Low branch south. High deadwood. Sparse foliage. Dead tips. Epicormic growth. Good canopy structure. Low vigor.
8808			5396	Yes			No			Blue Oak	*Quercus douglasii*		9.5		54	5	2 Major Structure or Health Problems	One-inch inclusion on base north. Multiple 1-inch inclusions on trunk. High epicormic growth. Poor canopy structure. Low vigor.
8809			5397	Yes			No			Blue Oak	*Quercus douglasii*		20		54	16	2 Major Structure or Health Problems	Good base and base flare. High deadwood. Dead branch tips. Sparse foliage. Poor canopy structure. One-sided southeast. Low vigor.
8810			5386	Yes			No			Blue Oak	*Quercus douglasii*		15.5		54	17	2 Major Structure or Health Problems	3-inch inclusions on east side of base. Medium deadwood lower limb north. Epicormic growth. Dead branch tips. Medium canopy structure. Medium vigor.
8811			5387	Yes			No			Blue Oak	*Quercus douglasii*		11		54	5	2 Major Structure or Health Problems	Decay on base southwest. Inch inclusions around base. High epicormic growth. Poor canopy structure. Medium/high deadwood. Low vigor.
8812			5368	Yes			No			Blue Oak	*Quercus douglasii*		13		54	12	2 Major Structure or Health Problems	Swollen base. Decay at base northeast and south. High epicormic growth. One-sided south. Dead branch tips. Poor canopy structure. Low vigor.
8813			5369	Yes			No			Blue Oak	*Quercus douglasii*		11		54	5	2 Major Structure or Health Problems	Good base. Closed wound on southwest trunk. High epicormic growth. Medium deadwood. Low vigor.
8814			5370	Yes			No			Blue Oak	*Quercus douglasii*		8.5		54	8	2 Major Structure or Health Problems	Good base. Epicormic growth. Medium deadwood. Suppressed by surrounding trees. Poor canopy structure. Low vigor.
8815			5357	Yes			No			Blue Oak	*Quercus douglasii*	11.5,17	21		54	17	1 Extreme Structure or Health Problems	Codominant at 2 feet. Open wound southwest base. Large extensive decay southeast leader. Decay on southeast leader 12 feet up. Epicormic growth. High deadwood. Poor canopy structure. Low vigor.

8816			5356	Yes			No			Blue Oak	*Quercus douglasii*		18.5		54	16	2 Major Structure or Health Problems	Good base. Codominant at 6 feet. Swollen codominant union. Epicormic growth. Suppressed by surrounding trees. Medium canopy structure. Low vigor.
8817			5355	Yes			No			Blue Oak	*Quercus douglasii*		30		54	28	3 Fair - Minor Problems	Good base flare. Open 2-inch inclusion east. Epicormic growth. Low branches. Good branch and canopy structure. Good vigor.
8818			5371	Yes			No			Blue Oak	*Quercus douglasii*		14		54	15	2 Major Structure or Health Problems	Good base. Closed wounds east trunk. Dead codominant medium leader. One-sided west. Epicormic growth. Low vigor.
8819				Yes			No			Blue Oak	*Quercus douglasii*		16		54	15	2 Major Structure or Health Problems	Good base and base flare. Epicormic growth. Medium deadwood. Medium canopy structure. Medium vigor.
8820				Yes			No			Blue Oak	*Quercus douglasii*		20.5		54	20	3 Fair - Minor Problems	Good base and base flare. Medium/large closed wound northwest. Low branch south. Epicormic growth. Medium deadwood. Medium canopy structure. Medium vigor.
8821			5388	Yes			No			Blue Oak	*Quercus douglasii*		37		54	35	2 Major Structure or Health Problems	Good base flare. Decay on west side base. Decay and dead bark on west trunk. Large break and decay on south leader. Medium break east leader 18 feet up. Low branches. Good branch and canopy structure. Good vigor.
8822				Yes			No			Blue Oak	*Quercus douglasii*		25		54	20	3 Fair - Minor Problems	Good base. Low branches. Good branch and canopy structure. Medium deadwood. Epicormic growth. Good vigor.
8823			5310	Yes			No			Blue Oak	*Quercus douglasii*		13		54	13	3 Fair - Minor Problems	Good base. Crowded branch structure. Epicormic growth. Good canopy structure. Low branches. Good vigor.
8824			5311	Yes			No			Blue Oak	*Quercus douglasii*		9.5		54	13	2 Major Structure or Health Problems	Good base. Rock at base. Epicormic growth. Suppressed by surrounding trees. Medium deadwood. Crowded canopy structure. Good vigor.
8825			5313	Yes			No			Blue Oak	*Quercus douglasii*		19		54	19	3 Fair - Minor Problems	Good base. Rocks at base. Small open wounds on trunk north. Low branch east. Epicormic growth. Good canopy structure. Good vigor.
8826			5314	Yes			No			Blue Oak	*Quercus douglasii*		16		54	15	3 Fair - Minor Problems	Good base and base flare. Big rock at base southwest. Low branches northeast. Good branch and canopy structure. One-sided northeast. Good vigor.
8827			5315	Yes			No			Blue Oak	*Quercus douglasii*		13.5		54	12	3 Fair - Minor Problems	Good base. Rocks at base. Closed wounds north. One-sided east. Suppressed southwest. Low branches east. Medium deadwood. Good branch structure. Good vigor.
8828				Yes			No			Blue Oak	*Quercus douglasii*		16		54	14	3 Fair - Minor Problems	Good base. Rocks at base. One-sided east. Medium deadwood. Good branch and canopy structure. Good vigor.
8829			5317	Yes			No			Blue Oak	*Quercus douglasii*		30.5		54	30	3 Fair - Minor Problems	Good base and base flare. Rocks at base. Codominant at 9 feet. Crowded branch unions. Medium deadwood. Good canopy structure. Good vigor.

8830			5393	Yes			No			Blue Oak	*Quercus douglasii*		14		54	10	3 Fair - Minor Problems	Good base flare. Codominant at 5.5 feet. Epicormic growth. One-sided north. Low branches north. Medium deadwood. Good vigor.
8831			5392	Yes			No			Blue Oak	*Quercus douglasii*		14.5		54	14	3 Fair - Minor Problems	Good base. Rocks at base. One-sided northwest. Medium deadwood. Medium canopy structure. Good vigor.
8832			5391	Yes			No			Blue Oak	*Quercus douglasii*		11.5		54	10	3 Fair - Minor Problems	Good base. Growing into rock at base. One-sided south. Epicormic growth. Medium deadwood. Good canopy structure. Medium vigor.
8833			5390	Yes			No			Blue Oak	*Quercus douglasii*		20.5		54	18	3 Fair - Minor Problems	Good base. Rocks at base. Low small dead branch north. Codominant at 9 feet. Epicormic growth. Good canopy structure and vigor.
8834			5389	Yes			No			Blue Oak	*Quercus douglasii*		17.5		54	15	3 Fair - Minor Problems	Good base. Closed wounds on trunk. Suppressed by tree to east. Low branches south. Medium deadwood. Good canopy structure and vigor.
8835			5312	Yes			No			Blue Oak	*Quercus douglasii*		17		54	15	2 Major Structure or Health Problems	Medium decay on south base. Medium deadwood. High epicormic growth. Dead branch tips. Medium canopy structure. Low vigor.
8836				Yes			No			Blue Oak	*Quercus douglasii*		17		54	17	3 Fair - Minor Problems	Good base. Rocks at base. Partially closed 1-inch inclusion on main leader 18 feet up north. Epicormic growth. Good canopy structure and vigor.
8837			5319	Yes			No			Blue Oak	*Quercus douglasii*		17.5		54	17	3 Fair - Minor Problems	Good base. Codominant at 9 feet. 2 main leaders touching in multiple spots. Medium/high deadwood. Leans northeast. Good canopy structure and vigor.
8838			5320	Yes			No			Blue Oak	*Quercus douglasii*		18.5		54	19	3 Fair - Minor Problems	Good base. Rocks at base. Leans primarily south. Low branches south. Good branch and canopy structure. Good vigor.
8839			5325	Yes			No			Blue Oak	*Quercus douglasii*		29.5		54	27	3 Fair - Minor Problems	Good base and base flare. Closed wounds on trunk. Medium-sized lower limb deadwood. Good branch and canopy structure. Good vigor.
8840			5324	Yes			No			Blue Oak	*Quercus douglasii*		20		54	13	2 Major Structure or Health Problems	Good base. Growing into rocks at base. One-sided north. Low branch north. Epicormic growth. Medium deadwood. Poor canopy structure. Medium/low vigor.
8841				Yes			No	20		Interior Live Oak	*Quercus wislizenii*		20.5		54	13	2 Major Structure or Health Problems	Good base. Main leader has large decay from previous branch failer. High deadwood. Canopy has multiple decay spots. Low branch west. Low vigor.
8842	8843			Yes			No	26		Interior Live Oak	*Quercus wislizenii*		26		54	24	2 Major Structure or Health Problems	Good base flare. Small open wound west trunk. Main leader failer southwest trunk 12 feet up. Leans south. Medium deadwood. Medium canopy structure and vigor.
8843			5322	Yes			No	25		Blue Oak	*Quercus douglasii*		25		54	28	3 Fair - Minor Problems	Good base. Closed wounds on trunk. Low branch northwest. Low branch southeast. Codominant at 9 feet. Epicormic growth. Good canopy structure and vigor.

8844				Yes			No		35	Blue Oak	*Quercus douglasii*		35	35	54	25	2 Major Structure or Health Problems	Good base and base flare. High deadwood. High epicormic growth. Low branches. Poor branch structure. Medium canopy structure. Medium/low vigor.
8845				Yes			No		31	Blue Oak	*Quercus douglasii*		31	31	54	25	3 Fair - Minor Problems	Good base and base flare. Medium/large deadwood lower limb south. Medium deadwood. Good branch and canopy structure. Good vigor.
8846			5441	Yes			No		29	Blue Oak	*Quercus douglasii*		28.5	29	54	20	3 Fair - Minor Problems	Good base and base flare. Closed wounds on trunk. Codominant at 8 feet. Low branches. Good canopy structure and branch structure. Good vigor.
8847			5442	Yes			No			Blue Oak	*Quercus douglasii*		10		54	9	2 Major Structure or Health Problems	Good base. Closed wounds on trunk. Poor trunk structure. Epicormic growth. One-sided north. Leans north. Medium canopy structure. Medium vigor.
8848			5443		Yes		No			Blue Oak	*Quercus douglasii*	6.5,12	14		54	8	2 Major Structure or Health Problems	Good base. Codominant 3 feet. Low branch south. Epicormic growth. Medium canopy structure and vigor.
8849			5444	Yes			No			Blue Oak	*Quercus douglasii*		15		54	10	3 Fair - Minor Problems	Good base. Rocks at base. Base growing into rock. Rattlesnake at base as of now. Codominant at 9 feet. Epicormic growth. Medium deadwood. Good canopy structure and vigor.
8850			5445	Yes			No			Blue Oak	*Quercus douglasii*		19.5		54	16	3 Fair - Minor Problems	Good base. Rocks at base. Codominant at 7 feet. Medium deadwood. Epicormic growth. Low branches. Good branch and canopy structure. Good vigor.
8851				Yes			No			Blue Oak	*Quercus douglasii*		16		54	16	3 Fair - Minor Problems	Swollen base. Growing into rock southeast. Small dead lower limb east. Low branches. Epicormic growth. Good branch and canopy structure. Good vigor.
8852			5447	Yes			No			Blue Oak	*Quercus douglasii*		31		54	29	3 Fair - Minor Problems	Good base and base flare. Low branches. Closed wounds on trunk. Epicormic growth. Medium deadwood. Medium canopy structure. Good vigor.
8853				Yes			No		29	Blue Oak	*Quercus douglasii*		29		54	20	3 Fair - Minor Problems	Good base. Rocks at base. Crowded main branch union. Low branches. Medium/high deadwood. One mistletoe patch. Minor epicormic growth. Good canopy structure. Good vigor.
8854			17	Yes			No			Blue Oak	*Quercus douglasii*		32		54	26	3 Fair - Minor Problems	Good base and base flare. Codominant at 6 feet. Low branches. Medium deadwood. Epicormic growth. Good canopy structure and branch structure. Good vigor.
8855				Yes			No			Blue Oak	*Quercus douglasii*		12.5		54	8	3 Fair - Minor Problems	Good base. One-sided southeast. Low branches. Medium deadwood. Good canopy structure. Good vigor.
8856				Yes			No			Blue Oak	*Quercus douglasii*		21.5		54	20	2 Major Structure or Health Problems	Good base. Trunk leans east. Leaders redirect south. Poor canopy structure. Epicormic growth. Medium vigor.

8857			980	Yes			No			Interior Live Oak	*Quercus wislizenii*		32		54	31	2 Major Structure or Health Problems	Good base and basal flare. Large open wound from dominant leader failer. 2 remaining branches have assumed apical dominance. Low branch west. High deadwood. Poor canopy structure. Good vigor.
8858					Yes		No			Interior Live Oak	*Quercus wislizenii*	11,20,25	34		54	20	1 Extreme Structure or Health Problems	Codominante DBH. Multiple large open wounds from major breaks in main leaders. Good basal flare. Poor trunk structure. High deadwood. Poor canopy structure. Low vigor.
8859			982	Yes			No			Blue Oak	*Quercus douglasii*		33		54	27	2 Major Structure or Health Problems	Good base and basal flare. High epicormic growth. Large limb break. Large limb semi hanging in lower limb. Multiple dead mistletoe patches in top leader canopy. Poor branch and canopy structure. Low vigor.
8860			984	Yes			No			Blue Oak	*Quercus douglasii*		32		54	27	3 Fair - Minor Problems	Good base and basal flare. Closed wound northeast. Small 1-inch inclusion northeast. Good trunk structure. Medium deadwood. Good canopy structure and vigor.
8861			983	Yes			No			Blue Oak	*Quercus douglasii*		17		54	16	2 Major Structure or Health Problems	Good base. Trunk heavy lean south. High epicormic growth. Medium deadwood branch. Suppressed by tree to northwest. Poor branch and canopy structure. Medium/low vigor.
8862			985	Yes			No			Blue Oak	*Quercus douglasii*		21		54	12	2 Major Structure or Health Problems	Good base. Codominant at 4 feet. High epicormic growth. Suppressed by tree to east. High deadwood. Poor canopy structure. Low vigor.
8863				Yes			No			Blue Oak	*Quercus douglasii*		12.5		54	7	2 Major Structure or Health Problems	Good base. Straight trunk structure. High epicormic growth. High deadwood. Poor canopy structure. Low vigor.
8864			991	Yes			No			Blue Oak	*Quercus douglasii*		11		54	6	2 Major Structure or Health Problems	Good base. High epicormic growth. High deadwood. Poor branch and canopy structure. Low vigor.
8865			986	Yes			No			Blue Oak	*Quercus douglasii*		7.5		54	6	2 Major Structure or Health Problems	Good base. Poor branch structure. Suppressed by surrounding trees. Low branch northwest. Medium deadwood. Poor canopy structure. Low vigor.
8866			987	Yes			No			Blue Oak	*Quercus douglasii*		11		54	6	2 Major Structure or Health Problems	Good base. Straight trunk structure. High epicormic growth. Poor canopy structure. Medium/high deadwood. One-sided southwest. Low vigor.
8867			988		Yes		No			Blue Oak	*Quercus douglasii*	5.5,8	10		54	9	1 Extreme Structure or Health Problems	Codominant DBH. Rotten base. Estimated 10% live tissue remains. Decay runs down Codominant union to base. High epicormic growth. Poor canopy and branch structure. Low vigor.
8868			989	Yes			No			Blue Oak	*Quercus douglasii*		12.5		54	8	2 Major Structure or Health Problems	Good base. Closed wound trunk east. Codominant at 8 feet. High epicormic growth. Medium/high deadwood. One-sided west. Poor branch and canopy structure. Low vigor.

8869			992	Yes			No			Interior Live Oak	*Quercus wislizenii*		20		54	17	2 Major Structure or Health Problems	Codominant at 8 inches. West lead dead and still intact. Live base good flare. High deadwood. High epicormic growth. Poor canopy structure. Low vigor.
8870			993	Yes			No			Blue Oak	*Quercus douglasii*		16		54	11	3 Fair - Minor Problems	Good base. Base growing into rocks. Closed small wounds on trunk west. Epicormic growth. Poor canopy structure. Good branch structure and vigor.
8871			5	Yes			No			Blue Oak	*Quercus douglasii*		9		54	8	1 Extreme Structure or Health Problems	Many 1-inch inclusions on base and trunk. Dead bark on base and trunk. High epicormic growth. One-sided north. Medium deadwood. Poor canopy structure. Low vigor.
8872			6	Yes			No			Blue Oak	*Quercus douglasii*		16		54	15	3 Fair - Minor Problems	Good base. Rocks at base. Small closed wounds on trunk. Epicormic growth. Medium/high deadwood. Good canopy structure and vigor.
8873			3	Yes			No			Blue Oak	*Quercus douglasii*		12		54	9	3 Fair - Minor Problems	Good base. Rocks at base. One-sided north. Epicormic growth. Medium branch structure. Good canopy structure and vigor. Medium deadwood.
8874			4	Yes			No			Blue Oak	*Quercus douglasii*		13		54	9	2 Major Structure or Health Problems	Good base. Rocks at base. Codominant at 4 feet. One-sided southwest. High epicormic growth. Suppressed by surrounding trees. High deadwood. Poor canopy structure. Low vigor.
8875			5463	Yes			No			Blue Oak	*Quercus douglasii*		6		54	5	2 Major Structure or Health Problems	Good base. Rock at base. Epicormic growth on trunk. High epicormic growth. Suppressed by surrounding trees. Low branch west. High deadwood. Poor canopy structure. Medium vigor.
8876			2	Yes			No			Interior Live Oak	*Quercus wislizenii*		26		54	11	2 Major Structure or Health Problems	Rocks at base. Small open wounds on trunk. Large open inclusion southeast base. Secondary leader dead north. Low branch southwest. Poor canopy structure. High deadwood. Low vigor.
8877			1	Yes			No			Interior Live Oak	*Quercus wislizenii*		11.5		54	15	2 Major Structure or Health Problems	Uprooted but re-rooted horizontal trunk structure. 3-inch open inclusion on top side of trunk. Mature epicormic growth. Poor branch structure. Low branches. Medium deadwood. Good vigor.
8878			998	Yes			No			Blue Oak	*Quercus douglasii*		23		54	22	3 Fair - Minor Problems	Good base and basal flare. Codominant at 9 feet. Epicormic growth. Leans west. Low branches southwest. Good canopy structure and vigor.
8879			997	Yes			No			Blue Oak	*Quercus douglasii*		18.5		54	13	3 Fair - Minor Problems	Good base and basal flare. Leans east. One-sided southeast. Codominant at 10 feet. Medium branch structure. Medium canopy structure and vigor.
8880				Yes			No			Blue Oak	*Quercus douglasii*		17		54	17	3 Fair - Minor Problems	Good base and basal flare. Medium closed wound trunk south. Epicormic growth. Partially suppressed by tree north. Good canopy structure and vigor.
8881			996	Yes			No			Blue Oak	*Quercus douglasii*		19.5		54	18	3 Fair - Minor Problems	Good base and base flare. Multiple closed wounds around and up trunk. Medium deadwood. Epicormic growth. Good canopy structure. Medium/good vigor.

8882			994	Yes			No			Blue Oak	*Quercus douglasii*		22		54	14	2 Major Structure or Health Problems	Good base and basal flare. Leans northeast. Codominant at 7 feet. High epicormic growth. Low branch southeast. Dead branch tips. Poor canopy structure. Medium vigor.
8883			7	Yes			No			Blue Oak	*Quercus douglasii*		17.5		54	15	2 Major Structure or Health Problems	Good base and basal flare. Dead small lower limbs north. High epicormic growth. Leans northeast. High deadwood. Dead branch tips. Good canopy structure. Medium vigor.
8884			8		Yes		No			Interior Live Oak	*Quercus wislizenii*	14,15	21		54	14	1 Extreme Structure or Health Problems	Codominant DBH. Rotten base. Rocks at base. Uprooted and rerooted. Leans west. Large open inclusions on both leaders. High deadwood. Low branches. Poor branch structure. Medium canopy structure. Low vigor.
8885			6	Yes			No			Interior Live Oak	*Quercus wislizenii*		14.5		54	13	2 Major Structure or Health Problems	Swollen base. Rocks at base. Large 4-inch opening with wound wood on trunk down to base. Poor branch structure. Low branches. High deadwood. Good canopy structure. Low vigor.
8886				Yes			No		0	Blue Oak	*Quercus douglasii*		39.5	0	54	18	2 Major Structure or Health Problems	Good base. Large cavity 8 feet up trunk west side. Large open cavity partially closed east branch. Low branches. Epicormic growth. Good canopy structure. Medium vigor.
8887				Yes			No		0	Blue Oak	*Quercus douglasii*		44	0	54	23	1 Extreme Structure or Health Problems	Rotten hollow base. 5-foot opening in southwest trunk. Hollow trunk. High deadwood. High mistletoe. Low vigor.
8888				Yes			No		0	Blue Oak	*Quercus douglasii*		41.5	0	54	25	2 Major Structure or Health Problems	Good base and basal flare. Buttress roots. Weak connection large lower west limb. Low branches. Decay on medium lower limb south. High epicormic growth. Woodpecker holes throughout. Poor canopy structure. Medium/low vigor.
8889				Yes			No	42		Blue Oak	*Quercus douglasii*		42		54	29	3 Fair - Minor Problems	Good base. Rocks at base. Epicormic growth. Medium deadwood. Low branches. Good canopy and branch structure. Good vigor.
8890				Yes			No			Blue Oak	*Quercus douglasii*		9		54	9	2 Major Structure or Health Problems	Swollen base with closed wounds east side. Closed small trunk wounds. Partially closed wounds on trunk. One-sided/leans east. Suppressed by surrounding trees. Medium vigor.
8891				Yes			No			Interior Live Oak	*Quercus wislizenii*		28		54	17	1 Extreme Structure or Health Problems	Rotten swollen base. Swollen elevated roots. Codominant leader failer at east base. Dead bark east existing main leader. Poor branch structure. Low branches. High deadwood. Poor canopy structure. Low vigor.
8893				Yes			No			Blue Oak	*Quercus douglasii*		35.5		54	29	3 Fair - Minor Problems	Good base and base flare. Codominant at 8 feet. Medium deadwood. Low branches east. Epicormic growth. Medium-size leader failer, leader on ground southwest. Good canopy structure. Good vigor.
8894				Yes			No			Blue Oak	*Quercus douglasii*		16		54	16	3 Fair - Minor Problems	Good base and base flare. Codominant at 15 feet. Epicormic growth. Leans northeast. Partially suppressed. Good canopy structure. Good vigor.

8895				Yes			No			Blue Oak	*Quercus douglasii*		22		54	20	3 Fair - Minor Problems	Good base and base flare. Leans east. Low branches east. Epicormic growth. Medium canopy structure. Good vigor.
8896				Yes			No			Blue Oak	*Quercus douglasii*		21		54	13	2 Major Structure or Health Problems	Good base and base flare. Closed wound trunk south. Low branches south. One-sided southeast. Partially suppressed. High epicormic growth. High deadwood. Medium/low vigor.
8897				Yes			No			Blue Oak	*Quercus douglasii*		12.5		54	10	2 Major Structure or Health Problems	Good base. Closed wounds trunk southwest. Epicormic growth. Suppressed by surrounding trees. One-sided south. Poor branch and canopy structure. Medium vigor.
8898				Yes			No			Blue Oak	*Quercus douglasii*		29		54	14	2 Major Structure or Health Problems	Good base and basal flare. Closed wound trunk north. Medium dead 4-foot leader. Epicormic growth. Medium-size limb failed south. Poor canopy structure. Low vigor.
8899				Yes			No			Blue Oak	*Quercus douglasii*		13		54	12	2 Major Structure or Health Problems	Good base. Multiple closed wounds with epicormic growth up trunk. High epicormic growth. One-sided east. Poor canopy structure. Low vigor.
8900				Yes			No			Blue Oak	*Quercus douglasii*		22.5		54	17	3 Fair - Minor Problems	Good base. Codominant at 10 feet. Epicormic growth. Good branch structure. Medium canopy structure. Good vigor.
9401				Yes			No		31	Blue Oak	*Quercus douglasii*		30.5	31	54	27	3 Fair - Minor Problems	**New tag number sequence.** Good base and basal flare. No defects on trunk. Crowded branch union structure south side. Low branches. Good canopy structure and vigor.
9402				Yes			No		0	Blue Oak	*Quercus douglasii*		37.5	0	54	24	2 Major Structure or Health Problems	Good base flare. Elevated roots. Closed and partially closed wounds on trunk. Large cavity on south side 5 feet up trunk. Low branches. Minor mistletoe. Medium/high deadwood. Good canopy structure and vigor.
9403				Yes			No		30	Blue Oak	*Quercus douglasii*		30	30	54	18	3 Fair - Minor Problems	Rocks around entire base. Healthy base. Codominant at 5 feet. East leader has decay in multiple spots up trunk. Primarily one-sided west. Suppressed by tree to east. Medium deadwood. Medium canopy structure. Medium vigor.
9404				Yes			No		28	Blue Oak	*Quercus douglasii*		28		54	18	3 Fair - Minor Problems	Good base. No visible defects on trunk. South leader epicormic growth and sparse foliage. Medium deadwood. Good vigor.
9405				Yes			No		24.5	Blue Oak	*Quercus douglasii*		24.5		54	14	2 Major Structure or Health Problems	Good base. Codominant at 10 feet. Crumbling bark. One-sided west. Suppressed by tree to east. Low branches west. Medium deadwood. Medium vigor. Poor canopy structure.
9406				Yes			No		0	Blue Oak	*Quercus douglasii*		25.5	0	54	25	2 Major Structure or Health Problems	Good base. Closed wounds on trunk. Medium deadwood. Low branches south. Epicormic growth. Medium/high mistletoe. Foliage primarily at tips. Poor vigor.
9407				Yes			No		17	Blue Oak	*Quercus douglasii*		17		54	16	2 Major Structure or Health Problems	Good base. Crumbling bark. Medium dead branch south side. Epicormic growth. Medium deadwood. Dead tips on branches. Low vigor.

9408				Yes			No		0	Valley Oak	*Quercus lobata*		28.5	0	54	30	1 Extreme Structure or Health Problems	Base 30% dead. Lighting strike killed middle highest leader and ran to ground ripping the bark and 2 inches of live tissue off. High deadwood. Large dead/dying branches. Poor canopy structure. Low vigor.
9409				Yes			No		16	Blue Oak	*Quercus douglasii*		16		54	10	2 Major Structure or Health Problems	Swollen base. Rocks north base. Vertical crack north, 1-inch inclusion. High deadwood. Epicormic growth. Poor branch structure. Medium vigor.
9410				Yes			No		28	Blue Oak	*Quercus douglasii*		28		54	32	3 Fair - Minor Problems	Good base and basal flare. Large closed wound southeast 1 foot up trunk. Medium deadwood. Low branches. Good branch and canopy structure. Good vigor.
9411				Yes			No		16.5	Blue Oak	*Quercus douglasii*		16.5		54	18	3 Fair - Minor Problems	Good base. No visible trunk defects. Good branch structure. Medium deadwood. Good vigor.
9412																		
9413				Yes			No		17	Blue Oak	*Quercus douglasii*		17		54	13	3 Fair - Minor Problems	Good base. Rocks at base northeast. No visible trunk defects. Low branches south. One-sided south. Medium deadwood. Large mistletoe in canopy. Medium vigor.
9414				Yes			No		30	Blue Oak	*Quercus douglasii*		30		54	26	3 Fair - Minor Problems	Good base and basal flare. Codominant at 9 feet. Low branches. Medium deadwood. Good branch structure. Good canopy structure. Good vigor.
9415				Yes			No		8	Blue Oak	*Quercus douglasii*		8		54	7	2 Major Structure or Health Problems	Good base. Closed wound south base. Low branches south. Poor branch and canopy structure. Epicormic growth. Suppressed by surrounding trees. Medium vigor.
9416				Yes			No		0	Blue Oak	*Quercus douglasii*		11	0	54	9	2 Major Structure or Health Problems	Swollen base. Small decay on southwest base. One-sided southwest. Low branch south. Medium deadwood. Poor canopy structure. Low vigor.
9417				Yes			No		0	Blue Oak	*Quercus douglasii*		9	0	54	7	1 Extreme Structure or Health Problems	90% rotten base. Dead/dying bark on trunk. One-sided. Medium/high deadwood. Poor canopy structure. Suppressed by surrounding trees. Low vigor.
9418				Yes			No		19	Blue Oak	*Quercus douglasii*		19		54	10	3 Fair - Minor Problems	Swollen base. Rock at base to west. No visible defects at base. Codominant at 8 feet with small inclusion at union. Low branches north. Medium deadwood. One-sided north. Good canopy structure. Good vigor.
9419					Yes		No		0	Blue Oak	*Quercus douglasii*	10.5,10.5	15	0	54	14	2 Major Structure or Health Problems	Decay all around base. Estimated 20% live tissue left on base. Codominant at 3 feet. High epicormic growth. Suppressed by surrounding trees. Mediu/high deadwood. Dead branch tips. Low vigor.
9420				Yes			No		13	Blue Oak	*Quercus douglasii*		13		54	17	3 Fair - Minor Problems	Good base. No visible trunk defects. Epicormic growth. Low branches growing into surrounding trees. Good canopy structure. Medium vigor.
9421				Yes			No		16	Blue Oak	*Quercus douglasii*		16		54	10	3 Fair - Minor Problems	Good base. Codominant at 8 feet. One-sided northeast. Low branches northeast. Good canopy structure. Good vigor.

9422				Yes			No		0	Blue Oak	*Quercus douglasii*		13	0	54	15	1 Extreme Structure or Health Problems	Good base. Partially closed wound north trunk 6 feet up. Poor trunk structure. Heavy north lean. Dead branch from adjacent tree rubbing bark off trunk. Single long apical leader over extended north. Foliage on branch tips. Medium vigor.
9423				Yes			No		21	Blue Oak	*Quercus douglasii*		21	21	54	10	2 Major Structure or Health Problems	Decay on east base partially closed. Codominant at 5 feet. Epicormic growth. Medium deadwood. Medium canopy structure. Medium vigor.
9424				Yes			No		32.5	Blue Oak	*Quercus douglasii*		32.5		54	21	3 Fair - Minor Problems	Good base. Elevated tension roots. Heavy lean northeast. Two medium-sized dead branches north. Low branches northeast. Good branch structure. Good canopy structure. Good vigor.
9425				Yes			No		35.5	Blue Oak	*Quercus douglasii*		35.5		54	26	3 Fair - Minor Problems	Good base. Closed small wounds on trunk. Large lower branch break 18 feet up. Low branches. Good branch structure. Medium deadwood. Good canopy structure. Good vigor.
9426				Yes			No		0	Blue Oak	*Quercus douglasii*		18.5	0	54	7	1 Extreme Structure or Health Problems	Good base. Poor branch and canopy structure. High deadwood. Dead foliage throughout tree. One-sided south. Dead hangers.
9427				Yes			No		21	Blue Oak	*Quercus douglasii*		21		54	17	3 Fair - Minor Problems	Swollen base. Primarily one-sided south. Minor crumbling bark. Epicormic growth. Medium deadwood. Low branches south. Good branch and canopy structure. Good vigor.
9428				Yes			No		18	Blue Oak	*Quercus douglasii*		18		54	11	3 Fair - Minor Problems	Good base. No visible defects on trunk. Epicormic growth. One-sided northwest. Some crumbling bark on branches. Good canopy structure. Good vigor.
9429				Yes			No		21	Blue Oak	*Quercus douglasii*		21		54	18	3 Fair - Minor Problems	Good base. Rocks at base. Low branches. Epicormic growth. Medium deadwood. Good branch and canopy structure. Good vigor.
9430				Yes			No		24.5	Valley Oak	*Quercus lobata*		24.5		54	24	3 Fair - Minor Problems	Good base. No visible trunk defects. Medium deadwood. Low branches. Minor mistletoe. Good branch and canopy structure. Good vigor.
9432				Yes			No			Blue Oak	*Quercus douglasii*		20		54	20	3 Fair - Minor Problems	Good base. No visible defects on trunk. Low branch south. Epicormic growth. Oak galls. Medium deadwood. Good branch and canopy structure. Good vigor.
9433				Yes			No			Blue Oak	*Quercus douglasii*	11,12.5	17		54	11	2 Major Structure or Health Problems	Good base. Codominant at 3 feet. High epicormic growth. Medium/high deadwood. Poor canopy structure. Low vigor.
9434				Yes			No			Blue Oak	*Quercus douglasii*		18		54	19	2 Major Structure or Health Problems	Good base. Epicormic growth on trunk. Codominant at 11 feet. High epicormic growth. Poor barony structure. Medium deadwood. Dead branch tips. Low vigor.
9434				Yes			No			Blue Oak	*Quercus douglasii*		6.5		54	10	2 Major Structure or Health Problems	Good base. Growing on slope. Epicormic growth. Heavy lean. Poor canopy structure. Low vigor.

9435				Yes			No		15	Blue Oak	*Quercus douglasii*		15.5		54	15	2 Major Structure or Health Problems	Good base. Rocks at base. Crumbling bark on trunk. Low branches south. High mistletoe. High deadwood. Good canopy structure. Low vigor.
9437				Yes			No		23	Blue Oak	*Quercus douglasii*		23.5		54	27	3 Fair - Minor Problems	Good base. Leans northeast. Epicormic growth. Good branch and canopy structure. Medium deadwood. Low branches northeast. Minor mistletoe in canopy. Good vigor.
9437				Yes			No		11	Blue Oak	*Quercus douglasii*		11		54	10	2 Major Structure or Health Problems	Good base. Poor trunk structure. Epicormic structure. Epicormic growth. Leans east. Poor canopy structure. Low vigor.
9438				Yes			No		25	Blue Oak	*Quercus douglasii*		24.5		54	18	3 Fair - Minor Problems	Good base. Leans southwest. Low branch southwest. One mistletoe patch. Good canopy structure. Good vigor. Medium deadwood.
9439				Yes			No		0	Blue Oak	*Quercus douglasii*		39.5	0	54	18	1 Extreme Structure or Health Problems	Good base and basal flare. Many large mid-branch breaks. Multiple wood pecker holes. Poor branch structure. Poor canopy structure. Low vigor.
9440				Yes			No			Blue Oak	*Quercus douglasii*		20		54	18	3 Fair - Minor Problems	Good base. Codominant at 6 feet. Medium deadwood. Good branch and canopy structure. Good vigor.
9441				Yes			No			Blue Oak	*Quercus douglasii*		12		54	12	2 Major Structure or Health Problems	Good base. Closed wound 4 feet up on trunk east. Medium dead low branch north. Heavy lean northeast. Suppressed by tree to south. One-sided northeast. Low vigor.
9442				Yes			No			Blue Oak	*Quercus douglasii*		17		54	11	3 Fair - Minor Problems	Good base. Codominant at 5 feet. One-sided south. Suppressed by tree north. Good canopy structure. Good vigor. Medium deadwood.
9443				Yes			No			Blue Oak	*Quercus douglasii*		14.5		54	15	2 Major Structure or Health Problems	Good base. Leans south. One-sided. Medium/high deadwood. Epicormic growth. Good branch structure. Poor canopy structure. Low vigor.
9444				Yes			No			Blue Oak	*Quercus douglasii*		12.5		54	10	2 Major Structure or Health Problems	Good base. Leans west. One-sided. Suppressed by tree east. High deadwood. Medium canopy and branch structure. Medium vigor. Epicormic growth.
9445				Yes			No			Blue Oak	*Quercus douglasii*		23		54	22	2 Major Structure or Health Problems	Good base. Good trunk structure. Medium deadwood. High mistletoe. Sparse foliage. Good canopy structure. Low vigor.
9445				Yes			No			Blue Oak	*Quercus douglasii*		21.5		54	23	2 Major Structure or Health Problems	Good base. Codominant at 5 feet. High epicormic growth. Sparse foliage. Poor canopy structure. Low vigor.
9447				Yes			No			Blue Oak	*Quercus douglasii*		21		54	12	2 Major Structure or Health Problems	Good base. Elevated roots. One-sided southeast. Broken codominant branch east side. Poor canopy structure. Low vigor.
9448				Yes			No			Blue Oak	*Quercus douglasii*		20.5		54	12	3 Fair - Minor Problems	Good base. No visible trunk defects. Codominant at 15 feet. One-sided east. Good branch and canopy structure. Medium vigor.

9449				Yes			No			Blue Oak	*Quercus douglasii*		7		54	7	2 Major Structure or Health Problems	Good base. Partially closed wounds on trunk east side. Poor trunk structure. High deadwood. Suppressed by surrounding trees. Poor canopy structure. Low vigor.
9450				Yes			No			Blue Oak	*Quercus douglasii*		19		54	19	3 Fair - Minor Problems	Good base. No visible defects on trunk. Leans south. Medium deadwood. Medium canopy and branch structure. Medium vigor.
9451				Yes			No			Blue Oak	*Quercus douglasii*		10.5		54	8	2 Major Structure or Health Problems	Good base. Included bark on trunk. Swollen trunk north 4 feet. Two 2-inch holes north. High epicormic growth. One-sided south. Low vigor. Poor canopy structure.
9452				Yes			No			Blue Oak	*Quercus douglasii*		8		54	5	2 Major Structure or Health Problems	Good base. Small openings up trunk partially closed. Medium deadwood. Poor canopy structure. Suppressed by surrounding trees. Low vigor.
9453				Yes			No			Blue Oak	*Quercus douglasii*		22		54	20	3 Fair - Minor Problems	1-inch inclusion on south base. Crumbling bark south base. Codominant at 7 feet. Good branch and canopy structure. Medium deadwood. One-sided north. Good vigor.
9454				Yes			No			Blue Oak	*Quercus douglasii*		12.5		54	9	2 Major Structure or Health Problems	Good base. Mature epicormic growth on trunk 8 feet southwest. Poor branch and canopy structure. Medium/high deadwood. Low vigor. Suppressed by surrounding trees.
9455				Yes			No			Blue Oak	*Quercus douglasii*		29		54	21	3 Fair - Minor Problems	Good base. Codominant at 5 feet. Minor decay in codominant union. Epicormic growth. Good branch and canopy structure. Low branch south. Good vigor. Medium deadwood.
9456				Yes			No			Blue Oak	*Quercus douglasii*		14		54	14	2 Major Structure or Health Problems	Good base. High epicormic growth. High deadwood. Crowded branch structure. Low vigor.
9457				Yes			No			Valley Oak	*Quercus lobata*		10		54	6	2 Major Structure or Health Problems	Good base. Poor trunk structure. Leans west. Suppressed by tree to east. High epicormic growth. High deadwood. Medium dead branch northwest. Poor branch and canopy structure. Low vigor.
9458				Yes			No			Blue Oak	*Quercus douglasii*		34.5		54	35	3 Fair - Minor Problems	Good base and basal flare. Good branch structure. Medium/high epicormic growth. Low branches. Good canopy structure. Good vigor.
9459				Yes			No		32	Blue Oak	*Quercus douglasii*		32		54	23	3 Fair - Minor Problems	Good base and basal flare. Closed wound 4 feet up trunk west. Crumbling bark on trunk. Partially closed wound 12 feet west. Good branch structure. Low branches. Medium deadwood. Good canopy structure. Good vigor.
9460				Yes			No		20.5	Blue Oak	*Quercus douglasii*		20.5		54	12	2 Major Structure or Health Problems	Good base. Swollen trunk below 1inch inclusion. Codominant at 9 feet. One-sided west. High epicormic growth. Oak galls. High deadwood. Medium canopy structure. Low vigor.
9461				Yes			No		12.5	Blue Oak	*Quercus douglasii*		12.5		54	11	3 Fair - Minor Problems	Good base. No visible defects on trunk. Codominant at 10 feet. Suppressed by surrounding trees. One-sided northeast. Good canopy structure. Medium vigor.

9462				Yes			No		6	Blue Oak	*Quercus douglasii*		6		54	2	2 Major Structure or Health Problems	Good base. Closed wounds on trunk. High epicormic growth. Dead top. Suppressed by surrounding trees. Low vigor. Poor canopy structure.
9463				Yes			No		13	Blue Oak	*Quercus douglasii*		13		54	9	3 Fair - Minor Problems	Good base. No visible defects on trunk. One-sided. Low branches north. Good branch structure. Good canopy structure. Good vigor.
9464				Yes			No		6.5	Blue Oak	*Quercus douglasii*		6.5		54	6	3 Fair - Minor Problems	Good base. No visible defects on trunk. Codominant at 11 feet. Epicormic growth. Good canopy structure. Good vigor.
9465				Yes			No		13	Blue Oak	*Quercus douglasii*		13		54	7	2 Major Structure or Health Problems	Good base. No visible trunk defects. Other tree growing into trunk rubbing bark. Epicormic growth. Poor canopy and branch structure. Low vigor.
9466				Yes			No		11	Blue Oak	*Quercus douglasii*		11		54	10	3 Fair - Minor Problems	Good base, semi-swollen on northeast. One-sided east. Epicormic growth. Medium deadwood. Medium canopy structure. Medium vigor.
9467				Yes			No		0	Blue Oak	*Quercus douglasii*		7	0	54	10	2 Major Structure or Health Problems	Base uprooted and re grew. Heavy lean north. Partially covered 8-inch crack on base. Low branches. Branches contacting surrounding trees. Good vigor. Medium canopy structure.
9469					Yes		No		0	Blue Oak	*Quercus douglasii*	6,15	16	0	54	9	2 Major Structure or Health Problems	DBH codominant. Swollen base with closed wound southeast. High deadwood. One-sided west. Epicormic growth. Low branches west. Suppressed by tree over it and to the east. Good vigor.
9469				Yes			No		11	Blue Oak	*Quercus douglasii*		11		54	8	3 Fair - Minor Problems	Good base. Dead epicormic growth on trunk. Leans northwest. Good canopy structure. Good vigor.
9470				Yes			No		6.5	Blue Oak	*Quercus douglasii*		6.5		54	10	2 Major Structure or Health Problems	Good base. Leans northeast. Epicormic growth. One-sided. Suppressed by surrounding trees. Poor canopy structure. Low vigor.
9471				Yes			No		11.5	Blue Oak	*Quercus douglasii*		11.5		54	10	2 Major Structure or Health Problems	Swollen base. Closed wound west. One-sided/leans west. Epicormic growth. West lead growing into adjacent tree. Poor canopy structure. Medium vigor.
9472				Yes			No		13.5	Blue Oak	*Quercus douglasii*		13.5		54	12	3 Fair - Minor Problems	Good base and basal flare. Medium epicormic growth. Good branch and canopy structure. Medium vigor. Medium deadwood.
9473				Yes			No		0	Blue Oak	*Quercus douglasii*		11	0	54	9	2 Major Structure or Health Problems	Good base and basal flare. High epicormic growth. One-sided east. Poor canopy structure. Low vigor. Medium/high deadwood.
9474				Yes			No		20.5	Blue Oak	*Quercus douglasii*		20.5		54	9	3 Fair - Minor Problems	Good base and basal flare. One-sided southwest. Epicormic growth. Low branches southwest. Good canopy structure. Good vigor.
9475				Yes			No		17	Blue Oak	*Quercus douglasii*		17		54	19	3 Fair - Minor Problems	Good base. One-sided south. Low branches. Medium deadwood. Leans south. Good canopy structure. Good vigor.

9476				Yes			No		25	Blue Oak	*Quercus douglasii*		25		54	22	3 Fair - Minor Problems	Good base and good basal flare. Crumbling bark. Codominant at 8 feet. Low branches. Leans south. Good branch and canopy structure. Good vigor.
9477				Yes			No		24.5	Blue Oak	*Quercus douglasii*		24.5		54	20	3 Fair - Minor Problems	Good base. Many rocks at base. Leans southwest. Good branch structure. Medium deadwood. Medium/high epicormic growth. Sparse foliage in canopy. Good canopy structure. Medium vigor.
9478				Yes			No		30	Blue Oak	*Quercus douglasii*		29.5		54	30	2 Major Structure or Health Problems	Good base flare. Crumbling bark on trunk. Multiple leaders over crowded/weak connections 15 feet. High mistletoe. Low branches west. Low vigor.
9479				Yes			No			Blue Oak	*Quercus douglasii*		25		54	23	2 Major Structure or Health Problems	Good base flare. Closed wound north 5 feet trunk. Codominant 10 feet. High epicormic growth. Medium deadwood. Good branch and canopy structure. Low vigor.
9480				Yes			No			Valley Oak	*Quercus lobata*		9		54	5	2 Major Structure or Health Problems	Good base. Multiple swollen spots on trunk with included bark. High epicormic growth. Poor branch and canopy structure. High deadwood. Low vigor.
9481				Yes			No			Blue Oak	*Quercus douglasii*		15.5		54	14	3 Fair - Minor Problems	Good base and basal flare. No visible defects on trunk. Epicormic growth. One patch of mistletoe in canopy. Good canopy structure. Medium vigor.
9482				Yes			No			Blue Oak	*Quercus douglasii*		15.5		54	12	2 Major Structure or Health Problems	Good base, no visible defects. One-sided northeast. High epicormic growth. Mistletoe. High deadwood. Medium canopy structure. Low vigor.
9483				Yes			No			Blue Oak	*Quercus douglasii*		15		54	12	2 Major Structure or Health Problems	Good base. Closed wound northwest 8 inches up. Codominant at 7 feet. High deadwood. High epicormic growth. Suppressed by surrounding trees. Poor branch and canopy structure. Low vigor.
9484				Yes			No			Valley Oak	*Quercus lobata*		22.5		54	18	2 Major Structure or Health Problems	Good base. Codominant at 8 feet. High epicormic growth. Oak galls. Poor branch structure/dead tips. Medium canopy structure. Medium vigor.
9485				Yes			No			Blue Oak	*Quercus douglasii*		20.5		54	24	3 Fair - Minor Problems	Good base flare. Medium deadwood. Medium branch structure. Good canopy structure. Good vigor.
9486				Yes			No			Blue Oak	*Quercus douglasii*		27.5		54	25	3 Fair - Minor Problems	Good base and basal flare. Codominant at 7 feet. Suspected weak connection. Low branches. Epicormic growth. Good branch and canopy structure. Good vigor. Medium deadwood.
9487				Yes			No			Blue Oak	*Quercus douglasii*		17.5		54	12	2 Major Structure or Health Problems	Good base. Codominant at 6 feet. Epicormic growth. One-sided northeast. Suppressed by surrounding trees. Mistletoe. Medium deadwood. Poor canopy structure. Low vigor.
9488				Yes			No			Blue Oak	*Quercus douglasii*		9.5		54	9	2 Major Structure or Health Problems	Good base. One-sided south. Heavily suppressed by surrounding trees. Poor canopy structure. Low vigor. Epicormic growth.

9489				Yes			No	19.5		Blue Oak	*Quercus douglasii*		19.5		54	18	2 Major Structure or Health Problems	Good base and basal flare. Medium/high deadwood. Low branches south. South lead crowded branches. High epicormic growth. Medium canopy structure. Low vigor.
9490				Yes			No			Blue Oak	*Quercus douglasii*		16		54	17	2 Major Structure or Health Problems	Good base. One-sided northeast. Poor branch and canopy structure. Epicormic growth and mistletoe. Low vigor.
9491				Yes			No			Blue Oak	*Quercus douglasii*		21.5		54	22	3 Fair - Minor Problems	Good base and basal flare. Medium deadwood on trunk. Epicormic growth. Good branch and canopy structure. Good vigor.
9492				Yes			No			Blue Oak	*Quercus douglasii*		30.5		54	29	3 Fair - Minor Problems	Good basal flare. 10-inch wound on northeast base. Woodpecker holes on trunk. Medium deadwood. Low branches. Good branch and canopy structure. Good vigor.
9493				Yes			No			Blue Oak	*Quercus douglasii*		25		54	20	3 Fair - Minor Problems	Good base and basal flare. No visible trunk defects. One-sided east. Medium deadwood. Epicormic growth. Good canopy structure. Good vigor.
9494				Yes			No			Blue Oak	*Quercus douglasii*		32.5		54	30	2 Major Structure or Health Problems	Good base and basal flare. 2 large lower limb breaks. Epicormic growth. High deadwood. Low branches. Over extended branches. Medium canopy structure. Medium vigor.
9495				Yes			No			Blue Oak	*Quercus douglasii*		23		54	24	2 Major Structure or Health Problems	Good base and basal flare. Growing in seasonal creek. Crumbling bark on trunk. High epicormic growth. High mistletoe. High deadwood. Low branches. Good canopy structure. Low vigor.
9496				Yes			No			Blue Oak	*Quercus douglasii*		17.5		54	16	2 Major Structure or Health Problems	Good base. Semi closed 4-inch wound northeast trunk. Crumbling bark. High deadwood. Epicormic growth. Low branches. Medium canopy structure. Medium vigor.
9497				Yes			No			Valley Oak	*Quercus lobata*		18.5		54	14	3 Fair - Minor Problems	Good base. Codominant at 8 feet. One-sided south. Epicormic growth. Medium canopy structure. Good vigor. Low branches south. Medium deadwood.
9801				Yes			No			Blue Oak	*Quercus douglasii*		16.5		54	16	3 Fair - Minor Problems	**New Tag Sequence** Good base and basal flare. Closed wounds trunk east. Low branches north. Epicormic growth. Partially suppressed by south trees. Medium deadwood. Good canopy structure. Good vigor.
9802				Yes			No			Blue Oak	*Quercus douglasii*		23		54	26	3 Fair - Minor Problems	Good base and basal flare. Codominant at 5.5 feet. Epicormic growth. Good branch and canopy structure. Good vigor.
9803				Yes			No			Blue Oak	*Quercus douglasii*		11		54	10	2 Major Structure or Health Problems	Good base and base flare. Closed trunk wound north. Epicormic growth. Suppressed by surrounding trees. One-sided southwest. Medium deadwood. Poor canopy structure. Medium vigor.
9804				Yes			No			Blue Oak	*Quercus douglasii*		14		54	12	3 Fair - Minor Problems	Good base and basal flare. One-sided west. Medium deadwood. Suppressed by surrounding trees. Good canopy structure. Good vigor.

9805				Yes			No			Blue Oak	*Quercus douglasii*		24		54	19	3 Fair - Minor Problems	Good base and basal flare. Closed wound on trunk northeast. One-sided northeast. Good branch and canopy structure. Good vigor.
9806				Yes			No			Blue Oak	*Quercus douglasii*		20		54	17	3 Fair - Minor Problems	Good base and basal flare. 90% closed wound west trunk. One-sided southeast. Medium canopy structure. Good vigor.
9807					Yes		No			Blue Oak	*Quercus douglasii*	18.5,18.5	26		54	17	3 Fair - Minor Problems	Good base and basal flare. Codominant at 4 feet. Low branches southeast. Closed wounds on trunk. Epicormic growth. One-sided southeast. Good canopy structure. Good vigor.
9808				Yes			No			Blue Oak	*Quercus douglasii*		23		54	19	2 Major Structure or Health Problems	Good base. Inclusion and open 4-inch wide inclusion on trunk north. Sounds hollow. Poor branch structure, branches growing into surrounding trees. Epicormic growth. Low branch south. Poor canopy structure. Medium/low vigor.
9809				Yes			No			Blue Oak	*Quercus douglasii*		34		54	32	3 Fair - Minor Problems	Good base and basal flare. Medium-size closed wounds east. Medium dead low limbs southwest. Low branches. High deadwood. Good branch and canopy structure. Good vigor.
9810				Yes			No			Blue Oak	*Quercus douglasii*		23		54	24	3 Fair - Minor Problems	Good base and basal flare. Codominant 10 feet. Partially open wound in codominant union. Epicormic growth. Medium deadwood. Medium branch structure. Good canopy structure. Good vigor.
9811				Yes			No			Blue Oak	*Quercus douglasii*		24		54	18	3 Fair - Minor Problems	Good base and basal flare. One-sided southeast. Low branches southeast. Medium deadwood. Good canopy structure. Good vigor.
9812				Yes			No	30		Blue Oak	*Quercus douglasii*		30		54	28	2 Major Structure or Health Problems	Good base and basal flare. Many closed wounds up trunk. Decay on the bottom of branches. Closed wounds throughout branches and canopy. Poor branch structure. Good canopy structure. Medium/low vigor.
9813				Yes			No		24	Blue Oak	*Quercus douglasii*		24		54	15	2 Major Structure or Health Problems	Good base. Codominant at 5.5 feet. North leader open wounds sounds hollow. High deadwood and epicormic growth. Low branches west. Medium canopy structure. Medium vigor.
9814					Yes		No			Blue Oak	*Quercus douglasii*	24,28	37		54	35	3 Fair - Minor Problems	Codominant DBH. Good base and basal flare. Low branches. Medium/high deadwood. Medium mistletoe. Epicormic growth. Good branch and canopy structure. Good vigor.
9815				Yes			No			Blue Oak	*Quercus douglasii*		28		54	16	2 Major Structure or Health Problems	Good base. Small inclusion north trunk. One-sided west. High epicormic growth. Medium deadwood. Poor branch structure. Poor canopy structure. Low vigor.
9816				Yes			No			Valley Oak	*Quercus lobata*		43.5		54	40	3 Fair - Minor Problems	Good base and basal flare. 3 medium large closed wounds on trunk. Good branch structure. Epicormic growth. Low branches. Oak galls. Medium breaks in branches. Good canopy structure. Good vigor.

9817				Yes			No			Blue Oak	*Quercus douglasii*		38.5		54	25	1 Extreme Structure or Health Problems	Good base and basal flare. Exposed roots. Poor trunk structure. Closed and partially closed wounds on trunk. Dead large lower limb south. Codominant at 15 feet. Southeast leader dead. North lead dead/dying bark. Poor vigor.
9818					Yes		No		0	Valley Oak	*Quercus lobata*	19.5,43	44	0	54	20	1 Extreme Structure or Health Problems	Codominant at 3 feet. Good base. High deadwood. Dead branches. Dead branch tips. High epicormic growth. Oak galls. Completely dead apical leaders.
9819				Yes			No			Blue Oak	*Quercus douglasii*		38		54	36	3 Fair - Minor Problems	Good basal flare. Good trunk structure. Good branch structure. Low branches. Medium dead branch in canopy. Mistletoe. Good canopy structure. Good vigor.
9820				Yes			No			Blue Oak	*Quercus douglasii*		30		54	30	3 Fair - Minor Problems	Good basal flare. Partially closed small wounds on southwest trunk. Codominant at 12 feet. Medium deadwood. Good branch and canopy structure. Good vigor.
9821				Yes			No			Blue Oak	*Quercus douglasii*		20.5		54	23	2 Major Structure or Health Problems	Small fire damage on base. Codominant at 6 feet. High epicormic growth. Suppressed by surrounding trees. Poor canopy structure. Low vigor.
9822				Yes			No			Blue Oak	*Quercus douglasii*		23.5		54	19	3 Fair - Minor Problems	Good base. One-sided southeast. Epicormic growth. Medium deadwood. Good canopy structure. Good vigor.
9823				Yes			No			Blue Oak	*Quercus douglasii*		41		54	34	3 Fair - Minor Problems	Good base. Codominant 3 equal sized leaders with good attachments. Low branches. Epicormic growth. Good canopy structure and vigor.
9824				Yes			No			Blue Oak	*Quercus douglasii*		19		54	19	2 Major Structure or Health Problems	Good basal flare. Low dead limb south. Low branches. High epicormic growth. One-sided south. Medium deadwood. Low vigor. Poor canopy structure.
9825				Yes			No			Blue Oak	*Quercus douglasii*		23		54	19	3 Fair - Minor Problems	Good basal flare. Good trunk structure. Medium deadwood on trunk and branches. Good canopy structure. Mistletoe in canopy. Medium/good vigor.
9826				Yes			No			Blue Oak	*Quercus douglasii*		25		54	18	2 Major Structure or Health Problems	Hollow base. Large 1-foot opening at base. Crumbling bark on trunk. High epicormic growth. High deadwood. Poor canopy structure. Low vigor.
9827				Yes			No			Blue Oak	*Quercus douglasii*		15		54	10	2 Major Structure or Health Problems	Good base. Rock at base west. Medium-size broken branch 5-feet south trunk. Epicormic growth. Foliage primarily at tips. Low vigor.
9828				Yes			No			Blue Oak	*Quercus douglasii*		19		54	17	3 Fair - Minor Problems	Good base flare. Closed wounds up trunk. One-sided north. Medium deadwood. Epicormic growth. Good branch and canopy structure. Good vigor.
9829				Yes			No	30.5		Blue Oak	*Quercus douglasii*		30.5		54	28	3 Fair - Minor Problems	Good base. Codominant at 6 feet. Crumbling bark. Closed wounds trunk. One-sided northwest. Epicormic growth. Good canopy structure. Good vigor.

9830				Yes			No	33		Blue Oak	*Quercus douglasii*		33		54	24	3 Fair - Minor Problems	Good basal flare. Codominant at 2 feet but trunks are touching until 5 feet. Good branch and canopy structure. Partially sparse foliage. Medium vigor.
9831				Yes			No		35	Blue Oak	*Quercus douglasii*		35.5		54	30	3 Fair - Minor Problems	Good base. Codominant at 5.5 feet with good attachment. Epicormic growth. Low branches. Good canopy structure. Good vigor.
9833				Yes			No			Blue Oak	*Quercus douglasii*		27.5		54	30	3 Fair - Minor Problems	Good base. Codominant at 8 feet. Dead branch in codominant union. Low dead branches east. Good canopy structure. Good vigor.
9835	9834			Yes			No			Blue Oak	*Quercus douglasii*		29		54	30	3 Fair - Minor Problems	Good basal flare. Medium dead branch east trunk 10 feet. Medium deadwood. Epicormic growth. Good branch and canopy structure. Good vigor.
9835				Yes			No			Blue Oak	*Quercus douglasii*		28.5		54	30	3 Fair - Minor Problems	Good base and basal flare. Multiple closed wounds around trunk. Crowded codominant union 14 feet. Low branches. Good branch and canopy structure. Good vigor.
9836				Yes			No			Blue Oak	*Quercus douglasii*		25.5		54	30	3 Fair - Minor Problems	Good base. Large low branches. Large dead branch hung in lowest branch. Leans west. Medium deadwood. Good branch and canopy structure. Good vigor.
9837				Yes			No			Blue Oak	*Quercus douglasii*		20.5		54	15	3 Fair - Minor Problems	Good base. Epicormic growth. One-sided south. Medium deadwood. Good canopy structure. Good vigor.
9838				Yes			No			Blue Oak	*Quercus douglasii*		31.5		54	24	3 Fair - Minor Problems	Good base flare. Codominant at 6 feet. Leans east. Branches growing into other trees. Good canopy and branch structure. Good vigor.
9839				Yes			No			Blue Oak	*Quercus douglasii*		11		54	11	2 Major Structure or Health Problems	Good base. Open wound 8 feet up trunk. Epicormic growth. Suppressed by surrounding trees. One-sided east. Poor canopy structure. Low vigor.
9840				Yes			No			Blue Oak	*Quercus douglasii*		19		54	14	2 Major Structure or Health Problems	Good base. Open wound at codominant union at 8 feet. High epicormic growth. One-sided east. Poor canopy structure. Medium deadwood. Low vigor.
9841				Yes			No			Blue Oak	*Quercus douglasii*		14		54	9	2 Major Structure or Health Problems	Good base. Epicormic growth. Foliage only at top 10 feet. Poor canopy structure. Suppressed. Medium vigor.
9842				Yes			No			Blue Oak	*Quercus douglasii*		6		54	4	2 Major Structure or Health Problems	Good base. Suppressed by surrounding trees. Poor canopy structure. Medium vigor.
9843				Yes			No			Blue Oak	*Quercus douglasii*		18.5		54		3 Fair - Minor Problems	Good basal flare. Epicormic growth on trunk. Good branch and canopy structure. Medium/good vigor.
9844				Yes			No			Blue Oak	*Quercus douglasii*		14		54	10	2 Major Structure or Health Problems	Good base. Crumbling bark on trunk. One-sided southwest. Epicormic growth. Low branch west. Poor canopy structure. Low vigor.

9845				Yes			No			Blue Oak	*Quercus douglasii*		18		54	14	2 Major Structure or Health Problems	Good base. Medium closed wound southeast trunk. Poor trunk structure. Medium dead branch east trunk 12 feet. Medium canopy structure. Medium vigor.
9846				Yes			No			Blue Oak	*Quercus douglasii*		7		54	4	2 Major Structure or Health Problems	Closed wound on east base. High epicormic growth. Suppressed by surrounding trees. Poor canopy structure. Low vigor.
9847				Yes			No			Blue Oak	*Quercus douglasii*		15.5		54	17	2 Major Structure or Health Problems	Good base. Epicormic growth. One-sided northwest. Large widow maker in canopy. Low branch north. Poor canopy structure. Medium/low vigor.
9848				Yes			No			Blue Oak	*Quercus douglasii*		16.5		54	15	3 Fair - Minor Problems	Good base. Epicormic growth. One-sided north. Low branches north. Medium branch and canopy structure. Good vigor.
9849				Yes			No			Blue Oak	*Quercus douglasii*		24.5		54	24	3 Fair - Minor Problems	Good base flare. Medium deadwood. Good canopy structure. Good vigor.
9850					No		No			Pacific willow	*Salix lucida*	1,1,2,2,3,4,5	8		54	10	3 Fair - Minor Problems	Many stems starting at ground. DBH unknown because leaders to crowded. Good vigor.
9851					No		No			Pacific willow	*Salix lucida*	1,2,2,2,3,3,3,6	9		54	6	3 Fair - Minor Problems	Many stems starting at ground. DBH unknown because leaders to crowded. Good vigor.
9852					No		No			Pacific willow	*Salix lucida*	2,3,3,3,4,5,	8		54	8	3 Fair - Minor Problems	Many stems starting at ground. DBH unknown because leaders to crowded. Good vigor.
9853					No		No			Pacific willow	*Salix lucida*	8.5,14.5	17		54	9	2 Major Structure or Health Problems	Codominant DBH. Logs, dirt, and debris on north base. Broken top leader northeast. High deadwood. Epicormic growth. Poor canopy and branch structure. Medium vigor.
9854				No			No			Pacific willow	*Salix lucida*		11		54	9	2 Major Structure or Health Problems	Epicormic growth on base. Dead lower limb northwest. Poor branch and canopy structure. Medium vigor.
9855				No			No			Pacific willow	*Salix lucida*		10		54	6	2 Major Structure or Health Problems	Deadwood and debris at base. Leans west. High deadwood. Poor canopy structure. Low vigor.
9856					Yes		No			Pacific willow	*Salix lucida*	8,10,11,14	22		54	15	2 Major Structure or Health Problems	Codominant at 11, 14, 10 and 8.5 inches. High epicormic growth on base and up trunk. High deadwood. Medium hangers. Dead broken tops. Poor branch structure. Low vigor.
9857					No		No			Pacific willow	*Salix lucida*	9,14	17		54	19	2 Major Structure or Health Problems	Codominant DBH, 14 and 9 inches. Debris at base. High epicormic growth. Heavy lean both leaders. High deadwood. Poor branch and canopy structure. Low vigor.
9858				No			No			Pacific willow	*Salix lucida*		9.5		54	3	1 Extreme Structure or Health Problems	Good base. 90% trunk decay 5 feet northwest. High deadwood. Low vigor. Poor structure.
9859				No			No			Pacific willow	*Salix lucida*		13		54	3	1 Extreme Structure or Health Problems	Uprooted base, still alive. Heavy lean north. High epicormic growth. Large primary leader failer. Low vigor.

9860				Yes			No			Fremont Cottonwood	*Populus fremontii*		26		54	15	2 Major Structure or Health Problems	Dead exposed roots. High debris and deadwood at base. High epicormic growth. High deadwood. Poor canopy. Low vigor.
9861	*			No			No			Pacific willow	*Salix lucida*				54	8	2 Major Structure or Health Problems	**Protected tree and trunk not readily accessible. Tag # assigned but not placed on tree.** Codominant at base. Debris at base. Dead tops. High epicormic growth. High deadwood. Low vigor.
9862				Yes			No			Pacific willow	*Salix lucida*		19		54	3	1 Extreme Structure or Health Problems	High epicormic growth. High deadwood. 90% dead.
9863					Yes		No			Pacific willow	*Salix lucida*	6,8.5,10.5,10.5,10.5	21		54	14	3 Fair - Minor Problems	Codominant DBH. Good base. Epicormic growth. Medium deadwood. Good vigor.
9864				Yes			No			Blue Oak	*Quercus douglasii*		23.5		54	20	3 Fair - Minor Problems	Good base. Closed wounds trunk northwest. Leans northwest. One-sided. Partially covered by trees southeast. Low branches. Good canopy structure. Good vigor.
9865				Yes			No			Blue Oak	*Quercus douglasii*		10		54	8	2 Major Structure or Health Problems	Swollen base. Small inclusions on east trunk. Epicormic growth. One-sided west. Medium deadwood. Poor branch and canopy structure. Medium vigor.
9866				Yes			No			Blue Oak	*Quercus douglasii*		15		54	13	2 Major Structure or Health Problems	Good base. Poor basal flare. Small opening on low trunk south wound wood. Heavy lean south. One-sided south. Low branches. Epicormic growth. Medium vigor. Medium canopy structure.
9867				Yes			No			Blue Oak	*Quercus douglasii*		20.5		54	19	3 Fair - Minor Problems	Good base flare. Rocks at base west. Heavy lean west. Low branches. Medium deadwood. Good branch and canopy structure. Good vigor.
9868				Yes			No			Blue Oak	*Quercus douglasii*		32		54	25	3 Fair - Minor Problems	Good base flare. Minor flaky bark on base and trunk. Rocks at base. low branches. Good branch and canopy structure. Medium deadwood. Good vigor.
9869					Yes		No			Blue Oak	*Quercus douglasii*	22,24	33		54	30	3 Fair - Minor Problems	Codominant at 2 feet. Good base. Codominant union is crowded, possible weak connection. Low branches. Medium deadwood. Good branch and canopy structure. Good vigor.
9870					Yes		No			Blue Oak	*Quercus douglasii*	11,11.5,12	20		54	16	2 Major Structure or Health Problems	Codominant at 1 foot. Swollen base. Suppressed by surrounding trees. Epicormic growth. One-sided south. Low/medium vigor.
9871				Yes			No			Blue Oak	*Quercus douglasii*		11.5		54	8	2 Major Structure or Health Problems	Fire damage at base. Rocks at base. One-sided south. Suppressed by tree north. Good canopy structure. Sparse small foliage. Low vigor.
9872				Yes			No			Pacific willow	*Salix lucida*		26		54	8	2 Major Structure or Health Problems	Decay on base. Exposed roots. Crowded branch structure. High deadwood. Medium vigor.

9873				No			No			Pacific willow	*Salix lucida*		8		54	3	1 Extreme Structure or Health Problems	90% rotten base. Failed codominant leader. Crowded branches high deadwood. Low vigor.
9874				Yes			No			Pacific willow	*Salix lucida*		38		54	19	1 Extreme Structure or Health Problems	Swollen base. High deadwood. High mistletoe. Dead leaders. 10 foliage left. Low vigor.
9875				No			No			Pacific willow	*Salix lucida*		15		54	10	1 Extreme Structure or Health Problems	Trunks spraying out in all directions. High deadwood. 30% foliage remains. Dead leader tips. Low vigor.
9876				Yes			No			Pacific willow	*Salix lucida*		43		54	16	1 Extreme Structure or Health Problems	Exposed water roots around base. High epicormic growth. High mistletoe. 80% dead. Dead leaders. Low vigor.
9877				Yes			No			Pacific willow	*Salix lucida*		20		54	8	1 Extreme Structure or Health Problems	Hollow base. Multiple openings on base. 80% dead. Epicormic growth. High deadwood. Low vigor.
9878				Yes			No			Pacific willow	*Salix lucida*		35		54	8	1 Extreme Structure or Health Problems	Rotten base. Dry dead fruiting bodies on trunk. Poor trunk structure. Large dead lower branch southeast. 80% dead. Dead leaders. Low vigor.
9879				Yes			No			Pacific willow	*Salix lucida*		33		54	11	2 Major Structure or Health Problems	Dense buttress roots overexposed. High epicormic growth. Poor branch and canopy structure. 40% deadwood. Dead leader tips. Low vigor.
9880				Yes			No	28		Blue Oak	*Quercus douglasii*		28		54	22	2 Major Structure or Health Problems	Good base and basal flare. High epicormic growth. Burnt lower foliage. Dead tips. High deadwood. Good branch and canopy structure. Low vigor.
9881				Yes			No		0	Blue Oak	*Quercus douglasii*		31	0	54	22	1 Extreme Structure or Health Problems	Good basal flare. Closed wounds on trunk. High epicormic growth. Low branches. Many medium dead branches. Tree 70% dead. Broken primary leader. Low vigor.
9882				Yes			No			Blue Oak	*Quercus douglasii*		39		54	32	3 Fair - Minor Problems	Good base and basal flare. Low branches. Medium deadwood. Good branch and canopy structure. Good vigor.
9884				Yes			No	66		Valley Oak	*Quercus lobata*		66.5	66	54	36	2 Major Structure or Health Problems	Good basal flare. Partially closed wound with metal chain hanging out of it west trunk. Old large open wound from primary leader failer. Epicormic growth. Tree is in retrenchment. Medium canopy structure. Low branches. Medium vigor.
13604		X	840	Yes					35	Blue Oak	*Quercus douglasii*		35	35	42	32	3 Fair - Minor Problems	Normal flare. Codominant at 10 feet. Low long laterals. Trunk depression north side 0-10 feet. Low branches.
13647			941	Yes				30		Blue Oak	*Quercus douglasii*		30.5		24	33	2 Major Structure or Health Problems	Leans northeast with branches to ground and weak attachments with inclusion at 5 feet. Canker on south side.

13648			940	Yes						Blue Oak	*Quercus douglasii*		30		24	28	2 Major Structure or Health Problems	Multiple large limb failures east and south sides with decay.
13649			939	Yes						Blue Oak	*Quercus douglasii*		28		54	35	2 Major Structure or Health Problems	Multiple limb failures with decay, mistletoe, epicormic growth with weak attachments. 3-4-inch inclusion at crotch cavity at crotch.
13650			939	Yes				30		Blue Oak	*Quercus douglasii*		30		54	28	3 Fair - Minor Problems	Small limb deadwood, epicormic growth.
13651				Yes						Blue Oak	*Quercus douglasii*		40	0	24	20	2 Major Structure or Health Problems	Large limb failures north side. Most of north side canopy decay at crotch.
13652			947	Yes				23		Blue Oak	*Quercus douglasii*		23		54	20	3 Fair - Minor Problems	Slightly lean south.
13653			948	Yes						Blue Oak	*Quercus douglasii*		34		24	25	3 Fair - Minor Problems	Weak attachments starting at 3 feet. Multiple medium-size limb failures.
13654			949	Yes						Blue Oak	*Quercus douglasii*		33		54	20	2 Major Structure or Health Problems	Multiple limb failures with decay.
13655				Yes						Blue Oak	*Quercus douglasii*		25.5		54	35	2 Major Structure or Health Problems	Multiple limb failures with decay. One-sided west.
13656			951	Yes						Blue Oak	*Quercus douglasii*		27		54	30	2 Major Structure or Health Problems	Multiple limb failures with decay. Epicormic growth.
13657			953	Yes						Blue Oak	*Quercus douglasii*		14				3 Fair - Minor Problems	
13658			952	Yes						Blue Oak	*Quercus douglasii*		25.5		54	20	3 Fair - Minor Problems	Weak attachment at 5 feet north with 2-3-inch inclusion. Small limb deadwood, epicormic growth.
13659			16	Yes						Blue Oak	*Quercus douglasii*		16		54	15	3 Fair - Minor Problems	One-sided southwest, epicormic growth, mistletoe.
13660			13	Yes						Blue Oak	*Quercus douglasii*		18		54	15	3 Fair - Minor Problems	Small branch deadwood, epicormic growth.
13661				Yes						Blue Oak	*Quercus douglasii*		27		54	15	2 Major Structure or Health Problems	Weak attachment at 5 feet, poor structure, substantial small limb deadwood, epicormic growth.
13662			15	Yes						Blue Oak	*Quercus douglasii*		28		54	25	2 Major Structure or Health Problems	Cavity north side at 5 feet, weak attachment, epicormic growth.
13663			97	Yes						Blue Oak	*Quercus douglasii*		27.5		54	25	3 Fair - Minor Problems	Weak attachments starting at 8 feet.
13664			95	Yes						Blue Oak	*Quercus douglasii*		28		54	20	3 Fair - Minor Problems	Multiple closing wounds from previous branches.

13665			96	Yes						Blue Oak	*Quercus douglasii*		15	15	54	12	2 Major Structure or Health Problems	
13666			954	Yes						Blue Oak	*Quercus douglasii*		34		54	12	2 Major Structure or Health Problems	Main limb failure east side, substantial deadwood, epicormic growth.
13667			10	Yes						Blue Oak	*Quercus douglasii*		14		54	12	3 Fair - Minor Problems	Surrounded by boulders.
13668				Yes						Blue Oak	*Quercus douglasii*		20		54	15	3 Fair - Minor Problems	Surrounded by boulders, epicormic growth.
13669			11	Yes						Blue Oak	*Quercus douglasii*		12		54	12	3 Fair - Minor Problems	Surrounded by boulders. Epicormic growth, sparse canopy and suppressed.
13670				Yes						Blue Oak	*Quercus douglasii*		19		54	25	3 Fair - Minor Problems	Surrounded by boulders. Epicormic growth.
15213		X		Yes						Blue Oak	*Quercus douglasii*		19	19	54	21	3 Fair - Minor Problems	Buried flare swollen west. Flat north and south. Codominant at 10 feet. Vigor fair. Density fair.
		X		Yes						Blue Oak	*Quercus douglasii*		23	23	36	24	3 Fair - Minor Problems	Buried flare west up grade. Burrower holes northwest 36 inches. Vigor fair. Crown density good.
		X		Yes						Blue Oak	*Quercus douglasii*		21	21	12	21	3 Fair - Minor Problems	Flare buried west up grade. Codominant at 12 inches. Suppression north, east and south. Lean toward west in canopy. Density fair. Vigor fair.
		X		Yes						Blue Oak	*Quercus douglasii*		6	6	54	9	2 Major Structure or Health Problems	Codominant at 4 feet. Suppressed above canopy leaning southwest. Vigor fair. Density fair.
		X	419	Yes						Blue Oak	*Quercus douglasii*		34	34	54	15	0 Dead	Tree failed over northeast. Lying on ground, branches still growing.
		X		Yes						Blue Oak	*Quercus douglasii*		48	48	54	8	0 Dead	Split failed 3 directions.
		X		Yes						Blue Oak	*Quercus douglasii*		26	26	54	0	0 Dead	Tree felled. Root decay growing in rocks, compromise.
		X	96	Yes						Blue Oak	*Quercus douglasii*		10	10	54	0	0 Dead	Tree is dead. Located east of Tree 3688.
		X	97	Yes						Blue Oak	*Quercus douglasii*		36	36	24	9	0 Dead	Dead, no tag.
		X	196	Yes						Blue Oak	*Quercus douglasii*		30	30	54	9	0 Dead	

APPENDIX 3 - GENERAL PRACTICES FOR TREE PROTECTION

GENERAL PRACTICES FOR TREE PROTECTION

Definitions

Root zone: The roots of trees grow fairly close to the surface of the soil, and spread out in a radial direction from the trunk of tree. A general rule of thumb is that they spread 2 to 3 times the radius of the canopy, or 1 to 1 ½ times the height of the tree. It is generally accepted that disturbance to root zones should be kept as far as possible from the trunk of a tree.

Inner Bark: The bark on large valley oaks and coast live oaks is quite thick, usually 1" to 2". If the bark is knocked off a tree, the inner bark, or cambial region, is exposed or removed. The cambial zone is the area of tissue responsible for adding new layers to the tree each year, so by removing it, the tree can only grow new tissue from the edges of the wound. In addition, the wood of the tree is exposed to decay fungi, so the trunk present at the time of the injury becomes susceptible to decay. Tree protection measures require that no activities occur which can knock the bark off the trees.

Methods Used in Tree Protection:

No matter how detailed Tree Protection Measures are in the initial Arborist Report, they will not accomplish their stated purpose unless they are applied to individual trees and a Project Arborist is hired to oversee the construction. The Project Arborist should have the ability to enforce the Protection Measures. The Project Arborist should be hired as soon as possible to assist in design and to become familiar with the project. He must be able to read and understand the project drawings and interpret the specifications. He should also have the ability to cooperate with the contractor, incorporating the contractor's ideas on how to accomplish the protection measures, wherever possible. It is advisable for the Project Arborist to be present at the Pre-Bid tour of the site, to answer questions the contractors may have about Tree Protection Measures. This also lets the contractors know how important tree preservation is to the developer.

Root Protection Zone (RPZ): Since in most construction projects it is not possible to protect the entire root zone of a tree, a Root Protection Zone is established for each tree to be preserved. The minimum Root Protection Zone is the area underneath the tree's canopy (out to the dripline, or edge of the canopy), plus 1'. The Project Arborist must approve work within the RPZ.

Irrigate, Fertilize, Mulch: Prior to grading on the site near any tree, the area within the Tree Protection fence should be fertilized with 4 pounds of nitrogen per 1000 square feet, and the fertilizer irrigated in. The irrigation should percolate at least 24 inches into the soil. This should be done no less than 2 weeks prior to grading or other root disturbing activities. After irrigating, cover the RPZ with at least 12" of leaf and twig mulch. Such mulch can be obtained from chipping or grinding the limbs of any trees removed on the site. Acceptable mulches can be obtained from nurseries or other commercial sources. Fibrous or shredded redwood or cedar bark mulch shall not be used anywhere on site.

Fence: Fence around the Root Protection Zone and restrict activity therein to prevent soil compaction by vehicles, foot traffic or material storage. The fenced area shall be off limits to all construction equipment, unless there is express written notification provided by the Project Arborist, and impacts are discussed and mitigated prior to work commencing.

No storage or cleaning of equipment or materials, or parking of any equipment can take place within the fenced off area, known as the RPZ.

The fence should be highly visible, and stout enough to keep vehicles and other equipment out. I recommend the fence be made of orange plastic protective fencing, kept in place by t-posts set no farther apart than 6'.

In areas of intense impact, a 6' chain link fence is preferred.

In areas with many trees, the RPZ can be fenced as one unit, rather than separately for each tree.

Where tree trunks are within 3' of the construction area, place 2" by 4" boards vertically against the tree trunks, even if fenced off. Hold the boards in place with wire. Do not nail them directly to the tree. The purpose of the boards is to protect the trunk, should any equipment stray into the RPZ.

Elevate Foliage: Where indicated, remove lower foliage from a tree to prevent limb breakage by equipment. Low foliage can usually be removed without harming the tree, unless more than 25% of the foliage is removed. Branches need to be removed at the anatomically correct location in order to prevent decay organisms from entering the trunk. For this reason, a contractor who is an ISA Certified Arborist should perform all pruning on protected trees.[4]

Expose and Cut Roots: Breaking roots with a backhoe, or crushing them with a grader, causes significant injury, which may subject the roots to decay. Ripping roots may cause them to splinter toward the base of the tree, creating much more injury than a clean cut would make. At any location where the root zone of a tree will be impacted by a trench or a cut (including a cut required for a fill and compaction), the roots shall be exposed with either a backhoe digging radially to the trunk, by hand digging, or by a hydraulic air spade, and then cut cleanly with a sharp instrument, such as chainsaw with a carbide chain. Once the roots are severed, the area behind the cut should be moistened and mulched. A root protection fence should also be erected to protect the remaining roots, if it is not already in place. Further grading or backhoe work required outside the established RPZ can then continue without further protection measures.

Protect Roots in Deeper Trenches: The location of utilities on the site can be very detrimental to trees. Design the project to use as few trenches as possible, and to keep them away from the major trees to be protected. Wherever possible, in areas where trenches will be very deep, consider boring under the roots of the trees, rather than digging the trench through the roots. This technique can be quite useful for utility trenches and pipelines.

Protect Roots in Small Trenches: After all construction is complete on a site, it is not unusual for the landscape contractor to come in and sever a large number of "preserved" roots during the installation of irrigation systems. The Project Arborist must therefore approve the landscape and irrigation plans. The irrigation system needs to be designed so the main lines are located outside the root zone of major trees, and the secondary lines are either laid on the surface (drip systems), or carefully dug with a hydraulic or air spade, and the flexible pipe fed underneath the major roots.

Design the irrigation system so it can slowly apply water (no more than ¼" to ½" of water per hour) over a longer period of time. This allows deep soaking of root zones. The system also needs to accommodate infrequent irrigation settings of once or twice a month, rather than several times a week.

Monitoring Tree Health During and After Construction: The Project Arborist should visit the site at least twice a month during construction to be certain the tree protection measures are being followed, to monitor the health of impacted trees, and make recommendations as to irrigation or other needs. After construction is complete, the arborist should monitor the site monthly for one year and make recommendations for care where needed. If longer term monitoring is required, the arborist should report this to the developer and the planning agency overseeing the project.

[4] International Society of Arboriculture (ISA), maintains a program of Certifying individuals. Each Certified Arborist has a number and must maintain continuing education credits to remain Certified.

Appendix B-2
EPC Summary Report

EnviroPlus Consulting, Inc.

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Summary Report

To: Keith Little, Primoris Renewable Energy (PRE)

From: Gilbert Goodlett

Date: May 10, 2023

Re: Synopsis of tree and rock outcrop data for the Coyote Creek Agrivoltaic Solar Project

Introduction

EnviroPlus Consulting, Inc. (EPC) completed an inventory of trees and rock outcrops for the Coyote Creek Solar Agrivoltaic Solar Project in April and May of 2023. The boundaries of the inventory area included the solar development areas, laydown areas, substation, battery energy storage system (BESS), medium voltage (MV) collector lines, proposed roads, and retention basins that that lie outside of the solar development areas. An additional 10-ft buffer was added to the perimeter to allow area for construction of fence lines and retention basins and a 2-ft buffer was added for roads. This collection of features resulted an irregular project outline which was sometimes modified slightly by squaring off the perimeter in order to simplify site navigation for arborists conducting the survey. The total area surveyed was 1,374.9 acres and an additional 7.23 miles of linear features.

The primary tree data collected included the location of each tree, species, diameter at breast height (DBH), and a numerical score of the heath of each tree. The tree database built on an existing database provided by Primoris Renewable Energy (PRE) and developed by Dudek. Every tree in the survey area that was within the existing database was re-checked and data were updated, if necessary, and new trees that were encountered were recorded. This included dead trees and existing stumps.

Individual rock outcrops or small groups of rocks that were generally circular as viewed from above were recorded as points and the diameter of the rock outcrop or small groups of rocks was also recorded. Larger assemblages of rocks were mapped as polygons. These polygons do not represent a continuous occurrence of rocks at the surface but represented an area within which rocks occurred at the surface. For both points and polygons, the maximum height of rock outcrops were recorded.

All location data were recorded with a Geode GPS receiver that nominally provided approximately 1-ft accuracy. Under the canopy of some large trees accuracy occasionally degraded to a maximum of three feet.

A total of 4,777 trees were identified within the inventory area. At the conclusion of the

field effort, a desktop quality assurance analysis of the data was completed. The result was 67 trees to be field checked to verify data or complete missing data. This check has not yet been completed and could result in small changes to the total number of trees and the following data synopsis. However, given that it is only necessary to check slightly over 1% of the trees, such changes are likely to be insignificant for planning purposes.

Trees

A total of 4,777 trees were identified within the survey area. Of these, 3,352 were previously identified, assessed, and re-checked by EPC and 1,425 new trees were recorded. A total of 41 trees had already been cut, presumably by the ranchers, but the locations of the stumps was recorded.

By far, the most common species recorded was blue oak which accounted for 95% of the trees present. Photo 1 shows a typical blue oak. Other species present and their relative frequency are summarized in Table 1.

Table 1. Relative frequency of tree species recorded at Coyote Creek

Species Common Name	Count	Percent
Blue Oak	4553	95.31%
Valley Oak	83	1.74%
Unknown sp.	64	1.34%
Interior Live Oak	40	0.84%
Oak sp.	24	0.50%
<Null>	4	0.08%
California Buckeye	3	0.06%
Fruit tree species	3	0.06%
Fremont Cottonwood	1	0.02%
Silver Maple	1	0.02%
Willow sp.	1	0.02%
Total	**4777**	**100.00%**

Photo 1 – Typical blue oak. DBH = 12 inches. This one also has a rock outcrop at the base.

The cumulative DBH for all species was 80955 inches. The average DBH across all trees was 17 inches. The DBH range for trees recorded ranged from 1 to 80 inches (Photo 2). DBH by tree species is summarized in Table 2.

Table 2. Total, mean, maximum and minimum DBH of tree species recorded at Coyote Creek

Species Common Name	Total DBH	Mean DBH	Max DBH	Min DBH
Blue Oak	74,155.40	16.29	80.00	1.00
Valley Oak	3,044.80	36.68	75.00	8.00
Unknown sp.	1,564.20	24.44	55.00	9.00
Interior Live Oak	1,192.50	29.81	134.00	6.00
Oak sp.	748.00	31.17	51.50	4.00
California Buckeye	77.00	25.67	42.00	5.00
<Null>	65.00	16.25	25.00	11.00
Fruit tree species	64.00	21.33	42.00	10.00
Fremont Cottonwood	22.00	22.00	22.00	22.00
Silver Maple	16.00	16.00	16.00	16.00
Willow sp.	6.00	6.00	6.00	6.00
Total	**80,954.90**			

Photo 2. Blue oak tree with a DBH of 80 inches (multiple trunks), one of the largest DBH trees encountered during the survey

The health of each tree was assessed using a standardized arborist rating that ranked trees from 0 for dead trees to 5 for trees in excellent health. The arborist rating categories included the following:

- Rating #0: This indicates a tree that has no significant sign of life.
- Rating #1: The problems are extreme. This rating is assigned to a tree that has structural and/or health problems that no amount of work or effort can change. The issues may or may not be considered a dangerous situation.
- Rating #2: The tree has major problems. If the option is taken to preserve the tree, its condition could be improved with correct arboricultural work including, but not limited to: pruning, cabling, bracing, bolting, guying, spraying, mistletoe removal, vertical mulching, fertilization, etc. If the recommended actions are completed correctly, hazard can be reduced, and the rating can be elevated to a '3'. If no action is taken the tree is considered a liability and should be removed.
- Rating #3: The tree is in fair condition. There are some minor structural or health problems that pose no immediate danger. When the recommended actions in an arborist report are completed correctly the defect(s) can be minimized or eliminated.
- Rating #4: The tree is in good condition and there are no apparent problems that can be seen from a visual ground inspection. If potential structural or health problems are tended to at this stage future hazard can be reduced and more serious health problems can be averted.
- Rating #5: No problems found from a visual ground inspection. Structurally, these trees have properly spaced branches and near perfect characteristics for the species. Highly rated trees are not common in natural or developed landscapes.

There were a total of 523 trees that were dead. These included trees or portions thereof that were still standing (Photo 3), trees that had fallen (Photo 4), and trees that had been previously cut (presumably by ranchers) and only stumps remained. In general, tree health was skewed towards poorer health with the majority of trees in the "fair" range as shown in Table 3.

Table 3. Health of trees recorded at Coyote Creek

Arborist Rating	Count	Percent
<Null>	4	0.08%
0 - Dead	523	10.95%
1 - Poor	530	11.09%
2 - Fair to Poor	1390	29.10%
3 - Fair	1928	40.36%
4 - Good	401	8.39%
5 - Excellent	1	0.02%
Total	**4777**	**100.00%**

Photo 3. Typical dead tree still standing.

Photo 3. Typical dead tree that has fallen.

Rock outcrops

A total of 73.85 acres of rock outcrops were mapped at 810 different locations. Individual rocks or small groups of rocks were recorded as points (Photo 4) while the limits of other areas of rock outcrops were recorded as polygons. The maximum height of the rock outcrops was recorded for points and polygons and ranged from 0 (on the surface only) to 12 ft. with a mean of 1.54 ft. Within polygons of rock outcrops, the density of rock was never 100% and ranged from relatively sparse (Photo 5) to a moderate density of rock outcrops (Photo 6).

Photo 4. Typical rock outcrop point.

Photo 5. Low density of rocks mapped as a rock outcrop.

Photo 6. Moderate density of rocks mapped as a rock outcrop.

Most of the rock outcrops were relatively low-lying with 91% of the outcrops 3 ft or less in height. The height range of rock outcrops is shown in Table 4.

Table 4. Height range of rock outcrops at Coyote Creek

Maximum Height Range	Count	Acreage	Percent
0-3 Feet	736	54.83	90.86%
>3-6 Feet	67	17.29	8.27%
>6 Feet	7	1.73	0.86%
	Total	**73.85**	**100.00%**

Each rock outcrop or portion thereof was assigned to a geologic formation based on a geologic surface map of the area as shown in Table 5. Because the geological map did not cover the entire survey area there is a very slight (0.12 acre) difference in the rock outcrop acreage total.

The largest area of rock outcroping was associated with the Salt Spring Slate. However, in terms of the percentage of the rock outcrops within a particular formation, Gabbro and Meagabbro was the largest with rock outcrops in almost 20% of the formation.

Table 5. Geologic formations associated with rock outcrops at Coyote Creek

Geologic formation	Area of rock outcrops (acres)	Total area of geologic formation (acres)	Percent of formation with rock outcrops
Salt Spring Slate	32.22	369.48	8.72%
Gopher Ridge Volcanics	25.54	371.22	6.88%
Gabbro and Metagabbro	10.05	50.95	19.72%
Ione Formation	2.97	332.50	0.89%
Mehrten Formation	2.92	191.60	1.52%
Laguna Formation	0.01	11.33	0.09%
Chico Formation	0.00	19.40	0.00%
Alluvium	0.00	26.54	0.00%
Total	**73.71**	**1373.02**	

Appendix C
Photo Record

Photo 1. Oak woodland with Project Study Area (PSA).

Photo 2. Oak woodland with within the PSA.

Photo 3. Oak woodland / riparian trees within 50 feet of riparian corridor (i.e., aquatic resource feature).

Photo 4. Riparian Corridor within PSA.

Photo 5. Oak forest within the PSA.

Photo 6. Dominant tree species within the PSA- blue oak (*Quercus douglasii)* (CalPhotos 2016).

Appendix D

Compiled Tree Inventory within the Coyote Creek Agrivoltaic Project Solar Development Area

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
891	*Acer saccharinum*	silver maple	non-native	Yes	No	0	16.0	10	1 - Poor	NR	Valley and Foothill Grassland	CalTLC
314812	*Aesculus californica*	California buckeye	native	No	Yes	0	42.0	NR	3 - Fair	NR	Oak Forest	EPC
31723NT	*Aesculus californica*	California buckeye	native	No	No	0	5.0	NR	1 - Poor	NR	Oak Forest	EPC
31723NT	*Aesculus californica*	California buckeye	native	No	No	0	5.0	NR	1 - Poor	NR	Oak Forest	EPC
8725	*Populus fremontii*	Fremont cottonwood	native	No	Yes	0	60.0	24	2 - Fair to Poor	NR	Oak Forest	CalTLC
4NTNT4	*Populus fremontii*	Fremont cottonwood	native	No	Yes	0	35.0	35	2 - Fair to Poor	NR	Oak Forest	CalTLC
4NTNT5	*Populus fremontii*	Fremont cottonwood	native	No	Yes	0	33.0	32	1 - Poor	NR	Oak Forest	CalTLC
4NTNT6	*Populus fremontii*	Fremont cottonwood	native	No	Yes	0	25.0	34	2 - Fair to Poor	NR	Oak Forest	CalTLC
4NTNT8	*Populus fremontii*	Fremont cottonwood	native	No	No	0	9.7	24	2 - Fair to Poor	NR	Oak Woodland	CalTLC
4NTNT9	*Populus fremontii*	Fremont cottonwood	native	No	Yes	0	81.0	32	3 - Fair	NR	Oak Woodland	CalTLC
885	*Prunus sp.*	fruit tree species	non-native	Yes	Yes	0	42.0	10	1 - Poor	NR	Oak Forest	CalTLC
886	*Prunus sp.*	fruit tree species	non-native	Yes	No	0	12.0	12	2 - Fair to Poor	NR	Oak Forest	CalTLC
887	*Prunus sp.*	fruit tree species	non-native	Yes	No	0	10.0	6	2 - Fair to Poor	NR	Oak Woodland	CalTLC
98	*Quercus douglasii*	blue oak	native	Yes	Yes	1	23.0	NR	2 - Fair to Poor	NR	Perennial Channel	EPC
112	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	NR	Oak Forest	EPC
112	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	NR	Oak Forest	EPC
112	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	NR	Oak Forest	EPC
121	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	NR	3 - Fair	3	Oak Forest	Dudek
122	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	1 - Poor	3	Oak Forest	Dudek
123	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	3 - Fair	3	Oak Forest	Dudek
124	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	3	Oak Forest	Dudek
125	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	1 - Poor	1	Oak Forest	Dudek
126	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	1 - Poor	2	Oak Forest	Dudek
127	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	1 - Poor	3	Oak Forest	Dudek
128	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	3	Oak Forest	Dudek
131	*Quercus douglasii*	blue oak	native	No	No	0	4.0	NR	1 - Poor	3	Oak Forest	Dudek
132	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	1 - Poor	2	Oak Forest	Dudek
133	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	1 - Poor	2	Oak Forest	Dudek
134	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	3 - Fair	2	Oak Forest	Dudek
135	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	3 - Fair	2	Oak Forest	Dudek
136	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	NR	3 - Fair	3	Oak Forest	Dudek
137	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	NR	3 - Fair	2	Oak Forest	Dudek
138	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	3 - Fair	2	Oak Forest	Dudek
139	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	NR	3 - Fair	3	Oak Forest	Dudek
141	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	3	Oak Forest	Dudek
142	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	1 - Poor	1	Oak Forest	Dudek
143	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	1 - Poor	2	Oak Forest	Dudek
144	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	1 - Poor	3	Oak Forest	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
145	*Quercus douglasii*	blue oak	native	NR	NR	0	NR	17	3 - Fair	3	Oak Forest	Dudek
146	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	3	Oak Forest	Dudek
147	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	2	Oak Forest	Dudek
148	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	3 - Fair	2	Oak Forest	Dudek
149	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	2	Oak Forest	Dudek
151	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	3 - Fair	3	Oak Forest	Dudek
152	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	3	Oak Forest	Dudek
153	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	2	Oak Forest	Dudek
154	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	3	Oak Forest	Dudek
155	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	3	Oak Forest	Dudek
156	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	2	Oak Forest	Dudek
157	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	3	Oak Forest	Dudek
158	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	2	Oak Forest	Dudek
159	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	3	Oak Forest	Dudek
161	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	1 - Poor	2	Oak Forest	Dudek
162	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	1 - Poor	3	Oak Forest	Dudek
163	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	4 - Good	3	Oak Forest	Dudek
164	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	3 - Fair	3	Oak Forest	Dudek
165	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	3	Oak Forest	Dudek
166	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.0	NR	3 - Fair	3	Oak Forest	Dudek
167	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	3	Oak Forest	Dudek
169	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	3	Oak Forest	Dudek
171	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	3	Oak Forest	Dudek
172	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	1 - Poor	2	Oak Forest	Dudek
173	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	1 - Poor	2	Oak Forest	Dudek
174	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	3	Oak Forest	Dudek
175	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	3 - Fair	2	Oak Forest	Dudek
176	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	3	Oak Forest	Dudek
177	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	NR	3 - Fair	2	Oak Forest	Dudek
178	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	2	Oak Forest	Dudek
179	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	2	Oak Forest	Dudek
181	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	1 - Poor	2	Oak Forest	Dudek
182	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	4 - Good	2	Oak Forest	Dudek
183	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	30	4 - Good	3	Oak Forest	Dudek
184	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	1 - Poor	1	Oak Forest	Dudek
185	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.0	NR	1 - Poor	1	Oak Forest	Dudek
186	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	1 - Poor	2	Oak Forest	Dudek
187	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	4 - Good	2	Oak Forest	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
188	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	1 - Poor	1	Oak Forest	Dudek
189	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	2	Oak Forest	Dudek
191	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	4 - Good	2	Oak Forest	Dudek
192	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	NR	3 - Fair	3	Oak Forest	Dudek
193	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	3 - Fair	3	Oak Forest	Dudek
194	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	4 - Good	2	Oak Forest	Dudek
195	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	4 - Good	2	Oak Forest	Dudek
196	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	NR	1 - Poor	1	Oak Forest	Dudek
197	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	1 - Poor	1	Oak Forest	Dudek
198	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	1 - Poor	1	Oak Forest	Dudek
199	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	2	Oak Forest	Dudek
211	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	1 - Poor	2	Oak Forest	Dudek
212	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	1 - Poor	2	Oak Forest	Dudek
213	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	1 - Poor	1	Oak Forest	Dudek
214	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	NR	4 - Good	2	Oak Forest	Dudek
215	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	2	Oak Forest	Dudek
216	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	4 - Good	2	Oak Forest	Dudek
217	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	4 - Good	2	Oak Forest	Dudek
218	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	1 - Poor	3	Oak Forest	Dudek
219	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.0	NR	4 - Good	3	Oak Forest	Dudek
221	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	2	Oak Forest	Dudek
221	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	2	Oak Forest	Dudek
223	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	4 - Good	2	Oak Forest	Dudek
224	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	1 - Poor	1	Oak Forest	Dudek
224	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	1 - Poor	1	Oak Forest	Dudek
224	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	1 - Poor	1	Oak Forest	Dudek
225	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	1 - Poor	1	Oak Forest	Dudek
226	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	3	Oak Forest	Dudek
227	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	4 - Good	1	Oak Forest	Dudek
228	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	1	Oak Forest	Dudek
229	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	3	Oak Forest	Dudek
231	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	1	Oak Forest	Dudek
232	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	4 - Good	1	Oak Forest	Dudek
233	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	3 - Fair	3	Oak Forest	Dudek
234	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	4 - Good	2	Oak Forest	Dudek
235	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	1 - Poor	1	Oak Forest	Dudek
236	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	1	Oak Forest	Dudek
237	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	3	Oak Forest	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
238	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	NR	Oak Forest	EPC
238	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	NR	Oak Forest	EPC
238	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	NR	Oak Forest	EPC
239	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	4 - Good	3	Oak Forest	Dudek
241	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	4 - Good	3	Oak Forest	Dudek
242	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	1 - Poor	1	Oak Forest	Dudek
243	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	3	Oak Forest	Dudek
244	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	3 - Fair	3	Oak Forest	Dudek
245	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	1	Oak Forest	Dudek
246	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	1	Oak Forest	Dudek
247	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	4 - Good	2	Oak Forest	Dudek
248	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	4 - Good	2	Oak Forest	Dudek
249	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	2	Oak Forest	Dudek
251	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	4 - Good	3	Oak Forest	Dudek
252	*Quercus douglasii*	blue oak	native	No	No	0	4.0	NR	0 - Dead	NR	Oak Forest	EPC
252	*Quercus douglasii*	blue oak	native	No	No	0	4.0	NR	0 - Dead	NR	Oak Forest	EPC
252	*Quercus douglasii*	blue oak	native	No	No	0	4.0	NR	0 - Dead	NR	Oak Forest	EPC
253	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	4 - Good	2	Oak Forest	Dudek
254	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	4 - Good	2	Oak Forest	Dudek
255	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	4 - Good	2	Oak Forest	Dudek
256	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	2	Oak Forest	Dudek
257	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	3	Oak Forest	Dudek
258	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	3 - Fair	3	Oak Forest	Dudek
271	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	4 - Good	3	Oak Woodland	Dudek
272	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	4 - Good	3	Oak Woodland	Dudek
273	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	4 - Good	3	Oak Woodland	Dudek
274	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	4 - Good	3	Oak Woodland	Dudek
275	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	4 - Good	3	Oak Woodland	Dudek
276	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	4 - Good	3	Oak Woodland	Dudek
291	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	4 - Good	3	Valley and Foothill Grassland	Dudek
294	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	4 - Good	3	Valley and Foothill Grassland	Dudek
311	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	NR	4 - Good	NR	Oak Forest	Dudek
312	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	3 - Fair	3	Oak Forest	Dudek
313	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	3	Oak Forest	Dudek
314	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	1 - Poor	3	Oak Forest	Dudek
315	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	3 - Fair	3	Oak Forest	Dudek
316	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.0	NR	3 - Fair	3	Oak Forest	Dudek
317	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	1 - Poor	3	Oak Forest	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
318	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	1 - Poor	2	Oak Forest	Dudek
319	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	3	Oak Forest	Dudek
321	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	1 - Poor	1	Oak Forest	Dudek
322	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	1 - Poor	3	Oak Forest	Dudek
324	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	NR	1 - Poor	1	Oak Forest	Dudek
325	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	2	Oak Forest	Dudek
327	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	3 - Fair	3	Oak Forest	Dudek
328	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	3 - Fair	3	Oak Forest	Dudek
329	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	1 - Poor	2	Oak Forest	Dudek
331	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	1 - Poor	1	Oak Forest	Dudek
332	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	NR	3 - Fair	3	Oak Forest	Dudek
333	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	1 - Poor	3	Oak Forest	Dudek
334	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	1 - Poor	2	Oak Forest	Dudek
335	*Quercus douglasii*	blue oak	native	Yes	Yes	0	36.0	NR	4 - Good	3	Oak Forest	Dudek
337	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	3	Oak Forest	Dudek
338	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	1	Oak Forest	Dudek
339	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	3 - Fair	3	Oak Forest	Dudek
341	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	3 - Fair	2	Oak Forest	Dudek
343	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	2	Oak Forest	Dudek
344	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	3 - Fair	3	Oak Forest	Dudek
345	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	NR	1 - Poor	2	Oak Forest	Dudek
346	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	1 - Poor	2	Oak Forest	Dudek
347	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	3 - Fair	2	Oak Forest	Dudek
348	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	1 - Poor	1	Oak Forest	Dudek
349	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	3 - Fair	2	Oak Forest	Dudek
351	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	3 - Fair	3	Oak Forest	Dudek
352	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	1 - Poor	1	Oak Forest	Dudek
362	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	3	Oak Woodland	Dudek
363	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	NR	1 - Poor	2	Oak Woodland	Dudek
364	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	1 - Poor	2	Oak Woodland	Dudek
365	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	NR	3 - Fair	3	Oak Woodland	Dudek
366	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	3	Oak Woodland	Dudek
367	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	3	Oak Woodland	Dudek
379	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	NR	3 - Fair	2	Oak Forest	Dudek
381	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	3	Oak Forest	Dudek
382	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	1	Oak Forest	Dudek
383	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	4 - Good	3	Oak Forest	Dudek
384	*Quercus douglasii*	blue oak	native	Yes	Yes	0	34.0	NR	3 - Fair	3	Oak Forest	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
385	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	NR	4 - Good	3	Oak Forest	Dudek
386	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	1 - Poor	3	Oak Forest	Dudek
387	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	3 - Fair	3	Oak Forest	Dudek
388	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	1 - Poor	3	Oak Forest	Dudek
389	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	3	Oak Forest	Dudek
391	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	0 - Dead	2	Oak Forest	Dudek
392	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	4 - Good	3	Oak Forest	Dudek
393	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	3 - Fair	3	Oak Forest	Dudek
394	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	3	Oak Forest	Dudek
395	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	3 - Fair	3	Oak Forest	Dudek
396	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	2	Oak Forest	Dudek
397	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	NR	3 - Fair	2	Oak Forest	Dudek
398	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	3 - Fair	3	Oak Forest	Dudek
399	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	3	Oak Forest	Dudek
411	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	4 - Good	3	Oak Forest	Dudek
412	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	1 - Poor	2	Oak Forest	Dudek
413	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	3	Oak Forest	Dudek
414	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	1 - Poor	1	Oak Forest	Dudek
417	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	2	Oak Forest	Dudek
418	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	0 - Dead	1	Oak Forest	Dudek
419	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	0 - Dead	NR	Oak Forest	EPC
421	*Quercus douglasii*	blue oak	native	Yes	Yes	0	38.0	NR	1 - Poor	2	Oak Forest	Dudek
422	*Quercus douglasii*	blue oak	native	Yes	Yes	0	42.0	NR	3 - Fair	2	Oak Forest	Dudek
423	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	3 - Fair	3	Oak Forest	Dudek
424	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	NR	4 - Good	3	Oak Forest	Dudek
425	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	NR	4 - Good	3	Oak Forest	Dudek
426	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	1 - Poor	2	Oak Forest	Dudek
427	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	1 - Poor	1	Oak Forest	Dudek
428	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	NR	3 - Fair	1	Oak Forest	Dudek
429	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	3 - Fair	2	Oak Forest	Dudek
431	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	3	Oak Forest	Dudek
432	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.0	NR	3 - Fair	2	Oak Forest	Dudek
433	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	3 - Fair	3	Oak Forest	Dudek
435	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	0 - Dead	1	Oak Forest	Dudek
436	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	1 - Poor	3	Oak Forest	Dudek
437	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	2	Oak Forest	Dudek
438	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	3 - Fair	3	Oak Forest	Dudek
439	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	1 - Poor	2	Oak Forest	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
441	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	3	Oak Forest	Dudek
442	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	3 - Fair	3	Oak Forest	Dudek
443	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	1 - Poor	3	Oak Forest	Dudek
444	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	2	Oak Forest	Dudek
445	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	1 - Poor	3	Oak Forest	Dudek
446	*Quercus douglasii*	blue oak	native	Yes	Yes	0	38.0	NR	3 - Fair	3	Oak Forest	Dudek
447	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	3	Oak Forest	Dudek
448	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	1 - Poor	3	Oak Forest	Dudek
449	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	3 - Fair	3	Oak Forest	Dudek
451	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	1 - Poor	3	Oak Forest	Dudek
452	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	2	Oak Forest	Dudek
453	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	2	Oak Forest	Dudek
454	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	1 - Poor	2	Oak Forest	Dudek
455	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	1 - Poor	1	Oak Forest	Dudek
456	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	3	Oak Forest	Dudek
457	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	3	Oak Forest	Dudek
458	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	2	Oak Forest	Dudek
459	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	1 - Poor	2	Oak Forest	Dudek
461	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	1 - Poor	2	Oak Forest	Dudek
462	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	1 - Poor	1	Oak Forest	Dudek
463	*Quercus douglasii*	blue oak	native	NR	NR	0	NR	NR	3 - Fair	2	Oak Forest	Dudek
465	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	1 - Poor	3	Oak Forest	Dudek
468	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	2	Oak Forest	Dudek
469	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	1 - Poor	2	Oak Forest	Dudek
471	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	3	Oak Forest	Dudek
472	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	3	Oak Forest	Dudek
473	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	2	Oak Forest	Dudek
474	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	1	Oak Forest	Dudek
475	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	4 - Good	3	Oak Forest	Dudek
476	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	3	Oak Forest	Dudek
477	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	3	Oak Forest	Dudek
478	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	3	Oak Forest	Dudek
479	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	1 - Poor	3	Oak Forest	Dudek
481	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	2	Oak Forest	Dudek
484	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	1 - Poor	2	Oak Forest	Dudek
484	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	4 - Good	3	Oak Forest	Dudek
486	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	4 - Good	3	Oak Forest	Dudek
487	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	1 - Poor	3	Oak Forest	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
488	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	3	Oak Forest	Dudek
489	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	3	Oak Forest	Dudek
491	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	1 - Poor	3	Oak Forest	Dudek
492	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	3	Oak Forest	Dudek
493	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	3	Oak Forest	Dudek
495	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	3	Oak Forest	Dudek
496	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	3 - Fair	2	Oak Forest	Dudek
497	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	1 - Poor	1	Oak Forest	Dudek
498	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	3	Oak Forest	Dudek
499	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	3	Oak Forest	Dudek
511	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	3	Oak Forest	Dudek
512	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	1 - Poor	2	Oak Forest	Dudek
513	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	3	Oak Forest	Dudek
514	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	3	Oak Forest	Dudek
515	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	3	Oak Forest	Dudek
516	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	3	Oak Forest	Dudek
517	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	1 - Poor	3	Oak Forest	Dudek
518	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	NR	3 - Fair	2	Oak Forest	Dudek
519	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	1 - Poor	2	Oak Forest	Dudek
521	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	3	Oak Forest	Dudek
522	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	3	Oak Forest	Dudek
523	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	3 - Fair	2	Oak Forest	Dudek
524	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	2	Oak Forest	Dudek
525	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	1 - Poor	1	Oak Forest	Dudek
526	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	NR	3 - Fair	3	Oak Forest	Dudek
527	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	1 - Poor	1	Oak Forest	Dudek
528	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	1 - Poor	3	Oak Forest	Dudek
529	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	4 - Good	3	Oak Forest	Dudek
531	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	3	Oak Woodland	Dudek
531	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.5	30	1 - Poor	NR	Oak Forest	CalTLC
532	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	1 - Poor	3	Oak Forest	Dudek
533	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	1 - Poor	3	Oak Forest	Dudek
534	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	1 - Poor	2	Oak Forest	Dudek
535	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	1 - Poor	2	Oak Forest	Dudek
536	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	2	Oak Forest	Dudek
536	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.0	NR	4 - Good	3	Oak Forest	Dudek
537	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.0	NR	4 - Good	3	Oak Forest	Dudek
537	*Quercus douglasii*	blue oak	native	Yes	Yes	0	34.0	NR	4 - Good	3	Oak Forest	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
538	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	4 - Good	3	Oak Forest	Dudek
539	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	3 - Fair	3	Oak Forest	Dudek
541	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	3	Oak Forest	Dudek
542	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	1 - Poor	3	Oak Forest	Dudek
543	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	3	Oak Forest	Dudek
544	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	1 - Poor	3	Oak Forest	Dudek
544	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	15	2 - Fair to Poor	NR	Oak Forest	CalTLC
545	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	3	Oak Forest	Dudek
545	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	18	3 - Fair	NR	Oak Forest	CalTLC
546	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	27	3 - Fair	NR	Oak Forest	CalTLC
547	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	1 - Poor	3	Oak Forest	Dudek
547	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	5	3 - Fair	NR	Oak Forest	CalTLC
548	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	5	2 - Fair to Poor	NR	Oak Forest	CalTLC
548	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	3	Oak Forest	Dudek
549	*Quercus douglasii*	blue oak	native	No	No	0	5.0	6	2 - Fair to Poor	NR	Oak Forest	CalTLC
549	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	3 - Fair	3	Oak Forest	Dudek
551	*Quercus douglasii*	blue oak	native	No	No	0	5.0	5	2 - Fair to Poor	NR	Oak Forest	CalTLC
551	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	1 - Poor	1	Oak Forest	Dudek
552	*Quercus douglasii*	blue oak	native	No	No	0	5.0	6	3 - Fair	NR	Oak Forest	CalTLC
552	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	3 - Fair	3	Oak Forest	Dudek
553	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	6	3 - Fair	NR	Oak Forest	CalTLC
553	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	3 - Fair	2	Oak Forest	Dudek
554	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	8	3 - Fair	NR	Oak Forest	CalTLC
554	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	NR	4 - Good	2	Oak Forest	Dudek
555	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	6	2 - Fair to Poor	NR	Oak Forest	CalTLC
555	*Quercus douglasii*	blue oak	native	Yes	Yes	0	39.0	NR	4 - Good	3	Oak Forest	Dudek
556	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	15	3 - Fair	NR	Oak Forest	CalTLC
556	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	NR	3 - Fair	2	Oak Forest	Dudek
557	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	18	3 - Fair	NR	Oak Forest	CalTLC
557	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	3 - Fair	3	Oak Forest	Dudek
558	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	12	2 - Fair to Poor	NR	Oak Forest	CalTLC
558	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	NR	3 - Fair	3	Oak Forest	Dudek
559	*Quercus douglasii*	blue oak	native	No	No	0	5.0	3	2 - Fair to Poor	NR	Oak Forest	CalTLC
559	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	3	Oak Forest	Dudek
561	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	3	Oak Forest	Dudek
562	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	6	2 - Fair to Poor	NR	Oak Forest	CalTLC
562	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	2	Oak Forest	Dudek
563	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	9	2 - Fair to Poor	NR	Oak Forest	CalTLC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
563	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	2	Oak Forest	Dudek
564	*Quercus douglasii*	blue oak	native	No	No	0	4.0	3	1 - Poor	NR	Oak Forest	CalTLC
564	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	2	Oak Forest	Dudek
565	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	9	3 - Fair	NR	Oak Forest	CalTLC
565	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	3	Oak Forest	Dudek
566	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	5	3 - Fair	NR	Oak Forest	CalTLC
566	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	3	Oak Forest	Dudek
567	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	5	3 - Fair	NR	Oak Forest	CalTLC
567	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	3 - Fair	3	Oak Forest	Dudek
568	*Quercus douglasii*	blue oak	native	No	No	0	5.0	6	2 - Fair to Poor	NR	Oak Forest	CalTLC
568	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	3	Oak Forest	Dudek
569	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	3	Oak Forest	Dudek
569	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	10	2 - Fair to Poor	NR	Oak Forest	CalTLC
571	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	0 - Dead	1	Oak Forest	Dudek
571	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	21	3 - Fair	NR	Oak Forest	CalTLC
572	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	21	2 - Fair to Poor	NR	Oak Forest	CalTLC
572	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	2	Oak Forest	Dudek
573	*Quercus douglasii*	blue oak	native	No	No	0	4.0	3	2 - Fair to Poor	NR	Oak Forest	CalTLC
573	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	3	Oak Forest	Dudek
574	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	3	Oak Forest	Dudek
574	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	24	2 - Fair to Poor	NR	Oak Forest	CalTLC
575	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	3	Oak Forest	Dudek
575	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	18	3 - Fair	NR	Oak Forest	CalTLC
576	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	8	2 - Fair to Poor	NR	Oak Forest	CalTLC
576	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	3	Oak Forest	Dudek
577	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	18	2 - Fair to Poor	NR	Oak Forest	CalTLC
577	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	3	Oak Forest	Dudek
578	*Quercus douglasii*	blue oak	native	No	No	0	4.0	3	2 - Fair to Poor	NR	Oak Forest	CalTLC
578	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	0 - Dead	2	Oak Forest	Dudek
579	*Quercus douglasii*	blue oak	native	No	No	0	5.0	3	1 - Poor	NR	Oak Forest	CalTLC
579	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	3	Oak Forest	Dudek
581	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	8	2 - Fair to Poor	NR	Oak Forest	CalTLC
581	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	2	Oak Forest	Dudek
582	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	4	1 - Poor	NR	Oak Forest	CalTLC
582	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	2	Oak Forest	Dudek
583	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	8	2 - Fair to Poor	NR	Oak Forest	CalTLC
584	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	6	3 - Fair	NR	Oak Forest	CalTLC
584	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	3	Oak Forest	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
585	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	12	1 - Poor	NR	Oak Forest	CalTLC
585	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	3	Oak Forest	Dudek
586	*Quercus douglasii*	blue oak	native	No	No	0	5.0	6	2 - Fair to Poor	NR	Oak Forest	CalTLC
586	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	3	Oak Forest	Dudek
587	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	5	2 - Fair to Poor	NR	Oak Forest	CalTLC
587	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	0 - Dead	2	Oak Forest	Dudek
588	*Quercus douglasii*	blue oak	native	No	No	0	4.0	3	2 - Fair to Poor	NR	Oak Forest	CalTLC
588	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	1	Oak Forest	Dudek
589	*Quercus douglasii*	blue oak	native	No	No	0	5.0	6	1 - Poor	NR	Oak Forest	CalTLC
589	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	3 - Fair	2	Oak Woodland	Dudek
591	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	3	Oak Forest	Dudek
592	*Quercus douglasii*	blue oak	native	No	No	0	5.0	5	1 - Poor	NR	Oak Forest	CalTLC
592	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	3	Oak Woodland	Dudek
593	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	3	Oak Forest	Dudek
594	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	0 - Dead	2	Oak Forest	Dudek
611	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	3	Oak Forest	Dudek
614	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	3	Oak Forest	Dudek
615	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	3	Oak Forest	Dudek
616	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	3	Oak Forest	Dudek
616	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	3	Oak Forest	Dudek
617	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	3 - Fair	3	Oak Forest	Dudek
618	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	2	Oak Forest	Dudek
619	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	3	Oak Forest	Dudek
621	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	2	Oak Forest	Dudek
622	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	2	Oak Forest	Dudek
623	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	3 - Fair	2	Oak Forest	Dudek
656	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	3	Oak Forest	Dudek
657	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	4 - Good	3	Oak Forest	Dudek
658	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	3 - Fair	2	Oak Forest	Dudek
659	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	NR	3 - Fair	2	Oak Forest	Dudek
661	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
662	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	3 - Fair	2	Oak Forest	Dudek
663	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	3	Oak Forest	Dudek
664	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	3	Oak Forest	Dudek
665	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	3	Oak Forest	Dudek
681	*Quercus douglasii*	blue oak	native	Yes	Yes	0	39.0	NR	3 - Fair	2	Oak Forest	Dudek
682	*Quercus douglasii*	blue oak	native	Yes	Yes	0	41.0	NR	4 - Good	2	Oak Forest	Dudek
683	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.0	NR	3 - Fair	2	Oak Forest	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
684	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	4 - Good	2	Oak Forest	Dudek
685	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	NR	3 - Fair	1	Oak Forest	Dudek
686	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	NR	3 - Fair	2	Oak Forest	Dudek
687	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	NR	3 - Fair	2	Oak Forest	Dudek
688	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	3 - Fair	2	Oak Forest	Dudek
689	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	2	Oak Forest	Dudek
691	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	4 - Good	2	Oak Forest	Dudek
692	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	4 - Good	2	Oak Forest	Dudek
693	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	3 - Fair	2	Oak Forest	Dudek
694	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	4 - Good	2	Oak Forest	Dudek
695	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	4 - Good	2	Oak Forest	Dudek
696	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	4 - Good	2	Oak Forest	Dudek
697	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	4 - Good	2	Oak Forest	Dudek
698	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	4 - Good	2	Oak Forest	Dudek
699	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	1	Oak Forest	Dudek
711	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	2	Oak Forest	Dudek
712	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	4 - Good	2	Oak Forest	Dudek
713	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	NR	4 - Good	2	Oak Forest	Dudek
714	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	2	Oak Forest	Dudek
714	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	4 - Good	2	Oak Forest	Dudek
715	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	2	Oak Forest	Dudek
716	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	2	Oak Forest	Dudek
717	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	2	Oak Forest	Dudek
718	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	4 - Good	2	Oak Forest	Dudek
719	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	1	Oak Forest	Dudek
721	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	4 - Good	2	Oak Forest	Dudek
722	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	4 - Good	2	Oak Forest	Dudek
723	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	3 - Fair	2	Oak Forest	Dudek
724	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	1 - Poor	2	Oak Forest	Dudek
725	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	2	Oak Forest	Dudek
726	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.0	NR	3 - Fair	3	Oak Forest	Dudek
727	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	3	Oak Forest	Dudek
728	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	3	Oak Forest	Dudek
729	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	0 - Dead	2	Oak Forest	Dudek
731	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	6	3 - Fair	NR	Oak Forest	CalTLC
731	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	3	Oak Woodland	Dudek
732	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	18	3 - Fair	NR	Oak Forest	CalTLC
732	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	2	Oak Woodland	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
733	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	15	2 - Fair to Poor	NR	Oak Forest	CalTLC
733	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	2	Oak Woodland	Dudek
734	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	0	2 - Fair to Poor	NR	Oak Forest	CalTLC
734	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	3	Oak Woodland	Dudek
735	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	9	3 - Fair	NR	Oak Forest	CalTLC
735	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	0 - Dead	2	Oak Woodland	Dudek
736	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	3	Oak Woodland	Dudek
736	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	15	3 - Fair	NR	Oak Forest	CalTLC
737	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	2	Oak Woodland	Dudek
738	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	3 - Fair	2	Oak Woodland	Dudek
741	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	3	Oak Woodland	Dudek
742	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	2	Oak Woodland	Dudek
743	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	3	Oak Woodland	Dudek
744	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	3	Oak Woodland	Dudek
745	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	2	Oak Woodland	Dudek
746	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	2	Oak Woodland	Dudek
747	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	2	Oak Woodland	Dudek
748	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	4 - Good	3	Oak Woodland	Dudek
749	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	3	Oak Woodland	Dudek
751	*Quercus douglasii*	blue oak	native	Yes	No	1	12.0	NR	0 - Dead	2	Riparian Forests	Dudek
752	*Quercus douglasii*	blue oak	native	Yes	No	1	7.0	NR	3 - Fair	3	Riparian Forests	Dudek
753	*Quercus douglasii*	blue oak	native	Yes	No	1	13.0	NR	3 - Fair	3	Riparian Forests	Dudek
754	*Quercus douglasii*	blue oak	native	Yes	No	1	17.0	NR	3 - Fair	3	Intermittent Channel	Dudek
755	*Quercus douglasii*	blue oak	native	Yes	No	1	7.0	NR	1 - Poor	2	Intermittent Channel	Dudek
756	*Quercus douglasii*	blue oak	native	Yes	No	1	11.0	NR	1 - Poor	2	Riparian Forests	Dudek
757	*Quercus douglasii*	blue oak	native	Yes	No	1	9.0	NR	1 - Poor	2	Riparian Forests	Dudek
758	*Quercus douglasii*	blue oak	native	Yes	No	1	10.0	NR	1 - Poor	1	Intermittent Channel	Dudek
759	*Quercus douglasii*	blue oak	native	Yes	Yes	1	22.0	NR	1 - Poor	2	Intermittent Channel	Dudek
761	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	1 - Poor	2	Oak Forest	Dudek
762	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	0 - Dead	1	Oak Forest	Dudek
763	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	3	Oak Forest	Dudek
764	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	1 - Poor	1	Oak Forest	Dudek
765	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	3	Oak Forest	Dudek
766	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	1 - Poor	2	Oak Forest	Dudek
767	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	3	Oak Forest	Dudek
768	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	3	Oak Forest	Dudek
769	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	3	Oak Forest	Dudek
771	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	2	Oak Forest	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
772	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	3 - Fair	2	Oak Forest	Dudek
773	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	3	Oak Forest	Dudek
774	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	2	Oak Forest	Dudek
775	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	2	Oak Forest	Dudek
776	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	2	Oak Forest	Dudek
777	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	2	Oak Forest	Dudek
778	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	3 - Fair	2	Oak Forest	Dudek
779	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	3	Oak Forest	Dudek
781	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	3 - Fair	2	Oak Forest	Dudek
782	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	1 - Poor	2	Oak Forest	Dudek
783	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	3 - Fair	2	Oak Forest	Dudek
784	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	3	Oak Forest	Dudek
785	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	3 - Fair	3	Oak Forest	Dudek
786	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	2	Oak Forest	Dudek
787	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	3 - Fair	2	Oak Forest	Dudek
788	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	2	Oak Forest	Dudek
789	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.0	NR	3 - Fair	2	Oak Forest	Dudek
791	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	2	Oak Forest	Dudek
792	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	2	Oak Forest	Dudek
793	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	2	Oak Forest	Dudek
818	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	NR	4 - Good	2	Oak Forest	Dudek
819	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	2	Oak Forest	Dudek
819	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	2	Oak Forest	Dudek
821	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	NR	4 - Good	2	Oak Forest	Dudek
822	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	4 - Good	3	Oak Forest	Dudek
823	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	4 - Good	2	Oak Forest	Dudek
824	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	4 - Good	2	Oak Forest	Dudek
825	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	3 - Fair	2	Oak Forest	Dudek
826	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	4 - Good	2	Oak Forest	Dudek
827	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	3	Oak Forest	Dudek
828	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	0 - Dead	1	Oak Forest	Dudek
829	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	4 - Good	2	Oak Forest	Dudek
831	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	3	Oak Forest	Dudek
832	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	4 - Good	2	Oak Forest	Dudek
833	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	NR	4 - Good	3	Oak Forest	Dudek
834	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	4 - Good	2	Oak Forest	Dudek
835	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	4 - Good	3	Oak Forest	Dudek
836	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	9	2 - Fair to Poor	NR	Oak Forest	CalTLC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
836	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	9	2 - Fair to Poor	NR	Oak Forest	CalTLC
836	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	NR	4 - Good	2	Oak Forest	Dudek
837	*Quercus douglasii*	blue oak	native	Yes	No	0	16.5	15	3 - Fair	NR	Oak Forest	CalTLC
837	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	4 - Good	2	Oak Forest	Dudek
837	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	NR	0 - Dead	1	Oak Forest	Dudek
838	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	21	3 - Fair	NR	Oak Forest	CalTLC
838	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	3 - Fair	3	Oak Forest	Dudek
839	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	10	2 - Fair to Poor	NR	Oak Forest	CalTLC
839	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	1 - Poor	2	Oak Forest	Dudek
841	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	3 - Fair	2	Oak Forest	Dudek
841	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	21	3 - Fair	NR	Oak Forest	CalTLC
842	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	1 - Poor	2	Oak Forest	Dudek
842	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	24	2 - Fair to Poor	NR	Oak Forest	CalTLC
843	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	21	2 - Fair to Poor	NR	Oak Forest	CalTLC
843	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	NR	3 - Fair	2	Oak Forest	Dudek
844	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	4 - Good	2	Oak Forest	Dudek
844	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	32	3 - Fair	NR	Oak Forest	CalTLC
845	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	9	3 - Fair	NR	Oak Forest	CalTLC
845	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	3	Oak Forest	Dudek
846	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	27	2 - Fair to Poor	NR	Oak Forest	CalTLC
846	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	2	Oak Forest	Dudek
847	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	21	2 - Fair to Poor	NR	Oak Forest	CalTLC
847	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	4 - Good	2	Oak Forest	Dudek
848	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	2	Oak Forest	Dudek
849	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	4 - Good	2	Oak Forest	Dudek
849	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	18	2 - Fair to Poor	NR	Oak Forest	CalTLC
851	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	2	Oak Forest	Dudek
851	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.0	12	3 - Fair	NR	Oak Forest	CalTLC
852	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	18	2 - Fair to Poor	NR	Oak Forest	CalTLC
852	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	1 - Poor	2	Oak Forest	Dudek
853	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	12	2 - Fair to Poor	NR	Oak Forest	CalTLC
853	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	3	Oak Forest	Dudek
854	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	2	Oak Forest	Dudek
854	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	21	3 - Fair	NR	Oak Forest	CalTLC
855	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	1 - Poor	1	Valley and Foothill Grassland	Dudek
855	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	6	1 - Poor	NR	Oak Forest	CalTLC
856	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	9	1 - Poor	NR	Oak Forest	CalTLC
856	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	4 - Good	3	Oak Forest	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
857	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	4 - Good	3	Oak Forest	Dudek
857	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	24	3 - Fair	NR	Oak Forest	CalTLC
858	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	1 - Poor	1	Oak Woodland	Dudek
858	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.3	24	3 - Fair	NR	Oak Forest	CalTLC
859	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	2	Oak Forest	Dudek
859	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.0	24	2 - Fair to Poor	NR	Oak Forest	CalTLC
861	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	20	0 - Dead	1	Oak Woodland	Dudek
861	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.5	27	2 - Fair to Poor	NR	Oak Forest	CalTLC
862	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	1 - Poor	2	Oak Woodland	Dudek
862	*Quercus douglasii*	blue oak	native	Yes	Yes	0	38.5	30	3 - Fair	NR	Oak Forest	CalTLC
863	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	4 - Good	2	Oak Woodland	Dudek
863	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	24	3 - Fair	NR	Oak Forest	CalTLC
864	*Quercus douglasii*	blue oak	native	No	No	0	4.0	NR	3 - Fair	2	Oak Woodland	Dudek
864	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	24	2 - Fair to Poor	NR	Oak Forest	CalTLC
865	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	4 - Good	2	Oak Woodland	Dudek
865	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.7	21	3 - Fair	NR	Oak Forest	CalTLC
866	*Quercus douglasii*	blue oak	native	Yes	Yes	0	35.5	24	1 - Poor	NR	Valley and Foothill Grassland	CalTLC
867	*Quercus douglasii*	blue oak	native	Yes	Yes	1	27.0	27	3 - Fair	NR	Riparian Forests	CalTLC
868	*Quercus douglasii*	blue oak	native	Yes	Yes	1	26.5	24	2 - Fair to Poor	NR	Riparian Forests	CalTLC
869	*Quercus douglasii*	blue oak	native	Yes	Yes	1	58.0	28	1 - Poor	NR	Perennial Channel	CalTLC
871	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.5	15	3 - Fair	NR	Valley and Foothill Grassland	CalTLC
872	*Quercus douglasii*	blue oak	native	Yes	Yes	1	33.5	27	3 - Fair	NR	Perennial Channel	CalTLC
873	*Quercus douglasii*	blue oak	native	Yes	Yes	1	30.5	0	3 - Fair	NR	Perennial Channel	CalTLC
874	*Quercus douglasii*	blue oak	native	Yes	No	1	14.0	10	3 - Fair	NR	Perennial Channel	CalTLC
875	*Quercus douglasii*	blue oak	native	Yes	No	1	10.5	8	2 - Fair to Poor	NR	Perennial Channel	CalTLC
876	*Quercus douglasii*	blue oak	native	Yes	Yes	1	25.0	24	2 - Fair to Poor	NR	Perennial Channel	CalTLC
877	*Quercus douglasii*	blue oak	native	Yes	Yes	0	35.0	27	3 - Fair	NR	Valley and Foothill Grassland	CalTLC
878	*Quercus douglasii*	blue oak	native	Yes	Yes	1	63.5	45	1 - Poor	NR	Perennial Channel	CalTLC
883	*Quercus douglasii*	blue oak	native	Yes	Yes	0	34.0	NR	3 - Fair	3	Valley and Foothill Grassland	Dudek
884	*Quercus douglasii*	blue oak	native	Yes	Yes	0	42.0	NR	3 - Fair	2	Oak Woodland	Dudek
888	*Quercus douglasii*	blue oak	native	Yes	Yes	0	36.0	NR	4 - Good	3	Oak Woodland	Dudek
889	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	3 - Fair	2	Oak Woodland	Dudek
891	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	NR	1 - Poor	1	Oak Woodland	Dudek
892	*Quercus douglasii*	blue oak	native	Yes	Yes	0	51.5	24	1 - Poor	NR	Oak Woodland	CalTLC
893	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	5	0 - Dead	1	Oak Woodland	Dudek
895	*Quercus douglasii*	blue oak	native	Yes	Yes	0	43.0	0	2 - Fair to Poor	NR	Oak Woodland	CalTLC
896	*Quercus douglasii*	blue oak	native	Yes	Yes	0	46.5	45	1 - Poor	NR	Oak Forest	CalTLC
913	*Quercus douglasii*	blue oak	native	Yes	Yes	0	34.0	NR	5 - Excellent	2	Oak Woodland	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
917	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	4 - Good	3	Oak Woodland	Dudek
1111	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	3	Oak Forest	Dudek
1112	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	4 - Good	2	Oak Forest	Dudek
1113	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	4 - Good	3	Oak Forest	Dudek
1114	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	2	Oak Woodland	Dudek
1159	*Quercus douglasii*	blue oak	native	Yes	No	1	8.0	NR	3 - Fair	2	Riparian Forests	Dudek
1191	*Quercus douglasii*	blue oak	native	Yes	Yes	1	27.0	NR	3 - Fair	2	Riparian Forests	Dudek
1236	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	2	Oak Forest	Dudek
1237	*Quercus douglasii*	blue oak	native	Yes	Yes	0	36.0	NR	3 - Fair	3	Oak Forest	Dudek
1238	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	3 - Fair	2	Oak Forest	Dudek
1239	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	4 - Good	3	Oak Forest	Dudek
1241	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	2	Oak Forest	Dudek
1242	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	4 - Good	3	Oak Forest	Dudek
1243	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	3	Oak Forest	Dudek
1244	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	3	Oak Forest	Dudek
1246	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	2	Oak Forest	Dudek
1247	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	NR	3 - Fair	3	Oak Forest	Dudek
1248	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	NR	4 - Good	1	Oak Forest	Dudek
1251	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	4 - Good	2	Oak Forest	Dudek
1268	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	3	Oak Forest	Dudek
1269	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	3 - Fair	2	Oak Forest	Dudek
1271	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	3 - Fair	2	Oak Forest	Dudek
1272	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	1 - Poor	1	Oak Forest	Dudek
1273	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	3	Oak Forest	Dudek
1274	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	3	Oak Forest	Dudek
1275	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	NR	3 - Fair	1	Oak Forest	Dudek
1276	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	3 - Fair	2	Oak Forest	Dudek
1277	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	2	Oak Forest	Dudek
1278	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	2	Oak Forest	Dudek
1279	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	3	Oak Forest	Dudek
1281	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	1	Oak Forest	Dudek
1282	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	1 - Poor	2	Oak Forest	Dudek
1283	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	2	Oak Forest	Dudek
1284	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	2	Oak Forest	Dudek
1285	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	2	Oak Forest	Dudek
1286	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	2	Oak Forest	Dudek
1287	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	1 - Poor	1	Oak Forest	Dudek
1291	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	3	Oak Forest	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
1292	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	2	Oak Forest	Dudek
1293	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	2	Oak Forest	Dudek
1294	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	1	Oak Forest	Dudek
1295	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	1	Oak Forest	Dudek
1296	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	4 - Good	2	Oak Forest	Dudek
1297	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	1	Oak Forest	Dudek
1298	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	1	Oak Forest	Dudek
1299	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	1	Oak Forest	Dudek
1311	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	3	Oak Forest	Dudek
1312	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	2	Oak Forest	Dudek
1313	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	0 - Dead	1	Oak Forest	Dudek
1314	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	3	Oak Forest	Dudek
1315	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	2	Oak Forest	Dudek
1316	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	1	Oak Forest	Dudek
1317	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	4 - Good	2	Oak Forest	Dudek
1318	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	2	Oak Forest	Dudek
1319	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	1 - Poor	2	Oak Forest	Dudek
1321	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	2	Oak Forest	Dudek
1322	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	3	Oak Forest	Dudek
1323	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	1 - Poor	3	Oak Forest	Dudek
1324	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	1 - Poor	3	Oak Forest	Dudek
1325	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	2	Oak Forest	Dudek
1326	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	2	Oak Forest	Dudek
1327	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	1	Oak Forest	Dudek
1328	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	1	Oak Forest	Dudek
1329	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	3	Oak Forest	Dudek
1331	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	1	Oak Forest	Dudek
1332	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	1	Oak Forest	Dudek
1333	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	1	Oak Forest	Dudek
1334	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	2	Oak Forest	Dudek
1335	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	3	Oak Forest	Dudek
1336	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	1 - Poor	1	Oak Forest	Dudek
1337	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	4 - Good	3	Oak Forest	Dudek
1338	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	1 - Poor	1	Oak Forest	Dudek
1339	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	3	Oak Forest	Dudek
1341	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	1 - Poor	3	Oak Forest	Dudek
1342	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	0 - Dead	2	Oak Forest	Dudek
1343	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	4 - Good	3	Oak Forest	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
1344	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	4 - Good	3	Oak Forest	Dudek
1345	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	4 - Good	3	Oak Forest	Dudek
1346	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	4 - Good	2	Oak Forest	Dudek
1347	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	3	Oak Woodland	Dudek
1347	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	5 - Excellent	3	Oak Woodland	Dudek
1348	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	1 - Poor	1	Oak Forest	Dudek
1349	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	3	Oak Forest	Dudek
1351	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	4 - Good	3	Oak Forest	Dudek
1352	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	4 - Good	3	Oak Forest	Dudek
1353	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	4 - Good	3	Oak Forest	Dudek
1354	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	4 - Good	3	Oak Forest	Dudek
1355	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	4 - Good	2	Oak Forest	Dudek
1356	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	NR	3 - Fair	2	Oak Forest	Dudek
1357	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	2	Oak Forest	Dudek
1358	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	4 - Good	3	Oak Forest	Dudek
1359	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	2	Oak Forest	Dudek
1361	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	4 - Good	3	Oak Forest	Dudek
1362	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	1 - Poor	2	Oak Forest	Dudek
1363	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	1 - Poor	3	Oak Forest	Dudek
1365	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	1 - Poor	3	Oak Forest	Dudek
1366	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	3	Oak Forest	Dudek
1367	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	1 - Poor	3	Oak Forest	Dudek
1368	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	4 - Good	3	Oak Forest	Dudek
1369	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	4 - Good	3	Oak Forest	Dudek
1371	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	2	Oak Forest	Dudek
1372	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	1 - Poor	3	Oak Forest	Dudek
1373	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	1 - Poor	3	Oak Forest	Dudek
1374	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	3	Oak Forest	Dudek
1375	*Quercus douglasii*	blue oak	native	NR	NR	0	NR	NR	1 - Poor	3	Oak Woodland	Dudek
1376	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	4 - Good	3	Oak Woodland	Dudek
1377	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	4 - Good	2	Oak Woodland	Dudek
1378	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	4 - Good	2	Oak Woodland	Dudek
1379	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	4 - Good	3	Oak Forest	Dudek
1381	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	NR	3 - Fair	1	Oak Forest	Dudek
1382	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	3	Oak Forest	Dudek
1383	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	4 - Good	3	Oak Forest	Dudek
1384	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	4 - Good	3	Oak Forest	Dudek
1385	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	4 - Good	3	Oak Forest	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
1386	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.0	NR	4 - Good	1	Oak Forest	Dudek
1387	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	4 - Good	3	Oak Forest	Dudek
1388	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	4 - Good	2	Oak Forest	Dudek
1389	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	4 - Good	3	Oak Forest	Dudek
1391	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	NR	3 - Fair	3	Oak Forest	Dudek
1392	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	4 - Good	3	Oak Forest	Dudek
1393	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	4 - Good	1	Oak Forest	Dudek
1394	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	4 - Good	3	Oak Woodland	Dudek
1395	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	4 - Good	3	Oak Woodland	Dudek
1396	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	4 - Good	3	Oak Woodland	Dudek
1397	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	2	Oak Woodland	Dudek
1398	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	4 - Good	2	Oak Woodland	Dudek
1399	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	4 - Good	2	Oak Forest	Dudek
1411	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	4 - Good	2	Oak Forest	Dudek
1412	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	30	3 - Fair	3	Oak Forest	Dudek
1413	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	0 - Dead	1	Oak Forest	Dudek
1414	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	0 - Dead	1	Oak Forest	Dudek
1415	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	4 - Good	3	Oak Forest	Dudek
1416	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	2	Oak Forest	Dudek
1417	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	4 - Good	2	Oak Forest	Dudek
1418	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	2	Oak Forest	Dudek
1419	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	4 - Good	2	Oak Forest	Dudek
1421	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	3	Oak Forest	Dudek
1422	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	4 - Good	3	Oak Forest	Dudek
1423	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	4 - Good	2	Oak Forest	Dudek
1424	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR		NR	Oak Forest	Dudek
1424	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	4 - Good	2	Oak Forest	Dudek
1425	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	2	Oak Forest	Dudek
1426	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	4 - Good	2	Oak Forest	Dudek
1427	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	3	Oak Forest	Dudek
1428	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	4 - Good	2	Oak Forest	Dudek
1429	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	2	Oak Forest	Dudek
1431	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	0 - Dead	1	Oak Forest	Dudek
1432	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	4 - Good	3	Oak Forest	Dudek
1433	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	3 - Fair	1	Oak Forest	Dudek
1434	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	4 - Good	2	Oak Forest	Dudek
1435	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	4 - Good	3	Oak Forest	Dudek
1436	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	4 - Good	2	Oak Forest	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
1437	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	45	4 - Good	2	Oak Forest	Dudek
1438	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	1 - Poor	2	Oak Forest	Dudek
1439	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	4 - Good	3	Oak Forest	Dudek
1441	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	4 - Good	2	Oak Forest	Dudek
1442	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	3	Oak Woodland	Dudek
1443	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	4 - Good	1	Oak Forest	Dudek
1444	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	1	Oak Forest	Dudek
1445	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	NR	0 - Dead	1	Oak Forest	Dudek
1446	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	4 - Good	3	Oak Forest	Dudek
1448	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	4 - Good	3	Oak Forest	Dudek
1449	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	3 - Fair	2	Oak Forest	Dudek
1451	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	1 - Poor	2	Oak Forest	Dudek
1452	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	2	Oak Forest	Dudek
1453	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	3	Oak Forest	Dudek
1454	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	2	Oak Forest	Dudek
1455	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	3	Oak Forest	Dudek
1456	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	1 - Poor	3	Oak Forest	Dudek
1457	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	2	Oak Forest	Dudek
1458	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	1 - Poor	1	Oak Forest	Dudek
1461	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	4 - Good	3	Oak Forest	Dudek
1462	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	3	Oak Forest	Dudek
1463	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	3	Oak Forest	Dudek
1464	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	3 - Fair	3	Oak Forest	Dudek
1465	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	3 - Fair	2	Oak Forest	Dudek
1466	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	4 - Good	3	Oak Forest	Dudek
1467	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	3 - Fair	1	Oak Forest	Dudek
1468	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	3 - Fair	2	Oak Forest	Dudek
1469	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	4 - Good	1	Oak Forest	Dudek
1471	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	2	Oak Forest	Dudek
1472	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	2	Oak Forest	Dudek
1473	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	1 - Poor	2	Oak Forest	Dudek
1474	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	2	Oak Forest	Dudek
1475	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	4 - Good	3	Oak Forest	Dudek
1476	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	2	Oak Forest	Dudek
1477	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	1 - Poor	2	Oak Forest	Dudek
1478	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	2	Oak Forest	Dudek
1479	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	2	Oak Forest	Dudek
1481	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	4 - Good	2	Oak Forest	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
1482	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	3	Oak Woodland	Dudek
1483	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	4 - Good	3	Oak Woodland	Dudek
1484	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	3	Oak Woodland	Dudek
1485	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	3	Oak Woodland	Dudek
1486	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	3 - Fair	1	Oak Woodland	Dudek
1487	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	2	Oak Forest	Dudek
1488	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	4 - Good	1	Oak Forest	Dudek
1489	*Quercus douglasii*	blue oak	native	Yes	Yes	0	36.0	NR	4 - Good	3	Valley and Foothill Grassland	Dudek
1492	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	0 - Dead	1	Oak Woodland	Dudek
1493	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.0	NR	3 - Fair	2	Oak Woodland	Dudek
1494	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	NR	4 - Good	2	Oak Woodland	Dudek
1495	*Quercus douglasii*	blue oak	native	Yes	Yes	0	54.0	NR	0 - Dead	1	Oak Woodland	Dudek
1496	*Quercus douglasii*	blue oak	native	Yes	Yes	0	37.0	NR	3 - Fair	3	Oak Woodland	Dudek
1497	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.0	NR	3 - Fair	2	Oak Forest	Dudek
1498	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	NR	3 - Fair	3	Oak Forest	Dudek
1499	*Quercus douglasii*	blue oak	native	Yes	Yes	0	40.0	NR	4 - Good	2	Oak Woodland	Dudek
1511	*Quercus douglasii*	blue oak	native	No	No	1	5.0	NR	0 - Dead	1	Perennial Channel	Dudek
1512	*Quercus douglasii*	blue oak	native	Yes	No	1	15.0	NR	4 - Good	3	Riparian Forests	Dudek
1513	*Quercus douglasii*	blue oak	native	Yes	No	1	13.0	NR	3 - Fair	3	Perennial Channel	Dudek
1514	*Quercus douglasii*	blue oak	native	Yes	No	1	16.0	NR	4 - Good	2	Perennial Channel	Dudek
1515	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	25	2 - Fair to Poor	NR	Oak Woodland	CalTLC
1515	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	NR	4 - Good	3	Oak Woodland	Dudek
1516	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	4 - Good	3	Oak Woodland	Dudek
1517	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	4 - Good	3	Oak Woodland	Dudek
1518	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	3 - Fair	3	Oak Woodland	Dudek
1519	*Quercus douglasii*	blue oak	native	Yes	No	1	17.0	NR	4 - Good	3	Perennial Channel	Dudek
1521	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	4 - Good	3	Oak Woodland	Dudek
1522	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	4 - Good	3	Oak Woodland	Dudek
1523	*Quercus douglasii*	blue oak	native	Yes	Yes	1	18.0	NR	4 - Good	2	Riparian Forests	Dudek
1524	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	3 - Fair	3	Oak Forest	Dudek
1525	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	4 - Good	3	Oak Forest	Dudek
1526	*Quercus douglasii*	blue oak	native	Yes	No	1	13.0	NR	3 - Fair	3	Riparian Forests	Dudek
1527	*Quercus douglasii*	blue oak	native	Yes	Yes	1	19.0	NR	4 - Good	3	Riparian Forests	Dudek
1528	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	3	Oak Forest	Dudek
1528	*Quercus douglasii*	blue oak	native	Yes	Yes	0	37.0	25	4 - Good	NR	Oak Woodland	CalTLC
1529	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	4 - Good	3	Oak Forest	Dudek
1529	*Quercus douglasii*	blue oak	native	Yes	Yes	0	47.0	16	2 - Fair to Poor	NR	Oak Woodland	CalTLC
1531	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	4 - Good	3	Oak Forest	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
1531	*Quercus douglasii*	blue oak	native	Yes	Yes	0	45.0	13	1 - Poor	NR	Oak Woodland	CalTLC
1532	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	3	Oak Forest	Dudek
1532	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	15	3 - Fair	NR	Oak Woodland	CalTLC
1533	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	2	Oak Forest	Dudek
1533	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.0	15	3 - Fair	NR	Oak Woodland	CalTLC
1534	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	2	Oak Forest	Dudek
1534	*Quercus douglasii*	blue oak	native	Yes	Yes	0	35.0	13	2 - Fair to Poor	NR	Oak Woodland	CalTLC
1535	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	3	Oak Forest	Dudek
1535	*Quercus douglasii*	blue oak	native	Yes	Yes	0	33.0	13	2 - Fair to Poor	NR	Oak Woodland	CalTLC
1536	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	3	Oak Forest	Dudek
1536	*Quercus douglasii*	blue oak	native	Yes	Yes	0	45.0	18	2 - Fair to Poor	NR	Oak Woodland	CalTLC
1537	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.0	NR	3 - Fair	3	Oak Forest	Dudek
1537	*Quercus douglasii*	blue oak	native	Yes	Yes	0	33.0	12	2 - Fair to Poor	NR	Oak Woodland	CalTLC
1538	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	4 - Good	3	Oak Forest	Dudek
1538	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	0	2 - Fair to Poor	NR	Oak Woodland	CalTLC
1539	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	3	Oak Forest	Dudek
1539	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	10	3 - Fair	NR	Oak Woodland	CalTLC
1541	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	15	2 - Fair to Poor	NR	Oak Woodland	CalTLC
1541	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	3 - Fair	2	Oak Forest	Dudek
1542	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	4 - Good	3	Oak Forest	Dudek
1542	*Quercus douglasii*	blue oak	native	Yes	Yes	0	50.0	25	3 - Fair	NR	Oak Woodland	CalTLC
1543	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	3	Oak Forest	Dudek
1543	*Quercus douglasii*	blue oak	native	Yes	Yes	0	36.0	23	3 - Fair	NR	Oak Woodland	CalTLC
1544	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	4 - Good	3	Oak Forest	Dudek
1544	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.0	20	1 - Poor	NR	Oak Woodland	CalTLC
1545	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	1 - Poor	1	Oak Forest	Dudek
1545	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	15	3 - Fair	NR	Oak Woodland	CalTLC
1546	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	3	Oak Forest	Dudek
1546	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	11	2 - Fair to Poor	NR	Oak Woodland	CalTLC
1547	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	2	Oak Forest	Dudek
1547	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	12	2 - Fair to Poor	NR	Oak Woodland	CalTLC
1548	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	2	Oak Forest	Dudek
1548	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	13	2 - Fair to Poor	NR	Oak Woodland	CalTLC
1549	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	2	Oak Forest	Dudek
1552	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	2	Oak Forest	Dudek
1553	*Quercus douglasii*	blue oak	native	Yes	Yes	0	33.0	19	2 - Fair to Poor	NR	Oak Woodland	CalTLC
1554	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	2	Oak Forest	Dudek
1554	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.0	NR	1 - Poor	NR	Oak Woodland	EPC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
1554	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	16	1 - Poor	NR	Oak Woodland	CalTLC
1555	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	3 - Fair	3	Oak Forest	Dudek
1556	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	4 - Good	3	Oak Forest	Dudek
1557	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	2	Oak Forest	Dudek
1558	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	3 - Fair	2	Oak Forest	Dudek
1559	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	3 - Fair	3	Oak Forest	Dudek
1561	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	2	Oak Forest	Dudek
1562	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	2	Oak Forest	Dudek
1563	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	4 - Good	2	Oak Forest	Dudek
1564	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	2	Oak Forest	Dudek
1565	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	4 - Good	3	Oak Forest	Dudek
1566	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	0 - Dead	1	Oak Forest	Dudek
1567	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	3	Oak Forest	Dudek
1568	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	2	Oak Forest	Dudek
1569	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	3 - Fair	2	Oak Forest	Dudek
1569	*Quercus douglasii*	blue oak	native	Yes	Yes	0	40.0	30	3 - Fair	NR	Oak Woodland	CalTLC
1571	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	4 - Good	3	Oak Forest	Dudek
1571	*Quercus douglasii*	blue oak	native	Yes	Yes	0	40.5	40	3 - Fair	NR	Oak Woodland	CalTLC
1572	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	2	Oak Forest	Dudek
1572	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.5	15	1 - Poor	NR	Oak Woodland	CalTLC
1573	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	3	Oak Forest	Dudek
1573	*Quercus douglasii*	blue oak	native	Yes	Yes	0	36.5	20	3 - Fair	NR	Oak Woodland	CalTLC
1574	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	4 - Good	2	Oak Forest	Dudek
1574	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	15	3 - Fair	NR	Oak Woodland	CalTLC
1575	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	2	Oak Forest	Dudek
1575	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	15	3 - Fair	NR	Oak Woodland	CalTLC
1576	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	3	Oak Forest	Dudek
1576	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	15	3 - Fair	NR	Oak Woodland	CalTLC
1577	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	2	Oak Forest	Dudek
1577	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.5	20	2 - Fair to Poor	NR	Oak Woodland	CalTLC
1578	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	2	Oak Forest	Dudek
1578	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	20	3 - Fair	NR	Oak Woodland	CalTLC
1579	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	3	Oak Forest	Dudek
1579	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	15	3 - Fair	NR	Oak Woodland	CalTLC
1581	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	2	Oak Forest	Dudek
1581	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	10	3 - Fair	NR	Oak Woodland	CalTLC
1582	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	10	3 - Fair	NR	Oak Woodland	CalTLC
1582	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	4 - Good	1	Oak Woodland	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
1583	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	5	3 - Fair	NR	Oak Woodland	CalTLC
1583	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	NR	4 - Good	3	Valley and Foothill Grassland	Dudek
1584	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	4 - Good	2	Oak Woodland	Dudek
1584	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	15	3 - Fair	NR	Oak Woodland	CalTLC
1585	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	5	3 - Fair	NR	Oak Woodland	CalTLC
1585	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	NR	4 - Good	2	Oak Woodland	Dudek
1586	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	15	2 - Fair to Poor	NR	Oak Woodland	CalTLC
1586	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	2	Oak Woodland	Dudek
1587	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	4 - Good	3	Oak Woodland	Dudek
1587	*Quercus douglasii*	blue oak	native	Yes	No	0	11.5	10	3 - Fair	NR	Oak Woodland	CalTLC
1588	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	15	3 - Fair	NR	Oak Woodland	CalTLC
1588	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	4 - Good	1	Oak Woodland	Dudek
1589	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	4 - Good	2	Oak Woodland	Dudek
1589	*Quercus douglasii*	blue oak	native	Yes	No	0	16.5	0	2 - Fair to Poor	NR	Oak Woodland	CalTLC
1591	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	10	3 - Fair	NR	Oak Woodland	CalTLC
1591	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	4 - Good	2	Oak Woodland	Dudek
1592	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	4 - Good	2	Oak Woodland	Dudek
1592	*Quercus douglasii*	blue oak	native	Yes	No	0	11.5	0	3 - Fair	NR	Oak Woodland	CalTLC
1593	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	12	3 - Fair	NR	Oak Woodland	CalTLC
1593	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	3	Oak Woodland	Dudek
1594	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	15	3 - Fair	NR	Oak Woodland	CalTLC
1594	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	4 - Good	3	Oak Woodland	Dudek
1595	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	2	Oak Woodland	Dudek
1595	*Quercus douglasii*	blue oak	native	Yes	No	0	14.5	20	3 - Fair	NR	Oak Woodland	CalTLC
1596	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	5	3 - Fair	NR	Oak Woodland	CalTLC
1596	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	2	Oak Woodland	Dudek
1597	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	4 - Good	2	Oak Woodland	Dudek
1598	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	NR	4 - Good	3	Oak Woodland	Dudek
1599	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	NR	4 - Good	2	Oak Woodland	Dudek
1611	*Quercus douglasii*	blue oak	native	No	No	0	≥1	15	3 - Fair	NR	Oak Woodland	CalTLC
1612	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	22	3 - Fair	NR	Oak Woodland	CalTLC
1613	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	15	3 - Fair	NR	Oak Woodland	CalTLC
1614	*Quercus douglasii*	blue oak	native	Yes	No	0	14.5	20	3 - Fair	NR	Oak Woodland	CalTLC
1615	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	20	3 - Fair	NR	Oak Woodland	CalTLC
1616	*Quercus douglasii*	blue oak	native	Yes	No	0	13.5	10	3 - Fair	NR	Oak Woodland	CalTLC
1617	*Quercus douglasii*	blue oak	native	Yes	No	0	10.5	15	3 - Fair	NR	Oak Woodland	CalTLC
1617	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	1 - Poor	NR	Oak Woodland	EPC
1618	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	15	3 - Fair	NR	Oak Woodland	CalTLC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
1618	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
1619	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	12	3 - Fair	NR	Oak Woodland	CalTLC
1619	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	NR	Oak Woodland	EPC
1621	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	6	3 - Fair	NR	Oak Woodland	CalTLC
1621	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	4 - Good	NR	Oak Woodland	EPC
1622	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	20	3 - Fair	NR	Oak Woodland	CalTLC
1622	*Quercus douglasii*	blue oak	native	Yes	Yes	0	33.0	NR	4 - Good	NR	Oak Woodland	EPC
1622	*Quercus douglasii*	blue oak	native	Yes	Yes	0	33.0	NR	4 - Good	NR	Oak Forest	EPC
1623	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	25	1 - Poor	NR	Oak Woodland	CalTLC
1624	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	20	3 - Fair	NR	Oak Woodland	CalTLC
1624	*Quercus douglasii*	blue oak	native	Yes	Yes	0	33.0	NR	4 - Good	NR	Oak Forest	EPC
1625	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
1625	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	4 - Good	NR	Oak Forest	EPC
1625	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.0	35	3 - Fair	NR	Oak Woodland	CalTLC
1626	*Quercus douglasii*	blue oak	native	Yes	No	0	7.5	10	3 - Fair	NR	Oak Woodland	CalTLC
1627	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
1627	*Quercus douglasii*	blue oak	native	No	No	0	≥1	12	3 - Fair	NR	Oak Woodland	CalTLC
1628	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
1628	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.5	18	3 - Fair	NR	Oak Woodland	CalTLC
1629	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	NR	Oak Forest	EPC
1629	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	15	3 - Fair	NR	Oak Woodland	CalTLC
1631	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	3 - Fair	NR	Oak Forest	EPC
1631	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	20	3 - Fair	NR	Oak Woodland	CalTLC
1632	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	1 - Poor	NR	Oak Forest	EPC
1632	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	1	Oak Woodland	Dudek
1632	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	15	3 - Fair	NR	Oak Woodland	CalTLC
1633	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	5	3 - Fair	NR	Oak Woodland	CalTLC
1633	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	2	Oak Woodland	Dudek
1633	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	NR	Oak Forest	EPC
1634	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	4 - Good	NR	Oak Forest	EPC
1634	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	5	3 - Fair	NR	Oak Woodland	CalTLC
1634	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	2	Oak Woodland	Dudek
1635	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	1 - Poor	NR	Oak Forest	EPC
1635	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	15	3 - Fair	NR	Oak Woodland	CalTLC
1635	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	1 - Poor	2	Oak Woodland	Dudek
1636	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
1636	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.5	15	3 - Fair	NR	Oak Woodland	CalTLC
1636	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	4 - Good	3	Oak Woodland	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
1637	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
1637	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	4 - Good	2	Oak Woodland	Dudek
1637	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	15	3 - Fair	NR	Oak Woodland	CalTLC
1638	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	1 - Poor	1	Oak Woodland	Dudek
1638	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
1638	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.5	18	3 - Fair	NR	Oak Woodland	CalTLC
1639	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	2	Oak Woodland	Dudek
1639	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	12	3 - Fair	NR	Oak Woodland	CalTLC
1641	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	NR	Oak Forest	EPC
1641	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	12	3 - Fair	NR	Oak Forest	CalTLC
1641	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	4 - Good	2	Oak Woodland	Dudek
1642	*Quercus douglasii*	blue oak	native	Yes	No	0	11.5	10	3 - Fair	NR	Oak Forest	CalTLC
1642	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	2	Oak Woodland	Dudek
1643	*Quercus douglasii*	blue oak	native	Yes	No	0	10.5	10	1 - Poor	NR	Oak Forest	CalTLC
1643	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	3 - Fair	2	Oak Woodland	Dudek
1643	*Quercus douglasii*	blue oak	native	Yes	Yes	0	40.0	NR	3 - Fair	NR	Oak Forest	EPC
1644	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	20	3 - Fair	NR	Oak Forest	CalTLC
1644	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	NR	Oak Forest	EPC
1644	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	2	Oak Woodland	Dudek
1645	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	12	3 - Fair	NR	Oak Woodland	CalTLC
1645	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	NR	Oak Forest	EPC
1645	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	NR	4 - Good	1	Oak Woodland	Dudek
1646	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	NR	Oak Forest	EPC
1646	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	2	Oak Woodland	Dudek
1646	*Quercus douglasii*	blue oak	native	No	No	0	≥1	20	3 - Fair	NR	Oak Woodland	CalTLC
1647	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	5	2 - Fair to Poor	NR	Oak Woodland	CalTLC
1647	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	NR	Oak Forest	EPC
1648	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	12	2 - Fair to Poor	NR	Oak Woodland	CalTLC
1648	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	3	Oak Woodland	Dudek
1648	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	3 - Fair	NR	Oak Forest	EPC
1649	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	5	2 - Fair to Poor	NR	Oak Woodland	CalTLC
1649	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	1 - Poor	NR	Oak Forest	EPC
1651	*Quercus douglasii*	blue oak	native	No	No	0	1.0	NR	0 - Dead	NR	Oak Forest	EPC
1651	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	4 - Good	3	Oak Woodland	Dudek
1651	*Quercus douglasii*	blue oak	native	No	No	0	≥1	10	1 - Poor	NR	Oak Woodland	CalTLC
1652	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
1652	*Quercus douglasii*	blue oak	native	Yes	No	0	12.5	10	3 - Fair	NR	Oak Forest	CalTLC
1652	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	4 - Good	1	Oak Woodland	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
1653	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	NR	Oak Forest	EPC
1653	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.5	22	3 - Fair	NR	Oak Forest	CalTLC
1653	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.0	NR	4 - Good	1	Oak Woodland	Dudek
1654	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	3 - Fair	3	Oak Woodland	Dudek
1654	*Quercus douglasii*	blue oak	native	Yes	Yes	0	34.0	NR	1 - Poor	NR	Oak Forest	EPC
1654	*Quercus douglasii*	blue oak	native	No	No	0	≥1	15	3 - Fair	NR	Oak Forest	CalTLC
1655	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	10	3 - Fair	NR	Oak Forest	CalTLC
1655	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	4 - Good	3	Oak Woodland	Dudek
1655	*Quercus douglasii*	blue oak	native	Yes	Yes	0	34.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
1656	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	10	3 - Fair	NR	Oak Forest	CalTLC
1656	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.0	NR	4 - Good	2	Oak Woodland	Dudek
1656	*Quercus douglasii*	blue oak	native	Yes	Yes	0	34.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
1657	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	4 - Good	3	Oak Woodland	Dudek
1657	*Quercus douglasii*	blue oak	native	Yes	No	0	14.5	12	3 - Fair	NR	Oak Forest	CalTLC
1658	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	2	Oak Woodland	Dudek
1658	*Quercus douglasii*	blue oak	native	Yes	Yes	0	38.0	NR	4 - Good	NR	Oak Forest	EPC
1658	*Quercus douglasii*	blue oak	native	No	No	0	≥1	15	3 - Fair	NR	Oak Forest	CalTLC
1659	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	8	3 - Fair	NR	Oak Forest	CalTLC
1659	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	4 - Good	3	Oak Woodland	Dudek
1661	*Quercus douglasii*	blue oak	native	Yes	No	0	12.5	10	3 - Fair	NR	Oak Forest	CalTLC
1661	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	2	Oak Woodland	Dudek
1661	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	0 - Dead	NR	Oak Forest	EPC
1662	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	3 - Fair	2	Oak Woodland	Dudek
1662	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
1662	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.5	12	3 - Fair	NR	Oak Forest	CalTLC
1663	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	NR	Oak Forest	EPC
1663	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	4 - Good	2	Oak Woodland	Dudek
1663	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	15	3 - Fair	NR	Oak Forest	CalTLC
1664	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	6	3 - Fair	NR	Oak Forest	CalTLC
1664	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	2	Oak Woodland	Dudek
1665	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	3 - Fair	2	Oak Woodland	Dudek
1665	*Quercus douglasii*	blue oak	native	Yes	No	0	13.5	10	3 - Fair	NR	Oak Forest	CalTLC
1665	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	NR	4 - Good	NR	Oak Forest	EPC
1666	*Quercus douglasii*	blue oak	native	Yes	No	0	9.5	5	3 - Fair	NR	Oak Forest	CalTLC
1666	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	2	Oak Woodland	Dudek
1667	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	4 - Good	NR	Oak Forest	EPC
1667	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	1	Oak Woodland	Dudek
1667	*Quercus douglasii*	blue oak	native	Yes	No	0	12.5	6	3 - Fair	NR	Oak Forest	CalTLC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
1668	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	2	Oak Woodland	Dudek
1668	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	1 - Poor	NR	Oak Forest	EPC
1668	*Quercus douglasii*	blue oak	native	Yes	No	0	13.5	6	3 - Fair	NR	Oak Forest	CalTLC
1669	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	3 - Fair	2	Oak Woodland	Dudek
1669	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
1669	*Quercus douglasii*	blue oak	native	No	No	0	≥1	12	1 - Poor	NR	Oak Forest	CalTLC
1671	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	6	3 - Fair	NR	Oak Forest	CalTLC
1671	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	4 - Good	NR	Oak Forest	EPC
1671	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	4 - Good	2	Oak Woodland	Dudek
1672	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	4 - Good	3	Oak Woodland	Dudek
1672	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
1672	*Quercus douglasii*	blue oak	native	Yes	No	0	12.5	6	3 - Fair	NR	Oak Forest	CalTLC
1673	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	4 - Good	3	Oak Woodland	Dudek
1673	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	0 - Dead	NR	Oak Forest	EPC
1673	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	22	3 - Fair	NR	Oak Forest	CalTLC
1674	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	6	3 - Fair	NR	Oak Forest	CalTLC
1674	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	NR	Oak Forest	EPC
1674	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	4 - Good	3	Oak Woodland	Dudek
1675	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	NR	Oak Forest	EPC
1675	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	4 - Good	1	Oak Woodland	Dudek
1675	*Quercus douglasii*	blue oak	native	No	No	0	≥1	6	3 - Fair	NR	Oak Forest	CalTLC
1676	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	NR	Oak Forest	EPC
1676	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	2	Oak Woodland	Dudek
1676	*Quercus douglasii*	blue oak	native	Yes	No	0	17.5	10	3 - Fair	NR	Oak Forest	CalTLC
1677	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	2	Oak Woodland	Dudek
1677	*Quercus douglasii*	blue oak	native	No	No	0	≥1	25	1 - Poor	NR	Oak Forest	CalTLC
1678	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	1 - Poor	2	Oak Woodland	Dudek
1678	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.5	22	3 - Fair	NR	Oak Woodland	CalTLC
1679	*Quercus douglasii*	blue oak	native	Yes	No	0	9.5	10	3 - Fair	NR	Oak Woodland	CalTLC
1679	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	4 - Good	3	Oak Woodland	Dudek
1681	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	4 - Good	3	Oak Woodland	Dudek
1681	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
1681	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.5	15	3 - Fair	NR	Oak Woodland	CalTLC
1682	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	4 - Good	3	Oak Woodland	Dudek
1682	*Quercus douglasii*	blue oak	native	No	No	0	≥1	15	3 - Fair	NR	Oak Woodland	CalTLC
1683	*Quercus douglasii*	blue oak	native	Yes	No	0	11.5	15	3 - Fair	NR	Oak Woodland	CalTLC
1683	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	4 - Good	1	Oak Woodland	Dudek
1684	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	1 - Poor	NR	Oak Forest	EPC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
1684	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	4 - Good	3	Oak Woodland	Dudek
1684	*Quercus douglasii*	blue oak	native	No	No	0	≥1	10	3 - Fair	NR	Oak Woodland	CalTLC
1685	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	NR	Oak Forest	EPC
1685	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	10	3 - Fair	NR	Oak Woodland	CalTLC
1685	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	2	Oak Woodland	Dudek
1686	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	NR	Oak Forest	EPC
1686	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	4 - Good	2	Valley and Foothill Grassland	Dudek
1686	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	12	3 - Fair	NR	Oak Forest	CalTLC
1687	*Quercus douglasii*	blue oak	native	Yes	No	1	16.0	NR	4 - Good	2	Riparian Forests	Dudek
1687	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	NR	Oak Forest	EPC
1688	*Quercus douglasii*	blue oak	native	Yes	No	1	8.0	NR	0 - Dead	1	Perennial Channel	Dudek
1688	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	NR	Oak Forest	EPC
1689	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
1689	*Quercus douglasii*	blue oak	native	Yes	Yes	1	25.0	NR	4 - Good	2	Perennial Channel	Dudek
1691	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
1691	*Quercus douglasii*	blue oak	native	Yes	Yes	1	29.0	NR	0 - Dead	1	Perennial Channel	Dudek
1692	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	4 - Good	2	Valley and Foothill Grassland	Dudek
1692	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
1693	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	4 - Good	3	Valley and Foothill Grassland	Dudek
1693	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	1 - Poor	NR	Oak Forest	EPC
1694	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
1694	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	4 - Good	2	Valley and Foothill Grassland	Dudek
1695	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	0 - Dead	NR	Oak Forest	EPC
1695	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	4 - Good	1	Oak Forest	Dudek
1696	*Quercus douglasii*	blue oak	native	Yes	No	1	9.0	NR	2 - Fair to Poor	NR	Riparian Forests	EPC
1696	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	4 - Good	1	Oak Forest	Dudek
1697	*Quercus douglasii*	blue oak	native	Yes	No	1	11.0	NR	4 - Good	1	Perennial Channel	Dudek
1697	*Quercus douglasii*	blue oak	native	Yes	No	1	15.0	NR	3 - Fair	NR	Perennial Channel	EPC
1698	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	NR	Oak Forest	EPC
1698	*Quercus douglasii*	blue oak	native	Yes	No	1	16.0	NR	3 - Fair	2	Riparian Forests	Dudek
1699	*Quercus douglasii*	blue oak	native	Yes	Yes	1	19.0	NR	3 - Fair	1	Perennial Channel	Dudek
1733	*Quercus douglasii*	blue oak	native	Yes	Yes	0	35.5	23	1 - Poor	NR	Valley and Foothill Grassland	CalTLC
1736	*Quercus douglasii*	blue oak	native	Yes	Yes	0	35.0	17	2 - Fair to Poor	NR	Oak Forest	CalTLC
1737	*Quercus douglasii*	blue oak	native	Yes	Yes	0	40.0	23	3 - Fair	NR	Oak Forest	CalTLC
1738	*Quercus douglasii*	blue oak	native	Yes	Yes	0	40.0	25	2 - Fair to Poor	NR	Oak Forest	CalTLC
1739	*Quercus douglasii*	blue oak	native	Yes	Yes	0	38.0	17	2 - Fair to Poor	NR	Oak Forest	CalTLC
1741	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	18	4 - Good	NR	Oak Forest	CalTLC
1749	*Quercus douglasii*	blue oak	native	Yes	No	0	15.5	13	2 - Fair to Poor	NR	Oak Forest	CalTLC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
1751	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	6	2 - Fair to Poor	NR	Oak Forest	CalTLC
1752	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	24	3 - Fair	NR	Oak Forest	CalTLC
1753	*Quercus douglasii*	blue oak	native	Yes	Yes	0	33.5	28	2 - Fair to Poor	NR	Oak Forest	CalTLC
1769	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	4 - Good	1	Oak Forest	Dudek
1771	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	2	Oak Forest	Dudek
1772	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	2	Oak Forest	Dudek
1773	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	4 - Good	2	Oak Forest	Dudek
1774	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	3 - Fair	3	Oak Forest	Dudek
1775	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	2	Oak Forest	Dudek
1776	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	4 - Good	1	Oak Forest	Dudek
1777	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	4 - Good	1	Oak Forest	Dudek
1778	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	1	Oak Forest	Dudek
1779	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	3 - Fair	1	Oak Forest	Dudek
1781	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	3	Oak Forest	Dudek
1782	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	2	Oak Forest	Dudek
1783	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	1 - Poor	2	Oak Forest	Dudek
1784	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	2	Oak Forest	Dudek
1785	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	3 - Fair	2	Oak Forest	Dudek
1786	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	3 - Fair	1	Oak Forest	Dudek
1788	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.5	12	3 - Fair	NR	Oak Forest	CalTLC
1789	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	5	2 - Fair to Poor	NR	Oak Forest	CalTLC
1791	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	9	2 - Fair to Poor	NR	Oak Forest	CalTLC
1791	*Quercus douglasii*	blue oak	native	Yes	No	1	14.0	NR	3 - Fair	2	Riparian Forests	Dudek
1792	*Quercus douglasii*	blue oak	native	Yes	No	1	16.0	NR	3 - Fair	1	Riparian Forests	Dudek
1793	*Quercus douglasii*	blue oak	native	Yes	No	1	12.0	NR	4 - Good	3	Riparian Forests	Dudek
1794	*Quercus douglasii*	blue oak	native	Yes	No	1	7.0	NR	4 - Good	2	Riparian Forests	Dudek
1795	*Quercus douglasii*	blue oak	native	Yes	No	1	13.0	NR	4 - Good	2	Riparian Forests	Dudek
1796	*Quercus douglasii*	blue oak	native	Yes	No	1	15.0	NR	4 - Good	2	Riparian Forests	Dudek
1797	*Quercus douglasii*	blue oak	native	Yes	Yes	1	25.0	NR	3 - Fair	1	Riparian Forests	Dudek
1798	*Quercus douglasii*	blue oak	native	Yes	No	1	13.0	NR	4 - Good	3	Riparian Forests	Dudek
1799	*Quercus douglasii*	blue oak	native	Yes	Yes	1	40.0	NR	4 - Good	1	Riparian Forests	Dudek
1813	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.5	17	1 - Poor	NR	Oak Woodland	CalTLC
1814	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	21	2 - Fair to Poor	NR	Oak Woodland	CalTLC
1815	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	21	2 - Fair to Poor	NR	Oak Woodland	CalTLC
1816	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	10	2 - Fair to Poor	NR	Oak Woodland	CalTLC
1817	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	17	2 - Fair to Poor	NR	Oak Woodland	CalTLC
1818	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	9	2 - Fair to Poor	NR	Oak Woodland	CalTLC
1819	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	19	2 - Fair to Poor	NR	Oak Woodland	CalTLC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
1821	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	18	2 - Fair to Poor	NR	Oak Forest	CalTLC
1824	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.0	19	3 - Fair	NR	Oak Forest	CalTLC
1826	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.0	20	3 - Fair	NR	Oak Forest	CalTLC
1826	*Quercus douglasii*	blue oak	native	Yes	Yes	0	44.0	30	3 - Fair	NR	Oak Forest	CalTLC
1828	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.5	28	2 - Fair to Poor	NR	Oak Forest	CalTLC
1828	*Quercus douglasii*	blue oak	native	Yes	Yes	0	35.0	15	1 - Poor	NR	Oak Forest	CalTLC
1829	*Quercus douglasii*	blue oak	native	Yes	Yes	0	33.0	20	3 - Fair	NR	Oak Forest	CalTLC
1831	*Quercus douglasii*	blue oak	native	Yes	Yes	0	52.0	29	3 - Fair	NR	Oak Woodland	CalTLC
1833	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.5	20	2 - Fair to Poor	NR	Oak Woodland	CalTLC
1834	*Quercus douglasii*	blue oak	native	Yes	Yes	0	33.5	22	3 - Fair	NR	Oak Woodland	CalTLC
1835	*Quercus douglasii*	blue oak	native	Yes	Yes	0	34.0	30	1 - Poor	NR	Oak Woodland	CalTLC
1836	*Quercus douglasii*	blue oak	native	Yes	Yes	0	36.0	20	3 - Fair	NR	Oak Woodland	CalTLC
1837	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.5	25	2 - Fair to Poor	NR	Oak Woodland	CalTLC
1838	*Quercus douglasii*	blue oak	native	Yes	No	0	9.5	20	2 - Fair to Poor	NR	Oak Woodland	CalTLC
1839	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	6	3 - Fair	NR	Oak Woodland	CalTLC
1841	*Quercus douglasii*	blue oak	native	Yes	No	0	10.5	10	1 - Poor	NR	Oak Woodland	CalTLC
1842	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	12	3 - Fair	NR	Oak Woodland	CalTLC
1843	*Quercus douglasii*	blue oak	native	Yes	No	0	14.5	12	3 - Fair	NR	Oak Woodland	CalTLC
1844	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	10	1 - Poor	NR	Oak Woodland	CalTLC
1845	*Quercus douglasii*	blue oak	native	Yes	No	0	16.5	12	1 - Poor	NR	Oak Woodland	CalTLC
1846	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	18	3 - Fair	NR	Oak Woodland	CalTLC
1847	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.5	20	1 - Poor	NR	Oak Woodland	CalTLC
1848	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	12	3 - Fair	NR	Oak Woodland	CalTLC
1849	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	18	3 - Fair	NR	Oak Woodland	CalTLC
1851	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	10	3 - Fair	NR	Oak Woodland	CalTLC
1852	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	15	3 - Fair	NR	Oak Woodland	CalTLC
1853	*Quercus douglasii*	blue oak	native	Yes	No	0	10.5	15	3 - Fair	NR	Oak Woodland	CalTLC
1854	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	6	3 - Fair	NR	Oak Woodland	CalTLC
1855	*Quercus douglasii*	blue oak	native	Yes	No	0	12.5	15	3 - Fair	NR	Oak Woodland	CalTLC
1856	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	12	3 - Fair	NR	Oak Woodland	CalTLC
1857	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	12	2 - Fair to Poor	NR	Oak Woodland	CalTLC
1858	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	2	Oak Forest	Dudek
1858	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	12	2 - Fair to Poor	NR	Oak Woodland	CalTLC
1859	*Quercus douglasii*	blue oak	native	Yes	No	0	13.5	20	2 - Fair to Poor	NR	Oak Woodland	CalTLC
1859	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	4 - Good	2	Oak Forest	Dudek
1861	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	20	3 - Fair	NR	Oak Woodland	CalTLC
1862	*Quercus douglasii*	blue oak	native	Yes	No	0	9.5	6	2 - Fair to Poor	NR	Oak Woodland	CalTLC
1863	*Quercus douglasii*	blue oak	native	Yes	No	0	9.5	6	1 - Poor	NR	Oak Woodland	CalTLC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
1864	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	10	3 - Fair	NR	Oak Woodland	CalTLC
1865	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	25	2 - Fair to Poor	NR	Oak Woodland	CalTLC
1866	*Quercus douglasii*	blue oak	native	Yes	Yes	0	35.0	30	3 - Fair	NR	Oak Woodland	CalTLC
1867	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	10	2 - Fair to Poor	NR	Oak Woodland	CalTLC
1868	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	40	2 - Fair to Poor	NR	Oak Woodland	CalTLC
1869	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	2	Oak Forest	Dudek
1871	*Quercus douglasii*	blue oak	native	Yes	No	0	13.5	25	3 - Fair	NR	Oak Woodland	CalTLC
1872	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	1	Oak Forest	Dudek
1873	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	3 - Fair	3	Oak Forest	Dudek
1874	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	1	Oak Forest	Dudek
1874	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	15	2 - Fair to Poor	NR	Oak Woodland	CalTLC
1875	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	2	Oak Forest	Dudek
1875	*Quercus douglasii*	blue oak	native	Yes	Yes	0	34.5	18	2 - Fair to Poor	NR	Oak Woodland	CalTLC
1876	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	1	Oak Forest	Dudek
1876	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.5	20	1 - Poor	NR	Oak Woodland	CalTLC
1877	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	4 - Good	3	Oak Forest	Dudek
1877	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	15	1 - Poor	NR	Oak Woodland	CalTLC
1878	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	2	Oak Forest	Dudek
1878	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	15	3 - Fair	NR	Oak Woodland	CalTLC
1879	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	4 - Good	1	Oak Forest	Dudek
1879	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.5	15	2 - Fair to Poor	NR	Oak Woodland	CalTLC
1881	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	2	Oak Forest	Dudek
1881	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.0	22	3 - Fair	NR	Oak Woodland	CalTLC
1882	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	2	Oak Forest	Dudek
1882	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	12	3 - Fair	NR	Oak Woodland	CalTLC
1883	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	0 - Dead	1	Oak Forest	Dudek
1883	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	12	3 - Fair	NR	Oak Woodland	CalTLC
1884	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	3 - Fair	2	Oak Forest	Dudek
1884	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	10	3 - Fair	NR	Oak Woodland	CalTLC
1885	*Quercus douglasii*	blue oak	native	Yes	No	0	8.5	15	3 - Fair	NR	Oak Woodland	CalTLC
1885	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	2	Oak Forest	Dudek
1886	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	2	Oak Forest	Dudek
1886	*Quercus douglasii*	blue oak	native	Yes	No	0	17.5	10	1 - Poor	NR	Oak Woodland	CalTLC
1887	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	4 - Good	3	Oak Forest	Dudek
1887	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.5	20	3 - Fair	NR	Oak Woodland	CalTLC
1888	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	3	Oak Forest	Dudek
1888	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.5	20	3 - Fair	NR	Oak Woodland	CalTLC
1889	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.0	12	3 - Fair	NR	Oak Woodland	CalTLC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
1891	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.5	25	2 - Fair to Poor	NR	Oak Woodland	CalTLC
1892	*Quercus douglasii*	blue oak	native	Yes	Yes	0	35.0	25	1 - Poor	NR	Oak Forest	CalTLC
1893	*Quercus douglasii*	blue oak	native	Yes	Yes	0	34.0	25	3 - Fair	NR	Oak Forest	CalTLC
1894	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	20	1 - Poor	NR	Oak Forest	CalTLC
1895	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	4 - Good	1	Oak Forest	Dudek
1895	*Quercus douglasii*	blue oak	native	Yes	No	0	17.5	22	1 - Poor	NR	Oak Forest	CalTLC
1896	*Quercus douglasii*	blue oak	native	Yes	No	0	15.5	20	1 - Poor	NR	Oak Forest	CalTLC
1897	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	2	Oak Forest	Dudek
1897	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	12	2 - Fair to Poor	NR	Valley and Foothill Grassland	CalTLC
1898	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	2	Oak Forest	Dudek
1898	*Quercus douglasii*	blue oak	native	No	No	0	≥1	0	1 - Poor	NR	Oak Forest	CalTLC
1899	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	2	Oak Forest	Dudek
1899	*Quercus douglasii*	blue oak	native	Yes	No	0	17.5	20	2 - Fair to Poor	NR	Oak Forest	CalTLC
1911	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	4 - Good	2	Oak Forest	Dudek
1912	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	2	Oak Forest	Dudek
1912	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	17	2 - Fair to Poor	NR	Oak Forest	CalTLC
1913	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	3	Oak Forest	Dudek
1914	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	3 - Fair	2	Oak Forest	Dudek
1915	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	3	Oak Forest	Dudek
1916	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	4 - Good	2	Oak Forest	Dudek
1917	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	4 - Good	2	Oak Forest	Dudek
1918	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.0	NR	4 - Good	3	Oak Forest	Dudek
1919	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	4 - Good	2	Oak Forest	Dudek
1921	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	2	Oak Forest	Dudek
1922	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	3	Oak Forest	Dudek
1923	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	2	Oak Forest	Dudek
1924	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	0 - Dead	1	Oak Forest	Dudek
1924	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	18	3 - Fair	NR	Oak Forest	CalTLC
1925	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	2	Oak Forest	Dudek
1925	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.5	25	3 - Fair	NR	Oak Forest	CalTLC
1926	*Quercus douglasii*	blue oak	native	Yes	No	0	8.5	15	3 - Fair	NR	Oak Forest	CalTLC
1926	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	3	Oak Forest	Dudek
1927	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	4 - Good	3	Oak Forest	Dudek
1927	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	25	3 - Fair	NR	Oak Forest	CalTLC
1928	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	1 - Poor	2	Oak Forest	Dudek
1928	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	25	2 - Fair to Poor	NR	Oak Forest	CalTLC
1928	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
1929	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	4 - Good	2	Oak Forest	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
1929	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	20	2 - Fair to Poor	NR	Oak Forest	CalTLC
1931	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	3	Oak Forest	Dudek
1931	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.0	15	3 - Fair	NR	Oak Forest	CalTLC
1932	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	12	2 - Fair to Poor	NR	Oak Forest	CalTLC
1932	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	1	Oak Forest	Dudek
1933	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	3	Oak Forest	Dudek
1933	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	15	3 - Fair	NR	Oak Forest	CalTLC
1934	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	2	Oak Forest	Dudek
1934	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	12	3 - Fair	NR	Oak Forest	CalTLC
1935	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	2	Oak Forest	Dudek
1936	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	1 - Poor	NR	Oak Forest	EPC
1936	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	4 - Good	1	Oak Forest	Dudek
1937	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	4 - Good	3	Oak Forest	Dudek
1937	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
1938	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
1938	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	1	Oak Forest	Dudek
1939	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
1939	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	4 - Good	2	Oak Forest	Dudek
1941	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
1941	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	2	Oak Forest	Dudek
1942	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	4 - Good	3	Oak Forest	Dudek
1942	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	NR	Oak Forest	EPC
1943	*Quercus douglasii*	blue oak	native	No	No	0	4.0	NR	0 - Dead	1	Oak Forest	Dudek
1943	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
1944	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	2	Oak Forest	Dudek
1944	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
1945	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	0 - Dead	NR	Oak Forest	EPC
1945	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	4 - Good	2	Oak Forest	Dudek
1946	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	1 - Poor	2	Oak Forest	Dudek
1946	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	NR	Oak Forest	EPC
1947	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	3	Oak Forest	Dudek
1947	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	NR	Oak Forest	EPC
1948	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
1948	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	4 - Good	3	Oak Forest	Dudek
1949	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	4 - Good	3	Oak Forest	Dudek
1951	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.0	NR	3 - Fair	1	Oak Forest	Dudek
1953	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	3 - Fair	1	Oak Forest	Dudek
1954	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	4 - Good	3	Oak Forest	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
1955	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	3 - Fair	1	Oak Forest	Dudek
1956	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	4 - Good	3	Oak Forest	Dudek
1957	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	3	Oak Forest	Dudek
1958	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	4 - Good	3	Oak Forest	Dudek
1959	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	NR	4 - Good	1	Oak Forest	Dudek
1961	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	3	Oak Forest	Dudek
1962	*Quercus douglasii*	blue oak	native	Yes	Yes	0	16.0	NR	4 - Good	3	Oak Forest	Dudek
1963	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	3	Oak Forest	Dudek
1964	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	1 - Poor	1	Oak Forest	Dudek
1965	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	2	Oak Forest	Dudek
1966	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	4 - Good	2	Oak Forest	Dudek
1967	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	3	Oak Forest	Dudek
1968	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	3	Oak Forest	Dudek
1969	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	1 - Poor	2	Oak Forest	Dudek
1971	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	4 - Good	2	Oak Forest	Dudek
2111	*Quercus douglasii*	blue oak	native	Yes	Yes	0	39.0	32	3 - Fair	NR	Oak Forest	CalTLC
2112	*Quercus douglasii*	blue oak	native	Yes	No	1	12.0	25	1 - Poor	NR	Intermittent Channel	CalTLC
2114	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	12	3 - Fair	NR	Oak Forest	CalTLC
2115	*Quercus douglasii*	blue oak	native	No	No	0	≥1	15	2 - Fair to Poor	NR	Oak Forest	CalTLC
2116	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	12	3 - Fair	NR	Oak Forest	CalTLC
2117	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	10	3 - Fair	NR	Oak Forest	CalTLC
2118	*Quercus douglasii*	blue oak	native	Yes	No	1	12.0	15	3 - Fair	NR	Intermittent Channel	CalTLC
2121	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.5	30	2 - Fair to Poor	NR	Oak Forest	CalTLC
2122	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	3	Oak Forest	Dudek
2122	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	25	3 - Fair	NR	Oak Forest	CalTLC
2123	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	35	2 - Fair to Poor	NR	Oak Forest	CalTLC
2124	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	18	3 - Fair	NR	Oak Forest	CalTLC
2125	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.0	0	0 - Dead	NR	Oak Forest	CalTLC
2126	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	20	3 - Fair	NR	Oak Forest	CalTLC
2127	*Quercus douglasii*	blue oak	native	Yes	Yes	0	36.0	25	3 - Fair	NR	Oak Forest	CalTLC
2128	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	25	2 - Fair to Poor	NR	Oak Forest	CalTLC
2129	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	20	1 - Poor	NR	Oak Forest	CalTLC
2131	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	4 - Good	2	Oak Forest	Dudek
2131	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	25	1 - Poor	NR	Oak Forest	CalTLC
2132	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	4 - Good	3	Oak Forest	Dudek
2132	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	30	3 - Fair	NR	Oak Forest	CalTLC
2133	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	4 - Good	3	Oak Forest	Dudek
2133	*Quercus douglasii*	blue oak	native	Yes	Yes	0	49.0	35	2 - Fair to Poor	NR	Oak Forest	CalTLC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
2134	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	4 - Good	1	Oak Forest	Dudek
2134	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	25	2 - Fair to Poor	NR	Oak Forest	CalTLC
2135	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	0 - Dead	1	Oak Forest	Dudek
2135	*Quercus douglasii*	blue oak	native	Yes	Yes	0	36.0	30	3 - Fair	NR	Oak Forest	CalTLC
2136	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	4 - Good	2	Valley and Foothill Grassland	Dudek
2136	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.0	25	3 - Fair	NR	Oak Forest	CalTLC
2137	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	4 - Good	2	Oak Forest	Dudek
2137	*Quercus douglasii*	blue oak	native	Yes	Yes	0	40.0	21	1 - Poor	NR	Oak Forest	CalTLC
2138	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	4 - Good	1	Oak Forest	Dudek
2138	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	20	3 - Fair	NR	Oak Forest	CalTLC
2139	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	4 - Good	3	Oak Forest	Dudek
2139	*Quercus douglasii*	blue oak	native	Yes	Yes	0	37.5	30	1 - Poor	NR	Oak Forest	CalTLC
2141	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	4 - Good	2	Valley and Foothill Grassland	Dudek
2141	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.5	30	1 - Poor	NR	Oak Forest	CalTLC
2142	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	4 - Good	3	Oak Forest	Dudek
2142	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	30	1 - Poor	NR	Oak Forest	CalTLC
2143	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	3	Oak Forest	Dudek
2143	*Quercus douglasii*	blue oak	native	Yes	Yes	0	35.0	30	3 - Fair	NR	Oak Forest	CalTLC
2144	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	2	Oak Forest	Dudek
2144	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.0	39	3 - Fair	NR	Oak Forest	CalTLC
2145	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	3	Oak Forest	Dudek
2145	*Quercus douglasii*	blue oak	native	Yes	Yes	0	35.0	0	0 - Dead	NR	Oak Forest	CalTLC
2146	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	4 - Good	3	Oak Forest	Dudek
2147	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	0 - Dead	1	Oak Forest	Dudek
2147	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	18	3 - Fair	NR	Oak Forest	CalTLC
2148	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	3 - Fair	2	Oak Forest	Dudek
2148	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	15	3 - Fair	NR	Oak Forest	CalTLC
2149	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	4 - Good	2	Oak Forest	Dudek
2149	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	30	3 - Fair	NR	Oak Forest	CalTLC
2151	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	4 - Good	3	Oak Forest	Dudek
2151	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	25	3 - Fair	NR	Oak Forest	CalTLC
2152	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	4 - Good	2	Oak Forest	Dudek
2152	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	30	2 - Fair to Poor	NR	Oak Forest	CalTLC
2153	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	3	Oak Forest	Dudek
2153	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	25	2 - Fair to Poor	NR	Oak Forest	CalTLC
2154	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	2	Oak Forest	Dudek
2154	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	15	1 - Poor	NR	Oak Forest	CalTLC
2155	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	4 - Good	3	Oak Forest	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
2155	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	18	1 - Poor	NR	Oak Forest	CalTLC
2156	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR		2	Oak Forest	Dudek
2156	*Quercus douglasii*	blue oak	native	Yes	Yes	0	34.0	30	2 - Fair to Poor	NR	Oak Forest	CalTLC
2157	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	4 - Good	2	Oak Forest	Dudek
2157	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	20	2 - Fair to Poor	NR	Oak Forest	CalTLC
2158	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	4 - Good	3	Oak Forest	Dudek
2158	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	25	3 - Fair	NR	Oak Forest	CalTLC
2159	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	4 - Good	3	Oak Forest	Dudek
2159	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	15	2 - Fair to Poor	NR	Oak Forest	CalTLC
2161	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	4 - Good	2	Oak Forest	Dudek
2161	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	20	3 - Fair	NR	Oak Forest	CalTLC
2162	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	4 - Good	3	Oak Forest	Dudek
2162	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	15	3 - Fair	NR	Oak Forest	CalTLC
2163	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	4 - Good	3	Oak Forest	Dudek
2163	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	25	3 - Fair	NR	Oak Forest	CalTLC
2164	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	3	Oak Forest	Dudek
2164	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	25	3 - Fair	NR	Oak Forest	CalTLC
2165	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	4 - Good	2	Oak Forest	Dudek
2165	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	21	2 - Fair to Poor	NR	Oak Forest	CalTLC
2166	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	4 - Good	2	Oak Forest	Dudek
2166	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	25	3 - Fair	NR	Oak Forest	CalTLC
2167	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	2	Oak Forest	Dudek
2167	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	25	1 - Poor	NR	Oak Forest	CalTLC
2168	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	1 - Poor	2	Oak Forest	Dudek
2168	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	25	1 - Poor	NR	Oak Forest	CalTLC
2169	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	3 - Fair	2	Oak Forest	Dudek
2169	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.5	20	1 - Poor	NR	Oak Forest	CalTLC
2171	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	1	Oak Forest	Dudek
2171	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	15	3 - Fair	NR	Oak Forest	CalTLC
2172	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	4 - Good	2	Oak Forest	Dudek
2172	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	12	1 - Poor	NR	Oak Forest	CalTLC
2173	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	4 - Good	3	Oak Forest	Dudek
2173	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	20	3 - Fair	NR	Oak Forest	CalTLC
2174	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	1 - Poor	1	Oak Forest	Dudek
2174	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	20	2 - Fair to Poor	NR	Oak Forest	CalTLC
2175	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	3	Oak Forest	Dudek
2175	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	30	1 - Poor	NR	Oak Forest	CalTLC
2176	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	3	Oak Forest	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
2176	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	3	Oak Forest	Dudek
2176	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.5	25	2 - Fair to Poor	NR	Oak Forest	CalTLC
2177	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	4 - Good	2	Oak Forest	Dudek
2177	*Quercus douglasii*	blue oak	native	Yes	Yes	0	37.0	30	2 - Fair to Poor	NR	Oak Forest	CalTLC
2178	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	4 - Good	1	Oak Forest	Dudek
2178	*Quercus douglasii*	blue oak	native	Yes	Yes	0	38.0	35	2 - Fair to Poor	NR	Oak Forest	CalTLC
2179	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	1	Oak Forest	Dudek
2179	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.0	25	2 - Fair to Poor	NR	Oak Forest	CalTLC
2181	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	1 - Poor	1	Oak Forest	Dudek
2181	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	18	2 - Fair to Poor	NR	Oak Forest	CalTLC
2182	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	4 - Good	2	Oak Forest	Dudek
2182	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.5	25	3 - Fair	NR	Oak Forest	CalTLC
2183	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	4 - Good	3	Oak Forest	Dudek
2183	*Quercus douglasii*	blue oak	native	Yes	Yes	0	45.5	21	2 - Fair to Poor	NR	Oak Forest	CalTLC
2184	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	4 - Good	1	Oak Forest	Dudek
2184	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	25	2 - Fair to Poor	NR	Oak Forest	CalTLC
2185	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	4 - Good	3	Oak Forest	Dudek
2185	*Quercus douglasii*	blue oak	native	Yes	Yes	0	33.0	20	2 - Fair to Poor	NR	Oak Forest	CalTLC
2186	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	2	Oak Forest	Dudek
2186	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	18	2 - Fair to Poor	NR	Oak Forest	CalTLC
2187	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	4 - Good	3	Oak Forest	Dudek
2187	*Quercus douglasii*	blue oak	native	Yes	Yes	0	415.0	25	3 - Fair	NR	Oak Forest	CalTLC
2188	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	4 - Good	3	Oak Forest	Dudek
2189	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	4 - Good	1	Oak Forest	Dudek
2189	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.0	30	3 - Fair	NR	Oak Forest	CalTLC
2191	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	4 - Good	2	Oak Forest	Dudek
2192	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	4 - Good	2	Oak Forest	Dudek
2193	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	3 - Fair	2	Oak Forest	Dudek
2194	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	2	Oak Forest	Dudek
2196	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	NR	3 - Fair	1	Oak Forest	Dudek
2196	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	15	1 - Poor	NR	Oak Forest	CalTLC
2197	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	3 - Fair	2	Oak Forest	Dudek
2198	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	4 - Good	3	Oak Forest	Dudek
2199	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	4 - Good	2	Oak Forest	Dudek
2199	*Quercus douglasii*	blue oak	native	Yes	Yes	0	45.0	35	1 - Poor	NR	Oak Forest	CalTLC
2211	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	4 - Good	3	Oak Forest	Dudek
2211	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	30	1 - Poor	NR	Oak Forest	CalTLC
2212	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	2	Oak Forest	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
2212	*Quercus douglasii*	blue oak	native	Yes	Yes	0	41.0	36	2 - Fair to Poor	NR	Oak Forest	CalTLC
2213	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	3	Oak Forest	Dudek
2214	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	3	Oak Forest	Dudek
2215	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	4 - Good	2	Oak Forest	Dudek
2216	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	0 - Dead	2	Oak Woodland	Dudek
2217	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	3	Oak Forest	Dudek
2218	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	4 - Good	3	Oak Woodland	Dudek
2219	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	4 - Good	3	Oak Forest	Dudek
2221	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	3	Oak Forest	Dudek
2222	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	1	Oak Forest	Dudek
2223	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	3	Oak Woodland	Dudek
2224	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	3	Oak Woodland	Dudek
2225	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	0 - Dead	1	Oak Woodland	Dudek
2226	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	1 - Poor	2	Oak Forest	Dudek
2227	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	4 - Good	2	Oak Forest	Dudek
2228	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	4 - Good	3	Oak Woodland	Dudek
2229	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	4 - Good	2	Oak Forest	Dudek
2231	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	2	Oak Forest	Dudek
2232	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	3 - Fair	3	Oak Forest	Dudek
2232	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	30	2 - Fair to Poor	NR	Oak Woodland	CalTLC
2233	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	3	Oak Forest	Dudek
2233	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.0	28	3 - Fair	NR	Oak Woodland	CalTLC
2234	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	4 - Good	2	Oak Forest	Dudek
2234	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.5	25	3 - Fair	NR	Oak Woodland	CalTLC
2235	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	2	Oak Forest	Dudek
2236	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	4 - Good	3	Oak Forest	Dudek
2236	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	15	1 - Poor	NR	Oak Forest	CalTLC
2237	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	2	Oak Woodland	Dudek
2237	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	25	1 - Poor	NR	Oak Woodland	CalTLC
2238	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	2	Oak Forest	Dudek
2239	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	2	Oak Forest	Dudek
2239	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.0	20	3 - Fair	NR	Oak Forest	CalTLC
2241	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	3	Oak Forest	Dudek
2242	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	4 - Good	2	Oak Forest	Dudek
2243	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	1	Oak Forest	Dudek
2244	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	1	Oak Forest	Dudek
2244	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.5	40	3 - Fair	NR	Oak Forest	CalTLC
2245	*Quercus douglasii*	blue oak	native	NR	NR	0	NR	NR	3 - Fair	1	Oak Forest	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
2246	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	2	Oak Forest	Dudek
2247	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	NR	3 - Fair	2	Oak Forest	Dudek
2248	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	4 - Good	1	Oak Forest	Dudek
2249	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	4 - Good	2	Oak Forest	Dudek
2251	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	4 - Good	1	Oak Forest	Dudek
2252	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.0	NR	4 - Good	3	Oak Forest	Dudek
2253	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	2	Oak Forest	Dudek
2254	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	NR	3 - Fair	2	Oak Forest	Dudek
2255	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	NR	3 - Fair	1	Oak Forest	Dudek
2256	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	2	Oak Forest	Dudek
2257	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	4 - Good	3	Oak Forest	Dudek
2258	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	2	Oak Forest	Dudek
2259	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	3	Oak Forest	Dudek
2261	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	1 - Poor	2	Oak Forest	Dudek
2262	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	4 - Good	3	Oak Forest	Dudek
2263	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	1 - Poor	1	Oak Forest	Dudek
2264	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	3	Oak Forest	Dudek
2265	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	3	Oak Forest	Dudek
2265	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	3	Oak Forest	Dudek
2266	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	3	Oak Forest	Dudek
2267	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	3 - Fair	3	Oak Forest	Dudek
2268	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	3	Oak Forest	Dudek
2269	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	1 - Poor	2	Oak Forest	Dudek
2271	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	4 - Good	2	Oak Forest	Dudek
2272	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	3 - Fair	2	Oak Forest	Dudek
2273	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	2	Oak Forest	Dudek
2274	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	4 - Good	3	Oak Forest	Dudek
2275	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	3	Oak Forest	Dudek
2276	*Quercus douglasii*	blue oak	native	No	No	0	4.0	NR	3 - Fair	3	Oak Forest	Dudek
2277	*Quercus douglasii*	blue oak	native	No	No	0	4.0	NR	3 - Fair	2	Oak Forest	Dudek
2278	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	1 - Poor	2	Oak Forest	Dudek
2279	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	4 - Good	3	Oak Forest	Dudek
2281	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	2	Oak Forest	Dudek
2282	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	3	Oak Forest	Dudek
2283	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	1 - Poor	1	Oak Forest	Dudek
2284	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	1 - Poor	2	Oak Forest	Dudek
2285	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	2	Oak Forest	Dudek
2286	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	3	Oak Forest	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
2287	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	0 - Dead	NR	Oak Forest	Dudek
2288	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	3	Oak Forest	Dudek
2289	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	1 - Poor	1	Oak Forest	Dudek
2311	*Quercus douglasii*	blue oak	native	Yes	Yes	0	35.0	NR	3 - Fair	1	Oak Forest	Dudek
2312	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	4 - Good	2	Oak Forest	Dudek
2313	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	NR	4 - Good	1	Oak Woodland	Dudek
2314	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	4 - Good	2	Oak Forest	Dudek
2315	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	NR	4 - Good	2	Oak Forest	Dudek
2316	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	3 - Fair	3	Oak Forest	Dudek
2317	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	1 - Poor	2	Oak Forest	Dudek
2318	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	3	Oak Forest	Dudek
2319	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	1	Oak Forest	Dudek
2321	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	2	Oak Forest	Dudek
2322	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	1	Oak Forest	Dudek
2323	*Quercus douglasii*	blue oak	native	No	No	0	4.0	NR	1 - Poor	3	Oak Forest	Dudek
2324	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	1	Oak Forest	Dudek
2325	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	1	Oak Forest	Dudek
2326	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	2	Oak Forest	Dudek
2327	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	1	Oak Forest	Dudek
2328	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	3 - Fair	3	Oak Forest	Dudek
2329	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	2	Oak Forest	Dudek
2331	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	1	Oak Forest	Dudek
2332	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	1 - Poor	2	Oak Forest	Dudek
2333	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	4 - Good	3	Oak Forest	Dudek
2334	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	2	Oak Forest	Dudek
2335	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	4 - Good	3	Oak Forest	Dudek
2336	*Quercus douglasii*	blue oak	native	No	No	0	4.0	NR	3 - Fair	3	Oak Forest	Dudek
2337	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	1	Oak Forest	Dudek
2338	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	3	Oak Forest	Dudek
2339	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	0 - Dead	1	Oak Forest	Dudek
2341	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	4 - Good	1	Oak Forest	Dudek
2342	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	4 - Good	1	Oak Forest	Dudek
2343	*Quercus douglasii*	blue oak	native	No	No	0	5.0	5	3 - Fair	NR	Oak Forest	CalTLC
2343	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	NR	4 - Good	1	Oak Forest	Dudek
2344	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	3 - Fair	2	Oak Forest	Dudek
2345	*Quercus douglasii*	blue oak	native	No	No	0	5.0	6	3 - Fair	NR	Oak Forest	CalTLC
2345	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	NR	3 - Fair	1	Oak Forest	Dudek
2346	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	6	3 - Fair	NR	Oak Forest	CalTLC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
2346	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	2	Oak Forest	Dudek
2347	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	4 - Good	3	Oak Forest	Dudek
2347	*Quercus douglasii*	blue oak	native	No	No	0	≥1	8	3 - Fair	NR	Oak Forest	CalTLC
2348	*Quercus douglasii*	blue oak	native	No	No	0	5.0	8	3 - Fair	NR	Oak Forest	CalTLC
2348	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	3	Oak Forest	Dudek
2349	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	8	3 - Fair	NR	Oak Forest	CalTLC
2349	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	1	Oak Forest	Dudek
2351	*Quercus douglasii*	blue oak	native	No	No	0	4.0	10	3 - Fair	NR	Oak Forest	CalTLC
2351	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	0 - Dead	1	Oak Forest	Dudek
2352	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	3 - Fair	2	Oak Forest	Dudek
2353	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	3 - Fair	3	Oak Forest	Dudek
2353	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	10	2 - Fair to Poor	NR	Oak Forest	CalTLC
2354	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	3 - Fair	2	Oak Forest	Dudek
2354	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.0	NR	3 - Fair	2	Oak Forest	Dudek
2355	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	4 - Good	3	Oak Forest	Dudek
2356	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	2	Oak Forest	Dudek
2357	*Quercus douglasii*	blue oak	native	NR	NR	0	NR	NR	3 - Fair	2	Oak Forest	Dudek
2358	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	NR	3 - Fair	1	Oak Forest	Dudek
2359	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	3 - Fair	1	Oak Forest	Dudek
2361	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	3 - Fair	1	Oak Forest	Dudek
2362	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	NR	3 - Fair	2	Oak Forest	Dudek
2363	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	3	Oak Forest	Dudek
2364	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	3	Oak Forest	Dudek
2365	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	1 - Poor	2	Oak Forest	Dudek
2366	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	2	Oak Forest	Dudek
2367	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	4 - Good	3	Oak Forest	Dudek
2368	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	4 - Good	2	Oak Forest	Dudek
2369	*Quercus douglasii*	blue oak	native	No	No	0	5.0	6	3 - Fair	NR	Oak Forest	CalTLC
2369	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	1 - Poor	3	Oak Forest	Dudek
2371	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	6	3 - Fair	NR	Oak Forest	CalTLC
2371	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	4 - Good	2	Oak Forest	Dudek
2372	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	3	Oak Forest	Dudek
2372	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	6	3 - Fair	NR	Oak Forest	CalTLC
2373	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	3	Oak Woodland	Dudek
2373	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	6	3 - Fair	NR	Oak Forest	CalTLC
2374	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	6	3 - Fair	NR	Oak Forest	CalTLC
2374	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	2	Oak Forest	Dudek
2375	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	6	3 - Fair	NR	Oak Forest	CalTLC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
2375	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	1 - Poor	2	Oak Forest	Dudek
2376	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	3 - Fair	3	Oak Forest	Dudek
2376	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	6	3 - Fair	NR	Oak Forest	CalTLC
2377	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	3 - Fair	2	Oak Forest	Dudek
2377	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	3 - Fair	2	Oak Forest	Dudek
2377	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	6	3 - Fair	NR	Oak Forest	CalTLC
2378	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	6	3 - Fair	NR	Oak Forest	CalTLC
2378	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	2	Oak Forest	Dudek
2379	*Quercus douglasii*	blue oak	native	No	No	0	5.0	6	3 - Fair	NR	Oak Forest	CalTLC
2379	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	4 - Good	3	Oak Forest	Dudek
2381	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	3	Oak Forest	Dudek
2381	*Quercus douglasii*	blue oak	native	Yes	Yes	0	42.0	25	3 - Fair	NR	Oak Forest	CalTLC
2382	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	2	Oak Forest	Dudek
2382	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.7	30	2 - Fair to Poor	NR	Oak Forest	CalTLC
2383	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	NR	3 - Fair	3	Oak Forest	Dudek
2383	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.0	25	3 - Fair	NR	Oak Woodland	CalTLC
2384	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	3	Oak Forest	Dudek
2384	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	20	3 - Fair	NR	Oak Woodland	CalTLC
2385	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	3	Oak Forest	Dudek
2385	*Quercus douglasii*	blue oak	native	Yes	Yes	0	40.0	25	1 - Poor	NR	Oak Woodland	CalTLC
2386	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	4 - Good	2	Oak Forest	Dudek
2386	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.5	20	3 - Fair	NR	Oak Woodland	CalTLC
2387	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	4 - Good	2	Oak Forest	Dudek
2387	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.5	18	3 - Fair	NR	Oak Woodland	CalTLC
2388	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	3	Oak Forest	Dudek
2388	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.5	20	3 - Fair	NR	Oak Woodland	CalTLC
2389	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	3	Oak Forest	Dudek
2389	*Quercus douglasii*	blue oak	native	Yes	Yes	0	39.0	22	3 - Fair	NR	Oak Woodland	CalTLC
2391	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	NR	Oak Forest	Dudek
2391	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	20	3 - Fair	NR	Oak Woodland	CalTLC
2392	*Quercus douglasii*	blue oak	native	No	No	0	4.0	NR	1 - Poor	3	Oak Forest	Dudek
2392	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	18	3 - Fair	NR	Oak Woodland	CalTLC
2393	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	12	3 - Fair	NR	Oak Woodland	CalTLC
2394	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.5	28	3 - Fair	NR	Oak Woodland	CalTLC
2395	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	15	3 - Fair	NR	Oak Woodland	CalTLC
2396	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	2	Oak Forest	Dudek
2396	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.5	18	2 - Fair to Poor	NR	Oak Woodland	CalTLC
2397	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	3	Oak Forest	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
2397	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	25	3 - Fair	NR	Oak Woodland	CalTLC
2398	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	3	Oak Forest	Dudek
2398	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.5	25	3 - Fair	NR	Oak Woodland	CalTLC
2399	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	4 - Good	3	Oak Forest	Dudek
2399	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	28	3 - Fair	NR	Oak Woodland	CalTLC
2411	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	3	Oak Forest	Dudek
2411	*Quercus douglasii*	blue oak	native	Yes	Yes	0	35.5	20	3 - Fair	NR	Oak Woodland	CalTLC
2412	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	4 - Good	2	Oak Forest	Dudek
2412	*Quercus douglasii*	blue oak	native	Yes	Yes	0	43.0	30	3 - Fair	NR	Oak Woodland	CalTLC
2413	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	3	Oak Forest	Dudek
2413	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	25	3 - Fair	NR	Oak Woodland	CalTLC
2414	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	4 - Good	3	Oak Forest	Dudek
2414	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.5	20	2 - Fair to Poor	NR	Oak Woodland	CalTLC
2415	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.5	20	3 - Fair	NR	Oak Woodland	CalTLC
2416	*Quercus douglasii*	blue oak	native	Yes	Yes	0	33.5	25	1 - Poor	NR	Oak Forest	CalTLC
2417	*Quercus douglasii*	blue oak	native	Yes	Yes	0	36.5	32	3 - Fair	NR	Valley and Foothill Grassland	CalTLC
2419	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	6	3 - Fair	NR	Valley and Foothill Grassland	CalTLC
2421	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	6	3 - Fair	NR	Valley and Foothill Grassland	CalTLC
2422	*Quercus douglasii*	blue oak	native	No	No	0	≥1	6	3 - Fair	NR	Oak Forest	CalTLC
2423	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	6	3 - Fair	NR	Oak Forest	CalTLC
2453	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	4 - Good	3	Oak Forest	Dudek
2455	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	NR	3 - Fair	2	Oak Forest	Dudek
2554	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	2	Oak Forest	Dudek
2555	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR		NR	Oak Forest	Dudek
2573	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	1	Valley and Foothill Grassland	Dudek
2574	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	1 - Poor	2	Valley and Foothill Grassland	Dudek
2575	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	0 - Dead	1	Oak Forest	Dudek
2576	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	2	Oak Forest	Dudek
2577	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	2	Oak Forest	Dudek
2578	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	2	Oak Forest	Dudek
2579	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	0 - Dead	1	Oak Forest	Dudek
2582	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	4 - Good	1	Oak Forest	Dudek
2582	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	0 - Dead	NR	Oak Forest	Dudek
2583	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	2	Oak Forest	Dudek
2584	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	4 - Good	3	Oak Forest	Dudek
2585	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	0 - Dead	1	Oak Forest	Dudek
2586	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	2	Oak Forest	Dudek
2587	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	0 - Dead	1	Oak Forest	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
2588	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	0 - Dead	1	Oak Forest	Dudek
2589	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	NR	3 - Fair	1	Oak Forest	Dudek
2591	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	3	Oak Forest	Dudek
2592	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	2	Oak Forest	Dudek
2593	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	3	Oak Forest	Dudek
2594	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	4 - Good	3	Oak Forest	Dudek
2595	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	3	Oak Forest	Dudek
2596	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	2	Oak Forest	Dudek
2597	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	3 - Fair	3	Oak Forest	Dudek
2598	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	0 - Dead	1	Oak Forest	Dudek
2599	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	2	Oak Forest	Dudek
2611	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	3	Oak Forest	Dudek
2612	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	4 - Good	3	Oak Forest	Dudek
2613	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	2	Oak Forest	Dudek
2614	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	1	Oak Forest	Dudek
2615	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	1	Oak Forest	Dudek
2616	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	3	Oak Forest	Dudek
2617	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	2	Oak Forest	Dudek
2618	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	2	Oak Forest	Dudek
2619	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	1	Oak Forest	Dudek
2621	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	2	Oak Forest	Dudek
2622	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	1	Oak Forest	Dudek
2623	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	2	Oak Forest	Dudek
2624	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	1	Oak Forest	Dudek
2625	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	3 - Fair	1	Oak Woodland	Dudek
2626	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.0	NR	4 - Good	3	Oak Woodland	Dudek
2627	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	3 - Fair	2	Oak Woodland	Dudek
2628	*Quercus douglasii*	blue oak	native	Yes	Yes	0	33.0	NR	4 - Good	2	Oak Woodland	Dudek
2629	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	NR	0 - Dead	1	Oak Forest	Dudek
2631	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	NR	3 - Fair	2	Oak Forest	Dudek
2632	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	4 - Good	1	Oak Forest	Dudek
2633	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	3 - Fair	3	Oak Forest	Dudek
2634	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	2	Oak Forest	Dudek
2635	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	3 - Fair	1	Oak Forest	Dudek
2636	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	4 - Good	1	Oak Forest	Dudek
2637	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	4 - Good	1	Oak Forest	Dudek
2638	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	2	Oak Forest	Dudek
2639	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	1	Oak Forest	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
2641	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	1 - Poor	2	Oak Forest	Dudek
2642	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	NR	3 - Fair	1	Oak Forest	Dudek
2643	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	NR	1 - Poor	1	Oak Forest	Dudek
2644	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	4 - Good	2	Oak Forest	Dudek
2645	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	1 - Poor	1	Oak Forest	Dudek
2646	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.0	NR	4 - Good	2	Oak Forest	Dudek
2647	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	4 - Good	2	Oak Forest	Dudek
2648	*Quercus douglasii*	blue oak	native	Yes	Yes	0	37.0	NR	4 - Good	1	Oak Forest	Dudek
2649	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	NR	3 - Fair	1	Oak Forest	Dudek
2651	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	4 - Good	2	Oak Forest	Dudek
2652	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	1	Oak Forest	Dudek
2656	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	3	Oak Forest	Dudek
2657	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	3 - Fair	1	Oak Forest	Dudek
2753	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	0 - Dead	1	Oak Forest	Dudek
2754	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	1 - Poor	2	Oak Forest	Dudek
2755	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	NR	3 - Fair	1	Oak Forest	Dudek
2758	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	3	Oak Forest	Dudek
2759	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	3 - Fair	3	Oak Forest	Dudek
2761	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	2	Oak Forest	Dudek
2762	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	4 - Good	1	Oak Forest	Dudek
2762	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	4 - Good	1	Oak Forest	Dudek
2763	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	2	Oak Forest	Dudek
2764	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	1 - Poor	2	Oak Forest	Dudek
2765	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	2	Oak Forest	Dudek
2766	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	3 - Fair	1	Oak Forest	Dudek
2767	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	2	Oak Forest	Dudek
2768	*Quercus douglasii*	blue oak	native	No	No	0	4.0	NR	3 - Fair	2	Oak Forest	Dudek
2769	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	4 - Good	1	Oak Forest	Dudek
2771	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	1	Oak Forest	Dudek
2772	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	1 - Poor	2	Oak Forest	Dudek
2773	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	4 - Good	2	Oak Forest	Dudek
2774	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	2	Oak Forest	Dudek
2775	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	4 - Good	2	Oak Forest	Dudek
2776	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	4 - Good	3	Oak Forest	Dudek
2777	*Quercus douglasii*	blue oak	native	No	No	0	4.0	NR	3 - Fair	3	Oak Forest	Dudek
2778	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	3 - Fair	2	Oak Forest	Dudek
2779	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	3 - Fair	2	Oak Forest	Dudek
2781	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	3 - Fair	2	Oak Forest	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
2782	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	3	Oak Forest	Dudek
2783	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	4 - Good	3	Oak Forest	Dudek
2784	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	3 - Fair	2	Oak Forest	Dudek
2785	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	3	Oak Forest	Dudek
2786	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	1 - Poor	2	Oak Forest	Dudek
2787	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	2	Oak Forest	Dudek
2788	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	2	Oak Forest	Dudek
2789	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	1 - Poor	2	Oak Forest	Dudek
2791	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	2	Oak Forest	Dudek
2792	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	2	Oak Forest	Dudek
2793	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	2	Oak Forest	Dudek
2794	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	2	Oak Woodland	Dudek
2795	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	4 - Good	1	Oak Woodland	Dudek
2796	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.0	NR	4 - Good	3	Oak Woodland	Dudek
2797	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	4 - Good	1	Oak Woodland	Dudek
2798	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	NR	4 - Good	1	Oak Woodland	Dudek
2799	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	4 - Good	1	Oak Woodland	Dudek
2811	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	3 - Fair	2	Oak Woodland	Dudek
2812	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	2	Oak Woodland	Dudek
2813	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	3 - Fair	2	Oak Woodland	Dudek
2814	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	1 - Poor	1	Oak Woodland	Dudek
2815	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	4 - Good	2	Oak Woodland	Dudek
2816	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	3 - Fair	3	Oak Woodland	Dudek
2817	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	3 - Fair	3	Oak Woodland	Dudek
2818	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	4 - Good	2	Oak Woodland	Dudek
2819	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.0	NR	3 - Fair	1	Oak Woodland	Dudek
2821	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	3	Oak Woodland	Dudek
2822	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	2	Oak Woodland	Dudek
2823	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	3	Oak Woodland	Dudek
2824	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	4 - Good	2	Oak Woodland	Dudek
2825	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	3 - Fair	2	Oak Woodland	Dudek
2826	*Quercus douglasii*	blue oak	native	Yes	Yes	0	34.0	NR	3 - Fair	3	Oak Woodland	Dudek
2827	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	NR	3 - Fair	2	Oak Woodland	Dudek
2828	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	4 - Good	2	Oak Woodland	Dudek
2829	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	NR	3 - Fair	3	Oak Woodland	Dudek
2831	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	4 - Good	3	Oak Woodland	Dudek
2832	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	3 - Fair	2	Oak Forest	Dudek
2833	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	2	Oak Forest	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
2833	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	2	Oak Forest	Dudek
2835	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	2	Oak Forest	Dudek
2836	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	2	Oak Forest	Dudek
2837	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	1 - Poor	1	Oak Forest	Dudek
2838	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	2	Oak Woodland	Dudek
2839	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	3	Oak Woodland	Dudek
2841	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	4 - Good	3	Oak Woodland	Dudek
2842	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	2	Oak Woodland	Dudek
2843	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	NR	1 - Poor	2	Oak Woodland	Dudek
2844	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	4 - Good	3	Oak Woodland	Dudek
2845	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	3 - Fair	3	Oak Woodland	Dudek
2846	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	3 - Fair	2	Oak Woodland	Dudek
2847	*Quercus douglasii*	blue oak	native	Yes	Yes	0	33.0	NR	4 - Good	1	Oak Woodland	Dudek
2848	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	4 - Good	1	Oak Woodland	Dudek
2849	*Quercus douglasii*	blue oak	native	Yes	Yes	0	46.0	NR	4 - Good	1	Oak Woodland	Dudek
2851	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	3 - Fair	3	Oak Forest	Dudek
2852	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	4 - Good	3	Oak Forest	Dudek
2853	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	4 - Good	2	Oak Forest	Dudek
2854	*Quercus douglasii*	blue oak	native	Yes	Yes	0	34.0	NR	4 - Good	2	Oak Forest	Dudek
2855	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.0	NR	3 - Fair	2	Oak Forest	Dudek
2856	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	2	Oak Forest	Dudek
2857	*Quercus douglasii*	blue oak	native	Yes	Yes	0	36.0	NR	3 - Fair	1	Oak Forest	Dudek
2859	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	2	Oak Forest	Dudek
2861	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	1 - Poor	1	Oak Forest	Dudek
2862	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	2	Oak Forest	Dudek
2863	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	4 - Good	1	Oak Forest	Dudek
2864	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	4 - Good	2	Oak Forest	Dudek
2864	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	4 - Good	2	Oak Forest	Dudek
2865	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	2	Oak Forest	Dudek
2866	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	NR	4 - Good	2	Oak Forest	Dudek
2867	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	4 - Good	2	Oak Forest	Dudek
2868	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	3 - Fair	1	Oak Forest	Dudek
2869	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	2	Oak Forest	Dudek
2871	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	2	Oak Forest	Dudek
2872	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	NR	3 - Fair	1	Oak Forest	Dudek
2873	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	4 - Good	3	Oak Forest	Dudek
2874	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	4 - Good	3	Oak Forest	Dudek
2875	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	1 - Poor	2	Oak Forest	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
2876	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	3 - Fair	2	Oak Woodland	Dudek
2877	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	2	Oak Woodland	Dudek
2878	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	4 - Good	3	Oak Forest	Dudek
2879	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	4 - Good	3	Oak Forest	Dudek
2881	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	1 - Poor	2	Oak Forest	Dudek
2885	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	NR	4 - Good	3	Oak Forest	Dudek
2898	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	4 - Good	3	Oak Forest	Dudek
2931	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	4 - Good	2	Oak Forest	Dudek
2932	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	4 - Good	3	Oak Forest	Dudek
2933	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	3 - Fair	3	Oak Forest	Dudek
2934	*Quercus douglasii*	blue oak	native	Yes	Yes	0	35.0	NR	4 - Good	2	Oak Forest	Dudek
2935	*Quercus douglasii*	blue oak	native	Yes	Yes	0	42.0	NR	3 - Fair	2	Oak Forest	Dudek
2937	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	3 - Fair	2	Oak Forest	Dudek
2938	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.0	NR	4 - Good	2	Oak Forest	Dudek
2982	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	4 - Good	2	Oak Forest	Dudek
2983	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.0	NR	3 - Fair	2	Oak Forest	Dudek
2984	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	3	Oak Forest	Dudek
2985	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	3	Oak Forest	Dudek
2986	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	4 - Good	2	Oak Forest	Dudek
2987	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	2	Oak Forest	Dudek
2988	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	3	Oak Forest	Dudek
2989	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	3	Oak Forest	Dudek
2991	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	4 - Good	3	Oak Forest	Dudek
2992	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	3 - Fair	2	Oak Forest	Dudek
2993	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	1 - Poor	2	Oak Forest	Dudek
2994	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	4 - Good	3	Oak Forest	Dudek
2995	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	4 - Good	2	Oak Forest	Dudek
2996	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	2	Oak Forest	Dudek
2997	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	3	Oak Forest	Dudek
2998	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	3	Oak Forest	Dudek
2999	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	2	Oak Forest	Dudek
3111	*Quercus douglasii*	blue oak	native	Yes	Yes	0	35.0	NR	3 - Fair	2	Oak Woodland	Dudek
3112	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	3 - Fair	2	Oak Woodland	Dudek
3113	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	4 - Good	2	Oak Woodland	Dudek
3114	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	3 - Fair	2	Oak Woodland	Dudek
3115	*Quercus douglasii*	blue oak	native	Yes	Yes	0	37.0	NR	4 - Good	3	Oak Woodland	Dudek
3118	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.0	NR	4 - Good	3	Oak Woodland	Dudek
3119	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	NR	3 - Fair	3	Oak Woodland	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
3121	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	NR	3 - Fair	1	Oak Woodland	Dudek
3122	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	3 - Fair	2	Oak Woodland	Dudek
3123	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	2	Oak Woodland	Dudek
3124	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.0	NR	1 - Poor	1	Oak Woodland	Dudek
3126	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	3 - Fair	3	Oak Woodland	Dudek
3127	*Quercus douglasii*	blue oak	native	Yes	Yes	0	38.0	NR	3 - Fair	2	Oak Woodland	Dudek
3129	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	NR	3 - Fair	1	Oak Woodland	Dudek
3131	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	NR	3 - Fair	2	Oak Woodland	Dudek
3132	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	2	Oak Woodland	Dudek
3133	*Quercus douglasii*	blue oak	native	Yes	Yes	0	34.0	NR	3 - Fair	1	Oak Woodland	Dudek
3134	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	0 - Dead	1	Oak Woodland	Dudek
3135	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	NR	4 - Good	3	Oak Woodland	Dudek
3511	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	21	3 - Fair	NR	Oak Woodland	CalTLC
3512	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	15	2 - Fair to Poor	NR	Oak Woodland	CalTLC
3513	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	5	2 - Fair to Poor	NR	Oak Woodland	CalTLC
3514	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	27	3 - Fair	NR	Oak Woodland	CalTLC
3515	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	18	2 - Fair to Poor	NR	Oak Woodland	CalTLC
3516	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	24	2 - Fair to Poor	NR	Oak Woodland	CalTLC
3517	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	15	2 - Fair to Poor	NR	Oak Woodland	CalTLC
3531	*Quercus douglasii*	blue oak	native	Yes	Yes	1	41.5	30	3 - Fair	NR	Intermittent Channel	CalTLC
3537	*Quercus douglasii*	blue oak	native	Yes	No	1	12.0	8	3 - Fair	NR	Intermittent Channel	CalTLC
3538	*Quercus douglasii*	blue oak	native	No	No	1	≥1	12	3 - Fair	NR	Intermittent Channel	CalTLC
3539	*Quercus douglasii*	blue oak	native	Yes	No	1	10.0	9	3 - Fair	NR	Intermittent Channel	CalTLC
3567	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	6	2 - Fair to Poor	NR	Oak Woodland	CalTLC
3568	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	18	2 - Fair to Poor	NR	Oak Woodland	CalTLC
3569	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	15	3 - Fair	NR	Oak Woodland	CalTLC
3571	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	0	2 - Fair to Poor	NR	Oak Woodland	CalTLC
3572	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	21	3 - Fair	NR	Oak Woodland	CalTLC
3573	*Quercus douglasii*	blue oak	native	No	No	0	5.0	0	2 - Fair to Poor	NR	Oak Woodland	CalTLC
3574	*Quercus douglasii*	blue oak	native	No	No	0	5.0	4	2 - Fair to Poor	NR	Oak Woodland	CalTLC
3575	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	6	2 - Fair to Poor	NR	Oak Woodland	CalTLC
3576	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	10	3 - Fair	NR	Oak Woodland	CalTLC
3577	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	5	1 - Poor	NR	Oak Woodland	CalTLC
3578	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	6	3 - Fair	NR	Oak Woodland	CalTLC
3579	*Quercus douglasii*	blue oak	native	No	No	0	4.0	4	2 - Fair to Poor	NR	Oak Woodland	CalTLC
3581	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	9	3 - Fair	NR	Oak Woodland	CalTLC
3582	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	8	3 - Fair	NR	Oak Woodland	CalTLC
3583	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	15	3 - Fair	NR	Oak Woodland	CalTLC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
3584	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	21	3 - Fair	NR	Oak Woodland	CalTLC
3585	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	12	2 - Fair to Poor	NR	Oak Woodland	CalTLC
3586	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	10	2 - Fair to Poor	NR	Oak Woodland	CalTLC
3587	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	8	2 - Fair to Poor	NR	Oak Woodland	CalTLC
3588	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	21	3 - Fair	NR	Oak Woodland	CalTLC
3589	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	10	3 - Fair	NR	Oak Woodland	CalTLC
3591	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	4	2 - Fair to Poor	NR	Oak Woodland	CalTLC
3592	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	21	3 - Fair	NR	Oak Woodland	CalTLC
3593	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	9	2 - Fair to Poor	NR	Oak Woodland	CalTLC
3594	*Quercus douglasii*	blue oak	native	No	No	0	5.0	3	2 - Fair to Poor	NR	Oak Woodland	CalTLC
3595	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	9	2 - Fair to Poor	NR	Oak Woodland	CalTLC
3596	*Quercus douglasii*	blue oak	native	No	No	0	5.0	5	1 - Poor	NR	Oak Woodland	CalTLC
3597	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	8	1 - Poor	NR	Oak Woodland	CalTLC
3598	*Quercus douglasii*	blue oak	native	No	No	0	5.0	4	2 - Fair to Poor	NR	Oak Woodland	CalTLC
3599	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	6	1 - Poor	NR	Oak Woodland	CalTLC
3611	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	21	2 - Fair to Poor	NR	Oak Forest	CalTLC
3612	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	25	2 - Fair to Poor	NR	Oak Forest	CalTLC
3613	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	13	2 - Fair to Poor	NR	Oak Forest	CalTLC
3614	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	18	2 - Fair to Poor	NR	Oak Forest	CalTLC
3615	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	18	2 - Fair to Poor	NR	Oak Forest	CalTLC
3616	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	20	2 - Fair to Poor	NR	Oak Forest	CalTLC
3617	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	17	2 - Fair to Poor	NR	Oak Woodland	CalTLC
3618	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	18	2 - Fair to Poor	NR	Oak Forest	CalTLC
3619	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	24	2 - Fair to Poor	NR	Oak Forest	CalTLC
3621	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	25	2 - Fair to Poor	NR	Oak Forest	CalTLC
3622	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	16	2 - Fair to Poor	NR	Oak Forest	CalTLC
3623	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	28	3 - Fair	NR	Oak Forest	CalTLC
3624	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	15	1 - Poor	NR	Oak Forest	CalTLC
3625	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	20	2 - Fair to Poor	NR	Oak Forest	CalTLC
3626	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	26	2 - Fair to Poor	NR	Oak Forest	CalTLC
3627	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	23	2 - Fair to Poor	NR	Oak Forest	CalTLC
3628	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	14	3 - Fair	NR	Oak Forest	CalTLC
3629	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	16	2 - Fair to Poor	NR	Oak Forest	CalTLC
3631	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	24	2 - Fair to Poor	NR	Oak Forest	CalTLC
3632	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	19	2 - Fair to Poor	NR	Oak Forest	CalTLC
3633	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	12	2 - Fair to Poor	NR	Oak Forest	CalTLC
3634	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	20	2 - Fair to Poor	NR	Oak Forest	CalTLC
3635	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	18	2 - Fair to Poor	NR	Oak Forest	CalTLC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
3636	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	15	1 - Poor	NR	Oak Forest	CalTLC
3637	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	23	2 - Fair to Poor	NR	Oak Forest	CalTLC
3638	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	17	1 - Poor	NR	Oak Forest	CalTLC
3639	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	10	2 - Fair to Poor	NR	Oak Forest	CalTLC
3641	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	14	2 - Fair to Poor	NR	Oak Forest	CalTLC
3642	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	10	1 - Poor	NR	Oak Woodland	CalTLC
3643	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	21	1 - Poor	NR	Oak Forest	CalTLC
3644	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	9	2 - Fair to Poor	NR	Oak Forest	CalTLC
3645	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	24	2 - Fair to Poor	NR	Oak Forest	CalTLC
3646	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	20	2 - Fair to Poor	NR	Oak Forest	CalTLC
3646	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	21	2 - Fair to Poor	NR	Oak Forest	CalTLC
3647	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	18	3 - Fair	NR	Oak Forest	CalTLC
3648	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	16	1 - Poor	NR	Oak Forest	CalTLC
3649	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	26	3 - Fair	NR	Oak Forest	CalTLC
3651	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	19	3 - Fair	NR	Oak Forest	CalTLC
3652	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	22	1 - Poor	NR	Valley and Foothill Grassland	CalTLC
3653	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	15	2 - Fair to Poor	NR	Oak Forest	CalTLC
3654	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	18	1 - Poor	NR	Oak Forest	CalTLC
3655	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	28	3 - Fair	NR	Oak Forest	CalTLC
3656	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	24	1 - Poor	NR	Oak Forest	CalTLC
3657	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	21	2 - Fair to Poor	NR	Valley and Foothill Grassland	CalTLC
3658	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	19	2 - Fair to Poor	NR	Oak Forest	CalTLC
3659	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	16	2 - Fair to Poor	NR	Oak Forest	CalTLC
3661	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	21	3 - Fair	NR	Valley and Foothill Grassland	CalTLC
3662	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	27	3 - Fair	NR	Oak Forest	CalTLC
3663	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	12	2 - Fair to Poor	NR	Oak Forest	CalTLC
3664	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	21	2 - Fair to Poor	NR	Oak Forest	CalTLC
3665	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	16	2 - Fair to Poor	NR	Oak Forest	CalTLC
3666	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	19	2 - Fair to Poor	NR	Oak Forest	CalTLC
3667	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	23	1 - Poor	NR	Oak Forest	CalTLC
3668	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	27	2 - Fair to Poor	NR	Oak Forest	CalTLC
3669	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	22	1 - Poor	NR	Oak Forest	CalTLC
3671	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	13	3 - Fair	NR	Oak Forest	CalTLC
3672	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	12	1 - Poor	NR	Oak Forest	CalTLC
3673	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	16	2 - Fair to Poor	NR	Oak Forest	CalTLC
3674	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	12	1 - Poor	NR	Oak Forest	CalTLC
3675	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	15	2 - Fair to Poor	NR	Oak Forest	CalTLC
3676	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	8	2 - Fair to Poor	NR	Oak Forest	CalTLC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
3677	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	11	2 - Fair to Poor	NR	Oak Forest	CalTLC
3678	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
3679	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	7	1 - Poor	NR	Oak Forest	CalTLC
3681	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	13	2 - Fair to Poor	NR	Oak Forest	CalTLC
3682	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	11	2 - Fair to Poor	NR	Oak Forest	CalTLC
3683	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	13	2 - Fair to Poor	NR	Oak Forest	CalTLC
3684	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	12	2 - Fair to Poor	NR	Oak Forest	CalTLC
3685	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	19	2 - Fair to Poor	NR	Oak Forest	CalTLC
3686	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	15	3 - Fair	NR	Oak Forest	CalTLC
3688	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	19	1 - Poor	NR	Oak Forest	CalTLC
3689	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	14	3 - Fair	NR	Oak Forest	CalTLC
3691	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	10	2 - Fair to Poor	NR	Oak Forest	CalTLC
3692	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	14	2 - Fair to Poor	NR	Oak Forest	CalTLC
3693	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	15	2 - Fair to Poor	NR	Oak Forest	CalTLC
3694	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	18	2 - Fair to Poor	NR	Valley and Foothill Grassland	CalTLC
3695	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	8	2 - Fair to Poor	NR	Valley and Foothill Grassland	CalTLC
3696	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	13	2 - Fair to Poor	NR	Valley and Foothill Grassland	CalTLC
3697	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	16	3 - Fair	NR	Oak Forest	CalTLC
3698	*Quercus douglasii*	blue oak	native	Yes	Yes	0	46.0	0	1 - Poor	NR	Oak Forest	CalTLC
3699	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	18	3 - Fair	NR	Oak Forest	CalTLC
3711	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	6	1 - Poor	NR	Oak Forest	CalTLC
3712	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	11	2 - Fair to Poor	NR	Oak Forest	CalTLC
3713	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	11	2 - Fair to Poor	NR	Oak Forest	CalTLC
3714	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	9	3 - Fair	NR	Oak Forest	CalTLC
3715	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	12	2 - Fair to Poor	NR	Oak Forest	CalTLC
3716	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	19	3 - Fair	NR	Oak Forest	CalTLC
3717	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	15	3 - Fair	NR	Oak Forest	CalTLC
3718	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	16	2 - Fair to Poor	NR	Oak Forest	CalTLC
3719	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	21	3 - Fair	NR	Oak Forest	CalTLC
3721	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	6	2 - Fair to Poor	NR	Oak Forest	CalTLC
3722	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	22	3 - Fair	NR	Oak Forest	CalTLC
3723	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	11	1 - Poor	NR	Oak Forest	CalTLC
3724	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	28	3 - Fair	NR	Oak Forest	CalTLC
3725	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	30	3 - Fair	NR	Oak Forest	CalTLC
3726	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	23	2 - Fair to Poor	NR	Oak Forest	CalTLC
3727	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	14	2 - Fair to Poor	NR	Oak Forest	CalTLC
3728	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	14	2 - Fair to Poor	NR	Oak Forest	CalTLC
3729	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	11	2 - Fair to Poor	NR	Oak Forest	CalTLC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
3731	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	10	3 - Fair	NR	Oak Forest	CalTLC
3732	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	10	2 - Fair to Poor	NR	Oak Forest	CalTLC
3733	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	12	1 - Poor	NR	Oak Forest	CalTLC
3734	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	32	3 - Fair	NR	Oak Forest	CalTLC
3735	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	24	3 - Fair	NR	Oak Forest	CalTLC
3736	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	16	3 - Fair	NR	Oak Forest	CalTLC
3737	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	33	3 - Fair	NR	Oak Forest	CalTLC
3738	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	13	2 - Fair to Poor	NR	Oak Forest	CalTLC
3739	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	11	3 - Fair	NR	Oak Forest	CalTLC
3741	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	18	3 - Fair	NR	Oak Forest	CalTLC
3742	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	11	2 - Fair to Poor	NR	Oak Forest	CalTLC
3743	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	14	2 - Fair to Poor	NR	Valley and Foothill Grassland	CalTLC
3744	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	7	2 - Fair to Poor	NR	Oak Forest	CalTLC
3745	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	13	2 - Fair to Poor	NR	Oak Forest	CalTLC
3746	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	10	3 - Fair	NR	Oak Forest	CalTLC
3747	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	16	3 - Fair	NR	Oak Forest	CalTLC
3748	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	22	3 - Fair	NR	Oak Forest	CalTLC
3749	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	19	3 - Fair	NR	Valley and Foothill Grassland	CalTLC
3751	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	22	2 - Fair to Poor	NR	Valley and Foothill Grassland	CalTLC
3752	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	24	3 - Fair	NR	Valley and Foothill Grassland	CalTLC
3753	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	23	3 - Fair	NR	Valley and Foothill Grassland	CalTLC
3754	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	15	3 - Fair	NR	Oak Forest	CalTLC
3755	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	14	1 - Poor	NR	Oak Forest	CalTLC
3756	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	12	2 - Fair to Poor	NR	Oak Forest	CalTLC
3757	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	23	3 - Fair	NR	Oak Forest	CalTLC
3758	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	17	2 - Fair to Poor	NR	Oak Forest	CalTLC
3759	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	20	2 - Fair to Poor	NR	Oak Forest	CalTLC
3761	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
3761	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	16	2 - Fair to Poor	NR	Oak Forest	CalTLC
3762	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	19	2 - Fair to Poor	NR	Oak Forest	CalTLC
3763	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	9	2 - Fair to Poor	NR	Oak Forest	CalTLC
3764	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	12	2 - Fair to Poor	NR	Oak Forest	CalTLC
3765	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	10	2 - Fair to Poor	NR	Oak Forest	CalTLC
3766	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	17	2 - Fair to Poor	NR	Oak Forest	CalTLC
3767	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	10	2 - Fair to Poor	NR	Oak Forest	CalTLC
3768	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	27	2 - Fair to Poor	NR	Oak Forest	CalTLC
3769	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	15	2 - Fair to Poor	NR	Oak Forest	CalTLC
3771	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	10	2 - Fair to Poor	NR	Oak Forest	CalTLC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
3772	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	11	2 - Fair to Poor	NR	Oak Forest	CalTLC
3773	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	7	1 - Poor	NR	Oak Woodland	CalTLC
3774	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	21	3 - Fair	NR	Oak Woodland	CalTLC
3775	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	12	1 - Poor	NR	Oak Forest	CalTLC
3776	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	10	2 - Fair to Poor	NR	Oak Forest	CalTLC
3777	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	25	2 - Fair to Poor	NR	Oak Forest	CalTLC
3778	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	14	2 - Fair to Poor	NR	Oak Forest	CalTLC
3779	*Quercus douglasii*	blue oak	native	Yes	Yes	0	34.0	28	2 - Fair to Poor	NR	Oak Forest	CalTLC
3781	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	19	3 - Fair	NR	Oak Forest	CalTLC
3782	*Quercus douglasii*	blue oak	native	Yes	Yes	0	33.0	30	2 - Fair to Poor	NR	Oak Forest	CalTLC
3783	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	19	3 - Fair	NR	Oak Forest	CalTLC
3784	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	22	3 - Fair	NR	Oak Forest	CalTLC
3785	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	26	3 - Fair	NR	Oak Forest	CalTLC
3786	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	31	3 - Fair	NR	Oak Forest	CalTLC
3787	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	29	3 - Fair	NR	Oak Forest	CalTLC
3788	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	18	2 - Fair to Poor	NR	Oak Forest	CalTLC
3789	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	24	3 - Fair	NR	Oak Forest	CalTLC
3791	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	28	3 - Fair	NR	Valley and Foothill Grassland	CalTLC
3792	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	2 - Fair to Poor	NR	Valley and Foothill Grassland	EPC
3792	*Quercus douglasii*	blue oak	native	Yes	Yes	0	38.0	NR	3 - Fair	NR	Valley and Foothill Grassland	EPC
3794	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	21	3 - Fair	NR	Valley and Foothill Grassland	CalTLC
3795	*Quercus douglasii*	blue oak	native	Yes	Yes	0	37.0	35	2 - Fair to Poor	NR	Oak Woodland	CalTLC
3796	*Quercus douglasii*	blue oak	native	Yes	Yes	0	60.0	34	2 - Fair to Poor	NR	Valley and Foothill Grassland	CalTLC
3797	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	30	2 - Fair to Poor	NR	Valley and Foothill Grassland	CalTLC
3798	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	38	3 - Fair	NR	Oak Forest	CalTLC
3798	*Quercus douglasii*	blue oak	native	Yes	Yes	0	53.0	33	2 - Fair to Poor	NR	Valley and Foothill Grassland	CalTLC
3799	*Quercus douglasii*	blue oak	native	Yes	Yes	0	34.0	37	3 - Fair	NR	Valley and Foothill Grassland	CalTLC
3887	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	9	2 - Fair to Poor	NR	Valley and Foothill Grassland	CalTLC
3988	*Quercus douglasii*	blue oak	native	Yes	Yes	0	33.0	27	2 - Fair to Poor	NR	Oak Forest	CalTLC
3989	*Quercus douglasii*	blue oak	native	Yes	Yes	0	55.0	35	2 - Fair to Poor	NR	Oak Forest	CalTLC
3994	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	19	2 - Fair to Poor	NR	Oak Forest	CalTLC
3995	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	23	2 - Fair to Poor	NR	Oak Forest	CalTLC
3996	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	25	2 - Fair to Poor	NR	Valley and Foothill Grassland	CalTLC
3998	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	22	2 - Fair to Poor	NR	Oak Forest	CalTLC
3999	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	21	1 - Poor	NR	Oak Forest	CalTLC
4132	*Quercus douglasii*	blue oak	native	Yes	Yes	1	33.3	33	3 - Fair	NR	Riparian Forests	CalTLC
4133	*Quercus douglasii*	blue oak	native	Yes	Yes	1	37.6	33	2 - Fair to Poor	NR	Riparian Forests	CalTLC
4136	*Quercus douglasii*	blue oak	native	Yes	Yes	0	36.0	36	3 - Fair	NR	Oak Woodland	CalTLC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
4137	*Quercus douglasii*	blue oak	native	Yes	Yes	0	33.3	21	1 - Poor	NR	Oak Woodland	CalTLC
4141	*Quercus douglasii*	blue oak	native	Yes	Yes	1	41.0	30	2 - Fair to Poor	NR	Riparian Forests	CalTLC
4148	*Quercus douglasii*	blue oak	native	Yes	Yes	1	48.5	30	2 - Fair to Poor	NR	Riparian Forests	CalTLC
4151	*Quercus douglasii*	blue oak	native	Yes	Yes	1	35.5	21	2 - Fair to Poor	NR	Intermittent Channel	CalTLC
4158	*Quercus douglasii*	blue oak	native	Yes	Yes	0	39.2	0	0 - Dead	NR	Valley and Foothill Grassland	CalTLC
4159	*Quercus douglasii*	blue oak	native	Yes	Yes	0	54.0	16	2 - Fair to Poor	NR	Oak Woodland	CalTLC
4161	*Quercus douglasii*	blue oak	native	Yes	Yes	0	35.0	0	0 - Dead	NR	Oak Woodland	CalTLC
4162	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	24	0 - Dead	NR	Oak Woodland	CalTLC
4163	*Quercus douglasii*	blue oak	native	Yes	Yes	0	47.0	24	2 - Fair to Poor	NR	Oak Woodland	CalTLC
4164	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.5	30	2 - Fair to Poor	NR	Oak Woodland	CalTLC
4165	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.2	24	2 - Fair to Poor	NR	Oak Woodland	CalTLC
4166	*Quercus douglasii*	blue oak	native	Yes	Yes	0	38.0	30	1 - Poor	NR	Oak Woodland	CalTLC
4172	*Quercus douglasii*	blue oak	native	Yes	Yes	0	41.5	26	3 - Fair	NR	Oak Woodland	CalTLC
4178	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	15	3 - Fair	NR	Oak Woodland	CalTLC
4183	*Quercus douglasii*	blue oak	native	Yes	Yes	0	56.0	0	0 - Dead	NR	Oak Woodland	CalTLC
4184	*Quercus douglasii*	blue oak	native	Yes	Yes	0	36.0	30	1 - Poor	NR	Oak Woodland	CalTLC
4185	*Quercus douglasii*	blue oak	native	Yes	Yes	0	36.5	0	0 - Dead	NR	Oak Woodland	CalTLC
4186	*Quercus douglasii*	blue oak	native	Yes	Yes	0	39.7	24	3 - Fair	NR	Oak Woodland	CalTLC
4187	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	36	2 - Fair to Poor	NR	Oak Woodland	CalTLC
4188	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	12	2 - Fair to Poor	NR	Oak Woodland	CalTLC
4189	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	33	2 - Fair to Poor	NR	Oak Woodland	CalTLC
4191	*Quercus douglasii*	blue oak	native	Yes	No	0	12.5	30	1 - Poor	NR	Oak Woodland	CalTLC
4192	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	30	2 - Fair to Poor	NR	Oak Woodland	CalTLC
4193	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	0	0 - Dead	NR	Oak Woodland	CalTLC
4195	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.3	21	3 - Fair	NR	Oak Woodland	CalTLC
4196	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.6	22	3 - Fair	NR	Oak Woodland	CalTLC
4197	*Quercus douglasii*	blue oak	native	Yes	No	0	17.6	30	3 - Fair	NR	Oak Woodland	CalTLC
4198	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	28	3 - Fair	NR	Oak Woodland	CalTLC
4199	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	26	3 - Fair	NR	Oak Woodland	CalTLC
4211	*Quercus douglasii*	blue oak	native	Yes	No	0	16.5	36	2 - Fair to Poor	NR	Oak Woodland	CalTLC
4215	*Quercus douglasii*	blue oak	native	Yes	No	0	14.3	24	2 - Fair to Poor	NR	Oak Woodland	CalTLC
4217	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	32	2 - Fair to Poor	NR	Oak Woodland	CalTLC
4218	*Quercus douglasii*	blue oak	native	Yes	No	0	7.4	0	0 - Dead	NR	Oak Woodland	CalTLC
4219	*Quercus douglasii*	blue oak	native	Yes	No	0	14.5	18	2 - Fair to Poor	NR	Oak Woodland	CalTLC
4221	*Quercus douglasii*	blue oak	native	Yes	No	0	9.5	0	2 - Fair to Poor	NR	Oak Woodland	CalTLC
4222	*Quercus douglasii*	blue oak	native	Yes	No	0	16.8	8	1 - Poor	NR	Oak Woodland	CalTLC
4223	*Quercus douglasii*	blue oak	native	Yes	Yes	0	43.6	40	2 - Fair to Poor	NR	Oak Woodland	CalTLC
4224	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	10	2 - Fair to Poor	NR	Oak Woodland	CalTLC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
4225	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	26	2 - Fair to Poor	NR	Oak Woodland	CalTLC
4226	*Quercus douglasii*	blue oak	native	Yes	No	0	11.1	30	2 - Fair to Poor	NR	Oak Woodland	CalTLC
4227	*Quercus douglasii*	blue oak	native	Yes	No	0	6.5	5	1 - Poor	NR	Oak Woodland	CalTLC
4232	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.5	0	0 - Dead	NR	Oak Forest	CalTLC
4233	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	30	2 - Fair to Poor	NR	Oak Forest	CalTLC
4234	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	24	3 - Fair	NR	Oak Forest	CalTLC
4235	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	18	3 - Fair	NR	Oak Forest	CalTLC
4236	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	24	3 - Fair	NR	Oak Forest	CalTLC
4237	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	21	3 - Fair	NR	Oak Forest	CalTLC
4238	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	18	3 - Fair	NR	Oak Forest	CalTLC
4239	*Quercus douglasii*	blue oak	native	Yes	Yes	0	34.0	27	3 - Fair	NR	Oak Forest	CalTLC
4242	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	30	2 - Fair to Poor	NR	Oak Forest	CalTLC
4243	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	0	0 - Dead	NR	Oak Forest	CalTLC
4244	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	27	2 - Fair to Poor	NR	Oak Forest	CalTLC
4245	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	18	3 - Fair	NR	Oak Forest	CalTLC
4246	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	0	0 - Dead	NR	Oak Forest	CalTLC
4247	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	18	2 - Fair to Poor	NR	Oak Forest	CalTLC
4248	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	0	0 - Dead	NR	Oak Forest	CalTLC
4249	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	21	3 - Fair	NR	Oak Forest	CalTLC
4251	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	30	2 - Fair to Poor	NR	Oak Forest	CalTLC
4252	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	21	2 - Fair to Poor	NR	Oak Forest	CalTLC
4253	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	18	2 - Fair to Poor	NR	Oak Forest	CalTLC
4254	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	5	2 - Fair to Poor	NR	Oak Forest	CalTLC
4255	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	24	3 - Fair	NR	Oak Forest	CalTLC
4256	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	8	2 - Fair to Poor	NR	Oak Forest	CalTLC
4257	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	21	2 - Fair to Poor	NR	Oak Forest	CalTLC
4258	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	6	2 - Fair to Poor	NR	Oak Forest	CalTLC
4259	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	21	2 - Fair to Poor	NR	Oak Forest	CalTLC
4261	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	24	2 - Fair to Poor	NR	Oak Forest	CalTLC
4262	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	0	0 - Dead	NR	Oak Forest	CalTLC
4263	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	18	2 - Fair to Poor	NR	Oak Forest	CalTLC
4264	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	15	2 - Fair to Poor	NR	Oak Forest	CalTLC
4265	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	15	2 - Fair to Poor	NR	Oak Forest	CalTLC
4266	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	6	2 - Fair to Poor	NR	Oak Forest	CalTLC
4267	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	33	3 - Fair	NR	Oak Forest	CalTLC
4268	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	8	2 - Fair to Poor	NR	Oak Forest	CalTLC
4269	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	21	2 - Fair to Poor	NR	Oak Forest	CalTLC
4271	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	16	2 - Fair to Poor	NR	Oak Forest	CalTLC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
4272	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	0	2 - Fair to Poor	NR	Oak Forest	CalTLC
4273	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	18	2 - Fair to Poor	NR	Oak Forest	CalTLC
4274	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	8	2 - Fair to Poor	NR	Oak Forest	CalTLC
4275	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	15	3 - Fair	NR	Oak Forest	CalTLC
4276	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	21	2 - Fair to Poor	NR	Oak Forest	CalTLC
4277	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	12	1 - Poor	NR	Oak Forest	CalTLC
4278	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	21	2 - Fair to Poor	NR	Oak Forest	CalTLC
4279	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	14	2 - Fair to Poor	NR	Oak Forest	CalTLC
4281	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	25	2 - Fair to Poor	NR	Oak Forest	CalTLC
4282	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	18	3 - Fair	NR	Oak Forest	CalTLC
4283	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	0	0 - Dead	NR	Oak Forest	CalTLC
4284	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	27	3 - Fair	NR	Oak Forest	CalTLC
4285	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	10	2 - Fair to Poor	NR	Oak Forest	CalTLC
4286	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	0	2 - Fair to Poor	NR	Oak Forest	CalTLC
4287	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	24	2 - Fair to Poor	NR	Oak Forest	CalTLC
4288	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	16	2 - Fair to Poor	NR	Oak Forest	CalTLC
4289	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	21	3 - Fair	NR	Oak Forest	CalTLC
4291	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	24	3 - Fair	NR	Oak Forest	CalTLC
4292	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	33	2 - Fair to Poor	NR	Oak Forest	CalTLC
4293	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	0	0 - Dead	NR	Oak Forest	CalTLC
4294	*Quercus douglasii*	blue oak	native	No	No	0	5.0	3	2 - Fair to Poor	NR	Oak Forest	CalTLC
4295	*Quercus douglasii*	blue oak	native	No	No	0	5.0	4	1 - Poor	NR	Oak Forest	CalTLC
4296	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	21	2 - Fair to Poor	NR	Oak Forest	CalTLC
4297	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	24	2 - Fair to Poor	NR	Oak Forest	CalTLC
4298	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	24	2 - Fair to Poor	NR	Oak Forest	CalTLC
4299	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	30	1 - Poor	NR	Oak Forest	CalTLC
4311	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	18	1 - Poor	NR	Oak Forest	CalTLC
4312	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	24	3 - Fair	NR	Oak Forest	CalTLC
4313	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	21	3 - Fair	NR	Oak Forest	CalTLC
4314	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	18	2 - Fair to Poor	NR	Oak Forest	CalTLC
4315	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.5	33	3 - Fair	NR	Oak Forest	CalTLC
4316	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	21	2 - Fair to Poor	NR	Oak Forest	CalTLC
4317	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	9	2 - Fair to Poor	NR	Oak Forest	CalTLC
4318	*Quercus douglasii*	blue oak	native	No	No	0	5.0	4	1 - Poor	NR	Oak Forest	CalTLC
4319	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	0	0 - Dead	NR	Oak Forest	CalTLC
4321	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	36	2 - Fair to Poor	NR	Oak Forest	CalTLC
4322	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	21	2 - Fair to Poor	NR	Oak Forest	CalTLC
4323	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	5	1 - Poor	NR	Oak Forest	CalTLC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
4324	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	15	3 - Fair	NR	Oak Forest	CalTLC
4325	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	18	2 - Fair to Poor	NR	Valley and Foothill Grassland	CalTLC
4326	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	27	2 - Fair to Poor	NR	Valley and Foothill Grassland	CalTLC
4327	*Quercus douglasii*	blue oak	native	Yes	Yes	1	22.0	0	0 - Dead	NR	Ephemeral Channel	CalTLC
4329	*Quercus douglasii*	blue oak	native	Yes	Yes	1	35.0	24	1 - Poor	NR	Ephemeral Channel	CalTLC
4332	*Quercus douglasii*	blue oak	native	Yes	Yes	1	34.5	32	3 - Fair	NR	Riparian Forests	CalTLC
4333	*Quercus douglasii*	blue oak	native	Yes	Yes	1	21.0	24	3 - Fair	NR	Riparian Forests	CalTLC
4336	*Quercus douglasii*	blue oak	native	Yes	No	1	8.0	10	1 - Poor	NR	Riparian Forests	CalTLC
4339	*Quercus douglasii*	blue oak	native	Yes	No	1	17.0	30	2 - Fair to Poor	NR	Riparian Forests	CalTLC
4346	*Quercus douglasii*	blue oak	native	Yes	Yes	0	45.7	40	2 - Fair to Poor	NR	Oak Woodland	CalTLC
4347	*Quercus douglasii*	blue oak	native	Yes	Yes	0	42.7	30	2 - Fair to Poor	NR	Oak Woodland	CalTLC
4348	*Quercus douglasii*	blue oak	native	Yes	Yes	0	50.2	33	1 - Poor	NR	Oak Woodland	CalTLC
4354	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	16	3 - Fair	NR	Oak Woodland	CalTLC
4356	*Quercus douglasii*	blue oak	native	Yes	Yes	0	36.0	27	3 - Fair	NR	Oak Woodland	CalTLC
4357	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.4	36	1 - Poor	NR	Oak Woodland	CalTLC
4358	*Quercus douglasii*	blue oak	native	Yes	Yes	0	37.0	27	1 - Poor	NR	Oak Woodland	CalTLC
4359	*Quercus douglasii*	blue oak	native	Yes	No	0	9.4	0	3 - Fair	NR	Oak Woodland	CalTLC
4361	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	6	3 - Fair	NR	Oak Forest	CalTLC
4362	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	15	2 - Fair to Poor	NR	Oak Forest	CalTLC
4363	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.0	0	2 - Fair to Poor	NR	Oak Forest	CalTLC
4364	*Quercus douglasii*	blue oak	native	Yes	Yes	0	48.8	30	3 - Fair	NR	Oak Forest	CalTLC
4365	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.5	40	4 - Good	NR	Oak Forest	CalTLC
4366	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.0	40	3 - Fair	NR	Oak Forest	CalTLC
4367	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	27	2 - Fair to Poor	NR	Oak Forest	CalTLC
4368	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	21	3 - Fair	NR	Oak Forest	CalTLC
4369	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	24	3 - Fair	NR	Oak Forest	CalTLC
4371	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	33	2 - Fair to Poor	NR	Oak Forest	CalTLC
4372	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	24	3 - Fair	NR	Oak Forest	CalTLC
4373	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	15	2 - Fair to Poor	NR	Oak Forest	CalTLC
4374	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	21	3 - Fair	NR	Oak Forest	CalTLC
4375	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	21	2 - Fair to Poor	NR	Oak Forest	CalTLC
4388	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	12	2 - Fair to Poor	NR	Oak Forest	CalTLC
4389	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	15	2 - Fair to Poor	NR	Oak Forest	CalTLC
4391	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	27	3 - Fair	NR	Oak Forest	CalTLC
4392	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	6	2 - Fair to Poor	NR	Oak Forest	CalTLC
4393	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	18	3 - Fair	NR	Oak Forest	CalTLC
4394	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	30	2 - Fair to Poor	NR	Oak Forest	CalTLC
4395	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	24	2 - Fair to Poor	NR	Oak Forest	CalTLC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
4396	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	21	2 - Fair to Poor	NR	Oak Forest	CalTLC
4397	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	15	3 - Fair	NR	Oak Forest	CalTLC
4398	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	33	2 - Fair to Poor	NR	Oak Forest	CalTLC
4399	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	24	2 - Fair to Poor	NR	Oak Forest	CalTLC
4411	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	30	3 - Fair	NR	Oak Forest	CalTLC
4412	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	12	3 - Fair	NR	Oak Forest	CalTLC
4413	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	21	3 - Fair	NR	Oak Forest	CalTLC
4414	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	27	3 - Fair	NR	Oak Forest	CalTLC
4415	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.3	27	3 - Fair	NR	Oak Forest	CalTLC
4416	*Quercus douglasii*	blue oak	native	No	No	0	≥1	24	4 - Good	NR	Oak Forest	CalTLC
4417	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	21	1 - Poor	NR	Oak Forest	CalTLC
4418	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	12	2 - Fair to Poor	NR	Oak Forest	CalTLC
4423	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	18	3 - Fair	NR	Oak Forest	CalTLC
4424	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	24	3 - Fair	NR	Oak Forest	CalTLC
4425	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.8	21	3 - Fair	NR	Oak Forest	CalTLC
4426	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	24	3 - Fair	NR	Oak Forest	CalTLC
4427	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	21	3 - Fair	NR	Oak Forest	CalTLC
4428	*Quercus douglasii*	blue oak	native	Yes	Yes	0	43.4	30	2 - Fair to Poor	NR	Oak Forest	CalTLC
4429	*Quercus douglasii*	blue oak	native	Yes	Yes	0	35.5	0	3 - Fair	NR	Oak Forest	CalTLC
4431	*Quercus douglasii*	blue oak	native	Yes	Yes	0	44.5	21	3 - Fair	NR	Oak Forest	CalTLC
4448	*Quercus douglasii*	blue oak	native	Yes	Yes	0	49.0	33	2 - Fair to Poor	NR	Oak Woodland	CalTLC
4449	*Quercus douglasii*	blue oak	native	Yes	Yes	0	56.5	36	3 - Fair	NR	Oak Woodland	CalTLC
4451	*Quercus douglasii*	blue oak	native	Yes	Yes	0	34.0	24	3 - Fair	NR	Oak Woodland	CalTLC
4452	*Quercus douglasii*	blue oak	native	Yes	Yes	0	44.0	27	2 - Fair to Poor	NR	Oak Woodland	CalTLC
4455	*Quercus douglasii*	blue oak	native	Yes	Yes	0	43.6	24	2 - Fair to Poor	NR	Oak Woodland	CalTLC
4456	*Quercus douglasii*	blue oak	native	Yes	Yes	0	50.0	30	1 - Poor	NR	Oak Woodland	CalTLC
4457	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.5	10	3 - Fair	NR	Oak Woodland	CalTLC
4467	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	9	3 - Fair	NR	Oak Woodland	CalTLC
4468	*Quercus douglasii*	blue oak	native	Yes	Yes	0	51.5	27	2 - Fair to Poor	NR	Oak Woodland	CalTLC
4469	*Quercus douglasii*	blue oak	native	Yes	Yes	0	57.5	21	1 - Poor	NR	Oak Woodland	CalTLC
4471	*Quercus douglasii*	blue oak	native	Yes	Yes	0	38.0	27	3 - Fair	NR	Oak Woodland	CalTLC
4472	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	18	3 - Fair	NR	Oak Woodland	CalTLC
4473	*Quercus douglasii*	blue oak	native	Yes	Yes	0	37.0	33	3 - Fair	NR	Oak Woodland	CalTLC
4474	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	30	3 - Fair	NR	Oak Woodland	CalTLC
4475	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.5	27	3 - Fair	NR	Oak Woodland	CalTLC
4476	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	5	2 - Fair to Poor	NR	Oak Woodland	CalTLC
4477	*Quercus douglasii*	blue oak	native	Yes	No	0	12.5	8	3 - Fair	NR	Oak Woodland	CalTLC
4478	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	10	2 - Fair to Poor	NR	Oak Woodland	CalTLC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
4479	*Quercus douglasii*	blue oak	native	Yes	No	0	12.8	21	2 - Fair to Poor	NR	Oak Woodland	CalTLC
4481	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	15	2 - Fair to Poor	NR	Oak Woodland	CalTLC
4482	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	30	3 - Fair	NR	Oak Woodland	CalTLC
4484	*Quercus douglasii*	blue oak	native	Yes	Yes	0	49.5	41	2 - Fair to Poor	NR	Oak Woodland	CalTLC
4485	*Quercus douglasii*	blue oak	native	Yes	Yes	0	37.5	30	3 - Fair	NR	Oak Woodland	CalTLC
4486	*Quercus douglasii*	blue oak	native	Yes	Yes	0	34.0	30	3 - Fair	NR	Oak Woodland	CalTLC
4487	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.0	24	2 - Fair to Poor	NR	Oak Woodland	CalTLC
4488	*Quercus douglasii*	blue oak	native	Yes	No	0	12.5	15	2 - Fair to Poor	NR	Oak Woodland	CalTLC
4489	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.5	24	3 - Fair	NR	Oak Woodland	CalTLC
4491	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.5	30	2 - Fair to Poor	NR	Oak Woodland	CalTLC
4492	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.5	40	3 - Fair	NR	Oak Woodland	CalTLC
4493	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	21	2 - Fair to Poor	NR	Oak Woodland	CalTLC
4494	*Quercus douglasii*	blue oak	native	Yes	Yes	0	37.5	21	3 - Fair	NR	Oak Forest	CalTLC
4495	*Quercus douglasii*	blue oak	native	Yes	Yes	0	43.0	30	2 - Fair to Poor	NR	Oak Forest	CalTLC
4497	*Quercus douglasii*	blue oak	native	Yes	Yes	0	43.0	40	3 - Fair	NR	Oak Woodland	CalTLC
4498	*Quercus douglasii*	blue oak	native	Yes	No	0	10.5	24	2 - Fair to Poor	NR	Oak Woodland	CalTLC
4499	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	33	2 - Fair to Poor	NR	Oak Woodland	CalTLC
5211	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	21	3 - Fair	NR	Oak Woodland	CalTLC
5212	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.0	21	3 - Fair	NR	Oak Woodland	CalTLC
5213	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	24	3 - Fair	NR	Oak Woodland	CalTLC
5214	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	24	2 - Fair to Poor	NR	Oak Woodland	CalTLC
5215	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	18	2 - Fair to Poor	NR	Oak Woodland	CalTLC
5216	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	18	2 - Fair to Poor	NR	Oak Woodland	CalTLC
5217	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	15	3 - Fair	NR	Oak Woodland	CalTLC
5218	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	18	3 - Fair	NR	Oak Woodland	CalTLC
5219	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	10	2 - Fair to Poor	NR	Oak Woodland	CalTLC
5221	*Quercus douglasii*	blue oak	native	No	No	0	5.0	4	1 - Poor	NR	Oak Woodland	CalTLC
5222	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	8	2 - Fair to Poor	NR	Oak Woodland	CalTLC
5223	*Quercus douglasii*	blue oak	native	No	No	0	5.0	6	2 - Fair to Poor	NR	Oak Woodland	CalTLC
5224	*Quercus douglasii*	blue oak	native	No	No	0	5.0	8	2 - Fair to Poor	NR	Oak Woodland	CalTLC
5225	*Quercus douglasii*	blue oak	native	No	No	0	5.0	8	2 - Fair to Poor	NR	Oak Woodland	CalTLC
5226	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	12	3 - Fair	NR	Oak Woodland	CalTLC
5227	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	12	3 - Fair	NR	Oak Woodland	CalTLC
5228	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	10	1 - Poor	NR	Oak Woodland	CalTLC
5229	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	6	2 - Fair to Poor	NR	Oak Woodland	CalTLC
5231	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	15	3 - Fair	NR	Oak Woodland	CalTLC
5232	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	8	2 - Fair to Poor	NR	Oak Woodland	CalTLC
5233	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	5	2 - Fair to Poor	NR	Oak Woodland	CalTLC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
5234	*Quercus douglasii*	blue oak	native	Yes	Yes	0	46.5	30	1 - Poor	NR	Oak Woodland	CalTLC
5237	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.0	21	2 - Fair to Poor	NR	Oak Woodland	CalTLC
5241	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.5	27	3 - Fair	NR	Oak Woodland	CalTLC
5242	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	21	3 - Fair	NR	Oak Woodland	CalTLC
5243	*Quercus douglasii*	blue oak	native	Yes	Yes	0	36.0	27	3 - Fair	NR	Oak Woodland	CalTLC
5244	*Quercus douglasii*	blue oak	native	Yes	Yes	0	36.2	27	3 - Fair	NR	Oak Woodland	CalTLC
5245	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	5	3 - Fair	NR	Oak Woodland	CalTLC
5249	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	6	3 - Fair	NR	Oak Woodland	CalTLC
5251	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.5	15	2 - Fair to Poor	NR	Valley and Foothill Grassland	CalTLC
5252	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.5	21	2 - Fair to Poor	NR	Valley and Foothill Grassland	CalTLC
5253	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.5	24	1 - Poor	NR	Valley and Foothill Grassland	CalTLC
5254	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	18	3 - Fair	NR	Valley and Foothill Grassland	CalTLC
5255	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	12	2 - Fair to Poor	NR	Oak Woodland	CalTLC
5256	*Quercus douglasii*	blue oak	native	Yes	No	0	15.3	15	3 - Fair	NR	Oak Woodland	CalTLC
5257	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	8	1 - Poor	NR	Oak Woodland	CalTLC
5258	*Quercus douglasii*	blue oak	native	Yes	Yes	1	19.5	15	3 - Fair	NR	Ephemeral Channel	CalTLC
5259	*Quercus douglasii*	blue oak	native	Yes	Yes	0	34.0	21	3 - Fair	NR	Oak Woodland	CalTLC
5261	*Quercus douglasii*	blue oak	native	Yes	No	1	12.0	10	3 - Fair	NR	Ephemeral Channel	CalTLC
5262	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	10	3 - Fair	NR	Oak Woodland	CalTLC
5263	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	8	2 - Fair to Poor	NR	Oak Woodland	CalTLC
5264	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	21	3 - Fair	NR	Oak Woodland	CalTLC
5265	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	12	3 - Fair	NR	Oak Woodland	CalTLC
5266	*Quercus douglasii*	blue oak	native	No	No	0	3.0	5	3 - Fair	NR	Oak Woodland	CalTLC
5267	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	5	3 - Fair	NR	Oak Woodland	CalTLC
5268	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	5	2 - Fair to Poor	NR	Oak Woodland	CalTLC
5269	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	15	3 - Fair	NR	Oak Woodland	CalTLC
5271	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	4	3 - Fair	NR	Oak Woodland	CalTLC
5274	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.5	18	2 - Fair to Poor	NR	Oak Woodland	CalTLC
5275	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	0	1 - Poor	NR	Oak Woodland	CalTLC
5276	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	15	2 - Fair to Poor	NR	Oak Woodland	CalTLC
5277	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	15	3 - Fair	NR	Oak Woodland	CalTLC
5278	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	15	3 - Fair	NR	Oak Woodland	CalTLC
5279	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	18	2 - Fair to Poor	NR	Oak Woodland	CalTLC
5281	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	15	3 - Fair	NR	Oak Woodland	CalTLC
5282	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	18	3 - Fair	NR	Oak Woodland	CalTLC
5283	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	21	2 - Fair to Poor	NR	Oak Woodland	CalTLC
5284	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	18	2 - Fair to Poor	NR	Oak Woodland	CalTLC
5285	*Quercus douglasii*	blue oak	native	Yes	Yes	0	36.0	24	2 - Fair to Poor	NR	Oak Woodland	CalTLC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
5286	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	21	3 - Fair	NR	Oak Woodland	CalTLC
5287	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	18	1 - Poor	NR	Oak Woodland	CalTLC
5288	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	0	2 - Fair to Poor	NR	Oak Woodland	CalTLC
5289	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	25	2 - Fair to Poor	NR	Oak Woodland	CalTLC
5291	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.5	24	2 - Fair to Poor	NR	Oak Forest	CalTLC
5292	*Quercus douglasii*	blue oak	native	No	No	0	5.0	4	1 - Poor	NR	Oak Forest	CalTLC
5293	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	8	3 - Fair	NR	Oak Forest	CalTLC
5294	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	21	2 - Fair to Poor	NR	Oak Forest	CalTLC
5295	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	9	3 - Fair	NR	Oak Forest	CalTLC
5296	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	21	3 - Fair	NR	Oak Forest	CalTLC
5297	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	18	3 - Fair	NR	Oak Forest	CalTLC
5298	*Quercus douglasii*	blue oak	native	Yes	Yes	0	41.0	21	1 - Poor	NR	Oak Forest	CalTLC
5299	*Quercus douglasii*	blue oak	native	Yes	Yes	0	38.0	18	3 - Fair	NR	Oak Forest	CalTLC
5314	*Quercus douglasii*	blue oak	native	Yes	No	1	11.0	15	2 - Fair to Poor	NR	Riparian Forests	CalTLC
5315	*Quercus douglasii*	blue oak	native	Yes	Yes	1	21.0	18	3 - Fair	NR	Riparian Forests	CalTLC
5316	*Quercus douglasii*	blue oak	native	Yes	No	1	9.0	9	2 - Fair to Poor	NR	Riparian Forests	CalTLC
5317	*Quercus douglasii*	blue oak	native	Yes	Yes	1	32.0	24	1 - Poor	NR	Riparian Forests	CalTLC
5326	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	NR	Oak Forest	EPC
5327	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
5327	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.0	21	3 - Fair	NR	Oak Forest	CalTLC
5328	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	NR	Oak Forest	EPC
5329	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	NR	Oak Forest	EPC
5331	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
5334	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	1 - Poor	NR	Oak Forest	EPC
5335	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	0 - Dead	NR	Oak Forest	EPC
5336	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	NR	Oak Forest	EPC
5376	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	24	2 - Fair to Poor	NR	Oak Forest	CalTLC
5451	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	1 - Poor	NR	Oak Forest	EPC
5452	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	0 - Dead	NR	Oak Forest	EPC
5453	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	1 - Poor	NR	Oak Forest	EPC
5454	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	3 - Fair	NR	Oak Forest	EPC
5455	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	0 - Dead	NR	Oak Forest	EPC
5858	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	1	Oak Woodland	Dudek
7771	*Quercus douglasii*	blue oak	native	Yes	No	0	10.5	0	3 - Fair	NR	Oak Forest	CalTLC
7772	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.5	26	3 - Fair	NR	Oak Forest	CalTLC
7773	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.5	21	3 - Fair	NR	Oak Forest	CalTLC
7774	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	26	3 - Fair	NR	Oak Forest	CalTLC
7775	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	22	3 - Fair	NR	Oak Forest	CalTLC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
7776	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	21	3 - Fair	NR	Oak Forest	CalTLC
7777	*Quercus douglasii*	blue oak	native	Yes	Yes	0	36.0	42	4 - Good	NR	Oak Forest	CalTLC
7778	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.5	26	3 - Fair	NR	Oak Forest	CalTLC
7779	*Quercus douglasii*	blue oak	native	Yes	No	0	17.5	22	3 - Fair	NR	Oak Forest	CalTLC
7781	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	15	3 - Fair	NR	Oak Forest	CalTLC
7782	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	27	3 - Fair	NR	Valley and Foothill Grassland	CalTLC
7783	*Quercus douglasii*	blue oak	native	Yes	No	1	17.0	28	3 - Fair	NR	Riparian Forests	CalTLC
7784	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.5	27	3 - Fair	NR	Oak Forest	CalTLC
7787	*Quercus douglasii*	blue oak	native	Yes	Yes	0	37.0	32	1 - Poor	NR	Oak Forest	CalTLC
7788	*Quercus douglasii*	blue oak	native	Yes	Yes	0	33.0	30	3 - Fair	NR	Oak Forest	CalTLC
7789	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	35	3 - Fair	NR	Oak Forest	CalTLC
7791	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.0	27	2 - Fair to Poor	NR	Urban/Developed	CalTLC
8811	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	5	2 - Fair to Poor	NR	Oak Forest	CalTLC
8812	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	12	2 - Fair to Poor	NR	Oak Forest	CalTLC
8813	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	5	2 - Fair to Poor	NR	Oak Forest	CalTLC
8814	*Quercus douglasii*	blue oak	native	Yes	No	0	8.5	8	2 - Fair to Poor	NR	Oak Forest	CalTLC
8815	*Quercus douglasii*	blue oak	native	No	No	0	≥1	17	1 - Poor	NR	Oak Forest	CalTLC
8816	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.5	16	2 - Fair to Poor	NR	Oak Forest	CalTLC
8817	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	28	3 - Fair	NR	Oak Forest	CalTLC
8818	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	15	2 - Fair to Poor	NR	Oak Forest	CalTLC
8819	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	15	2 - Fair to Poor	NR	Valley and Foothill Grassland	CalTLC
8821	*Quercus douglasii*	blue oak	native	Yes	Yes	0	37.0	35	2 - Fair to Poor	NR	Oak Forest	CalTLC
8822	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	20	3 - Fair	NR	Oak Forest	CalTLC
8823	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	13	3 - Fair	NR	Oak Forest	CalTLC
8824	*Quercus douglasii*	blue oak	native	Yes	No	0	9.5	13	2 - Fair to Poor	NR	Oak Forest	CalTLC
8825	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	19	3 - Fair	NR	Oak Forest	CalTLC
8826	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	15	3 - Fair	NR	Oak Forest	CalTLC
8827	*Quercus douglasii*	blue oak	native	Yes	No	0	13.5	12	3 - Fair	NR	Oak Forest	CalTLC
8828	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	14	3 - Fair	NR	Oak Forest	CalTLC
8829	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.5	30	3 - Fair	NR	Oak Forest	CalTLC
8831	*Quercus douglasii*	blue oak	native	Yes	No	0	14.5	14	3 - Fair	NR	Oak Forest	CalTLC
8832	*Quercus douglasii*	blue oak	native	Yes	No	0	11.5	10	3 - Fair	NR	Oak Forest	CalTLC
8833	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.5	18	3 - Fair	NR	Oak Forest	CalTLC
8834	*Quercus douglasii*	blue oak	native	Yes	No	0	17.5	15	3 - Fair	NR	Oak Forest	CalTLC
8835	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	15	2 - Fair to Poor	NR	Oak Forest	CalTLC
8836	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	17	3 - Fair	NR	Oak Forest	CalTLC
8837	*Quercus douglasii*	blue oak	native	Yes	No	0	17.5	17	3 - Fair	NR	Oak Forest	CalTLC
8838	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.5	19	3 - Fair	NR	Oak Forest	CalTLC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
8839	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.5	27	3 - Fair	NR	Oak Forest	CalTLC
8843	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	28	3 - Fair	NR	Oak Woodland	CalTLC
8844	*Quercus douglasii*	blue oak	native	Yes	Yes	0	35.0	25	2 - Fair to Poor	NR	Oak Woodland	CalTLC
8845	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	25	3 - Fair	NR	Oak Woodland	CalTLC
8846	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.5	20	3 - Fair	NR	Oak Woodland	CalTLC
8847	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	9	2 - Fair to Poor	NR	Oak Woodland	CalTLC
8848	*Quercus douglasii*	blue oak	native	No	No	0	≥1	8	2 - Fair to Poor	NR	Oak Woodland	CalTLC
8849	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	10	3 - Fair	NR	Oak Woodland	CalTLC
8851	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	16	3 - Fair	NR	Valley and Foothill Grassland	CalTLC
8852	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	29	3 - Fair	NR	Oak Forest	CalTLC
8853	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.0	20	3 - Fair	NR	Oak Forest	CalTLC
8854	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.0	26	3 - Fair	NR	Oak Forest	CalTLC
8855	*Quercus douglasii*	blue oak	native	Yes	No	1	12.5	8	3 - Fair	NR	Ephemeral Channel	CalTLC
8856	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.5	20	2 - Fair to Poor	NR	Oak Forest	CalTLC
8859	*Quercus douglasii*	blue oak	native	Yes	Yes	0	33.0	27	2 - Fair to Poor	NR	Oak Forest	CalTLC
8863	*Quercus douglasii*	blue oak	native	Yes	No	0	12.5	7	2 - Fair to Poor	NR	Oak Forest	CalTLC
8864	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	6	2 - Fair to Poor	NR	Oak Forest	CalTLC
8865	*Quercus douglasii*	blue oak	native	Yes	No	0	7.5	6	2 - Fair to Poor	NR	Oak Forest	CalTLC
8866	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	6	2 - Fair to Poor	NR	Oak Forest	CalTLC
8867	*Quercus douglasii*	blue oak	native	No	No	0	≥1	9	1 - Poor	NR	Oak Forest	CalTLC
8868	*Quercus douglasii*	blue oak	native	Yes	No	0	12.5	8	2 - Fair to Poor	NR	Oak Forest	CalTLC
8871	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	8	1 - Poor	NR	Oak Forest	CalTLC
8872	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	15	3 - Fair	NR	Oak Forest	CalTLC
8873	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	9	3 - Fair	NR	Oak Forest	CalTLC
8874	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	9	2 - Fair to Poor	NR	Oak Forest	CalTLC
8875	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	5	2 - Fair to Poor	NR	Oak Forest	CalTLC
8878	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	22	3 - Fair	NR	Oak Forest	CalTLC
8879	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.5	13	3 - Fair	NR	Oak Forest	CalTLC
8881	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.5	18	3 - Fair	NR	Oak Forest	CalTLC
8882	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	14	2 - Fair to Poor	NR	Oak Forest	CalTLC
8883	*Quercus douglasii*	blue oak	native	Yes	No	0	17.5	15	2 - Fair to Poor	NR	Valley and Foothill Grassland	CalTLC
8886	*Quercus douglasii*	blue oak	native	Yes	Yes	0	39.5	18	2 - Fair to Poor	NR	Oak Woodland	CalTLC
8887	*Quercus douglasii*	blue oak	native	Yes	Yes	0	44.0	23	1 - Poor	NR	Oak Woodland	CalTLC
8888	*Quercus douglasii*	blue oak	native	Yes	Yes	0	41.5	25	2 - Fair to Poor	NR	Oak Woodland	CalTLC
8889	*Quercus douglasii*	blue oak	native	Yes	Yes	0	42.0	29	3 - Fair	NR	Oak Woodland	CalTLC
8893	*Quercus douglasii*	blue oak	native	Yes	Yes	0	35.5	29	3 - Fair	NR	Oak Woodland	CalTLC
8894	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	16	3 - Fair	NR	Oak Woodland	CalTLC
8895	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	20	3 - Fair	NR	Oak Woodland	CalTLC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
8896	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	13	2 - Fair to Poor	NR	Oak Woodland	CalTLC
8897	*Quercus douglasii*	blue oak	native	Yes	No	0	12.5	10	2 - Fair to Poor	NR	Oak Woodland	CalTLC
8898	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.0	14	2 - Fair to Poor	NR	Oak Woodland	CalTLC
8899	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	12	2 - Fair to Poor	NR	Oak Woodland	CalTLC
9411	*Quercus douglasii*	blue oak	native	Yes	No	0	16.5	18	3 - Fair	NR	Oak Woodland	CalTLC
9413	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	13	3 - Fair	NR	Oak Woodland	CalTLC
9414	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	26	3 - Fair	NR	Oak Woodland	CalTLC
9415	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	7	2 - Fair to Poor	NR	Oak Woodland	CalTLC
9416	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	9	2 - Fair to Poor	NR	Oak Woodland	CalTLC
9417	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	7	1 - Poor	NR	Oak Woodland	CalTLC
9418	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	10	3 - Fair	NR	Oak Woodland	CalTLC
9419	*Quercus douglasii*	blue oak	native	No	No	0	≥1	14	2 - Fair to Poor	NR	Oak Woodland	CalTLC
9421	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	10	3 - Fair	NR	Oak Woodland	CalTLC
9422	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	15	1 - Poor	NR	Oak Woodland	CalTLC
9423	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	10	2 - Fair to Poor	NR	Oak Woodland	CalTLC
9424	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.5	21	3 - Fair	NR	Oak Woodland	CalTLC
9425	*Quercus douglasii*	blue oak	native	Yes	Yes	0	35.5	26	3 - Fair	NR	Oak Woodland	CalTLC
9426	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.5	7	1 - Poor	NR	Oak Woodland	CalTLC
9427	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	17	3 - Fair	NR	Oak Woodland	CalTLC
9428	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	11	3 - Fair	NR	Oak Woodland	CalTLC
9429	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	18	3 - Fair	NR	Oak Woodland	CalTLC
9466	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	10	3 - Fair	NR	Oak Woodland	CalTLC
9471	*Quercus douglasii*	blue oak	native	Yes	No	0	11.5	10	2 - Fair to Poor	NR	Oak Woodland	CalTLC
9472	*Quercus douglasii*	blue oak	native	Yes	No	0	13.5	12	3 - Fair	NR	Oak Woodland	CalTLC
9473	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	9	2 - Fair to Poor	NR	Oak Woodland	CalTLC
9474	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.5	9	3 - Fair	NR	Oak Woodland	CalTLC
9475	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	19	3 - Fair	NR	Oak Forest	CalTLC
9476	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	22	3 - Fair	NR	Oak Forest	CalTLC
9477	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.5	20	3 - Fair	NR	Oak Forest	CalTLC
9496	*Quercus douglasii*	blue oak	native	Yes	No	0	17.5	16	2 - Fair to Poor	NR	Oak Woodland	CalTLC
9811	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	18	3 - Fair	NR	Oak Woodland	CalTLC
9812	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	28	2 - Fair to Poor	NR	Oak Woodland	CalTLC
9813	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	15	2 - Fair to Poor	NR	Oak Woodland	CalTLC
9819	*Quercus douglasii*	blue oak	native	Yes	Yes	1	38.0	36	3 - Fair	NR	Riparian Forests	CalTLC
9821	*Quercus douglasii*	blue oak	native	Yes	Yes	1	20.5	23	2 - Fair to Poor	NR	Riparian Forests	CalTLC
9822	*Quercus douglasii*	blue oak	native	Yes	Yes	1	23.5	19	3 - Fair	NR	Riparian Forests	CalTLC
9823	*Quercus douglasii*	blue oak	native	Yes	Yes	1	41.0	34	3 - Fair	NR	Riparian Forests	CalTLC
9824	*Quercus douglasii*	blue oak	native	Yes	Yes	1	19.0	19	2 - Fair to Poor	NR	Riparian Forests	CalTLC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
9825	*Quercus douglasii*	blue oak	native	Yes	Yes	1	23.0	19	3 - Fair	NR	Riparian Forests	CalTLC
9826	*Quercus douglasii*	blue oak	native	Yes	Yes	1	25.0	18	2 - Fair to Poor	NR	Riparian Forests	CalTLC
9827	*Quercus douglasii*	blue oak	native	No	No	1	≥1	10	2 - Fair to Poor	NR	Riparian Forests	CalTLC
9828	*Quercus douglasii*	blue oak	native	Yes	Yes	1	19.0	17	3 - Fair	NR	Riparian Forests	CalTLC
9829	*Quercus douglasii*	blue oak	native	Yes	Yes	1	30.5	28	3 - Fair	NR	Riparian Forests	CalTLC
9831	*Quercus douglasii*	blue oak	native	Yes	Yes	1	35.5	30	3 - Fair	NR	Riparian Forests	CalTLC
9832	*Quercus douglasii*	blue oak	native	Yes	Yes	1	54.5	NR	3 - Fair	NR	Riparian Forests	EPC
9833	*Quercus douglasii*	blue oak	native	Yes	Yes	1	27.5	30	3 - Fair	NR	Riparian Forests	CalTLC
9835	*Quercus douglasii*	blue oak	native	Yes	Yes	1	28.5	30	3 - Fair	NR	Riparian Forests	CalTLC
9835	*Quercus douglasii*	blue oak	native	Yes	Yes	1	29.0	30	3 - Fair	NR	Riparian Forests	CalTLC
9836	*Quercus douglasii*	blue oak	native	Yes	Yes	1	25.5	30	3 - Fair	NR	Riparian Forests	CalTLC
9837	*Quercus douglasii*	blue oak	native	Yes	Yes	1	20.5	15	3 - Fair	NR	Riparian Forests	CalTLC
9866	*Quercus douglasii*	blue oak	native	Yes	No	1	15.0	13	2 - Fair to Poor	NR	Riparian Forests	CalTLC
9867	*Quercus douglasii*	blue oak	native	Yes	Yes	1	20.5	19	3 - Fair	NR	Riparian Forests	CalTLC
9881	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	22	1 - Poor	NR	Valley and Foothill Grassland	CalTLC
13647	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.5	33	2 - Fair to Poor	NR	Oak Woodland	CalTLC
13648	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	28	2 - Fair to Poor	NR	Oak Woodland	CalTLC
13649	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.0	35	2 - Fair to Poor	NR	Oak Woodland	CalTLC
13651	*Quercus douglasii*	blue oak	native	Yes	Yes	0	40.0	20	2 - Fair to Poor	NR	Valley and Foothill Grassland	CalTLC
13652	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	20	3 - Fair	NR	Oak Forest	CalTLC
13653	*Quercus douglasii*	blue oak	native	Yes	Yes	0	34.0	25	3 - Fair	NR	Valley and Foothill Grassland	CalTLC
13654	*Quercus douglasii*	blue oak	native	Yes	Yes	0	33.0	20	2 - Fair to Poor	NR	Oak Forest	CalTLC
13655	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.5	35	2 - Fair to Poor	NR	Valley and Foothill Grassland	CalTLC
13656	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	30	2 - Fair to Poor	NR	Valley and Foothill Grassland	CalTLC
13657	*Quercus douglasii*	blue oak	native	No	No	0	≥1	0	3 - Fair	NR	Oak Forest	CalTLC
13658	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.5	20	3 - Fair	NR	Oak Forest	CalTLC
13659	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	15	3 - Fair	NR	Oak Forest	CalTLC
13661	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	15	2 - Fair to Poor	NR	Oak Forest	CalTLC
13662	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.0	25	2 - Fair to Poor	NR	Oak Forest	CalTLC
13663	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.5	25	3 - Fair	NR	Oak Forest	CalTLC
13664	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.0	20	3 - Fair	NR	Oak Forest	CalTLC
13665	*Quercus douglasii*	blue oak	native	No	No	0	≥1	0	2 - Fair to Poor	NR	Oak Forest	CalTLC
13666	*Quercus douglasii*	blue oak	native	Yes	Yes	0	34.0	12	2 - Fair to Poor	NR	Oak Forest	CalTLC
13667	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	12	3 - Fair	NR	Oak Forest	CalTLC
13668	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	15	3 - Fair	NR	Oak Woodland	CalTLC
13669	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	12	3 - Fair	NR	Oak Woodland	CalTLC
15213	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	21	3 - Fair	NR	Oak Forest	CalTLC
314111	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	2 - Fair to Poor	NR	Valley and Foothill Grassland	EPC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
314112	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	NR	Oak Forest	EPC
314113	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314114	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	NR	Oak Forest	EPC
314115	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	NR	Oak Forest	EPC
314116	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	0 - Dead	NR	Oak Forest	EPC
314117	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	4 - Good	NR	Oak Forest	EPC
314121	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.5	NR	3 - Fair	NR	Oak Forest	EPC
314122	*Quercus douglasii*	blue oak	native	Yes	Yes	0	38.0	NR	3 - Fair	NR	Oak Forest	EPC
314123	*Quercus douglasii*	blue oak	native	Yes	No	0	14.7	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314124	*Quercus douglasii*	blue oak	native	No	No	0	3.5	NR	1 - Poor	NR	Oak Forest	EPC
314125	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	0 - Dead	NR	Oak Forest	EPC
314126	*Quercus douglasii*	blue oak	native	Yes	No	0	11.5	NR	3 - Fair	NR	Oak Forest	EPC
314128	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.3	NR	3 - Fair	NR	Oak Forest	EPC
314132	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.5	NR	1 - Poor	NR	Oak Forest	EPC
314133	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314134	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314135	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314136	*Quercus douglasii*	blue oak	native	Yes	No	0	12.3	NR	3 - Fair	NR	Oak Forest	EPC
314137	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.3	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314138	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	4 - Good	NR	Oak Forest	EPC
314139	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	NR	Oak Forest	EPC
314141	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.5	NR	3 - Fair	NR	Oak Forest	EPC
314143	*Quercus douglasii*	blue oak	native	Yes	No	0	14.6	NR	4 - Good	NR	Oak Forest	EPC
314144	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	0 - Dead	NR	Oak Forest	EPC
314145	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314146	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314147	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.0	NR	3 - Fair	NR	Oak Forest	EPC
314148	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	1 - Poor	NR	Oak Forest	EPC
314149	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314151	*Quercus douglasii*	blue oak	native	Yes	No	0	14.7	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314152	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314153	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.5	NR	3 - Fair	NR	Oak Forest	EPC
314154	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314155	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314156	*Quercus douglasii*	blue oak	native	Yes	No	0	9.5	NR	0 - Dead	NR	Oak Forest	EPC
314157	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	4 - Good	NR	Oak Forest	EPC
314158	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	NR	Oak Woodland	EPC
314159	*Quercus douglasii*	blue oak	native	No	No	1	5.0	NR	2 - Fair to Poor	NR	Riparian Forests	EPC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
314163	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	0 - Dead	NR	Oak Forest	EPC
314165	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314168	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	NR	Oak Forest	EPC
314171	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	0 - Dead	NR	Oak Forest	EPC
314172	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	1 - Poor	NR	Oak Forest	EPC
314173	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314174	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	3 - Fair	NR	Oak Woodland	EPC
314175	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314176	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	3 - Fair	NR	Valley and Foothill Grassland	EPC
314177	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	3 - Fair	NR	Oak Woodland	EPC
314178	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	NR	Oak Forest	EPC
314182	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	4 - Good	NR	Oak Forest	EPC
314184	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314188	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	3 - Fair	NR	Oak Woodland	EPC
314189	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	1 - Poor	NR	Oak Forest	EPC
314193	*Quercus douglasii*	blue oak	native	Yes	Yes	0	42.0	NR	3 - Fair	NR	Oak Forest	EPC
314194	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314197	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	NR	Oak Forest	EPC
314198	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	3 - Fair	NR	Oak Forest	EPC
314199	*Quercus douglasii*	blue oak	native	Yes	Yes	0	56.0	NR	3 - Fair	NR	Oak Forest	EPC
314212	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	0 - Dead	NR	Oak Forest	EPC
314214	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	4 - Good	NR	Oak Forest	EPC
314223	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	NR	3 - Fair	NR	Oak Forest	EPC
314225	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	0 - Dead	NR	Oak Forest	EPC
314228	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	0 - Dead	NR	Oak Woodland	EPC
314229	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314232	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314232	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314232	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314235	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	NR	Valley and Foothill Grassland	EPC
314238	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	1 - Poor	NR	Oak Forest	EPC
314241	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	4 - Good	NR	Oak Forest	EPC
314243	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	0 - Dead	NR	Oak Forest	EPC
314248	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	3 - Fair	NR	Oak Forest	EPC
314249	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	1 - Poor	NR	Oak Forest	EPC
314251	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	1 - Poor	NR	Oak Forest	EPC
314252	*Quercus douglasii*	blue oak	native	Yes	No	0	16.2	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314258	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
314263	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	NR	Oak Forest	EPC
314264	*Quercus douglasii*	blue oak	native	Yes	No	0	12.3	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314267	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	NR	Oak Forest	EPC
314272	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314278	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314279	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314281	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.4	NR	3 - Fair	NR	Oak Forest	EPC
314282	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314283	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314284	*Quercus douglasii*	blue oak	native	Yes	No	0	11.7	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314285	*Quercus douglasii*	blue oak	native	Yes	No	0	10.6	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314286	*Quercus douglasii*	blue oak	native	Yes	No	0	10.3	NR	1 - Poor	NR	Oak Forest	EPC
314287	*Quercus douglasii*	blue oak	native	Yes	No	0	8.5	NR	1 - Poor	NR	Oak Forest	EPC
314288	*Quercus douglasii*	blue oak	native	Yes	No	0	10.5	NR	1 - Poor	NR	Oak Forest	EPC
314289	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314291	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	NR	Oak Forest	EPC
314292	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314292	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314295	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314296	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314297	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	NR	Oak Forest	EPC
314314	*Quercus douglasii*	blue oak	native	Yes	No	0	10.3	NR	1 - Poor	NR	Oak Forest	EPC
314315	*Quercus douglasii*	blue oak	native	Yes	No	0	15.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314316	*Quercus douglasii*	blue oak	native	No	No	0	5.6	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314318	*Quercus douglasii*	blue oak	native	Yes	No	0	8.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314319	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314322	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.3	NR	0 - Dead	NR	Oak Woodland	EPC
314323	*Quercus douglasii*	blue oak	native	No	No	0	3.0	NR	1 - Poor	NR	Oak Forest	EPC
314326	*Quercus douglasii*	blue oak	native	No	No	0	4.5	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314328	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	1 - Poor	NR	Oak Forest	EPC
314333	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	2 - Fair to Poor	NR	Valley and Foothill Grassland	EPC
314336	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	2 - Fair to Poor	NR	Valley and Foothill Grassland	EPC
314338	*Quercus douglasii*	blue oak	native	Yes	Yes	0	42.0	NR	0 - Dead	NR	Oak Forest	EPC
314345	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	NR	3 - Fair	NR	Oak Forest	EPC
314346	*Quercus douglasii*	blue oak	native	No	No	0	3.0	NR	0 - Dead	NR	Oak Forest	EPC
314348	*Quercus douglasii*	blue oak	native	Yes	Yes	0	35.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314349	*Quercus douglasii*	blue oak	native	Yes	No	0	10.7	NR	4 - Good	NR	Valley and Foothill Grassland	EPC
314352	*Quercus douglasii*	blue oak	native	No	No	0	5.8	NR	0 - Dead	NR	Oak Forest	EPC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
314354	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314355	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	0 - Dead	NR	Oak Forest	EPC
314356	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314357	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	4 - Good	NR	Oak Forest	EPC
314366	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	NR	Oak Forest	EPC
314367	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314369	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	1 - Poor	NR	Oak Forest	EPC
314371	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	1 - Poor	NR	Oak Woodland	EPC
314374	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	0 - Dead	NR	Oak Forest	EPC
314377	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314378	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	1 - Poor	NR	Oak Forest	EPC
314379	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	NR	Oak Forest	EPC
314382	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	NR	Oak Forest	EPC
314386	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314387	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314389	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	0 - Dead	NR	Oak Forest	EPC
314393	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	NR	Oak Woodland	EPC
314394	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	0 - Dead	NR	Oak Forest	EPC
314396	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	0 - Dead	NR	Oak Woodland	EPC
314398	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	0 - Dead	NR	Oak Forest	EPC
314399	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	0 - Dead	NR	Oak Forest	EPC
314411	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.0	NR	0 - Dead	NR	Oak Forest	EPC
314412	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.5	NR	3 - Fair	NR	Oak Forest	EPC
314413	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314414	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	NR	Oak Forest	EPC
314415	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	NR	Oak Forest	EPC
314417	*Quercus douglasii*	blue oak	native	Yes	No	0	16.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314421	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	NR	Oak Forest	EPC
314422	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	3 - Fair	NR	Oak Forest	EPC
314423	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314424	*Quercus douglasii*	blue oak	native	Yes	No	0	12.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314425	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314426	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314428	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	NR	Oak Forest	EPC
314432	*Quercus douglasii*	blue oak	native	Yes	No	0	7.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314435	*Quercus douglasii*	blue oak	native	Yes	No	0	11.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314436	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314437	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	NR	Valley and Foothill Grassland	EPC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
314438	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	1 - Poor	NR	Oak Forest	EPC
314439	*Quercus douglasii*	blue oak	native	Yes	No	0	16.3	NR	4 - Good	NR	Oak Forest	EPC
314442	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	0 - Dead	NR	Oak Forest	EPC
314444	*Quercus douglasii*	blue oak	native	Yes	No	0	16.7	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314451	*Quercus douglasii*	blue oak	native	Yes	No	0	9.5	NR	0 - Dead	NR	Oak Forest	EPC
314452	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314453	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314457	*Quercus douglasii*	blue oak	native	Yes	No	0	12.7	NR	3 - Fair	NR	Oak Forest	EPC
314458	*Quercus douglasii*	blue oak	native	Yes	No	0	14.5	NR	3 - Fair	NR	Oak Forest	EPC
314459	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314461	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	0 - Dead	NR	Oak Forest	EPC
314462	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	NR	Oak Forest	EPC
314463	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	0 - Dead	NR	Oak Forest	EPC
314464	*Quercus douglasii*	blue oak	native	Yes	No	0	9.5	NR	0 - Dead	NR	Oak Forest	EPC
314465	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	NR	Oak Forest	EPC
314466	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	NR	Oak Forest	EPC
314467	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	0 - Dead	NR	Oak Forest	EPC
314468	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	0 - Dead	NR	Oak Forest	EPC
314469	*Quercus douglasii*	blue oak	native	Yes	No	0	8.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314473	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	0 - Dead	NR	Oak Forest	EPC
314474	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	NR	Oak Forest	EPC
314475	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.7	NR	4 - Good	NR	Oak Forest	EPC
314476	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.3	NR	3 - Fair	NR	Oak Forest	EPC
314477	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	NR	Oak Woodland	EPC
314478	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	4 - Good	NR	Oak Woodland	EPC
314479	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314481	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	NR	0 - Dead	NR	Oak Woodland	EPC
314481	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	NR	0 - Dead	NR	Oak Woodland	EPC
314481	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	NR	0 - Dead	NR	Oak Woodland	EPC
314482	*Quercus douglasii*	blue oak	native	Yes	Yes	0	42.0	NR	0 - Dead	NR	Oak Woodland	EPC
314482	*Quercus douglasii*	blue oak	native	Yes	Yes	0	42.0	NR	0 - Dead	NR	Oak Woodland	EPC
314482	*Quercus douglasii*	blue oak	native	Yes	Yes	0	42.0	NR	0 - Dead	NR	Oak Woodland	EPC
314484	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.0	NR	0 - Dead	NR	Oak Woodland	EPC
314484	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.0	NR	0 - Dead	NR	Oak Woodland	EPC
314484	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.0	NR	0 - Dead	NR	Oak Woodland	EPC
314486	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	3 - Fair	NR	Oak Woodland	EPC
314486	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	3 - Fair	NR	Oak Woodland	EPC
314486	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	3 - Fair	NR	Oak Woodland	EPC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
314487	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	NR	4 - Good	NR	Oak Woodland	EPC
314487	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	NR	4 - Good	NR	Oak Woodland	EPC
314487	*Quercus douglasii*	blue oak	native	Yes	Yes	1	31.0	NR	4 - Good	NR	Ephemeral Channel	EPC
314488	*Quercus douglasii*	blue oak	native	Yes	Yes	1	35.0	NR	2 - Fair to Poor	NR	Ephemeral Channel	EPC
314488	*Quercus douglasii*	blue oak	native	Yes	Yes	1	35.0	NR	2 - Fair to Poor	NR	Ephemeral Channel	EPC
314488	*Quercus douglasii*	blue oak	native	Yes	Yes	0	35.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314489	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.0	NR	3 - Fair	NR	Oak Woodland	EPC
314489	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.0	NR	3 - Fair	NR	Oak Woodland	EPC
314489	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.0	NR	3 - Fair	NR	Oak Woodland	EPC
314492	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	NR	3 - Fair	NR	Oak Woodland	EPC
314492	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	NR	3 - Fair	NR	Oak Woodland	EPC
314492	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	NR	3 - Fair	NR	Oak Woodland	EPC
314493	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314493	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314493	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314494	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314494	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314494	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314495	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	NR	Oak Woodland	EPC
314495	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	NR	Oak Woodland	EPC
314495	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	NR	Oak Woodland	EPC
314496	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314496	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314496	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314498	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314498	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314498	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314499	*Quercus douglasii*	blue oak	native	Yes	Yes	0	40.0	NR	3 - Fair	NR	Oak Woodland	EPC
314499	*Quercus douglasii*	blue oak	native	Yes	Yes	0	40.0	NR	3 - Fair	NR	Oak Woodland	EPC
314499	*Quercus douglasii*	blue oak	native	Yes	Yes	0	40.0	NR	3 - Fair	NR	Oak Woodland	EPC
314511	*Quercus douglasii*	blue oak	native	Yes	Yes	0	45.0	NR	0 - Dead	NR	Oak Woodland	EPC
314511	*Quercus douglasii*	blue oak	native	Yes	Yes	0	45.0	NR	0 - Dead	NR	Oak Woodland	EPC
314511	*Quercus douglasii*	blue oak	native	Yes	Yes	0	45.0	NR	0 - Dead	NR	Oak Forest	EPC
314512	*Quercus douglasii*	blue oak	native	Yes	Yes	0	37.0	NR	4 - Good	NR	Oak Forest	EPC
314512	*Quercus douglasii*	blue oak	native	Yes	Yes	0	37.0	NR	4 - Good	NR	Oak Forest	EPC
314512	*Quercus douglasii*	blue oak	native	Yes	Yes	0	37.0	NR	4 - Good	NR	Oak Woodland	EPC
314514	*Quercus douglasii*	blue oak	native	Yes	Yes	1	32.0	NR	0 - Dead	NR	Riparian Forests	EPC
314514	*Quercus douglasii*	blue oak	native	Yes	Yes	1	32.0	NR	0 - Dead	NR	Riparian Forests	EPC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
314514	*Quercus douglasii*	blue oak	native	Yes	Yes	1	32.0	NR	0 - Dead	NR	Ephemeral Channel	EPC
314516	*Quercus douglasii*	blue oak	native	Yes	No	1	15.0	NR	2 - Fair to Poor	NR	Ephemeral Channel	EPC
314516	*Quercus douglasii*	blue oak	native	Yes	No	1	15.0	NR	2 - Fair to Poor	NR	Ephemeral Channel	EPC
314516	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314519	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314519	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314519	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314521	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314521	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314521	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314523	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.0	NR	0 - Dead	NR	Oak Forest	EPC
314523	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.0	NR	0 - Dead	NR	Oak Forest	EPC
314523	*Quercus douglasii*	blue oak	native	Yes	Yes	1	32.0	NR	0 - Dead	NR	Ephemeral Channel	EPC
314525	*Quercus douglasii*	blue oak	native	Yes	Yes	1	18.0	NR	2 - Fair to Poor	NR	Ephemeral Channel	EPC
314525	*Quercus douglasii*	blue oak	native	Yes	Yes	1	18.0	NR	2 - Fair to Poor	NR	Ephemeral Channel	EPC
314525	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314526	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314526	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314526	*Quercus douglasii*	blue oak	native	Yes	No	1	6.0	NR	2 - Fair to Poor	NR	Ephemeral Channel	EPC
314528	*Quercus douglasii*	blue oak	native	Yes	No	1	8.0	NR	2 - Fair to Poor	NR	Ephemeral Channel	EPC
314528	*Quercus douglasii*	blue oak	native	Yes	No	1	8.0	NR	2 - Fair to Poor	NR	Ephemeral Channel	EPC
314528	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314529	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314529	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314529	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314534	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	0 - Dead	NR	Oak Forest	EPC
314534	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	0 - Dead	NR	Oak Forest	EPC
314534	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	0 - Dead	NR	Oak Forest	EPC
314535	*Quercus douglasii*	blue oak	native	Yes	Yes	0	34.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314535	*Quercus douglasii*	blue oak	native	Yes	Yes	0	34.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314535	*Quercus douglasii*	blue oak	native	Yes	Yes	0	34.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314536	*Quercus douglasii*	blue oak	native	Yes	Yes	0	36.0	NR	0 - Dead	NR	Oak Forest	EPC
314536	*Quercus douglasii*	blue oak	native	Yes	Yes	0	36.0	NR	0 - Dead	NR	Oak Forest	EPC
314536	*Quercus douglasii*	blue oak	native	Yes	Yes	0	36.0	NR	0 - Dead	NR	Oak Forest	EPC
314538	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314538	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314538	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314541	*Quercus douglasii*	blue oak	native	Yes	Yes	0	37.0	NR	0 - Dead	NR	Oak Forest	EPC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
314541	*Quercus douglasii*	blue oak	native	Yes	Yes	0	37.0	NR	0 - Dead	NR	Oak Forest	EPC
314541	*Quercus douglasii*	blue oak	native	Yes	Yes	0	37.0	NR	0 - Dead	NR	Oak Forest	EPC
314542	*Quercus douglasii*	blue oak	native	Yes	Yes	0	34.0	NR	3 - Fair	NR	Oak Forest	EPC
314542	*Quercus douglasii*	blue oak	native	Yes	Yes	0	34.0	NR	3 - Fair	NR	Oak Forest	EPC
314542	*Quercus douglasii*	blue oak	native	Yes	Yes	0	34.0	NR	3 - Fair	NR	Oak Forest	EPC
314545	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	0 - Dead	NR	Oak Forest	EPC
314545	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	0 - Dead	NR	Oak Forest	EPC
314545	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	0 - Dead	NR	Oak Forest	EPC
314549	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314549	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314549	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314553	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314553	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314553	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314555	*Quercus douglasii*	blue oak	native	Yes	No	0	11.5	NR	0 - Dead	NR	Oak Woodland	EPC
314556	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314556	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314556	*Quercus douglasii*	blue oak	native	Yes	No	1	10.0	NR	2 - Fair to Poor	NR	Riparian Forests	EPC
314557	*Quercus douglasii*	blue oak	native	Yes	Yes	1	30.0	NR	0 - Dead	NR	Riparian Forests	EPC
314557	*Quercus douglasii*	blue oak	native	Yes	Yes	1	30.0	NR	0 - Dead	NR	Riparian Forests	EPC
314557	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	NR	0 - Dead	NR	Oak Forest	EPC
314559	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	0 - Dead	NR	Oak Woodland	EPC
314559	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	0 - Dead	NR	Oak Woodland	EPC
314559	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	0 - Dead	NR	Oak Woodland	EPC
314561	*Quercus douglasii*	blue oak	native	Yes	Yes	0	33.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314562	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	NR	0 - Dead	NR	Oak Forest	EPC
314562	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	NR	0 - Dead	NR	Oak Woodland	EPC
314562	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	NR	0 - Dead	NR	Oak Woodland	EPC
314564	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	NR	Oak Woodland	EPC
314565	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	0 - Dead	NR	Oak Woodland	EPC
314566	*Quercus douglasii*	blue oak	native	No	No	0	4.5	NR	3 - Fair	NR	Oak Woodland	EPC
314566	*Quercus douglasii*	blue oak	native	No	No	0	4.5	NR	3 - Fair	NR	Oak Woodland	EPC
314566	*Quercus douglasii*	blue oak	native	No	No	0	4.5	NR	3 - Fair	NR	Oak Woodland	EPC
314567	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314567	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314567	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314568	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314571	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	3 - Fair	NR	Oak Forest	EPC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
314573	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	2 - Fair to Poor	NR	Valley and Foothill Grassland	EPC
314576	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.0	NR	0 - Dead	NR	Oak Woodland	EPC
314577	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	Unknown	NR	Oak Woodland	EPC
314578	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	3 - Fair	NR	Oak Forest	EPC
314581	*Quercus douglasii*	blue oak	native	No	No	0	3.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314582	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	1 - Poor	NR	Oak Woodland	EPC
314583	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	0 - Dead	NR	Oak Woodland	EPC
314584	*Quercus douglasii*	blue oak	native	No	No	0	4.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314585	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	0 - Dead	NR	Oak Woodland	EPC
314587	*Quercus douglasii*	blue oak	native	No	No	0	3.5	NR	3 - Fair	NR	Oak Woodland	EPC
314591	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	NR	Oak Woodland	EPC
314591	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	NR	Oak Woodland	EPC
314591	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	NR	Oak Forest	EPC
314592	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	3 - Fair	NR	Oak Forest	EPC
314592	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	3 - Fair	NR	Oak Woodland	EPC
314592	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	3 - Fair	NR	Oak Woodland	EPC
314593	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	3 - Fair	NR	Oak Woodland	EPC
314594	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	0 - Dead	NR	Oak Woodland	EPC
314595	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	3 - Fair	NR	Valley and Foothill Grassland	EPC
314595	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	3 - Fair	NR	Valley and Foothill Grassland	EPC
314595	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	3 - Fair	NR	Valley and Foothill Grassland	EPC
314596	*Quercus douglasii*	blue oak	native	No	No	0	4.0	NR	3 - Fair	NR	Oak Woodland	EPC
314599	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314611	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314612	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	0 - Dead	NR	Oak Forest	EPC
314613	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	0 - Dead	NR	Valley and Foothill Grassland	EPC
314614	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	1 - Poor	NR	Oak Forest	EPC
314615	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	1 - Poor	NR	Oak Forest	EPC
314616	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	1 - Poor	NR	Oak Woodland	EPC
314617	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.0	NR	0 - Dead	NR	Oak Forest	EPC
314619	*Quercus douglasii*	blue oak	native	Yes	Yes	0	34.0	NR	3 - Fair	NR	Oak Forest	EPC
314621	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	NR	0 - Dead	NR	Oak Forest	EPC
314622	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	NR	1 - Poor	NR	Oak Forest	EPC
314624	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	1 - Poor	NR	Oak Forest	EPC
314625	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	NR	1 - Poor	NR	Oak Forest	EPC
314626	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314629	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314631	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
314634	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	1 - Poor	NR	Valley and Foothill Grassland	EPC
314635	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	NR	Oak Forest	EPC
314639	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314642	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314646	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	NR	Oak Forest	EPC
314647	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	3 - Fair	NR	Oak Forest	EPC
314648	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	NR	Oak Forest	EPC
314651	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314652	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	NR	0 - Dead	NR	Oak Woodland	EPC
314654	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	NR	Oak Forest	EPC
314656	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	0 - Dead	NR	Oak Forest	EPC
314657	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	NR	Oak Forest	EPC
314657	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	NR	Oak Forest	EPC
314658	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314663	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	0 - Dead	NR	Oak Forest	EPC
314664	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	4 - Good	NR	Oak Forest	EPC
314665	*Quercus douglasii*	blue oak	native	Yes	Yes	0	36.0	NR	0 - Dead	NR	Oak Forest	EPC
314668	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	0 - Dead	NR	Oak Forest	EPC
314669	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	1 - Poor	NR	Oak Forest	EPC
314671	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	NR	Oak Forest	EPC
314674	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	0 - Dead	NR	Oak Forest	EPC
314676	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314679	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314681	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	NR	Oak Forest	EPC
314682	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	0 - Dead	NR	Oak Forest	EPC
314683	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	3 - Fair	NR	Oak Forest	EPC
314684	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	0 - Dead	NR	Oak Forest	EPC
314685	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	NR	Oak Forest	EPC
314686	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	0 - Dead	NR	Oak Forest	EPC
314687	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	1 - Poor	NR	Oak Forest	EPC
314688	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	NR	Oak Forest	EPC
314689	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	NR	Oak Forest	EPC
314691	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314692	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314693	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314694	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	0 - Dead	NR	Oak Forest	EPC
314695	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	0 - Dead	NR	Oak Forest	EPC
314697	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	NR	3 - Fair	NR	Oak Forest	EPC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
314711	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	1 - Poor	NR	Oak Forest	EPC
314713	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	0 - Dead	NR	Oak Forest	EPC
314714	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	NR	Oak Forest	EPC
314717	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	NR	4 - Good	NR	Oak Forest	EPC
314721	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	0 - Dead	NR	Oak Forest	EPC
314722	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	1 - Poor	NR	Oak Forest	EPC
314724	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	1 - Poor	NR	Oak Forest	EPC
314727	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	0 - Dead	NR	Oak Woodland	EPC
314732	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	NR	Oak Forest	EPC
314733	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.0	NR	2 - Fair to Poor	NR	Valley and Foothill Grassland	EPC
314734	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	1 - Poor	NR	Oak Forest	EPC
314738	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	NR	4 - Good	NR	Oak Forest	EPC
314739	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314741	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	0 - Dead	NR	Oak Forest	EPC
314742	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314743	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	2 - Fair to Poor	NR	Valley and Foothill Grassland	EPC
314746	*Quercus douglasii*	blue oak	native	Yes	Yes	0	33.0	NR	3 - Fair	NR	Oak Forest	EPC
314747	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	3 - Fair	NR	Oak Forest	EPC
314748	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	0 - Dead	NR	Valley and Foothill Grassland	EPC
314752	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314754	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	NR	Oak Forest	EPC
314755	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314756	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314757	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	NR	Oak Forest	EPC
314759	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	0 - Dead	NR	Oak Forest	EPC
314761	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	NR	Oak Forest	EPC
314762	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.0	NR	3 - Fair	NR	Oak Forest	EPC
314763	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314764	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	NR	Oak Forest	EPC
314765	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	NR	3 - Fair	NR	Oak Forest	EPC
314769	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	4 - Good	NR	Oak Forest	EPC
314771	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	NR	3 - Fair	NR	Oak Forest	EPC
314772	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	NR	Oak Forest	EPC
314773	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	NR	Oak Forest	EPC
314777	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	0 - Dead	NR	Oak Forest	EPC
314778	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314781	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	4 - Good	NR	Oak Forest	EPC
314782	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	NR	Oak Forest	EPC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
314784	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	0 - Dead	NR	Oak Forest	EPC
314785	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	0 - Dead	NR	Oak Forest	EPC
314787	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	4 - Good	NR	Oak Forest	EPC
314789	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	1 - Poor	NR	Oak Woodland	EPC
314791	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	NR	Oak Forest	EPC
314793	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	NR	Oak Forest	EPC
314795	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	NR	Valley and Foothill Grassland	EPC
314796	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314797	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	0 - Dead	NR	Valley and Foothill Grassland	EPC
314798	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314799	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.0	NR	1 - Poor	NR	Oak Forest	EPC
314811	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	3 - Fair	NR	Oak Forest	EPC
314813	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	NR	1 - Poor	NR	Oak Forest	EPC
314814	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	NR	Oak Forest	EPC
314815	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	NR	Oak Forest	EPC
314816	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	4 - Good	NR	Oak Forest	EPC
314817	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	NR	Oak Forest	EPC
314818	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	NR	Oak Forest	EPC
314819	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	NR	3 - Fair	NR	Oak Forest	EPC
314821	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314822	*Quercus douglasii*	blue oak	native	Yes	Yes	0	34.0	NR	0 - Dead	NR	Oak Forest	EPC
314823	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314824	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314825	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	0 - Dead	NR	Oak Forest	EPC
314826	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	NR	Oak Forest	EPC
314827	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	4 - Good	NR	Oak Forest	EPC
314828	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	0 - Dead	NR	Oak Forest	EPC
314829	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	NR	3 - Fair	NR	Oak Forest	EPC
314831	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	1 - Poor	NR	Oak Forest	EPC
314832	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	1 - Poor	NR	Oak Forest	EPC
314833	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	NR	0 - Dead	NR	Oak Forest	EPC
314834	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	0 - Dead	NR	Oak Forest	EPC
314836	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	1 - Poor	NR	Oak Forest	EPC
314837	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	0 - Dead	NR	Oak Forest	EPC
314838	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314841	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	0 - Dead	NR	Oak Forest	EPC
314842	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314843	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	NR	Oak Forest	EPC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
314844	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314845	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	NR	Oak Forest	EPC
314849	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	0 - Dead	NR	Oak Forest	EPC
314852	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	NR	Oak Forest	EPC
314853	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314864	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314865	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314867	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	NR	Oak Forest	EPC
314869	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	4 - Good	NR	Oak Forest	EPC
314871	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	NR	Oak Forest	EPC
314872	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	NR	Oak Forest	EPC
314873	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	4 - Good	NR	Oak Forest	EPC
314875	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	0 - Dead	NR	Oak Forest	EPC
314878	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.0	NR	4 - Good	NR	Oak Forest	EPC
314882	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	4 - Good	NR	Oak Forest	EPC
314883	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	0 - Dead	NR	Oak Forest	EPC
314884	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	NR	3 - Fair	NR	Oak Forest	EPC
314885	*Quercus douglasii*	blue oak	native	Yes	Yes	0	40.0	NR	0 - Dead	NR	Oak Forest	EPC
314886	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	3 - Fair	NR	Oak Forest	EPC
314887	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314888	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	3 - Fair	NR	Oak Forest	EPC
314889	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	NR	Oak Forest	EPC
314891	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314892	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	4 - Good	NR	Oak Forest	EPC
314893	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314895	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	1 - Poor	NR	Oak Forest	EPC
314896	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314897	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	NR	Oak Forest	EPC
314898	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	4 - Good	NR	Oak Forest	EPC
314911	*Quercus douglasii*	blue oak	native	Yes	Yes	0	34.0	NR	0 - Dead	NR	Oak Forest	EPC
314912	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	1 - Poor	NR	Oak Forest	EPC
314913	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	NR	3 - Fair	NR	Oak Forest	EPC
314914	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314915	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314917	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	NR	Oak Forest	EPC
314918	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314919	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	NR	Oak Forest	EPC
314922	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
314923	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	0 - Dead	NR	Oak Forest	EPC
314924	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314925	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	3 - Fair	NR	Oak Forest	EPC
314926	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	0 - Dead	NR	Oak Forest	EPC
314927	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	1 - Poor	NR	Oak Forest	EPC
314929	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	NR	3 - Fair	NR	Oak Forest	EPC
314931	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	3 - Fair	NR	Oak Forest	EPC
314934	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	NR	Oak Forest	EPC
314937	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	4 - Good	NR	Oak Forest	EPC
314938	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	NR	Oak Forest	EPC
314939	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314941	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	NR	Oak Forest	EPC
314942	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	NR	Oak Forest	EPC
314943	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	4 - Good	NR	Oak Forest	EPC
314944	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	NR	Oak Forest	EPC
314945	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314946	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314947	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314948	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	NR	Oak Forest	EPC
314949	*Quercus douglasii*	blue oak	native	Yes	Yes	0	39.0	NR	4 - Good	NR	Oak Forest	EPC
314951	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	3 - Fair	NR	Oak Forest	EPC
314952	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	NR	3 - Fair	NR	Oak Forest	EPC
314953	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	NR	Oak Forest	EPC
314954	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	3 - Fair	NR	Oak Forest	EPC
314955	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	NR	Oak Forest	EPC
314956	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	NR	Oak Forest	EPC
314957	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	NR	Oak Forest	EPC
314958	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	NR	Oak Forest	EPC
314959	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	NR	Oak Forest	EPC
314962	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	3 - Fair	NR	Oak Forest	EPC
314963	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	0 - Dead	NR	Oak Forest	EPC
314966	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	0 - Dead	NR	Oak Forest	EPC
314969	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	0 - Dead	NR	Oak Forest	EPC
314974	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	NR	Oak Forest	EPC
314976	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	NR	Oak Forest	EPC
314977	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	NR	0 - Dead	NR	Oak Forest	EPC
314981	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	NR	Oak Forest	EPC
314982	*Quercus douglasii*	blue oak	native	No	No	0	4.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
314985	*Quercus douglasii*	blue oak	native	Yes	Yes	0	36.0	NR	0 - Dead	NR	Oak Woodland	EPC
314988	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	2 - Fair to Poor	NR	Valley and Foothill Grassland	EPC
314989	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	0 - Dead	NR	Oak Forest	EPC
314991	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	0 - Dead	NR	Oak Woodland	EPC
314992	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	1 - Poor	NR	Oak Forest	EPC
314994	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	3 - Fair	NR	Oak Forest	EPC
317112	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	1 - Poor	NR	Oak Forest	EPC
317114	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317116	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317117	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	0 - Dead	NR	Oak Forest	EPC
317118	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	1 - Poor	NR	Oak Forest	EPC
317119	*Quercus douglasii*	blue oak	native	No	No	0	3.5	NR	3 - Fair	NR	Oak Forest	EPC
317122	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	0 - Dead	NR	Oak Forest	EPC
317123	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	NR	4 - Good	NR	Oak Forest	EPC
317124	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	4 - Good	NR	Oak Forest	EPC
317125	*Quercus douglasii*	blue oak	native	Yes	Yes	0	34.0	NR	1 - Poor	NR	Valley and Foothill Grassland	EPC
317126	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317127	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317128	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317129	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.0	NR	0 - Dead	NR	Oak Forest	EPC
317131	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	NR	Oak Forest	EPC
317132	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	4 - Good	NR	Oak Forest	EPC
317134	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317136	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	1 - Poor	NR	Oak Forest	EPC
317137	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317138	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	NR	Oak Forest	EPC
317139	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317142	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317143	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	NR	3 - Fair	NR	Oak Forest	EPC
317144	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	NR	3 - Fair	NR	Oak Forest	EPC
317145	*Quercus douglasii*	blue oak	native	Yes	No	1	11.0	NR	3 - Fair	NR	Ephemeral Channel	EPC
317146	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	4 - Good	NR	Oak Forest	EPC
317147	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	NR	Oak Forest	EPC
317148	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	NR	Oak Forest	EPC
317149	*Quercus douglasii*	blue oak	native	No	No	0	3.0	NR	1 - Poor	NR	Oak Forest	EPC
317151	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	0 - Dead	NR	Oak Forest	EPC
317156	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	0 - Dead	NR	Oak Forest	EPC
317157	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
317158	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	NR	Oak Forest	EPC
317161	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	NR	Oak Forest	EPC
317162	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	0 - Dead	NR	Oak Forest	EPC
317163	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317164	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317165	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	NR	Oak Forest	EPC
317166	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	1 - Poor	NR	Oak Forest	EPC
317167	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317168	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317169	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	1 - Poor	NR	Oak Forest	EPC
317171	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	NR	Oak Forest	EPC
317173	*Quercus douglasii*	blue oak	native	No	No	0	4.5	NR	1 - Poor	NR	Oak Forest	EPC
317174	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	1 - Poor	NR	Oak Forest	EPC
317175	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317176	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	NR	Oak Forest	EPC
317177	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	1 - Poor	NR	Oak Forest	EPC
317178	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	NR	Oak Forest	EPC
317179	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317181	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	NR	Oak Forest	EPC
317182	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	NR	4 - Good	NR	Oak Forest	EPC
317183	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	NR	Oak Forest	EPC
317185	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
317186	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	0 - Dead	NR	Oak Woodland	EPC
317187	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	0 - Dead	NR	Oak Forest	EPC
317188	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	NR	Oak Forest	EPC
317191	*Quercus douglasii*	blue oak	native	No	No	0	4.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317192	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317193	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317196	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	4 - Good	NR	Oak Forest	EPC
317197	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317198	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	0 - Dead	NR	Oak Forest	EPC
317212	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	NR	0 - Dead	NR	Oak Forest	EPC
317214	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	0 - Dead	NR	Valley and Foothill Grassland	EPC
317216	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	NR	Oak Forest	EPC
317218	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	NR	0 - Dead	NR	Oak Forest	EPC
317221	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
317224	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
317225	*Quercus douglasii*	blue oak	native	Yes	No	1	14.0	NR	3 - Fair	NR	Riparian Forests	EPC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
317229	*Quercus douglasii*	blue oak	native	Yes	Yes	0	46.0	NR	0 - Dead	NR	Oak Forest	EPC
317238	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	3 - Fair	NR	Oak Forest	EPC
317239	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	4 - Good	NR	Oak Forest	EPC
317241	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317242	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	NR	Oak Forest	EPC
317243	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	0 - Dead	NR	Oak Forest	EPC
317244	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317245	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	4 - Good	NR	Oak Forest	EPC
317246	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317247	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	NR	Oak Forest	EPC
317248	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	3 - Fair	NR	Oak Forest	EPC
317249	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	4 - Good	NR	Oak Forest	EPC
317251	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	NR	Oak Forest	EPC
317252	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	4 - Good	NR	Oak Forest	EPC
317253	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317254	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	1 - Poor	NR	Oak Forest	EPC
317255	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317256	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317257	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317258	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317259	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	NR	Oak Forest	EPC
317261	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317262	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317263	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	0 - Dead	NR	Oak Forest	EPC
317265	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317266	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	NR	Oak Forest	EPC
317267	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317268	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317269	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	3 - Fair	NR	Oak Forest	EPC
317271	*Quercus douglasii*	blue oak	native	Yes	Yes	0	42.0	NR	3 - Fair	NR	Oak Forest	EPC
317272	*Quercus douglasii*	blue oak	native	Yes	Yes	0	41.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317273	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	NR	Oak Forest	EPC
317274	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	NR	Oak Forest	EPC
317275	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	4 - Good	NR	Oak Forest	EPC
317276	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	0 - Dead	NR	Oak Forest	EPC
317277	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	NR	Oak Forest	EPC
317278	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	NR	Oak Forest	EPC
317279	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	3 - Fair	NR	Oak Forest	EPC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
317281	*Quercus douglasii*	blue oak	native	Yes	No	0	15.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317282	*Quercus douglasii*	blue oak	native	No	No	0	4.0	NR	0 - Dead	NR	Oak Forest	EPC
317283	*Quercus douglasii*	blue oak	native	Yes	No	0	14.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317285	*Quercus douglasii*	blue oak	native	Yes	No	0	7.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317287	*Quercus douglasii*	blue oak	native	No	No	0	4.5	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
317288	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317289	*Quercus douglasii*	blue oak	native	Yes	No	0	6.5	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
317292	*Quercus douglasii*	blue oak	native	Yes	No	0	17.3	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317293	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317294	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	4 - Good	NR	Oak Woodland	EPC
317296	*Quercus douglasii*	blue oak	native	Yes	No	0	6.5	NR	3 - Fair	NR	Oak Woodland	EPC
317297	*Quercus douglasii*	blue oak	native	No	No	0	5.8	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317298	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	3 - Fair	NR	Oak Forest	EPC
317299	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	4 - Good	NR	Oak Forest	EPC
317311	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	NR	Oak Forest	EPC
317312	*Quercus douglasii*	blue oak	native	Yes	No	0	13.3	NR	4 - Good	NR	Oak Forest	EPC
317313	*Quercus douglasii*	blue oak	native	No	No	0	4.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317314	*Quercus douglasii*	blue oak	native	Yes	No	0	10.5	NR	3 - Fair	NR	Oak Forest	EPC
317315	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
317316	*Quercus douglasii*	blue oak	native	No	No	0	5.5	NR	0 - Dead	NR	Valley and Foothill Grassland	EPC
317317	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317318	*Quercus douglasii*	blue oak	native	Yes	No	0	10.5	NR	0 - Dead	NR	Oak Forest	EPC
317319	*Quercus douglasii*	blue oak	native	No	No	0	3.5	NR	3 - Fair	NR	Oak Forest	EPC
317324	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317325	*Quercus douglasii*	blue oak	native	Yes	No	1	8.0	NR	3 - Fair	NR	Riparian Forests	EPC
317327	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	2 - Fair to Poor	NR	Valley and Foothill Grassland	EPC
317329	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	NR	Oak Woodland	EPC
317331	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317334	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	4 - Good	NR	Oak Forest	EPC
317336	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	1 - Poor	NR	Oak Forest	EPC
317337	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	0 - Dead	NR	Oak Forest	EPC
317338	*Quercus douglasii*	blue oak	native	No	No	0	5.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317339	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317341	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	1 - Poor	NR	Oak Forest	EPC
317342	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317344	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317345	*Quercus douglasii*	blue oak	native	Yes	No	0	7.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317346	*Quercus douglasii*	blue oak	native	No	No	0	5.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
317347	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	0 - Dead	NR	Oak Forest	EPC
317349	*Quercus douglasii*	blue oak	native	No	No	0	3.0	NR	4 - Good	NR	Oak Forest	EPC
317354	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317355	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317356	*Quercus douglasii*	blue oak	native	No	No	0	5.5	NR	1 - Poor	NR	Oak Forest	EPC
317357	*Quercus douglasii*	blue oak	native	No	No	0	4.5	NR	1 - Poor	NR	Oak Forest	EPC
317358	*Quercus douglasii*	blue oak	native	Yes	No	0	16.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317359	*Quercus douglasii*	blue oak	native	No	No	0	3.0	NR	4 - Good	NR	Oak Forest	EPC
317361	*Quercus douglasii*	blue oak	native	Yes	No	0	7.7	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317362	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	0 - Dead	NR	Oak Forest	EPC
317363	*Quercus douglasii*	blue oak	native	Yes	No	0	11.5	NR	1 - Poor	NR	Oak Forest	EPC
317364	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317365	*Quercus douglasii*	blue oak	native	No	No	0	3.7	NR	1 - Poor	NR	Oak Forest	EPC
317366	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	NR	Oak Forest	EPC
317367	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317368	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317369	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317371	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	NR	Oak Forest	EPC
317372	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317373	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	2 - Fair to Poor	NR	Valley and Foothill Grassland	EPC
317374	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317375	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317376	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	NR	Oak Forest	EPC
317377	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317378	*Quercus douglasii*	blue oak	native	Yes	No	0	14.5	NR	1 - Poor	NR	Oak Forest	EPC
317379	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	NR	Oak Forest	EPC
317381	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	NR	Oak Forest	EPC
317382	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	NR	Oak Forest	EPC
317383	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317384	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317385	*Quercus douglasii*	blue oak	native	Yes	No	0	13.5	NR	3 - Fair	NR	Oak Forest	EPC
317386	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317387	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317388	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317389	*Quercus douglasii*	blue oak	native	Yes	No	0	15.5	NR	1 - Poor	NR	Oak Forest	EPC
317391	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	1 - Poor	NR	Oak Forest	EPC
317392	*Quercus douglasii*	blue oak	native	Yes	No	0	8.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317393	*Quercus douglasii*	blue oak	native	Yes	No	0	7.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
317394	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	1 - Poor	NR	Oak Forest	EPC
317395	*Quercus douglasii*	blue oak	native	Yes	No	0	7.7	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317396	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317396	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	2 - Fair to Poor	NR	Valley and Foothill Grassland	EPC
317397	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	1 - Poor	NR	Oak Forest	EPC
317398	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	NR	Oak Forest	EPC
317399	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317443	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	4 - Good	NR	Oak Forest	EPC
317446	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	4 - Good	NR	Oak Forest	EPC
317449	*Quercus douglasii*	blue oak	native	No	No	0	3.0	NR	4 - Good	NR	Oak Forest	EPC
317451	*Quercus douglasii*	blue oak	native	No	No	0	4.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317453	*Quercus douglasii*	blue oak	native	No	No	0	3.0	NR	4 - Good	NR	Oak Forest	EPC
317462	*Quercus douglasii*	blue oak	native	No	No	0	4.0	NR	4 - Good	NR	Oak Forest	EPC
317466	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	4 - Good	NR	Oak Forest	EPC
317476	*Quercus douglasii*	blue oak	native	No	No	0	3.0	NR	4 - Good	NR	Oak Forest	EPC
317479	*Quercus douglasii*	blue oak	native	No	No	0	3.0	NR	4 - Good	NR	Oak Forest	EPC
317481	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317482	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	2 - Fair to Poor	NR	Valley and Foothill Grassland	EPC
317483	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317485	*Quercus douglasii*	blue oak	native	No	No	0	3.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317486	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	NR	Oak Forest	EPC
317487	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317488	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	NR	Oak Forest	EPC
317489	*Quercus douglasii*	blue oak	native	No	No	0	4.5	NR	4 - Good	NR	Oak Forest	EPC
317491	*Quercus douglasii*	blue oak	native	No	No	0	4.0	NR	0 - Dead	NR	Oak Forest	EPC
317492	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	NR	Oak Forest	EPC
317494	*Quercus douglasii*	blue oak	native	Yes	No	0	8.5	NR	3 - Fair	NR	Oak Forest	EPC
317495	*Quercus douglasii*	blue oak	native	Yes	No	0	6.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317496	*Quercus douglasii*	blue oak	native	Yes	No	0	7.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317497	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	NR	Oak Forest	EPC
317498	*Quercus douglasii*	blue oak	native	No	No	0	4.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317499	*Quercus douglasii*	blue oak	native	No	No	0	5.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317511	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	NR	Oak Forest	EPC
317512	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317513	*Quercus douglasii*	blue oak	native	No	No	0	5.5	NR	1 - Poor	NR	Oak Forest	EPC
317514	*Quercus douglasii*	blue oak	native	No	No	0	3.0	NR	4 - Good	NR	Oak Forest	EPC
317515	*Quercus douglasii*	blue oak	native	No	No	0	3.5	NR	1 - Poor	NR	Oak Forest	EPC
317516	*Quercus douglasii*	blue oak	native	No	No	0	3.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
317517	*Quercus douglasii*	blue oak	native	No	No	0	4.0	NR	3 - Fair	NR	Oak Forest	EPC
317519	*Quercus douglasii*	blue oak	native	Yes	No	0	6.5	NR	1 - Poor	NR	Oak Forest	EPC
317521	*Quercus douglasii*	blue oak	native	Yes	No	0	12.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317522	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317523	*Quercus douglasii*	blue oak	native	Yes	No	0	14.5	NR	3 - Fair	NR	Oak Forest	EPC
317524	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317525	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	NR	Oak Forest	EPC
317526	*Quercus douglasii*	blue oak	native	Yes	No	0	10.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317527	*Quercus douglasii*	blue oak	native	Yes	No	0	7.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317528	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	1 - Poor	NR	Oak Forest	EPC
317529	*Quercus douglasii*	blue oak	native	Yes	No	0	11.5	NR	0 - Dead	NR	Oak Forest	EPC
317531	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317532	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317533	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	1 - Poor	NR	Oak Forest	EPC
317534	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	NR	Valley and Foothill Grassland	EPC
317535	*Quercus douglasii*	blue oak	native	Yes	No	0	8.5	NR	1 - Poor	NR	Oak Forest	EPC
317536	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	1 - Poor	NR	Oak Forest	EPC
317537	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317538	*Quercus douglasii*	blue oak	native	No	No	0	3.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317539	*Quercus douglasii*	blue oak	native	Yes	No	0	10.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317541	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317543	*Quercus douglasii*	blue oak	native	No	No	0	5.5	NR	3 - Fair	NR	Oak Forest	EPC
317544	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	1 - Poor	NR	Oak Forest	EPC
317545	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317546	*Quercus douglasii*	blue oak	native	No	No	0	5.5	NR	0 - Dead	NR	Oak Forest	EPC
317547	*Quercus douglasii*	blue oak	native	No	No	0	5.5	NR	0 - Dead	NR	Oak Forest	EPC
317548	*Quercus douglasii*	blue oak	native	No	No	0	3.0	NR	1 - Poor	NR	Oak Forest	EPC
317549	*Quercus douglasii*	blue oak	native	Yes	No	0	10.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317552	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317553	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317554	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	NR	Oak Forest	EPC
317555	*Quercus douglasii*	blue oak	native	Yes	No	0	6.5	NR	1 - Poor	NR	Oak Forest	EPC
317556	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317557	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317558	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317559	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317561	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317562	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
317563	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	1 - Poor	NR	Oak Forest	EPC
317565	*Quercus douglasii*	blue oak	native	Yes	No	0	13.5	NR	1 - Poor	NR	Oak Forest	EPC
317566	*Quercus douglasii*	blue oak	native	No	No	0	3.5	NR	0 - Dead	NR	Oak Forest	EPC
317567	*Quercus douglasii*	blue oak	native	No	No	0	4.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317568	*Quercus douglasii*	blue oak	native	Yes	No	0	9.5	NR	3 - Fair	NR	Oak Forest	EPC
317569	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	1 - Poor	NR	Oak Forest	EPC
317571	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	1 - Poor	NR	Oak Forest	EPC
317572	*Quercus douglasii*	blue oak	native	Yes	No	0	7.5	NR	1 - Poor	NR	Valley and Foothill Grassland	EPC
317573	*Quercus douglasii*	blue oak	native	No	No	0	3.0	NR	0 - Dead	NR	Oak Forest	EPC
317574	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317575	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	1 - Poor	NR	Oak Forest	EPC
317577	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317578	*Quercus douglasii*	blue oak	native	Yes	No	0	13.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317581	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	1 - Poor	NR	Oak Forest	EPC
317582	*Quercus douglasii*	blue oak	native	No	No	0	4.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317583	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	1 - Poor	NR	Oak Forest	EPC
317584	*Quercus douglasii*	blue oak	native	Yes	No	0	6.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317585	*Quercus douglasii*	blue oak	native	No	No	0	4.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317586	*Quercus douglasii*	blue oak	native	Yes	No	0	12.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317587	*Quercus douglasii*	blue oak	native	No	No	0	3.0	NR	1 - Poor	NR	Oak Forest	EPC
317588	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	NR	Oak Forest	EPC
317589	*Quercus douglasii*	blue oak	native	No	No	0	4.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317591	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	NR	Oak Forest	EPC
317592	*Quercus douglasii*	blue oak	native	Yes	No	0	7.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317593	*Quercus douglasii*	blue oak	native	Yes	No	0	7.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317594	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	0 - Dead	NR	Oak Forest	EPC
317595	*Quercus douglasii*	blue oak	native	No	No	0	4.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317597	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317598	*Quercus douglasii*	blue oak	native	Yes	No	0	8.5	NR	3 - Fair	NR	Oak Forest	EPC
317599	*Quercus douglasii*	blue oak	native	Yes	No	0	7.7	NR	3 - Fair	NR	Oak Woodland	EPC
111NT	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	4 - Good	2	Oak Forest	Dudek
11NT7	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	4 - Good	3	Oak Forest	Dudek
11NT8	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	0 - Dead	1	Oak Forest	Dudek
11NT9	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	4 - Good	3	Oak Forest	Dudek
124NT	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	2	Oak Forest	Dudek
125NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	4 - Good	1	Oak Forest	Dudek
127NT	*Quercus douglasii*	blue oak	native	No	No	0	4.0	NR	3 - Fair	1	Oak Forest	Dudek
128NT	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	3	Oak Forest	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
129NT	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	2	Oak Forest	Dudek
12NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	42.0	NR	3 - Fair	3	Oak Forest	Dudek
131NT	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	3	Oak Forest	Dudek
132NT	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	2	Oak Forest	Dudek
133NT	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	3	Oak Forest	Dudek
134NT	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	0 - Dead	1	Oak Forest	Dudek
135NT	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	4 - Good	3	Oak Forest	Dudek
1365NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	28	3 - Fair	NR	Oak Forest	CalTLC
1366NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	15	3 - Fair	NR	Oak Forest	CalTLC
1367NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	25	3 - Fair	NR	Oak Forest	CalTLC
136NT	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	1 - Poor	3	Oak Forest	Dudek
136NT4	*Quercus douglasii*	blue oak	native	Yes	Yes	0	35.0	32	3 - Fair	NR	Oak Woodland	CalTLC
137NT	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	3	Oak Forest	Dudek
138NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	4 - Good	1	Oak Forest	Dudek
139NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	NR	4 - Good	2	Oak Forest	Dudek
13NT	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	1 - Poor	2	Oak Forest	Dudek
13NT1	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	2	Oak Forest	Dudek
13NT2	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	4 - Good	3	Oak Forest	Dudek
13NT3	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	1	Oak Forest	Dudek
13NT4	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	3	Oak Forest	Dudek
13NT5	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	3 - Fair	2	Oak Forest	Dudek
13NT6	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	1	Valley and Foothill Grassland	Dudek
13NT7	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	2	Oak Forest	Dudek
13NT8	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	4 - Good	3	Oak Forest	Dudek
13NT9	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	4 - Good	2	Oak Forest	Dudek
13NTNT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	1 - Poor	2	Oak Forest	Dudek
141NT	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	4 - Good	3	Oak Forest	Dudek
142NT	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	1	Oak Forest	Dudek
143NT	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	2	Oak Forest	Dudek
144NT	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	0 - Dead	1	Oak Forest	Dudek
145NT	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	4 - Good	2	Oak Forest	Dudek
146NT	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	3	Oak Forest	Dudek
147NT	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	3	Oak Forest	Dudek
148NT	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	2	Oak Forest	Dudek
149NT	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	4 - Good	1	Oak Woodland	Dudek
14NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	1 - Poor	2	Oak Forest	Dudek
14NT1	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	3 - Fair	2	Oak Forest	Dudek
14NT2	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	4 - Good	2	Oak Forest	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
14NT3	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	2	Oak Forest	Dudek
14NT4	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	4 - Good	2	Oak Forest	Dudek
14NT5	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	4 - Good	3	Oak Forest	Dudek
14NT6	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	0 - Dead	1	Oak Forest	Dudek
14NT7	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	2	Oak Woodland	Dudek
14NT8	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	4 - Good	3	Oak Forest	Dudek
14NT9	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	0 - Dead	1	Oak Forest	Dudek
14NTNT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	4 - Good	2	Oak Forest	Dudek
151NT	*Quercus douglasii*	blue oak	native	Yes	No	1	9.0	NR	3 - Fair	3	Perennial Channel	Dudek
152NT	*Quercus douglasii*	blue oak	native	Yes	No	1	12.0	NR	3 - Fair	2	Perennial Channel	Dudek
153NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	4 - Good	3	Oak Forest	Dudek
153NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.0	17	3 - Fair	NR	Oak Woodland	CalTLC
154NT	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	1 - Poor	2	Oak Forest	Dudek
154NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	9	2 - Fair to Poor	NR	Oak Woodland	CalTLC
156NT	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	3	Oak Forest	Dudek
157NT	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	2	Oak Forest	Dudek
157NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	42.0	35	1 - Poor	NR	Oak Woodland	CalTLC
158NT	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	2	Oak Forest	Dudek
158NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.5	15	3 - Fair	NR	Oak Woodland	CalTLC
159NT	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	5	2 - Fair to Poor	NR	Oak Woodland	CalTLC
159NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	4 - Good	1	Oak Woodland	Dudek
15NT	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	3	Oak Forest	Dudek
15NT1	*Quercus douglasii*	blue oak	native	Yes	No	1	13.0	NR	4 - Good	2	Perennial Channel	Dudek
15NT2	*Quercus douglasii*	blue oak	native	Yes	Yes	1	24.0	NR	4 - Good	2	Perennial Channel	Dudek
15NT3	*Quercus douglasii*	blue oak	native	Yes	Yes	1	22.0	NR	3 - Fair	1	Perennial Channel	Dudek
15NT4	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	4 - Good	3	Valley and Foothill Grassland	Dudek
15NT5	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	NR	4 - Good	2	Valley and Foothill Grassland	Dudek
15NT6	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	4 - Good	3	Valley and Foothill Grassland	Dudek
15NT7	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	4 - Good	2	Oak Woodland	Dudek
15NT8	*Quercus douglasii*	blue oak	native	Yes	No	1	6.0	NR	3 - Fair	3	Perennial Channel	Dudek
15NT9	*Quercus douglasii*	blue oak	native	Yes	No	1	11.0	NR	3 - Fair	3	Perennial Channel	Dudek
15NTNT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	4 - Good	3	Oak Woodland	Dudek
161NT	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	15	3 - Fair	NR	Oak Woodland	CalTLC
162NT	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	12	3 - Fair	NR	Oak Woodland	CalTLC
162NT	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	NR	Oak Woodland	EPC
163NT	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	12	3 - Fair	NR	Oak Woodland	CalTLC
163NT	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	1 - Poor	NR	Oak Forest	EPC
164NT	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
164NT	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	12	3 - Fair	NR	Oak Woodland	CalTLC
164NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	3 - Fair	2	Oak Woodland	Dudek
165NT	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	4	2 - Fair to Poor	NR	Oak Woodland	CalTLC
165NT	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	2	Oak Woodland	Dudek
165NT	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	NR	Oak Forest	EPC
166NT	*Quercus douglasii*	blue oak	native	Yes	No	0	9.5	5	3 - Fair	NR	Oak Forest	CalTLC
166NT	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
166NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	35.0	NR	3 - Fair	2	Oak Woodland	Dudek
167NT	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	NR	Oak Forest	EPC
167NT	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	2	Oak Woodland	Dudek
167NT	*Quercus douglasii*	blue oak	native	No	No	0	≥1	12	3 - Fair	NR	Oak Forest	CalTLC
168NT	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	4 - Good	2	Oak Woodland	Dudek
168NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	NR	4 - Good	NR	Oak Forest	EPC
168NT	*Quercus douglasii*	blue oak	native	No	No	0	≥1	12	3 - Fair	NR	Oak Woodland	CalTLC
169NT	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
169NT	*Quercus douglasii*	blue oak	native	Yes	Yes	1	30.0	NR	3 - Fair	1	Riparian Forests	Dudek
16NT	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	1 - Poor	2	Oak Forest	Dudek
16NT1	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.5	12	3 - Fair	NR	Oak Woodland	CalTLC
16NT2	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	18	3 - Fair	NR	Oak Woodland	CalTLC
16NT3	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	15	3 - Fair	NR	Oak Woodland	CalTLC
16NT4	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	12	3 - Fair	NR	Oak Woodland	CalTLC
16NT5	*Quercus douglasii*	blue oak	native	Yes	No	0	11.5	12	2 - Fair to Poor	NR	Oak Woodland	CalTLC
16NT6	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.5	18	3 - Fair	NR	Oak Woodland	CalTLC
16NT7	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	15	3 - Fair	NR	Oak Woodland	CalTLC
16NT8	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	10	3 - Fair	NR	Oak Woodland	CalTLC
16NT9	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	10	3 - Fair	NR	Oak Woodland	CalTLC
16NTNT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	20	3 - Fair	NR	Oak Woodland	CalTLC
175NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	19	2 - Fair to Poor	NR	Oak Forest	CalTLC
177NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.0	NR	3 - Fair	1	Oak Forest	Dudek
178NT	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	2	Oak Forest	Dudek
179NT	*Quercus douglasii*	blue oak	native	Yes	No	1	12.0	NR	3 - Fair	2	Riparian Forests	Dudek
17NT	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	1 - Poor	1	Oak Forest	Dudek
17NT1	*Quercus douglasii*	blue oak	native	No	No	1	4.0	NR	1 - Poor	2	Perennial Channel	Dudek
17NT2	*Quercus douglasii*	blue oak	native	Yes	Yes	1	23.0	NR	4 - Good	1	Perennial Channel	Dudek
17NT3	*Quercus douglasii*	blue oak	native	Yes	No	1	17.0	NR	3 - Fair	1	Riparian Forests	Dudek
17NT4	*Quercus douglasii*	blue oak	native	Yes	No	1	16.0	NR	3 - Fair	2	Riparian Forests	Dudek
17NT5	*Quercus douglasii*	blue oak	native	Yes	Yes	1	22.0	NR	4 - Good	3	Riparian Forests	Dudek
17NT6	*Quercus douglasii*	blue oak	native	Yes	Yes	1	26.0	NR	4 - Good	1	Riparian Forests	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
17NT7	*Quercus douglasii*	blue oak	native	Yes	Yes	1	19.0	NR	4 - Good	2	Riparian Forests	Dudek
17NTNT	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	NR	Oak Forest	EPC
17NTNT	*Quercus douglasii*	blue oak	native	Yes	Yes	1	24.0	NR	3 - Fair	2	Perennial Channel	Dudek
181NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	11	2 - Fair to Poor	NR	Oak Forest	CalTLC
182NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.5	16	1 - Poor	NR	Oak Woodland	CalTLC
183NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	24	2 - Fair to Poor	NR	Oak Forest	CalTLC
184NT	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	6	1 - Poor	NR	Oak Woodland	CalTLC
185NT	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	6	3 - Fair	NR	Oak Woodland	CalTLC
186NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	20	2 - Fair to Poor	NR	Oak Woodland	CalTLC
187NT	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	2	Oak Forest	Dudek
187NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	20	3 - Fair	NR	Oak Woodland	CalTLC
188NT	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	1 - Poor	1	Oak Forest	Dudek
188NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	18	3 - Fair	NR	Oak Woodland	CalTLC
189NT	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	2	Oak Forest	Dudek
189NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.5	20	2 - Fair to Poor	NR	Oak Woodland	CalTLC
18NT	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	1 - Poor	1	Oak Forest	Dudek
18NT1	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	4 - Good	1	Oak Forest	Dudek
18NT1	*Quercus douglasii*	blue oak	native	Yes	Yes	0	36.5	28	3 - Fair	NR	Oak Woodland	CalTLC
18NT2	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	4 - Good	3	Oak Forest	Dudek
18NT2	*Quercus douglasii*	blue oak	native	Yes	Yes	0	35.5	17	2 - Fair to Poor	NR	Oak Woodland	CalTLC
18NT3	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	2	Oak Woodland	Dudek
18NT3	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.0	22	3 - Fair	NR	Oak Forest	CalTLC
18NT4	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.0	NR	3 - Fair	1	Oak Woodland	Dudek
18NT6	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.5	29	2 - Fair to Poor	NR	Oak Woodland	CalTLC
18NT7	*Quercus douglasii*	blue oak	native	Yes	Yes	0	42.5	21	2 - Fair to Poor	NR	Oak Forest	CalTLC
18NT8	*Quercus douglasii*	blue oak	native	Yes	No	0	12.5	7	2 - Fair to Poor	NR	Oak Forest	CalTLC
18NT9	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.5	25	2 - Fair to Poor	NR	Oak Forest	CalTLC
18NTNT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	4 - Good	3	Oak Woodland	Dudek
191NT	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	3	Oak Forest	Dudek
192NT	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	2	Oak Forest	Dudek
193NT	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	2	Oak Forest	Dudek
193NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	20	1 - Poor	NR	Oak Forest	CalTLC
194NT	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
194NT	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	1 - Poor	2	Oak Forest	Dudek
194NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.5	20	3 - Fair	NR	Oak Forest	CalTLC
195NT	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	1 - Poor	2	Oak Forest	Dudek
196NT	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	1	Oak Forest	Dudek
197NT	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	3	Oak Forest	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
19NT	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	1 - Poor	2	Oak Forest	Dudek
19NT1	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	2	Oak Forest	Dudek
19NT1	*Quercus douglasii*	blue oak	native	Yes	No	0	9.5	6	3 - Fair	NR	Oak Forest	CalTLC
19NT2	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	1 - Poor	2	Oak Forest	Dudek
19NT2	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	15	3 - Fair	NR	Oak Forest	CalTLC
19NT3	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	0 - Dead	1	Oak Forest	Dudek
19NT3	*Quercus douglasii*	blue oak	native	Yes	No	0	12.5	15	3 - Fair	NR	Valley and Foothill Grassland	CalTLC
19NT4	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	4 - Good	3	Oak Forest	Dudek
19NT4	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.5	20	2 - Fair to Poor	NR	Oak Forest	CalTLC
19NT5	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	3	Oak Forest	Dudek
19NT5	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.5	25	3 - Fair	NR	Oak Forest	CalTLC
19NT6	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	2	Oak Forest	Dudek
19NT6	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	16	1 - Poor	NR	Oak Forest	CalTLC
19NT7	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	1 - Poor	2	Oak Forest	Dudek
19NT7	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	10	2 - Fair to Poor	NR	Valley and Foothill Grassland	CalTLC
19NT8	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	3	Oak Forest	Dudek
19NT8	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.0	17	2 - Fair to Poor	NR	Oak Forest	CalTLC
19NT9	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	2	Oak Forest	Dudek
19NTNT	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	3	Oak Forest	Dudek
19NTNT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.5	30	3 - Fair	NR	Oak Forest	CalTLC
1NT11	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	2	Oak Woodland	Dudek
1NT12	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	3	Oak Woodland	Dudek
1NT13	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	3	Oak Woodland	Dudek
1NT14	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	3	Oak Woodland	Dudek
1NT15	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	2	Oak Woodland	Dudek
1NT16	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	4 - Good	3	Oak Woodland	Dudek
1NT17	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	4 - Good	3	Oak Woodland	Dudek
1NT18	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	3 - Fair	2	Oak Woodland	Dudek
1NT19	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	4 - Good	2	Oak Woodland	Dudek
1NT1NT	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	2	Oak Woodland	Dudek
1NT21	*Quercus douglasii*	blue oak	native	Yes	Yes	0	33.0	NR	0 - Dead	1	Oak Woodland	Dudek
1NT22	*Quercus douglasii*	blue oak	native	NR	NR	0	NR	NR	4 - Good	2	Oak Woodland	Dudek
1NT23	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.0	NR	4 - Good	2	Oak Woodland	Dudek
1NT24	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	NR	4 - Good	2	Oak Woodland	Dudek
1NT25	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	3	Oak Woodland	Dudek
1NT26	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	3	Oak Woodland	Dudek
1NT27	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	3	Oak Woodland	Dudek
1NT28	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	1 - Poor	2	Oak Woodland	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
1NT29	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	3 - Fair	1	Oak Woodland	Dudek
1NT2NT	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	4 - Good	3	Oak Woodland	Dudek
1NT41	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.0	NR	3 - Fair	2	Oak Forest	Dudek
1NT42	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	4 - Good	3	Oak Forest	Dudek
1NT43	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	4 - Good	3	Oak Forest	Dudek
1NT44	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	NR	4 - Good	2	Oak Forest	Dudek
1NT45	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	NR	4 - Good	3	Oak Forest	Dudek
1NT46	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	3	Oak Forest	Dudek
1NT47	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	2	Oak Forest	Dudek
1NT48	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	3 - Fair	2	Oak Forest	Dudek
1NT49	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	2	Oak Forest	Dudek
1NT4NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	NR	4 - Good	2	Oak Forest	Dudek
1NT51	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	4 - Good	3	Oak Forest	Dudek
1NT5NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	1 - Poor	1	Oak Forest	Dudek
1NT64	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	4 - Good	3	Oak Forest	Dudek
1NT65	*Quercus douglasii*	blue oak	native	Yes	Yes	0	38.0	NR	4 - Good	1	Oak Forest	Dudek
1NT66	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	4 - Good	2	Oak Forest	Dudek
1NT67	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	0 - Dead	2	Oak Forest	Dudek
1NT68	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	2	Oak Forest	Dudek
1NT69	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	4 - Good	3	Oak Forest	Dudek
1NT7NT	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	2	Oak Forest	Dudek
1NTNT5	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	2	Oak Woodland	Dudek
1NTNT6	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	4 - Good	2	Oak Woodland	Dudek
1NTNT7	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	4 - Good	2	Oak Woodland	Dudek
1NTNT8	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	4 - Good	2	Oak Woodland	Dudek
1NTNT9	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	4 - Good	2	Oak Woodland	Dudek
211NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	30	3 - Fair	NR	Oak Forest	CalTLC
212NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	41.0	35	3 - Fair	NR	Oak Forest	CalTLC
213NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	4 - Good	1	Oak Forest	Dudek
213NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.0	30	1 - Poor	NR	Oak Forest	CalTLC
214NT	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	4 - Good	3	Oak Forest	Dudek
214NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	20	1 - Poor	NR	Oak Forest	CalTLC
215NT	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	4 - Good	3	Oak Forest	Dudek
215NT	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	20	3 - Fair	NR	Oak Forest	CalTLC
216NT	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	3	Oak Forest	Dudek
216NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.0	20	3 - Fair	NR	Oak Forest	CalTLC
217NT	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	2	Oak Forest	Dudek
217NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	25	3 - Fair	NR	Oak Forest	CalTLC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
218NT	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	4 - Good	1	Oak Forest	Dudek
218NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	20	3 - Fair	NR	Oak Forest	CalTLC
219NT	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	3 - Fair	1	Oak Forest	Dudek
21NT	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	1 - Poor	1	Oak Forest	Dudek
21NT8	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.0	30	3 - Fair	NR	Oak Forest	CalTLC
21NT9	*Quercus douglasii*	blue oak	native	Yes	Yes	0	37.0	30	1 - Poor	NR	Oak Forest	CalTLC
221NT	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	0 - Dead	1	Oak Forest	Dudek
221NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.5	25	3 - Fair	NR	Oak Forest	CalTLC
222NT	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	4 - Good	2	Oak Woodland	Dudek
223NT	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	1	Oak Woodland	Dudek
223NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.0	20	3 - Fair	NR	Oak Woodland	CalTLC
224NT	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	4 - Good	1	Oak Forest	Dudek
225NT	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	2	Oak Forest	Dudek
226NT	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	1 - Poor	2	Oak Forest	Dudek
227NT	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	1	Oak Forest	Dudek
228NT	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	3	Oak Forest	Dudek
22NT	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	2	Oak Forest	Dudek
22NT1	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	2	Oak Forest	Dudek
22NT1	*Quercus douglasii*	blue oak	native	Yes	Yes	0	33.0	21	2 - Fair to Poor	NR	Oak Forest	CalTLC
22NT2	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	2	Oak Forest	Dudek
22NT2	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.0	25	2 - Fair to Poor	NR	Oak Forest	CalTLC
22NT3	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	3 - Fair	1	Oak Forest	Dudek
22NT3	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.0	25	3 - Fair	NR	Oak Woodland	CalTLC
22NT4	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	3 - Fair	2	Oak Forest	Dudek
22NT4	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	30	3 - Fair	NR	Oak Woodland	CalTLC
22NT5	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	1	Oak Forest	Dudek
22NT5	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	25	2 - Fair to Poor	NR	Oak Woodland	CalTLC
22NT6	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	0 - Dead	1	Oak Forest	Dudek
22NT6	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	0	1 - Poor	NR	Oak Forest	CalTLC
22NT7	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	3 - Fair	3	Oak Woodland	Dudek
22NT7	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	15	2 - Fair to Poor	NR	Oak Forest	CalTLC
22NT8	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	0 - Dead	1	Oak Forest	Dudek
22NT9	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	4 - Good	1	Oak Forest	Dudek
22NT9	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.5	25	3 - Fair	NR	Oak Forest	CalTLC
22NTNT	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	4 - Good	3	Oak Forest	Dudek
22NTNT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.0	40	3 - Fair	NR	Oak Forest	CalTLC
232NT	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	2	Oak Forest	Dudek
233NT	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	2	Oak Forest	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
234NT	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	3	Oak Forest	Dudek
235NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	NR	3 - Fair	1	Oak Forest	Dudek
236NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	NR	4 - Good	1	Oak Forest	Dudek
237NT	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	6	2 - Fair to Poor	NR	Oak Forest	CalTLC
237NT	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	0 - Dead	1	Oak Forest	Dudek
238NT	*Quercus douglasii*	blue oak	native	No	No	0	5.0	6	3 - Fair	NR	Oak Forest	CalTLC
238NT	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	3 - Fair	3	Oak Forest	Dudek
239NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.0	18	3 - Fair	NR	Oak Woodland	CalTLC
23NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.0	NR	4 - Good	3	Oak Forest	Dudek
241NT	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	4 - Good	3	Oak Forest	Dudek
241NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.0	18	1 - Poor	NR	Oak Woodland	CalTLC
242NT	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	6	3 - Fair	NR	Valley and Foothill Grassland	CalTLC
242NT	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	4 - Good	3	Oak Forest	Dudek
24NT	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	1 - Poor	1	Oak Forest	Dudek
24NT1	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	3 - Fair	2	Oak Forest	Dudek
24NT1	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	28	3 - Fair	NR	Oak Woodland	CalTLC
24NT2	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	3 - Fair	3	Oak Forest	Dudek
24NT2	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	25	3 - Fair	NR	Oak Woodland	CalTLC
24NT3	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	3 - Fair	3	Oak Forest	Dudek
24NT3	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.0	30	3 - Fair	NR	Oak Woodland	CalTLC
24NT4	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	18	3 - Fair	NR	Oak Woodland	CalTLC
24NT4	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	3 - Fair	3	Oak Forest	Dudek
24NT5	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	NR	0 - Dead	1	Oak Forest	Dudek
24NT5	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	25	3 - Fair	NR	Oak Forest	CalTLC
24NT6	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	4 - Good	2	Oak Woodland	Dudek
24NT6	*Quercus douglasii*	blue oak	native	Yes	Yes	0	35.0	30	1 - Poor	NR	Oak Forest	CalTLC
24NT7	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	3	Oak Woodland	Dudek
24NT8	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	4 - Good	3	Oak Forest	Dudek
24NT9	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	4 - Good	3	Oak Forest	Dudek
24NT9	*Quercus douglasii*	blue oak	native	Yes	Yes	0	35.5	30	2 - Fair to Poor	NR	Oak Woodland	CalTLC
24NTNT	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	4 - Good	3	Oak Forest	Dudek
24NTNT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.5	28	2 - Fair to Poor	NR	Oak Woodland	CalTLC
258NT	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	2	Oak Forest	Dudek
259NT	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	2	Oak Forest	Dudek
259NT	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	2	Oak Forest	Dudek
25NT	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	4 - Good	3	Oak Forest	Dudek
261NT	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	1	Oak Forest	Dudek
262NT	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	0 - Dead	1	Oak Forest	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
263NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	1 - Poor	1	Oak Forest	Dudek
264NT	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	4 - Good	1	Oak Forest	Dudek
26NT3	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	2	Oak Woodland	Dudek
26NT4	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	1 - Poor	3	Oak Woodland	Dudek
26NT5	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	2	Oak Woodland	Dudek
26NT6	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	3 - Fair	3	Oak Woodland	Dudek
26NT7	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	2	Oak Forest	Dudek
26NT8	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	0 - Dead	1	Oak Forest	Dudek
26NT9	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	4 - Good	2	Oak Forest	Dudek
26NTNT	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	3	Oak Forest	Dudek
275NT	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	2	Oak Forest	Dudek
276NT	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	3	Oak Forest	Dudek
277NT	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	0 - Dead	1	Oak Forest	Dudek
278NT	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	3	Oak Forest	Dudek
279NT	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	2	Oak Forest	Dudek
281NT	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	2	Oak Woodland	Dudek
282NT	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	2	Oak Woodland	Dudek
283NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	NR	3 - Fair	3	Oak Woodland	Dudek
284NT	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	4 - Good	3	Oak Woodland	Dudek
285NT	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	3 - Fair	2	Oak Forest	Dudek
286NT	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	4 - Good	2	Oak Forest	Dudek
287NT	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	2	Oak Forest	Dudek
288NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	3 - Fair	3	Oak Forest	Dudek
28NT1	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	3 - Fair	2	Oak Woodland	Dudek
28NT2	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	1	Oak Woodland	Dudek
28NT2	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	1	Oak Woodland	Dudek
28NT3	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	2	Oak Woodland	Dudek
28NT4	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	4 - Good	2	Oak Woodland	Dudek
28NT5	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	1	Oak Woodland	Dudek
28NT6	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	2	Oak Woodland	Dudek
28NT7	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	4 - Good	2	Oak Woodland	Dudek
28NT8	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	1	Oak Woodland	Dudek
28NT9	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	4 - Good	2	Oak Woodland	Dudek
28NTNT	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	1	Oak Woodland	Dudek
293NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	NR	3 - Fair	1	Oak Forest	Dudek
299NT	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	2	Oak Forest	Dudek
2NT1	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	4 - Good	2	Oak Forest	Dudek
2NT2	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	1 - Poor	1	Oak Forest	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
2NT23	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	3 - Fair	2	Oak Forest	Dudek
2NT26	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	25	3 - Fair	NR	Oak Forest	CalTLC
2NT27	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	20	3 - Fair	NR	Oak Forest	CalTLC
2NT28	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	20	3 - Fair	NR	Oak Forest	CalTLC
2NT29	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	20	1 - Poor	NR	Oak Forest	CalTLC
2NT3	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	4 - Good	2	Oak Forest	Dudek
2NT31	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	4 - Good	2	Oak Forest	Dudek
2NT31	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	15	3 - Fair	NR	Oak Forest	CalTLC
2NT32	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	18	3 - Fair	NR	Oak Forest	CalTLC
2NT32	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	1 - Poor	1	Valley and Foothill Grassland	Dudek
2NT33	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	1 - Poor	2	Oak Forest	Dudek
2NT33	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	20	3 - Fair	NR	Oak Forest	CalTLC
2NT34	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	0 - Dead	1	Valley and Foothill Grassland	Dudek
2NT34	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	18	3 - Fair	NR	Oak Forest	CalTLC
2NT35	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	4 - Good	2	Valley and Foothill Grassland	Dudek
2NT35	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.5	30	3 - Fair	NR	Oak Forest	CalTLC
2NT36	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	2	Oak Forest	Dudek
2NT36	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	30	3 - Fair	NR	Oak Forest	CalTLC
2NT37	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	2	Oak Forest	Dudek
2NT38	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	3 - Fair	1	Oak Forest	Dudek
2NT39	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	1 - Poor	2	Oak Forest	Dudek
2NT3NT	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	4 - Good	2	Oak Forest	Dudek
2NT3NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	25	3 - Fair	NR	Oak Forest	CalTLC
2NT41	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	1 - Poor	1	Oak Forest	Dudek
2NT42	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	1 - Poor	2	Oak Forest	Dudek
2NT43	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	2	Oak Forest	Dudek
2NT44	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	3 - Fair	2	Oak Forest	Dudek
2NT45	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	3	Oak Forest	Dudek
2NT46	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	3 - Fair	1	Oak Forest	Dudek
2NT47	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	2	Oak Forest	Dudek
2NT48	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	2	Oak Forest	Dudek
2NT6	*Quercus douglasii*	blue oak	native	No	No	0	4.0	NR	4 - Good	2	Oak Forest	Dudek
2NT62	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	25	3 - Fair	NR	Oak Forest	CalTLC
2NT63	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	25	3 - Fair	NR	Oak Forest	CalTLC
2NT7	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	4 - Good	2	Oak Forest	Dudek
2NT8	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	1 - Poor	1	Oak Forest	Dudek
2NT81	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	4 - Good	1	Oak Forest	Dudek
2NT82	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	4 - Good	2	Oak Forest	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
2NT83	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	4 - Good	2	Oak Forest	Dudek
2NT84	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	NR	3 - Fair	1	Oak Forest	Dudek
2NT85	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	4 - Good	3	Oak Forest	Dudek
2NT86	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	4 - Good	2	Oak Forest	Dudek
2NT87	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	4 - Good	3	Oak Forest	Dudek
2NT88	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	4 - Good	3	Oak Forest	Dudek
2NT89	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	4 - Good	3	Oak Forest	Dudek
2NT9	*Quercus douglasii*	blue oak	native	No	No	0	4.0	NR	3 - Fair	1	Oak Forest	Dudek
2NT91	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	4 - Good	2	Oak Forest	Dudek
2NT9NT	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	4 - Good	3	Oak Forest	Dudek
2NTNT	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	2	Oak Forest	Dudek
311NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	3 - Fair	1	Oak Woodland	Dudek
312NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.0	NR	3 - Fair	2	Oak Woodland	Dudek
313NT	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	1 - Poor	1	Oak Woodland	Dudek
31411NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	3 - Fair	NR	Oak Forest	EPC
31413NT	*Quercus douglasii*	blue oak	native	Yes	No	0	8.5	NR	3 - Fair	NR	Oak Forest	EPC
31415NT	*Quercus douglasii*	blue oak	native	Yes	No	0	12.7	NR	2 - Fair to Poor	NR	Oak Forest	EPC
31416NT	*Quercus douglasii*	blue oak	native	Yes	No	0	17.7	NR	2 - Fair to Poor	NR	Oak Forest	EPC
31419NT	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	1 - Poor	NR	Oak Forest	EPC
3141NT1	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
3141NT4	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	NR	Oak Forest	EPC
3141NT5	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	4 - Good	NR	Oak Forest	EPC
3141NT7	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
3141NT8	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
3141NTNT	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	NR	Oak Forest	EPC
31424NT	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	NR	Oak Forest	EPC
31425NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.0	NR	3 - Fair	NR	Oak Forest	EPC
31429NT	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	1 - Poor	NR	Oak Forest	EPC
3142NT5	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	NR	Oak Forest	EPC
3142NT7	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
3142NT8	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	1 - Poor	NR	Oak Forest	EPC
3142NT9	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
31432NT	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	NR	Oak Forest	EPC
31434NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	NR	4 - Good	NR	Oak Forest	EPC
31435NT	*Quercus douglasii*	blue oak	native	No	No	0	5.7	NR	2 - Fair to Poor	NR	Oak Forest	EPC
31439NT	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	0 - Dead	NR	Oak Forest	EPC
3143NT1	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.5	NR	1 - Poor	NR	Oak Forest	EPC
3143NT2	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	NR	Oak Forest	EPC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
3143NT4	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	1 - Poor	NR	Oak Forest	EPC
3143NT5	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	NR	Oak Forest	EPC
3143NT7	*Quercus douglasii*	blue oak	native	Yes	No	0	14.2	NR	2 - Fair to Poor	NR	Oak Forest	EPC
3143NT8	*Quercus douglasii*	blue oak	native	Yes	No	0	6.5	NR	1 - Poor	NR	Oak Forest	EPC
3143NT9	*Quercus douglasii*	blue oak	native	Yes	No	0	8.7	NR	2 - Fair to Poor	NR	Oak Forest	EPC
31441NT	*Quercus douglasii*	blue oak	native	Yes	No	0	8.5	NR	3 - Fair	NR	Oak Forest	EPC
31442NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.3	NR	4 - Good	NR	Oak Forest	EPC
31443NT	*Quercus douglasii*	blue oak	native	Yes	No	0	9.5	NR	4 - Good	NR	Oak Forest	EPC
31444NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.5	NR	2 - Fair to Poor	NR	Valley and Foothill Grassland	EPC
31447NT	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
31448NT	*Quercus douglasii*	blue oak	native	Yes	No	0	14.7	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
31449NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	33.0	NR	3 - Fair	NR	Oak Woodland	EPC
31449NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	33.0	NR	3 - Fair	NR	Oak Woodland	EPC
31449NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	33.0	NR	3 - Fair	NR	Oak Woodland	EPC
3144NT1	*Quercus douglasii*	blue oak	native	No	No	0	5.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
3144NT2	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	NR	Oak Forest	EPC
3144NT3	*Quercus douglasii*	blue oak	native	Yes	No	0	15.5	NR	3 - Fair	NR	Oak Woodland	EPC
3144NT5	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	1 - Poor	NR	Oak Forest	EPC
3144NT7	*Quercus douglasii*	blue oak	native	No	No	0	4.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
3144NT8	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
3144NTNT	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	NR	Oak Woodland	EPC
31451NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	34.0	NR	3 - Fair	NR	Oak Woodland	EPC
31451NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	34.0	NR	3 - Fair	NR	Oak Woodland	EPC
31451NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	34.0	NR	3 - Fair	NR	Oak Woodland	EPC
31452NT	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
31452NT	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
31452NT	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
31453NT	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	3 - Fair	NR	Oak Forest	EPC
31453NT	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	3 - Fair	NR	Oak Forest	EPC
31453NT	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	3 - Fair	NR	Oak Forest	EPC
3145NT1	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	NR	1 - Poor	NR	Oak Woodland	EPC
3145NT1	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	NR	1 - Poor	NR	Oak Woodland	EPC
3145NT1	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	NR	1 - Poor	NR	Oak Woodland	EPC
3145NT2	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
3145NT2	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
3145NT2	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
3145NT3	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
3145NT3	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
3145NT3	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
3145NT3	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
3145NT3	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
3145NT3	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
3145NT4	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
3145NT4	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
3145NT4	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
3145NT9	*Quercus douglasii*	blue oak	native	Yes	Yes	0	41.0	NR	1 - Poor	NR	Oak Woodland	EPC
3145NT9	*Quercus douglasii*	blue oak	native	Yes	Yes	0	41.0	NR	1 - Poor	NR	Oak Woodland	EPC
3145NT9	*Quercus douglasii*	blue oak	native	Yes	Yes	0	41.0	NR	1 - Poor	NR	Oak Woodland	EPC
3145NTNT	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	NR	Oak Woodland	EPC
3145NTNT	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	NR	Oak Woodland	EPC
3145NTNT	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	NR	Oak Woodland	EPC
31466NT	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
31467NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.0	NR	0 - Dead	NR	Oak Forest	EPC
3146NT2	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
3146NT3	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
3146NT4	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
3146NT6	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	NR	Oak Forest	EPC
3146NT7	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	0 - Dead	NR	Oak Forest	EPC
3146NT8	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	0 - Dead	NR	Oak Forest	EPC
3146NT9	*Quercus douglasii*	blue oak	native	Yes	Yes	0	36.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
31472NT	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	NR	Valley and Foothill Grassland	EPC
31473NT	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	NR	Oak Forest	EPC
31474NT	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	0 - Dead	NR	Oak Forest	EPC
31476NT	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	NR	Oak Forest	EPC
31479NT	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	NR	Oak Forest	EPC
3147NT1	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	1 - Poor	NR	Oak Forest	EPC
3147NT3	*Quercus douglasii*	blue oak	native	No	No	0	4.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
3147NT7	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	4 - Good	NR	Oak Forest	EPC
3147NT8	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.0	NR	4 - Good	NR	Oak Forest	EPC
3147NTNT	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	NR	Oak Woodland	EPC
31481NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	1 - Poor	NR	Oak Forest	EPC
31482NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	NR	Oak Forest	EPC
31483NT	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	NR	Oak Forest	EPC
31484NT	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	0 - Dead	NR	Oak Forest	EPC
31485NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	3 - Fair	NR	Oak Forest	EPC
31486NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
31487NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	37.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
31488NT	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	3 - Fair	NR	Valley and Foothill Grassland	EPC
31489NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	4 - Good	NR	Oak Forest	EPC
3148NT3	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
3148NT6	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	NR	Oak Forest	EPC
3148NT7	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	NR	Oak Forest	EPC
3148NT8	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
3148NT9	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	NR	Oak Forest	EPC
3148NTNT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
31493NT	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	4 - Good	NR	Oak Forest	EPC
31494NT	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	NR	Oak Forest	EPC
31495NT	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	0 - Dead	NR	Oak Forest	EPC
31496NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
31497NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	4 - Good	NR	Oak Forest	EPC
31498NT	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	NR	Oak Forest	EPC
3149NT1	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	NR	Oak Forest	EPC
3149NT2	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	NR	Oak Forest	EPC
3149NT3	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	1 - Poor	NR	Oak Forest	EPC
3149NT4	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	NR	Oak Forest	EPC
3149NT5	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
3149NT6	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
3149NT7	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
3149NT9	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
3149NTNT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	4 - Good	NR	Oak Forest	EPC
314NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	3 - Fair	3	Oak Woodland	Dudek
314NT25	*Quercus douglasii*	blue oak	native	No	No	0	4.0	NR	3 - Fair	NR	Valley and Foothill Grassland	EPC
314NT25	*Quercus douglasii*	blue oak	native	No	No	0	4.0	NR	3 - Fair	NR	Oak Forest	EPC
314NT25	*Quercus douglasii*	blue oak	native	No	No	0	4.0	NR	3 - Fair	NR	Oak Forest	EPC
314NT29	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	1 - Poor	NR	Oak Woodland	EPC
314NT39	*Quercus douglasii*	blue oak	native	No	No	0	3.0	NR	1 - Poor	NR	Valley and Foothill Grassland	EPC
314NT41	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.4	NR	0 - Dead	NR	Valley and Foothill Grassland	EPC
314NT41	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.4	NR	0 - Dead	NR	Oak Woodland	EPC
314NT41	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.4	NR	0 - Dead	NR	Oak Woodland	EPC
314NT42	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.6	NR	3 - Fair	NR	Oak Woodland	EPC
314NT42	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.6	NR	3 - Fair	NR	Oak Woodland	EPC
314NT42	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.6	NR	3 - Fair	NR	Oak Woodland	EPC
314NT43	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	3 - Fair	NR	Oak Woodland	EPC
314NT43	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	3 - Fair	NR	Oak Woodland	EPC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
314NT43	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	3 - Fair	NR	Oak Woodland	EPC
314NT44	*Quercus douglasii*	blue oak	native	Yes	Yes	0	34.0	NR	3 - Fair	NR	Oak Woodland	EPC
314NT44	*Quercus douglasii*	blue oak	native	Yes	Yes	0	34.0	NR	3 - Fair	NR	Oak Woodland	EPC
314NT44	*Quercus douglasii*	blue oak	native	Yes	Yes	0	34.0	NR	3 - Fair	NR	Oak Woodland	EPC
314NT45	*Quercus douglasii*	blue oak	native	Yes	No	0	15.1	NR	0 - Dead	NR	Oak Woodland	EPC
314NT45	*Quercus douglasii*	blue oak	native	Yes	No	0	15.1	NR	0 - Dead	NR	Oak Woodland	EPC
314NT45	*Quercus douglasii*	blue oak	native	Yes	No	0	15.1	NR	0 - Dead	NR	Oak Woodland	EPC
314NT46	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.7	NR	0 - Dead	NR	Oak Woodland	EPC
314NT46	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.7	NR	0 - Dead	NR	Oak Woodland	EPC
314NT46	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.7	NR	0 - Dead	NR	Oak Woodland	EPC
314NT47	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.3	NR	3 - Fair	NR	Oak Woodland	EPC
314NT47	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.3	NR	3 - Fair	NR	Oak Woodland	EPC
314NT47	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.3	NR	3 - Fair	NR	Oak Woodland	EPC
314NT48	*Quercus douglasii*	blue oak	native	Yes	Yes	0	37.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314NT48	*Quercus douglasii*	blue oak	native	Yes	Yes	0	37.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314NT48	*Quercus douglasii*	blue oak	native	Yes	Yes	0	37.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314NT49	*Quercus douglasii*	blue oak	native	Yes	Yes	0	36.6	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314NT49	*Quercus douglasii*	blue oak	native	Yes	Yes	0	36.6	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314NT49	*Quercus douglasii*	blue oak	native	Yes	Yes	0	36.6	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314NT51	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314NT51	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314NT51	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314NT52	*Quercus douglasii*	blue oak	native	Yes	Yes	0	35.6	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314NT52	*Quercus douglasii*	blue oak	native	Yes	Yes	0	35.6	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314NT52	*Quercus douglasii*	blue oak	native	Yes	Yes	0	35.6	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314NT53	*Quercus douglasii*	blue oak	native	Yes	Yes	0	34.0	NR	0 - Dead	NR	Oak Woodland	EPC
314NT53	*Quercus douglasii*	blue oak	native	Yes	Yes	0	34.0	NR	0 - Dead	NR	Oak Woodland	EPC
314NT53	*Quercus douglasii*	blue oak	native	Yes	Yes	0	34.0	NR	0 - Dead	NR	Oak Woodland	EPC
314NT54	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.1	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314NT54	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.1	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314NT54	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.1	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314NT55	*Quercus douglasii*	blue oak	native	Yes	Yes	0	39.2	NR	4 - Good	NR	Oak Woodland	EPC
314NT55	*Quercus douglasii*	blue oak	native	Yes	Yes	0	39.2	NR	4 - Good	NR	Oak Woodland	EPC
314NT55	*Quercus douglasii*	blue oak	native	Yes	Yes	0	39.2	NR	4 - Good	NR	Oak Woodland	EPC
314NT56	*Quercus douglasii*	blue oak	native	Yes	Yes	0	47.0	NR	1 - Poor	NR	Oak Woodland	EPC
314NT56	*Quercus douglasii*	blue oak	native	Yes	Yes	0	47.0	NR	1 - Poor	NR	Oak Woodland	EPC
314NT56	*Quercus douglasii*	blue oak	native	Yes	Yes	0	47.0	NR	1 - Poor	NR	Oak Woodland	EPC
314NT57	*Quercus douglasii*	blue oak	native	Yes	Yes	0	35.0	NR	1 - Poor	NR	Oak Woodland	EPC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
314NT57	*Quercus douglasii*	blue oak	native	Yes	Yes	0	35.0	NR	1 - Poor	NR	Oak Woodland	EPC
314NT57	*Quercus douglasii*	blue oak	native	Yes	Yes	0	35.0	NR	1 - Poor	NR	Oak Woodland	EPC
314NT5NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314NT5NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314NT5NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
314NT63	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	0 - Dead	NR	Oak Woodland	EPC
314NT63	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	0 - Dead	NR	Oak Woodland	EPC
314NT63	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	0 - Dead	NR	Oak Woodland	EPC
314NT64	*Quercus douglasii*	blue oak	native	Yes	Yes	0	33.0	NR	0 - Dead	NR	Valley and Foothill Grassland	EPC
314NT64	*Quercus douglasii*	blue oak	native	Yes	Yes	0	33.0	NR	0 - Dead	NR	Valley and Foothill Grassland	EPC
314NT64	*Quercus douglasii*	blue oak	native	Yes	Yes	0	33.0	NR	0 - Dead	NR	Valley and Foothill Grassland	EPC
314NT65	*Quercus douglasii*	blue oak	native	Yes	No	0	7.5	NR	3 - Fair	NR	Oak Forest	EPC
314NT65	*Quercus douglasii*	blue oak	native	Yes	No	0	7.5	NR	3 - Fair	NR	Oak Forest	EPC
314NT65	*Quercus douglasii*	blue oak	native	Yes	No	0	7.5	NR	3 - Fair	NR	Oak Forest	EPC
314NT66	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	NR	Oak Forest	EPC
314NT66	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	NR	Oak Forest	EPC
314NT66	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	NR	Oak Forest	EPC
314NT68	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.0	NR	0 - Dead	NR	Oak Forest	EPC
314NT68	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.0	NR	0 - Dead	NR	Oak Forest	EPC
314NT68	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.0	NR	0 - Dead	NR	Oak Forest	EPC
314NT69	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	0 - Dead	NR	Oak Forest	EPC
314NT69	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	0 - Dead	NR	Oak Forest	EPC
314NT69	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	0 - Dead	NR	Oak Forest	EPC
314NT6NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	33.0	NR	0 - Dead	NR	Oak Woodland	EPC
314NT6NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	33.0	NR	0 - Dead	NR	Oak Woodland	EPC
314NT6NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	33.0	NR	0 - Dead	NR	Oak Woodland	EPC
314NT71	*Quercus douglasii*	blue oak	native	Yes	Yes	1	21.0	NR	0 - Dead	NR	Riparian Forests	EPC
314NT71	*Quercus douglasii*	blue oak	native	Yes	Yes	1	21.0	NR	0 - Dead	NR	Riparian Forests	EPC
314NT71	*Quercus douglasii*	blue oak	native	Yes	Yes	1	21.0	NR	0 - Dead	NR	Riparian Forests	EPC
314NT73	*Quercus douglasii*	blue oak	native	Yes	Yes	0	40.0	NR	0 - Dead	NR	Valley and Foothill Grassland	EPC
314NT73	*Quercus douglasii*	blue oak	native	Yes	Yes	0	40.0	NR	0 - Dead	NR	Valley and Foothill Grassland	EPC
314NT73	*Quercus douglasii*	blue oak	native	Yes	Yes	0	40.0	NR	0 - Dead	NR	Valley and Foothill Grassland	EPC
314NT75	*Quercus douglasii*	blue oak	native	Yes	Yes	0	40.0	NR	0 - Dead	NR	Oak Woodland	EPC
314NT75	*Quercus douglasii*	blue oak	native	Yes	Yes	0	40.0	NR	0 - Dead	NR	Oak Woodland	EPC
314NT75	*Quercus douglasii*	blue oak	native	Yes	Yes	0	40.0	NR	0 - Dead	NR	Oak Woodland	EPC
314NT7NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.5	NR	0 - Dead	NR	Oak Forest	EPC
314NT7NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.5	NR	0 - Dead	NR	Oak Forest	EPC
314NT7NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.5	NR	0 - Dead	NR	Oak Forest	EPC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
314NT84	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	0 - Dead	NR	Oak Woodland	EPC
314NT86	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	NR	Oak Forest	EPC
314NT8NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	3 - Fair	NR	Oak Woodland	EPC
314NT8NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	3 - Fair	NR	Oak Woodland	EPC
314NT8NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	3 - Fair	NR	Oak Woodland	EPC
314NT93	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	NR	Oak Forest	EPC
314NT93	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	NR	Oak Forest	EPC
314NT93	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	NR	Oak Forest	EPC
314NT94	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	NR	4 - Good	NR	Oak Woodland	EPC
314NT94	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	NR	4 - Good	NR	Oak Forest	EPC
314NT94	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	NR	4 - Good	NR	Valley and Foothill Grassland	EPC
314NT97	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	4 - Good	NR	Oak Forest	EPC
314NT98	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	NR	Oak Forest	EPC
314NTNT3	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	0 - Dead	NR	Oak Forest	EPC
314NTNT3	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	0 - Dead	NR	Oak Forest	EPC
314NTNT3	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	0 - Dead	NR	Oak Forest	EPC
314NTNT4	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	0 - Dead	NR	Oak Forest	EPC
314NTNT4	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	0 - Dead	NR	Oak Forest	EPC
314NTNT4	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	0 - Dead	NR	Oak Forest	EPC
314NTNT5	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314NTNT5	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314NTNT5	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314NTNT7	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	0 - Dead	NR	Oak Forest	EPC
314NTNT7	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	0 - Dead	NR	Oak Forest	EPC
314NTNT7	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	0 - Dead	NR	Oak Forest	EPC
314NTNT8	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	4 - Good	NR	Oak Forest	EPC
314NTNT8	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	4 - Good	NR	Oak Forest	EPC
314NTNT8	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	4 - Good	NR	Oak Forest	EPC
314NTNT9	*Quercus douglasii*	blue oak	native	Yes	Yes	0	48.0	NR	0 - Dead	NR	Oak Woodland	EPC
314NTNT9	*Quercus douglasii*	blue oak	native	Yes	Yes	0	48.0	NR	0 - Dead	NR	Oak Woodland	EPC
314NTNT9	*Quercus douglasii*	blue oak	native	Yes	Yes	0	48.0	NR	0 - Dead	NR	Oak Woodland	EPC
315NTNTNT	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	0 - Dead	NR	Oak Forest	EPC
31711NT	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	0 - Dead	NR	Oak Forest	EPC
31712NT	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	1 - Poor	NR	Oak Forest	EPC
31714NT	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
31715NT	*Quercus douglasii*	blue oak	native	No	No	0	4.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
31716NT	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	NR	Oak Forest	EPC
31717NT	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	3 - Fair	NR	Oak Forest	EPC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
31718NT	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
31719NT	*Quercus douglasii*	blue oak	native	No	No	0	4.5	NR	3 - Fair	NR	Oak Forest	EPC
3171NT1	*Quercus douglasii*	blue oak	native	No	No	0	4.0	NR	3 - Fair	NR	Oak Forest	EPC
3171NT2	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
3171NT3	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	3 - Fair	NR	Oak Forest	EPC
3171NT4	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
3171NT6	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	0 - Dead	NR	Oak Forest	EPC
3171NT7	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	NR	Oak Forest	EPC
3171NT8	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
3171NT9	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	NR	Oak Forest	EPC
3171NTNT	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	0 - Dead	NR	Oak Forest	EPC
31725NT	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	1 - Poor	NR	Oak Forest	EPC
31726NT	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
31727NT	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	1 - Poor	NR	Oak Forest	EPC
31728NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	43.0	NR	0 - Dead	NR	Valley and Foothill Grassland	EPC
31729NT	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	2 - Fair to Poor	NR	Valley and Foothill Grassland	EPC
3172NT2	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	0 - Dead	NR	Oak Woodland	EPC
3172NT4	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	0 - Dead	NR	Oak Woodland	EPC
3172NT7	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	0 - Dead	NR	Oak Woodland	EPC
3172NT8	*Quercus douglasii*	blue oak	native	No	No	0	3.0	NR	2 - Fair to Poor	NR	Valley and Foothill Grassland	EPC
3172NTNT	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	NR	Oak Forest	EPC
31731NT	*Quercus douglasii*	blue oak	native	No	No	0	4.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
31732NT	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	NR	Oak Forest	EPC
31734NT	*Quercus douglasii*	blue oak	native	No	No	0	4.5	NR	4 - Good	NR	Oak Forest	EPC
31737NT	*Quercus douglasii*	blue oak	native	No	No	0	5.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
31738NT	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
31739NT	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
3173NT2	*Quercus douglasii*	blue oak	native	Yes	No	0	6.5	NR	3 - Fair	NR	Oak Forest	EPC
3173NT3	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
3173NT4	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
3173NT5	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
3173NT6	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	NR	Oak Forest	EPC
3173NT7	*Quercus douglasii*	blue oak	native	Yes	No	0	8.5	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
3173NT8	*Quercus douglasii*	blue oak	native	Yes	No	0	6.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
3173NT9	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.0	NR	0 - Dead	NR	Oak Forest	EPC
3173NTNT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
31745NT	*Quercus douglasii*	blue oak	native	No	No	0	3.0	NR	4 - Good	NR	Oak Woodland	EPC
31749NT	*Quercus douglasii*	blue oak	native	Yes	No	0	12.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
3174NTNT	*Quercus douglasii*	blue oak	native	Yes	No	0	7.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
31751NT	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	0 - Dead	NR	Oak Forest	EPC
31752NT	*Quercus douglasii*	blue oak	native	Yes	No	0	7.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
31753NT	*Quercus douglasii*	blue oak	native	Yes	No	0	9.5	NR	1 - Poor	NR	Oak Forest	EPC
31755NT	*Quercus douglasii*	blue oak	native	Yes	No	0	10.7	NR	2 - Fair to Poor	NR	Oak Forest	EPC
31756NT	*Quercus douglasii*	blue oak	native	Yes	No	0	6.5	NR	1 - Poor	NR	Oak Forest	EPC
31757NT	*Quercus douglasii*	blue oak	native	No	No	0	5.5	NR	1 - Poor	NR	Oak Forest	EPC
31758NT	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
31759NT	*Quercus douglasii*	blue oak	native	No	No	0	3.0	NR	1 - Poor	NR	Oak Forest	EPC
3175NT1	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
3175NT2	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
3175NT3	*Quercus douglasii*	blue oak	native	Yes	No	0	7.5	NR	1 - Poor	NR	Oak Forest	EPC
3175NT4	*Quercus douglasii*	blue oak	native	No	No	0	3.0	NR	0 - Dead	NR	Oak Forest	EPC
3175NT5	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
3175NT6	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
3175NT7	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
3175NT8	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
3175NT9	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
3175NTNT	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
3176NTNT	*Quercus douglasii*	blue oak	native	Yes	No	0	13.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317NT12	*Quercus douglasii*	blue oak	native	No	No	0	3.5	NR	1 - Poor	NR	Oak Forest	EPC
317NT13	*Quercus douglasii*	blue oak	native	No	No	0	4.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317NT14	*Quercus douglasii*	blue oak	native	No	No	0	4.0	NR	1 - Poor	NR	Oak Woodland	EPC
317NT15	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	1 - Poor	NR	Oak Forest	EPC
317NT18	*Quercus douglasii*	blue oak	native	Yes	Yes	0	41.0	NR	1 - Poor	NR	Oak Forest	EPC
317NT19	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	3 - Fair	NR	Oak Forest	EPC
317NT21	*Quercus douglasii*	blue oak	native	No	No	0	3.0	NR	1 - Poor	NR	Oak Forest	EPC
317NT23	*Quercus douglasii*	blue oak	native	No	No	0	4.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
317NT25	*Quercus douglasii*	blue oak	native	No	No	0	3.0	NR	1 - Poor	NR	Oak Forest	EPC
317NT27	*Quercus douglasii*	blue oak	native	No	No	0	3.0	NR	3 - Fair	NR	Valley and Foothill Grassland	EPC
317NT29	*Quercus douglasii*	blue oak	native	No	No	0	5.5	NR	1 - Poor	NR	Oak Forest	EPC
317NT2NT	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	0 - Dead	NR	Oak Forest	EPC
317NT31	*Quercus douglasii*	blue oak	native	Yes	Yes	1	21.0	NR	0 - Dead	NR	Ephemeral Channel	EPC
317NT32	*Quercus douglasii*	blue oak	native	No	No	1	3.0	NR	3 - Fair	NR	Ephemeral Channel	EPC
317NT33	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	NR	0 - Dead	NR	Oak Forest	EPC
317NT34	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	1 - Poor	NR	Oak Forest	EPC
317NT35	*Quercus douglasii*	blue oak	native	No	No	0	4.5	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317NT36	*Quercus douglasii*	blue oak	native	No	No	0	4.5	NR	1 - Poor	NR	Oak Woodland	EPC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
317NT37	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317NT39	*Quercus douglasii*	blue oak	native	No	No	0	3.0	NR	3 - Fair	NR	Oak Forest	EPC
317NT41	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	NR	Oak Forest	EPC
317NT42	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	NR	Oak Forest	EPC
317NT43	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	0 - Dead	NR	Oak Forest	EPC
317NT44	*Quercus douglasii*	blue oak	native	No	No	1	3.0	NR	2 - Fair to Poor	NR	Ephemeral Channel	EPC
317NT45	*Quercus douglasii*	blue oak	native	Yes	No	1	16.0	NR	2 - Fair to Poor	NR	Ephemeral Channel	EPC
317NT47	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	1 - Poor	NR	Oak Forest	EPC
317NT48	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317NT49	*Quercus douglasii*	blue oak	native	No	No	0	3.0	NR	1 - Poor	NR	Oak Forest	EPC
317NT4NT	*Quercus douglasii*	blue oak	native	No	No	0	4.0	NR	3 - Fair	NR	Oak Forest	EPC
317NT52	*Quercus douglasii*	blue oak	native	No	No	0	5.5	NR	1 - Poor	NR	Oak Forest	EPC
317NT53	*Quercus douglasii*	blue oak	native	No	No	1	3.5	NR	3 - Fair	NR	Ephemeral Channel	EPC
317NT54	*Quercus douglasii*	blue oak	native	No	No	0	3.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317NT55	*Quercus douglasii*	blue oak	native	No	No	0	3.0	NR	1 - Poor	NR	Oak Woodland	EPC
317NT56	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	1 - Poor	NR	Oak Forest	EPC
317NT59	*Quercus douglasii*	blue oak	native	No	No	0	3.5	NR	1 - Poor	NR	Oak Forest	EPC
317NT5NT	*Quercus douglasii*	blue oak	native	No	No	1	4.5	NR	1 - Poor	NR	Ephemeral Channel	EPC
317NT61	*Quercus douglasii*	blue oak	native	No	No	0	3.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317NT62	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317NT63	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	1 - Poor	NR	Oak Forest	EPC
317NT65	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	0 - Dead	NR	Oak Forest	EPC
317NT66	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	NR	Oak Forest	EPC
317NT67	*Quercus douglasii*	blue oak	native	Yes	No	1	14.0	NR	3 - Fair	NR	Ephemeral Channel	EPC
317NT68	*Quercus douglasii*	blue oak	native	No	No	0	4.0	NR	0 - Dead	NR	Oak Forest	EPC
317NT69	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317NT6NT	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	0 - Dead	NR	Oak Forest	EPC
317NT71	*Quercus douglasii*	blue oak	native	No	No	0	3.0	NR	0 - Dead	NR	Oak Forest	EPC
317NT72	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	1 - Poor	NR	Oak Forest	EPC
317NT73	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	NR	Oak Forest	EPC
317NT74	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	2 - Fair to Poor	NR	Oak Woodland	EPC
317NT75	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317NT76	*Quercus douglasii*	blue oak	native	No	No	0	3.0	NR	1 - Poor	NR	Oak Forest	EPC
317NT77	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	1 - Poor	NR	Oak Forest	EPC
317NT78	*Quercus douglasii*	blue oak	native	No	No	0	3.0	NR	3 - Fair	NR	Oak Forest	EPC
317NT79	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317NT7NT	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	NR	Oak Forest	EPC
317NT84	*Quercus douglasii*	blue oak	native	No	No	0	5.5	NR	3 - Fair	NR	Oak Forest	EPC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
317NT85	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	NR	Oak Forest	EPC
317NT86	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	NR	Oak Forest	EPC
317NT87	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	NR	Oak Forest	EPC
317NT88	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317NT89	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	4 - Good	NR	Oak Forest	EPC
317NT8NT	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	NR	Oak Forest	EPC
317NT91	*Quercus douglasii*	blue oak	native	No	No	0	4.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317NT92	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	NR	Oak Forest	EPC
317NT94	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317NT96	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	NR	Oak Forest	EPC
317NT97	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317NT98	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317NT99	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317NT9NT	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317NTNT1	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317NTNT2	*Quercus douglasii*	blue oak	native	No	No	0	4.5	NR	1 - Poor	NR	Oak Forest	EPC
317NTNT3	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317NTNT5	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
317NTNT6	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	0 - Dead	NR	Oak Forest	EPC
317NTNT7	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	NR	Oak Forest	EPC
317NTNT9	*Quercus douglasii*	blue oak	native	Yes	No	1	12.0	NR	3 - Fair	NR	Ephemeral Channel	EPC
31NT	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	1 - Poor	3	Oak Forest	Dudek
31NT6	*Quercus douglasii*	blue oak	native	Yes	Yes	0	36.0	NR	3 - Fair	3	Oak Woodland	Dudek
31NT7	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	NR	4 - Good	2	Oak Woodland	Dudek
31NT9	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.0	NR	4 - Good	3	Oak Woodland	Dudek
32NT	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	1 - Poor	2	Oak Forest	Dudek
33NT	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	3	Oak Forest	Dudek
34NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	3 - Fair	3	Oak Forest	Dudek
351NT	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	21	3 - Fair	NR	Oak Woodland	CalTLC
357NT	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	9	3 - Fair	NR	Oak Woodland	CalTLC
358NT	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	4	3 - Fair	NR	Oak Woodland	CalTLC
359NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	18	3 - Fair	NR	Oak Woodland	CalTLC
35NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.0	NR	1 - Poor	2	Oak Forest	Dudek
35NT3	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	18	2 - Fair to Poor	NR	Oak Woodland	CalTLC
35NT4	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	18	2 - Fair to Poor	NR	Oak Woodland	CalTLC
35NT5	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	21	2 - Fair to Poor	NR	Oak Woodland	CalTLC
35NT6	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	21	3 - Fair	NR	Oak Woodland	CalTLC
35NT7	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	9	2 - Fair to Poor	NR	Oak Woodland	CalTLC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
35NT8	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	21	3 - Fair	NR	Oak Woodland	CalTLC
35NT9	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	18	2 - Fair to Poor	NR	Oak Woodland	CalTLC
361NT	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	24	2 - Fair to Poor	NR	Oak Forest	CalTLC
362NT	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	22	2 - Fair to Poor	NR	Oak Forest	CalTLC
363NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	21	1 - Poor	NR	Oak Forest	CalTLC
364NT	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	13	1 - Poor	NR	Oak Forest	CalTLC
365NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	30	2 - Fair to Poor	NR	Oak Forest	CalTLC
366NT	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	15	2 - Fair to Poor	NR	Valley and Foothill Grassland	CalTLC
367NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	19	2 - Fair to Poor	NR	Oak Forest	CalTLC
368NT	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	9	2 - Fair to Poor	NR	Oak Forest	CalTLC
369NT	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	14	2 - Fair to Poor	NR	Oak Forest	CalTLC
36NT4	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	30	2 - Fair to Poor	NR	Oak Forest	CalTLC
36NT9	*Quercus douglasii*	blue oak	native	Yes	Yes	0	36.0	22	1 - Poor	NR	Oak Forest	CalTLC
36NTNT	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	15	3 - Fair	NR	Oak Woodland	CalTLC
371NT	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	15	3 - Fair	NR	Oak Forest	CalTLC
372NT	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	13	2 - Fair to Poor	NR	Oak Forest	CalTLC
373NT	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	17	3 - Fair	NR	Oak Forest	CalTLC
374NT	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	16	3 - Fair	NR	Oak Forest	CalTLC
375NT	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	20	3 - Fair	NR	Valley and Foothill Grassland	CalTLC
376NT	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	19	2 - Fair to Poor	NR	Oak Forest	CalTLC
377NT	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	14	2 - Fair to Poor	NR	Oak Forest	CalTLC
378NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	38.0	29	1 - Poor	NR	Oak Forest	CalTLC
379NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	28	2 - Fair to Poor	NR	Valley and Foothill Grassland	CalTLC
37NT1	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	18	2 - Fair to Poor	NR	Oak Forest	CalTLC
37NT2	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	13	3 - Fair	NR	Oak Forest	CalTLC
37NT3	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	11	1 - Poor	NR	Oak Forest	CalTLC
37NT4	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	10	2 - Fair to Poor	NR	Oak Forest	CalTLC
37NT5	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	16	2 - Fair to Poor	NR	Oak Forest	CalTLC
37NT6	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	16	3 - Fair	NR	Oak Forest	CalTLC
37NT7	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	17	2 - Fair to Poor	NR	Oak Forest	CalTLC
37NT8	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	9	1 - Poor	NR	Oak Forest	CalTLC
37NT9	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	7	2 - Fair to Poor	NR	Oak Forest	CalTLC
37NTNT	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	12	2 - Fair to Poor	NR	Oak Forest	CalTLC
38NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	39.0	NR	3 - Fair	2	Oak Forest	Dudek
38NTNT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	30	3 - Fair	NR	Valley and Foothill Grassland	CalTLC
39NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	3	Oak Forest	Dudek
3NT1	*Quercus douglasii*	blue oak	native	NR	NR	0	NR	20	3 - Fair	3	Oak Forest	Dudek
3NT12	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	1 - Poor	2	Oak Woodland	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
3NT1NT	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	4 - Good	2	Oak Forest	Dudek
3NT2	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	3	Oak Forest	Dudek
3NT3	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	1 - Poor	2	Oak Forest	Dudek
3NT4	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	1 - Poor	3	Oak Forest	Dudek
3NT6	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	1 - Poor	3	Oak Forest	Dudek
3NT7	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	3 - Fair	2	Oak Forest	Dudek
3NT8	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	1 - Poor	2	Oak Forest	Dudek
3NT9	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	3	Oak Forest	Dudek
3NTNT	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	1 - Poor	3	Oak Forest	Dudek
3NTNT1	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	1 - Poor	2	Oak Forest	Dudek
3NTNT2	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	1 - Poor	2	Oak Forest	Dudek
3NTNT3	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	3	Oak Forest	Dudek
3NTNT4	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	2	Oak Forest	Dudek
3NTNT5	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	3	Oak Forest	Dudek
3NTNT6	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	3 - Fair	2	Oak Forest	Dudek
3NTNT7	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	4 - Good	2	Oak Forest	Dudek
3NTNT8	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	4 - Good	3	Oak Forest	Dudek
3NTNTNT	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	2	Oak Forest	Dudek
413NT	*Quercus douglasii*	blue oak	native	Yes	Yes	1	29.0	25	2 - Fair to Poor	NR	Riparian Forests	CalTLC
416NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	47.0	36	1 - Poor	NR	Oak Woodland	CalTLC
419NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	24	2 - Fair to Poor	NR	Oak Woodland	CalTLC
41NT	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	1 - Poor	2	Oak Woodland	Dudek
41NT4	*Quercus douglasii*	blue oak	native	Yes	Yes	0	35.6	24	1 - Poor	NR	Oak Woodland	CalTLC
421NT	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	27	2 - Fair to Poor	NR	Oak Woodland	CalTLC
422NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.8	30	2 - Fair to Poor	NR	Oak Woodland	CalTLC
424NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	0	3 - Fair	NR	Oak Forest	CalTLC
425NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	30	3 - Fair	NR	Oak Forest	CalTLC
426NT	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	18	2 - Fair to Poor	NR	Oak Forest	CalTLC
427NT	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	16	2 - Fair to Poor	NR	Oak Forest	CalTLC
428NT	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	10	2 - Fair to Poor	NR	Oak Forest	CalTLC
429NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	33	3 - Fair	NR	Oak Forest	CalTLC
42NT	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	1 - Poor	3	Oak Forest	Dudek
42NT5	*Quercus douglasii*	blue oak	native	Yes	No	0	12.6	30	2 - Fair to Poor	NR	Oak Woodland	CalTLC
42NT6	*Quercus douglasii*	blue oak	native	Yes	No	0	9.4	9	2 - Fair to Poor	NR	Oak Woodland	CalTLC
42NT7	*Quercus douglasii*	blue oak	native	Yes	No	0	11.2	15	2 - Fair to Poor	NR	Oak Woodland	CalTLC
42NT8	*Quercus douglasii*	blue oak	native	Yes	No	0	10.1	30	2 - Fair to Poor	NR	Oak Woodland	CalTLC
42NT9	*Quercus douglasii*	blue oak	native	Yes	Yes	0	33.4	45	1 - Poor	NR	Oak Woodland	CalTLC
42NTNT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	0	0 - Dead	NR	Oak Woodland	CalTLC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
431NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	0	0 - Dead	NR	Oak Forest	CalTLC
432NT	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	30	2 - Fair to Poor	NR	Oak Forest	CalTLC
433NT	*Quercus douglasii*	blue oak	native	Yes	Yes	1	38.8	30	3 - Fair	NR	Riparian Forests	CalTLC
436NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.5	40	2 - Fair to Poor	NR	Oak Forest	CalTLC
437NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	27	3 - Fair	NR	Oak Forest	CalTLC
439NT	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	0	0 - Dead	NR	Oak Forest	CalTLC
43NT	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	3	Oak Forest	Dudek
43NT1	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.0	33	2 - Fair to Poor	NR	Oak Forest	CalTLC
43NT2	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	0	0 - Dead	NR	Oak Forest	CalTLC
43NT3	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	21	2 - Fair to Poor	NR	Oak Forest	CalTLC
43NT4	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	21	2 - Fair to Poor	NR	Oak Forest	CalTLC
43NT5	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	30	3 - Fair	NR	Oak Forest	CalTLC
43NT6	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	24	1 - Poor	NR	Oak Forest	CalTLC
43NT7	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	24	3 - Fair	NR	Valley and Foothill Grassland	CalTLC
43NT8	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	24	2 - Fair to Poor	NR	Oak Forest	CalTLC
43NT9	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	15	3 - Fair	NR	Oak Forest	CalTLC
43NTNT	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	6	1 - Poor	NR	Oak Forest	CalTLC
441NT	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	21	2 - Fair to Poor	NR	Oak Forest	CalTLC
443NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	35.0	24	3 - Fair	NR	Oak Forest	CalTLC
445NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	15	2 - Fair to Poor	NR	Oak Woodland	CalTLC
447NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	44.0	30	3 - Fair	NR	Oak Woodland	CalTLC
448NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	33.5	30	3 - Fair	NR	Oak Woodland	CalTLC
449NT	*Quercus douglasii*	blue oak	native	Yes	No	0	16.5	0	2 - Fair to Poor	NR	Oak Woodland	CalTLC
44NT	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	3	Oak Forest	Dudek
44NT1	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	18	3 - Fair	NR	Oak Forest	CalTLC
44NT2	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	21	3 - Fair	NR	Oak Forest	CalTLC
44NT3	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	21	3 - Fair	NR	Oak Forest	CalTLC
44NT4	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	15	3 - Fair	NR	Oak Forest	CalTLC
44NT5	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	21	1 - Poor	NR	Oak Forest	CalTLC
44NT6	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	21	3 - Fair	NR	Oak Forest	CalTLC
44NT7	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	18	3 - Fair	NR	Oak Forest	CalTLC
44NT9	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	27	2 - Fair to Poor	NR	Oak Forest	CalTLC
44NTNT	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	27	2 - Fair to Poor	NR	Oak Forest	CalTLC
45NT	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	1 - Poor	2	Oak Forest	Dudek
45NTNT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.5	24	3 - Fair	NR	Oak Woodland	CalTLC
46NT	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	1 - Poor	1	Oak Forest	Dudek
47NT	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	1 - Poor	2	Oak Forest	Dudek
48NT	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	2	Oak Forest	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
49NT	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	4 - Good	3	Oak Forest	Dudek
4NT2	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	0 - Dead	1	Oak Woodland	Dudek
4NT3	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	3 - Fair	3	Oak Woodland	Dudek
4NT4	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	1 - Poor	2	Oak Woodland	Dudek
4NT5	*Quercus douglasii*	blue oak	native	NR	NR	0	NR	22	3 - Fair	2	Oak Forest	Dudek
4NT6	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	1 - Poor	3	Oak Forest	Dudek
4NT7	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	3	Oak Forest	Dudek
4NT8	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	1 - Poor	2	Oak Forest	Dudek
4NT9	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	3	Oak Forest	Dudek
4NTNT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	4 - Good	3	Oak Forest	Dudek
4NTNTNT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	24	3 - Fair	NR	Oak Forest	CalTLC
51NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	3 - Fair	3	Oak Forest	Dudek
521NT	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	10	2 - Fair to Poor	NR	Oak Woodland	CalTLC
522NT	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	6	2 - Fair to Poor	NR	Oak Woodland	CalTLC
523NT	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	8	2 - Fair to Poor	NR	Oak Woodland	CalTLC
525NT	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	6	3 - Fair	NR	Oak Woodland	CalTLC
526NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.5	24	3 - Fair	NR	Oak Woodland	CalTLC
528NT	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	0	0 - Dead	NR	Oak Woodland	CalTLC
529NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.5	24	3 - Fair	NR	Oak Woodland	CalTLC
52NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	38.0	NR	1 - Poor	1	Oak Forest	Dudek
52NT2	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	15	1 - Poor	NR	Oak Woodland	CalTLC
52NT3	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	15	3 - Fair	NR	Oak Woodland	CalTLC
52NT4	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	9	3 - Fair	NR	Oak Woodland	CalTLC
52NT5	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	9	3 - Fair	NR	Oak Woodland	CalTLC
52NT6	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.5	15	3 - Fair	NR	Oak Woodland	CalTLC
52NT7	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	12	2 - Fair to Poor	NR	Oak Woodland	CalTLC
52NT8	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	8	1 - Poor	NR	Oak Woodland	CalTLC
52NT9	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	15	2 - Fair to Poor	NR	Oak Woodland	CalTLC
531NT	*Quercus douglasii*	blue oak	native	Yes	Yes	1	22.0	30	3 - Fair	NR	Riparian Forests	CalTLC
533NT	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
53NT	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	1 - Poor	2	Oak Forest	Dudek
53NT1	*Quercus douglasii*	blue oak	native	Yes	Yes	1	29.0	NR	1 - Poor	NR	Intermittent Channel	EPC
53NT3	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	12	2 - Fair to Poor	NR	Oak Forest	CalTLC
53NT4	*Quercus douglasii*	blue oak	native	Yes	Yes	1	36.5	27	3 - Fair	NR	Riparian Forests	CalTLC
53NT5	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	NR	Oak Forest	EPC
53NT6	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.0	NR	1 - Poor	NR	Oak Forest	EPC
53NT7	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	1 - Poor	NR	Oak Forest	EPC
53NT8	*Quercus douglasii*	blue oak	native	Yes	No	1	6.0	4	1 - Poor	NR	Riparian Forests	CalTLC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
53NT8	*Quercus douglasii*	blue oak	native	Yes	No	1	17.0	NR	2 - Fair to Poor	NR	Riparian Forests	EPC
53NT9	*Quercus douglasii*	blue oak	native	Yes	Yes	1	31.5	27	2 - Fair to Poor	NR	Riparian Forests	CalTLC
53NTNT	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	5	3 - Fair	NR	Oak Forest	CalTLC
545NT	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
54NT	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	1 - Poor	3	Oak Forest	Dudek
55NT	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	10	2 - Fair to Poor	NR	Oak Forest	CalTLC
55NT	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	3	Oak Forest	Dudek
55NT9	*Quercus douglasii*	blue oak	native	Yes	No	1	16.0	0	5 - Excellent	NR	Riparian Forests	CalTLC
56NT	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	2	Oak Forest	Dudek
56NT	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	15	3 - Fair	NR	Oak Forest	CalTLC
57NT	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	3	Oak Forest	Dudek
57NT	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	15	3 - Fair	NR	Oak Forest	CalTLC
58NT	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	3	Oak Forest	Dudek
58NT	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	21	3 - Fair	NR	Oak Forest	CalTLC
59NT	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	2	Oak Forest	Dudek
59NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	29.0	27	3 - Fair	NR	Oak Forest	CalTLC
5NT1	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	3	Oak Forest	Dudek
5NT2	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	3	Oak Forest	Dudek
5NT3	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	1 - Poor	3	Oak Forest	Dudek
5NT4	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	3	Oak Forest	Dudek
5NT5	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	1 - Poor	2	Oak Forest	Dudek
5NT5	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	3	Oak Forest	Dudek
5NT6	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	3	Oak Forest	Dudek
5NT7	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	3	Oak Forest	Dudek
5NT8	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	3	Oak Forest	Dudek
5NT9	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	3	Oak Forest	Dudek
5NTNT	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	0	0 - Dead	NR	Oak Forest	CalTLC
5NTNT	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	3	Oak Forest	Dudek
5NTNT	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	0	0 - Dead	NR	Oak Forest	CalTLC
5NTNT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	36.0	0	0 - Dead	NR	Oak Forest	CalTLC
5NTNT	*Quercus douglasii*	blue oak	native	No	No	0	≥1	0	0 - Dead	NR	Oak Woodland	CalTLC
5NTNT	*Quercus douglasii*	blue oak	native	No	No	0	≥1	0	0 - Dead	NR	Oak Woodland	CalTLC
5NTNT	*Quercus douglasii*	blue oak	native	No	No	0	≥1	0	0 - Dead	NR	Oak Woodland	CalTLC
5NTNT	*Quercus douglasii*	blue oak	native	No	No	0	≥1	0	0 - Dead	NR	Oak Woodland	CalTLC
5NTNT	*Quercus douglasii*	blue oak	native	No	No	0	≥1	0	0 - Dead	NR	Oak Woodland	CalTLC
5NTNT	*Quercus douglasii*	blue oak	native	No	No	0	≥1	0	0 - Dead	NR	Oak Forest	CalTLC
5NTNT	*Quercus douglasii*	blue oak	native	No	No	0	≥1	0	0 - Dead	NR	Oak Woodland	CalTLC
5NTNT	*Quercus douglasii*	blue oak	native	No	No	0	≥1	0	0 - Dead	NR	Oak Forest	CalTLC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
5NTNT	*Quercus douglasii*	blue oak	native	No	No	0	≥1	0	0 - Dead	NR	Oak Woodland	CalTLC
5NTNT	*Quercus douglasii*	blue oak	native	No	No	0	≥1	0	0 - Dead	NR	Valley and Foothill Grassland	CalTLC
5NTNT	*Quercus douglasii*	blue oak	native	No	No	0	≥1	0	0 - Dead	NR	Oak Woodland	CalTLC
5NTNT	*Quercus douglasii*	blue oak	native	No	No	0	≥1	0	0 - Dead	NR	Oak Woodland	CalTLC
62NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	27.0	NR	3 - Fair	1	Oak Forest	Dudek
66NT	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
68NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	67.0	NR	3 - Fair	2	Oak Forest	Dudek
69NT	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	2	Oak Forest	Dudek
6NT1	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.0	NR	3 - Fair	3	Oak Forest	Dudek
6NTNT	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	3	Oak Forest	Dudek
71NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	2	Oak Forest	Dudek
72NT	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	4 - Good	2	Oak Forest	Dudek
73NT	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	2	Oak Woodland	Dudek
73NT	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	21	3 - Fair	NR	Oak Forest	CalTLC
74NT	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	3	Oak Woodland	Dudek
75NT	*Quercus douglasii*	blue oak	native	Yes	No	1	8.0	NR	3 - Fair	2	Riparian Forests	Dudek
76NT	*Quercus douglasii*	blue oak	native	Yes	No	1	10.0	NR	4 - Good	NR	Intermittent Channel	Dudek
778NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	30	3 - Fair	NR	Oak Forest	CalTLC
779NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	33.0	45	3 - Fair	NR	Oak Forest	CalTLC
77NT	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	2	Oak Forest	Dudek
78NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	NR	3 - Fair	3	Oak Forest	Dudek
79NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	18.0	NR	3 - Fair	2	Oak Forest	Dudek
7NT1	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	2	Oak Forest	Dudek
7NT2	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	1 - Poor	1	Oak Forest	Dudek
7NT3	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	1 - Poor	1	Oak Forest	Dudek
7NT4	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	1 - Poor	1	Oak Forest	Dudek
7NT5	*Quercus douglasii*	blue oak	native	Yes	Yes	0	34.0	NR	3 - Fair	2	Oak Forest	Dudek
7NT6	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	4 - Good	2	Oak Forest	Dudek
7NT7	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	4 - Good	2	Oak Forest	Dudek
7NT8	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	1	Oak Forest	Dudek
7NT9	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	2	Oak Forest	Dudek
7NTNT	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	4 - Good	2	Oak Forest	Dudek
82NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	3 - Fair	3	Oak Forest	Dudek
83NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	26.0	NR	3 - Fair	2	Oak Forest	Dudek
84NT	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	10	3 - Fair	NR	Oak Forest	CalTLC
84NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	4 - Good	3	Oak Forest	Dudek
85NT	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	1 - Poor	2	Oak Forest	Dudek
85NT	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	21	1 - Poor	NR	Oak Forest	CalTLC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
86NT	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	1	Oak Woodland	Dudek
86NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	35.0	30	3 - Fair	NR	Oak Forest	CalTLC
87NT	*Quercus douglasii*	blue oak	native	Yes	Yes	1	38.5	24	3 - Fair	NR	Perennial Channel	CalTLC
881NT	*Quercus douglasii*	blue oak	native	Yes	No	0	15.5	17	2 - Fair to Poor	NR	Oak Forest	CalTLC
882NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.5	20	3 - Fair	NR	Oak Forest	CalTLC
883NT	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	10	3 - Fair	NR	Oak Forest	CalTLC
884NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	13	2 - Fair to Poor	NR	Oak Forest	CalTLC
885NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.5	16	3 - Fair	NR	Valley and Foothill Grassland	CalTLC
887NT	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	11	3 - Fair	NR	Oak Forest	CalTLC
888NT	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	17	3 - Fair	NR	Oak Forest	CalTLC
889NT	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	9	2 - Fair to Poor	NR	Oak Woodland	CalTLC
88NT1	*Quercus douglasii*	blue oak	native	Yes	Yes	0	38.5	32	3 - Fair	NR	Oak Forest	CalTLC
88NT2	*Quercus douglasii*	blue oak	native	Yes	Yes	0	32.0	20	3 - Fair	NR	Oak Forest	CalTLC
88NT3	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	16	3 - Fair	NR	Oak Forest	CalTLC
88NT4	*Quercus douglasii*	blue oak	native	No	No	0	≥1	19	2 - Fair to Poor	NR	Oak Forest	CalTLC
88NT5	*Quercus douglasii*	blue oak	native	Yes	No	0	8.5	9	2 - Fair to Poor	NR	Oak Forest	CalTLC
88NT6	*Quercus douglasii*	blue oak	native	Yes	No	0	11.5	7	2 - Fair to Poor	NR	Oak Forest	CalTLC
88NT7	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	17	2 - Fair to Poor	NR	Oak Forest	CalTLC
88NT8	*Quercus douglasii*	blue oak	native	Yes	No	0	9.5	5	2 - Fair to Poor	NR	Oak Forest	CalTLC
88NT9	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	16	2 - Fair to Poor	NR	Oak Forest	CalTLC
89NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	3 - Fair	2	Oak Woodland	Dudek
89NTNT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.5	17	3 - Fair	NR	Oak Woodland	CalTLC
8NT14	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	1 - Poor	NR	Urban/Developed	EPC
941NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.0	32	3 - Fair	NR	Oak Woodland	CalTLC
942NT	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	17	3 - Fair	NR	Oak Woodland	CalTLC
947NT	*Quercus douglasii*	blue oak	native	Yes	No	0	6.5	10	2 - Fair to Poor	NR	Oak Woodland	CalTLC
94NT2	*Quercus douglasii*	blue oak	native	Yes	Yes	0	37.5	24	2 - Fair to Poor	NR	Oak Woodland	CalTLC
94NT3	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	18	3 - Fair	NR	Oak Woodland	CalTLC
94NT4	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.0	18	3 - Fair	NR	Oak Woodland	CalTLC
94NT5	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.5	14	2 - Fair to Poor	NR	Oak Woodland	CalTLC
94NT6	*Quercus douglasii*	blue oak	native	Yes	Yes	0	25.5	25	2 - Fair to Poor	NR	Oak Woodland	CalTLC
94NT7	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	16	2 - Fair to Poor	NR	Oak Woodland	CalTLC
94NT9	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	10	2 - Fair to Poor	NR	Oak Woodland	CalTLC
981NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	24	3 - Fair	NR	Oak Woodland	CalTLC
982NT	*Quercus douglasii*	blue oak	native	Yes	Yes	1	30.0	30	3 - Fair	NR	Riparian Forests	CalTLC
983NT	*Quercus douglasii*	blue oak	native	Yes	Yes	1	33.0	24	3 - Fair	NR	Riparian Forests	CalTLC
988NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.0	22	2 - Fair to Poor	NR	Valley and Foothill Grassland	CalTLC
98NT1	*Quercus douglasii*	blue oak	native	Yes	No	0	16.5	16	3 - Fair	NR	Oak Woodland	CalTLC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
98NT2	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	26	3 - Fair	NR	Oak Woodland	CalTLC
98NT3	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	10	2 - Fair to Poor	NR	Oak Woodland	CalTLC
98NT4	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	12	3 - Fair	NR	Oak Woodland	CalTLC
98NT5	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	19	3 - Fair	NR	Oak Woodland	CalTLC
98NT6	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	17	3 - Fair	NR	Oak Woodland	CalTLC
98NT7	*Quercus douglasii*	blue oak	native	No	No	0	≥1	17	3 - Fair	NR	Oak Woodland	CalTLC
98NT8	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	19	2 - Fair to Poor	NR	Oak Woodland	CalTLC
98NT9	*Quercus douglasii*	blue oak	native	Yes	Yes	0	34.0	32	3 - Fair	NR	Oak Woodland	CalTLC
9NT3	*Quercus douglasii*	blue oak	native	Yes	Yes	1	18.0	NR	4 - Good	NR	Riparian Forests	EPC
NT	*Quercus douglasii*	blue oak	native	No	No	0	4.0	NR	1 - Poor	3	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	0 - Dead	2	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	3 - Fair	2	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	No	No	0	5.0	NR	1 - Poor	2	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	6.0	NR	3 - Fair	3	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	2	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	2	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	3	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	7.0	NR	3 - Fair	3	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	3 - Fair	2	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	1 - Poor	2	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	8.0	NR	1 - Poor	2	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	3	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	3	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	3	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	1 - Poor	1	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	9.0	NR	3 - Fair	3	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	3	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	0 - Dead	1	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	3	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	2	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	10.0	NR	3 - Fair	3	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	3	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	2	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	3	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	3	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	3	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	11.0	NR	3 - Fair	NR	Oak Forest	EPC
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	2	Oak Woodland	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	2	Oak Woodland	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	3	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	12.0	NR	3 - Fair	3	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	3	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	3	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	2	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	3	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	3	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	1 - Poor	3	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	2	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	13.0	NR	3 - Fair	3	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	3	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	14.0	NR	3 - Fair	3	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	2	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	15.0	NR	3 - Fair	3	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	3	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	16.0	NR	3 - Fair	3	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	3	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	No	0	17.0	NR	3 - Fair	3	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	3 - Fair	3	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	3 - Fair	3	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	19.0	NR	3 - Fair	3	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	20.0	NR	3 - Fair	2	Oak Woodland	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	3 - Fair	2	Oak Woodland	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	3 - Fair	2	Oak Woodland	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	3 - Fair	2	Oak Woodland	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	3 - Fair	2	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	21.0	NR	3 - Fair	3	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	3 - Fair	2	Oak Woodland	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	22.0	NR	3 - Fair	2	Oak Woodland	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	0 - Dead	2	Oak Woodland	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	3 - Fair	2	Oak Woodland	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	3 - Fair	2	Oak Woodland	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	3 - Fair	2	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	23.0	NR	1 - Poor	2	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	3 - Fair	2	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	24.0	NR	3 - Fair	3	Valley and Foothill Grassland	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.0	NR	3 - Fair	2	Oak Woodland	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	28.0	NR	3 - Fair	2	Oak Woodland	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	NR	0 - Dead	2	Oak Woodland	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	NR	3 - Fair	2	Oak Woodland	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	30.0	NR	3 - Fair	2	Oak Forest	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	31.0	NR	3 - Fair	3	Oak Woodland	Dudek
NT	*Quercus douglasii*	blue oak	native	Yes	Yes	0	40.0	NR	3 - Fair	3	Oak Woodland	Dudek
NT	*Quercus douglasii*	blue oak	native	NR	NR	0	NR	NR		NR	Oak Forest	Dudek
293	*Quercus lobata*	valley oak	native	Yes	No	0	9.0	NR	3 - Fair	3	Valley and Foothill Grassland	Dudek
855	*Quercus lobata*	valley oak	native	Yes	Yes	0	27.0	NR	3 - Fair	NR	Oak Forest	EPC
879	*Quercus lobata*	valley oak	native	Yes	Yes	0	43.0	45	3 - Fair	NR	Oak Woodland	CalTLC
881	*Quercus lobata*	valley oak	native	Yes	Yes	1	36.0	21	2 - Fair to Poor	NR	Perennial Channel	CalTLC
882	*Quercus lobata*	valley oak	native	Yes	Yes	0	46.5	27	1 - Poor	NR	Oak Forest	CalTLC
883	*Quercus lobata*	valley oak	native	Yes	Yes	0	39.5	21	2 - Fair to Poor	NR	Oak Forest	CalTLC
884	*Quercus lobata*	valley oak	native	Yes	Yes	0	42.0	24	2 - Fair to Poor	NR	Oak Woodland	CalTLC
887	*Quercus lobata*	valley oak	native	Yes	Yes	0	40.0	NR	4 - Good	2	Oak Forest	Dudek
888	*Quercus lobata*	valley oak	native	Yes	Yes	0	49.0	30	1 - Poor	NR	Oak Forest	CalTLC
889	*Quercus lobata*	valley oak	native	Yes	Yes	0	42.5	30	2 - Fair to Poor	NR	Oak Forest	CalTLC
897	*Quercus lobata*	valley oak	native	Yes	Yes	0	60.5	27	2 - Fair to Poor	NR	Oak Forest	CalTLC
898	*Quercus lobata*	valley oak	native	Yes	Yes	0	33.5	24	3 - Fair	NR	Oak Woodland	CalTLC
899	*Quercus lobata*	valley oak	native	Yes	Yes	0	41.0	18	1 - Poor	NR	Oak Woodland	CalTLC
1732	*Quercus lobata*	valley oak	native	Yes	Yes	0	40.0	30	3 - Fair	NR	Oak Forest	CalTLC
1734	*Quercus lobata*	valley oak	native	Yes	Yes	0	37.0	19	2 - Fair to Poor	NR	Valley and Foothill Grassland	CalTLC
1735	*Quercus lobata*	valley oak	native	Yes	Yes	0	35.0	25	3 - Fair	NR	Oak Forest	CalTLC
1822	*Quercus lobata*	valley oak	native	Yes	Yes	0	65.5	18	1 - Poor	NR	Oak Woodland	CalTLC
1823	*Quercus lobata*	valley oak	native	Yes	Yes	0	42.5	30	3 - Fair	NR	Oak Forest	CalTLC
2231	*Quercus lobata*	valley oak	native	Yes	Yes	0	47.0	25	1 - Poor	NR	Oak Woodland	CalTLC
3125	*Quercus lobata*	valley oak	native	Yes	Yes	0	19.0	NR	3 - Fair	3	Oak Woodland	Dudek
3128	*Quercus lobata*	valley oak	native	Yes	Yes	0	31.0	NR	3 - Fair	3	Oak Woodland	Dudek
4328	*Quercus lobata*	valley oak	native	Yes	Yes	1	37.0	27	3 - Fair	NR	Riparian Forests	CalTLC
4342	*Quercus lobata*	valley oak	native	Yes	Yes	0	36.0	30	2 - Fair to Poor	NR	Oak Woodland	CalTLC
4343	*Quercus lobata*	valley oak	native	Yes	Yes	0	29.0	24	2 - Fair to Poor	NR	Oak Woodland	CalTLC
4344	*Quercus lobata*	valley oak	native	Yes	Yes	0	36.5	30	3 - Fair	NR	Oak Woodland	CalTLC
4458	*Quercus lobata*	valley oak	native	Yes	Yes	0	59.5	21	2 - Fair to Poor	NR	Oak Woodland	CalTLC
4459	*Quercus lobata*	valley oak	native	Yes	Yes	0	56.0	24	2 - Fair to Poor	NR	Oak Woodland	CalTLC
4461	*Quercus lobata*	valley oak	native	Yes	Yes	0	52.5	20	1 - Poor	NR	Oak Woodland	CalTLC
4462	*Quercus lobata*	valley oak	native	Yes	Yes	0	54.0	27	2 - Fair to Poor	NR	Oak Woodland	CalTLC
4463	*Quercus lobata*	valley oak	native	Yes	Yes	0	57.7	21	1 - Poor	NR	Oak Woodland	CalTLC
4464	*Quercus lobata*	valley oak	native	Yes	Yes	0	75.0	21	1 - Poor	NR	Valley and Foothill Grassland	CalTLC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
4465	*Quercus lobata*	valley oak	native	Yes	Yes	0	26.0	21	3 - Fair	NR	Valley and Foothill Grassland	CalTLC
4466	*Quercus lobata*	valley oak	native	Yes	Yes	0	32.8	21	3 - Fair	NR	Oak Woodland	CalTLC
4483	*Quercus lobata*	valley oak	native	Yes	Yes	0	44.5	36	3 - Fair	NR	Oak Woodland	CalTLC
4496	*Quercus lobata*	valley oak	native	Yes	Yes	0	40.5	23	2 - Fair to Poor	NR	Oak Forest	CalTLC
5235	*Quercus lobata*	valley oak	native	Yes	Yes	0	33.5	0	2 - Fair to Poor	NR	Valley and Foothill Grassland	CalTLC
5236	*Quercus lobata*	valley oak	native	Yes	Yes	0	40.0	35	3 - Fair	NR	Valley and Foothill Grassland	CalTLC
5239	*Quercus lobata*	valley oak	native	Yes	Yes	0	48.2	27	3 - Fair	NR	Oak Woodland	CalTLC
7768	*Quercus lobata*	valley oak	native	Yes	Yes	0	51.5	50	4 - Good	NR	Oak Forest	CalTLC
7785	*Quercus lobata*	valley oak	native	Yes	Yes	0	32.5	30	3 - Fair	NR	Oak Forest	CalTLC
7786	*Quercus lobata*	valley oak	native	Yes	Yes	0	37.0	24	2 - Fair to Poor	NR	Oak Forest	CalTLC
9497	*Quercus lobata*	valley oak	native	Yes	Yes	0	18.5	14	3 - Fair	NR	Oak Woodland	CalTLC
9816	*Quercus lobata*	valley oak	native	Yes	Yes	1	43.5	40	3 - Fair	NR	Riparian Forests	CalTLC
9818	*Quercus lobata*	valley oak	native	No	No	1	≥1	20	1 - Poor	NR	Riparian Forests	CalTLC
314166	*Quercus lobata*	valley oak	native	Yes	Yes	0	24.0	NR	4 - Good	NR	Oak Forest	EPC
314192	*Quercus lobata*	valley oak	native	Yes	Yes	0	25.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314195	*Quercus lobata*	valley oak	native	Yes	No	0	15.0	NR	1 - Poor	NR	Oak Forest	EPC
314196	*Quercus lobata*	valley oak	native	Yes	Yes	0	20.0	NR	3 - Fair	NR	Oak Forest	EPC
314515	*Quercus lobata*	valley oak	native	Yes	Yes	1	43.0	NR	3 - Fair	NR	Ephemeral Channel	EPC
314515	*Quercus lobata*	valley oak	native	Yes	Yes	1	43.0	NR	3 - Fair	NR	Ephemeral Channel	EPC
314515	*Quercus lobata*	valley oak	native	Yes	Yes	1	43.0	NR	3 - Fair	NR	Ephemeral Channel	EPC
314546	*Quercus lobata*	valley oak	native	Yes	Yes	0	41.0	NR	0 - Dead	NR	Oak Forest	EPC
314546	*Quercus lobata*	valley oak	native	Yes	Yes	0	41.0	NR	0 - Dead	NR	Oak Forest	EPC
314546	*Quercus lobata*	valley oak	native	Yes	Yes	0	41.0	NR	0 - Dead	NR	Oak Forest	EPC
314558	*Quercus lobata*	valley oak	native	Yes	Yes	0	37.5	NR	4 - Good	NR	Oak Forest	EPC
314558	*Quercus lobata*	valley oak	native	Yes	Yes	0	37.5	NR	4 - Good	NR	Oak Forest	EPC
314558	*Quercus lobata*	valley oak	native	Yes	Yes	0	37.5	NR	4 - Good	NR	Oak Woodland	EPC
314794	*Quercus lobata*	valley oak	native	Yes	Yes	0	38.0	NR	4 - Good	NR	Oak Forest	EPC
314835	*Quercus lobata*	valley oak	native	Yes	Yes	0	18.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314894	*Quercus lobata*	valley oak	native	Yes	No	0	16.0	NR	3 - Fair	NR	Oak Forest	EPC
314899	*Quercus lobata*	valley oak	native	Yes	Yes	0	34.0	NR	3 - Fair	NR	Oak Forest	EPC
314928	*Quercus lobata*	valley oak	native	Yes	Yes	0	18.0	NR	3 - Fair	NR	Oak Forest	EPC
314932	*Quercus lobata*	valley oak	native	Yes	No	0	8.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
314933	*Quercus lobata*	valley oak	native	Yes	No	0	12.0	NR	1 - Poor	NR	Oak Forest	EPC
314935	*Quercus lobata*	valley oak	native	Yes	Yes	0	26.0	NR	4 - Good	NR	Oak Forest	EPC
18NT4	*Quercus lobata*	valley oak	native	Yes	Yes	0	45.0	32	3 - Fair	NR	Oak Forest	CalTLC
294NT	*Quercus lobata*	valley oak	native	Yes	Yes	0	35.0	NR	4 - Good	2	Oak Woodland	Dudek
29NT	*Quercus lobata*	valley oak	native	Yes	Yes	0	39.0	NR	4 - Good	2	Valley and Foothill Grassland	Dudek
31465NT	*Quercus lobata*	valley oak	native	Yes	Yes	0	23.0	NR	1 - Poor	NR	Oak Forest	EPC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
3148NT2	*Quercus lobata*	valley oak	native	Yes	Yes	0	18.0	NR	2 - Fair to Poor	NR	Oak Forest	EPC
3149NT8	*Quercus lobata*	valley oak	native	Yes	Yes	0	20.0	NR	0 - Dead	NR	Oak Forest	EPC
31NT5	*Quercus lobata*	valley oak	native	Yes	Yes	0	37.0	NR	4 - Good	2	Oak Woodland	Dudek
31NT8	*Quercus lobata*	valley oak	native	Yes	Yes	0	33.0	NR	1 - Poor	1	Oak Woodland	Dudek
446NT	*Quercus lobata*	valley oak	native	Yes	Yes	0	57.0	24	2 - Fair to Poor	NR	Oak Woodland	CalTLC
5NTNT	*Quercus lobata*	valley oak	native	No	No	0	≥1	0	0 - Dead	NR	Oak Woodland	CalTLC
88NT	*Quercus lobata*	valley oak	native	Yes	Yes	0	43.0	30	3 - Fair	NR	Oak Woodland	CalTLC
89NT	*Quercus lobata*	valley oak	native	Yes	Yes	0	47.0	33	2 - Fair to Poor	NR	Oak Forest	CalTLC
943NT	*Quercus lobata*	valley oak	native	Yes	Yes	0	24.5	24	3 - Fair	NR	Oak Forest	CalTLC
94NT8	*Quercus lobata*	valley oak	native	Yes	Yes	0	28.5	30	1 - Poor	NR	Oak Woodland	CalTLC
9NTNT	*Quercus lobata*	valley oak	native	Yes	Yes	0	41.0	24	1 - Poor	NR	Oak Woodland	CalTLC
314341	*Quercus sp.*	oak sp.	native	Yes	Yes	0	38.0	NR	0 - Dead	NR	Oak Forest	EPC
314347	*Quercus sp.*	oak sp.	native	Yes	Yes	0	33.0	NR	0 - Dead	NR	Oak Forest	EPC
314353	*Quercus sp.*	oak sp.	native	Yes	Yes	0	28.0	NR	0 - Dead	NR	Oak Forest	EPC
314375	*Quercus sp.*	oak sp.	native	No	No	0	4.0	NR	0 - Dead	NR	Oak Forest	EPC
314441	*Quercus sp.*	oak sp.	native	Yes	No	0	14.0	NR	0 - Dead	NR	Valley and Foothill Grassland	EPC
314446	*Quercus sp.*	oak sp.	native	Yes	Yes	0	19.0	NR	0 - Dead	NR	Oak Forest	EPC
317286	*Quercus sp.*	oak sp.	native	Yes	Yes	0	50.0	NR	0 - Dead	NR	Valley and Foothill Grassland	EPC
317322	*Quercus sp.*	oak sp.	native	Yes	Yes	0	50.0	NR	0 - Dead	NR	Valley and Foothill Grassland	EPC
317333	*Quercus sp.*	oak sp.	native	Yes	Yes	0	34.0	NR	0 - Dead	NR	Oak Forest	EPC
317335	*Quercus sp.*	oak sp.	native	Yes	Yes	0	42.0	NR	0 - Dead	NR	Valley and Foothill Grassland	EPC
317464	*Quercus sp.*	oak sp.	native	Yes	Yes	0	35.0	NR	0 - Dead	NR	Oak Forest	EPC
317472	*Quercus sp.*	oak sp.	native	Yes	Yes	0	25.0	NR	0 - Dead	NR	Oak Forest	EPC
317477	*Quercus sp.*	oak sp.	native	Yes	Yes	0	23.0	NR	0 - Dead	NR	Oak Forest	EPC
317579	*Quercus sp.*	oak sp.	native	Yes	Yes	0	37.0	NR	0 - Dead	NR	Oak Forest	EPC
314NT34	*Quercus sp.*	oak sp.	native	Yes	Yes	0	22.0	NR	0 - Dead	NR	Valley and Foothill Grassland	EPC
314NT35	*Quercus sp.*	oak sp.	native	Yes	No	0	11.0	NR	0 - Dead	NR	Valley and Foothill Grassland	EPC
314NT41	*Quercus sp.*	oak sp.	native	Yes	Yes	0	21.5	NR	0 - Dead	NR	Oak Woodland	EPC
31733NT	*Quercus sp.*	oak sp.	native	Yes	Yes	0	40.0	NR	0 - Dead	NR	Oak Forest	EPC
31754NT	*Quercus sp.*	oak sp.	native	Yes	Yes	0	36.0	NR	0 - Dead	NR	Oak Forest	EPC
524NT	*Quercus sp.*	oak sp.	native	Yes	Yes	0	51.5	30	2 - Fair to Poor	NR	Oak Woodland	CalTLC
5NTNT	*Quercus sp.*	oak sp.	native	No	No	0	≥1	0	0 - Dead	NR	Valley and Foothill Grassland	CalTLC
5NTNT	*Quercus sp.*	oak sp.	native	No	No	0	≥1	0	0 - Dead	NR	Valley and Foothill Grassland	CalTLC
5NTNT	*Quercus sp.*	oak sp.	native	No	No	0	≥1	0	0 - Dead	NR	Oak Woodland	CalTLC
5NTNT	*Quercus sp.*	oak sp.	native	No	No	0	≥1	0	0 - Dead	NR	Oak Forest	CalTLC
129	*Quercus wislizeni*	interior live oak	native	Yes	Yes	0	19.0	NR	1 - Poor	2	Oak Forest	Dudek
885	*Quercus wislizeni*	interior live oak	native	Yes	No	0	14.0	NR	3 - Fair	2	Oak Woodland	Dudek
886	*Quercus wislizeni*	interior live oak	native	Yes	Yes	0	29.0	NR	3 - Fair	2	Oak Woodland	Dudek

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
2146	*Quercus wislizeni*	interior live oak	native	Yes	Yes	0	32.0	35	1 - Poor	NR	Oak Forest	CalTLC
2238	*Quercus wislizeni*	interior live oak	native	Yes	Yes	0	18.0	18	1 - Poor	NR	Oak Forest	CalTLC
2329	*Quercus wislizeni*	interior live oak	native	Yes	No	0	10.0	12	2 - Fair to Poor	NR	Oak Forest	CalTLC
2331	*Quercus wislizeni*	interior live oak	native	Yes	No	0	14.0	12	3 - Fair	NR	Oak Forest	CalTLC
2344	*Quercus wislizeni*	interior live oak	native	No	No	0	≥1	10	3 - Fair	NR	Oak Forest	CalTLC
2352	*Quercus wislizeni*	interior live oak	native	Yes	No	0	8.0	10	2 - Fair to Poor	NR	Oak Forest	CalTLC
2418	*Quercus wislizeni*	interior live oak	native	Yes	Yes	0	18.0	16	1 - Poor	NR	Valley and Foothill Grassland	CalTLC
4167	*Quercus wislizeni*	interior live oak	native	Yes	Yes	0	47.0	36	1 - Poor	NR	Oak Woodland	CalTLC
4216	*Quercus wislizeni*	interior live oak	native	Yes	Yes	0	28.0	10	1 - Poor	NR	Oak Woodland	CalTLC
4331	*Quercus wislizeni*	interior live oak	native	Yes	Yes	1	50.5	36	1 - Poor	NR	Riparian Forests	CalTLC
4334	*Quercus wislizeni*	interior live oak	native	Yes	No	1	10.0	10	1 - Poor	NR	Riparian Forests	CalTLC
4335	*Quercus wislizeni*	interior live oak	native	Yes	Yes	1	36.0	40	1 - Poor	NR	Riparian Forests	CalTLC
4341	*Quercus wislizeni*	interior live oak	native	Yes	Yes	1	42.5	40	2 - Fair to Poor	NR	Riparian Forests	CalTLC
7792	*Quercus wislizeni*	interior live oak	native	Yes	Yes	0	33.0	38	2 - Fair to Poor	NR	Urban/Developed	CalTLC
8841	*Quercus wislizeni*	interior live oak	native	Yes	Yes	0	20.5	13	2 - Fair to Poor	NR	Oak Woodland	CalTLC
8843	*Quercus wislizeni*	interior live oak	native	Yes	Yes	0	26.0	24	2 - Fair to Poor	NR	Oak Woodland	CalTLC
8858	*Quercus wislizeni*	interior live oak	native	Yes	Yes	0	32.0	31	2 - Fair to Poor	NR	Oak Forest	CalTLC
8859	*Quercus wislizeni*	interior live oak	native	No	No	0	≥1	20	1 - Poor	NR	Oak Forest	CalTLC
8869	*Quercus wislizeni*	interior live oak	native	Yes	Yes	0	20.0	17	2 - Fair to Poor	NR	Oak Forest	CalTLC
8877	*Quercus wislizeni*	interior live oak	native	Yes	No	0	11.5	15	2 - Fair to Poor	NR	Oak Forest	CalTLC
8877	*Quercus wislizeni*	interior live oak	native	Yes	Yes	0	26.0	11	2 - Fair to Poor	NR	Oak Forest	CalTLC
8884	*Quercus wislizeni*	interior live oak	native	No	No	0	≥1	14	1 - Poor	NR	Valley and Foothill Grassland	CalTLC
8885	*Quercus wislizeni*	interior live oak	native	Yes	No	0	14.5	13	2 - Fair to Poor	NR	Valley and Foothill Grassland	CalTLC
8891	*Quercus wislizeni*	interior live oak	native	Yes	Yes	0	28.0	17	1 - Poor	NR	Oak Woodland	CalTLC
314485	*Quercus wislizeni*	interior live oak	native	Yes	Yes	0	44.0	NR	4 - Good	NR	Oak Woodland	EPC
314485	*Quercus wislizeni*	interior live oak	native	Yes	Yes	0	44.0	NR	4 - Good	NR	Oak Woodland	EPC
314485	*Quercus wislizeni*	interior live oak	native	Yes	Yes	0	44.0	NR	4 - Good	NR	Oak Woodland	EPC
314518	*Quercus wislizeni*	interior live oak	native	Yes	Yes	1	43.0	NR	0 - Dead	NR	Ephemeral Channel	EPC
314518	*Quercus wislizeni*	interior live oak	native	Yes	Yes	1	43.0	NR	0 - Dead	NR	Ephemeral Channel	EPC
314518	*Quercus wislizeni*	interior live oak	native	Yes	Yes	0	43.0	NR	0 - Dead	NR	Oak Forest	EPC
314532	*Quercus wislizeni*	interior live oak	native	Yes	Yes	0	39.0	NR	0 - Dead	NR	Oak Forest	EPC
314532	*Quercus wislizeni*	interior live oak	native	Yes	Yes	0	39.0	NR	0 - Dead	NR	Oak Forest	EPC
314532	*Quercus wislizeni*	interior live oak	native	Yes	Yes	0	39.0	NR	0 - Dead	NR	Oak Forest	EPC
22NT8	*Quercus wislizeni*	interior live oak	native	Yes	Yes	0	44.0	30	1 - Poor	NR	Oak Forest	CalTLC
235NT	*Quercus wislizeni*	interior live oak	native	Yes	No	0	8.0	10	2 - Fair to Poor	NR	Oak Forest	CalTLC
31492NT	*Quercus wislizeni*	interior live oak	native	Yes	Yes	0	36.0	NR	3 - Fair	NR	Oak Forest	EPC
434NT	*Quercus wislizeni*	interior live oak	native	Yes	Yes	1	22.0	33	1 - Poor	NR	Ephemeral Channel	CalTLC
9NT8	*Quercus wislizeni*	interior live oak	native	Yes	Yes	0	28.0	NR	3 - Fair	NR	Oak Woodland	EPC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
546	*Salix spp.*	willow sp.	native	No	No	0	6.0	NR	1 - Poor	3	Oak Forest	Dudek
4	*Sambucus sp.*	elderberry sp.	native	No	NR	1	NR	NR		NR	Ephemeral Channel	CalTLC
5	*Sambucus sp.*	elderberry sp.	native	No	NR	1	NR	NR		NR	Ephemeral Channel	CalTLC
NT	*Sambucus sp.*	elderberry sp.	native	No	NR	0	NR	NR		NR	Urban/Developed	CalTLC
NT	*Sambucus sp.*	elderberry sp.	native	No	NR	0	NR	NR		NR	Urban/Developed	CalTLC
NT	*Sambucus sp.*	elderberry sp.	native	No	NR	0	NR	NR		NR	Urban/Developed	CalTLC
168	Unknown sp.	unknown sp.	unknown	Yes	No	0	12.0	NR	0 - Dead	1	Oak Forest	Dudek
323	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	18.0	NR	0 - Dead	1	Oak Forest	Dudek
326	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	32.0	NR	0 - Dead	1	Oak Forest	Dudek
336	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	18.0	NR	0 - Dead	1	Oak Forest	Dudek
342	Unknown sp.	unknown sp.	unknown	Yes	No	0	14.0	NR	0 - Dead	1	Oak Forest	Dudek
418	Unknown sp.	unknown sp.	unknown	Yes	No	0	17.0	NR	0 - Dead	2	Oak Forest	Dudek
434	Unknown sp.	unknown sp.	unknown	Yes	No	0	10.0	NR	0 - Dead	1	Oak Forest	Dudek
464	Unknown sp.	unknown sp.	unknown	Yes	No	0	9.0	NR	0 - Dead	2	Oak Forest	Dudek
466	Unknown sp.	unknown sp.	unknown	Yes	No	0	13.0	NR	0 - Dead	1	Oak Forest	Dudek
467	Unknown sp.	unknown sp.	unknown	Yes	No	0	9.0	NR	0 - Dead	1	Oak Forest	Dudek
482	Unknown sp.	unknown sp.	unknown	Yes	No	0	12.0	NR	0 - Dead	1	Oak Forest	Dudek
483	Unknown sp.	unknown sp.	unknown	Yes	No	0	8.0	NR	0 - Dead	1	Oak Forest	Dudek
485	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	20.0	NR	0 - Dead	1	Oak Forest	Dudek
494	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	24.0	NR	0 - Dead	1	Oak Forest	Dudek
1364	Unknown sp.	unknown sp.	unknown	Yes	No	0	17.0	NR	0 - Dead	1	Oak Forest	Dudek
314162	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	18.0	NR	0 - Dead	NR	Oak Forest	EPC
314191	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	34.0	NR	0 - Dead	NR	Oak Forest	EPC
314222	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	19.0	NR	0 - Dead	NR	Oak Forest	EPC
314255	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	21.7	NR	0 - Dead	NR	Oak Forest	EPC
314262	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	20.0	NR	0 - Dead	NR	Oak Forest	EPC
314268	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	20.0	NR	0 - Dead	NR	Valley and Foothill Grassland	EPC
314274	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	28.0	NR	0 - Dead	NR	Oak Forest	EPC
314324	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	27.0	NR	0 - Dead	NR	Oak Forest	EPC
314325	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	18.0	NR	0 - Dead	NR	Oak Forest	EPC
314327	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	18.0	NR	0 - Dead	NR	Oak Forest	EPC
314331	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	34.0	NR	0 - Dead	NR	Oak Forest	EPC
314334	Unknown sp.	unknown sp.	unknown	Yes	No	0	13.5	NR	0 - Dead	NR	Valley and Foothill Grassland	EPC
314342	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	20.0	NR	0 - Dead	NR	Oak Forest	EPC
314351	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	18.7	NR	0 - Dead	NR	Oak Forest	EPC
314358	Unknown sp.	unknown sp.	unknown	Yes	No	0	12.0	NR	0 - Dead	NR	Oak Forest	EPC
314361	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	18.5	NR	0 - Dead	NR	Oak Woodland	EPC
314372	Unknown sp.	unknown sp.	unknown	Yes	No	0	12.5	NR	0 - Dead	NR	Oak Forest	EPC

Tag Number	*Scientific Name*	Common Name	Nativity	Protected	Heritage/ Landmark	Riparian	DBH (inches)	Canopy Width (feet)	Arborist Rating	Structural Rating	Vegetation Community	Arborist
314376	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	38.0	NR	0 - Dead	NR	Oak Forest	EPC
314388	Unknown sp.	unknown sp.	unknown	Yes	No	0	13.0	NR	0 - Dead	NR	Oak Forest	EPC
314392	Unknown sp.	unknown sp.	unknown	Yes	No	0	17.0	NR	0 - Dead	NR	Oak Forest	EPC
314395	Unknown sp.	unknown sp.	unknown	Yes	No	0	16.0	NR	0 - Dead	NR	Oak Forest	EPC
314448	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	38.0	NR	0 - Dead	NR	Oak Woodland	EPC
314455	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	46.0	NR	0 - Dead	NR	Oak Forest	EPC
314572	Unknown sp.	unknown sp.	unknown	Yes	No	0	14.0	NR	0 - Dead	NR	Oak Woodland	EPC
314641	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	48.0	NR	0 - Dead	NR	Oak Forest	EPC
314645	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	25.0	NR	0 - Dead	NR	Oak Forest	EPC
314666	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	29.0	NR	0 - Dead	NR	Oak Forest	EPC
314666	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	29.0	NR	0 - Dead	NR	Oak Forest	EPC
314678	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	27.0	NR	0 - Dead	NR	Oak Forest	EPC
314731	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	24.0	NR	0 - Dead	NR	Oak Forest	EPC
314758	Unknown sp.	unknown sp.	unknown	Yes	No	0	12.0	NR	0 - Dead	NR	Oak Forest	EPC
314961	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	25.0	NR	0 - Dead	NR	Oak Woodland	EPC
314984	Unknown sp.	unknown sp.	unknown	Yes	No	0	15.0	NR	0 - Dead	NR	Oak Forest	EPC
314996	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	55.0	NR	0 - Dead	NR	Oak Forest	EPC
317213	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	28.0	NR	0 - Dead	NR	Oak Woodland	EPC
317215	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	22.0	NR	0 - Dead	NR	Oak Forest	EPC
317226	Unknown sp.	unknown sp.	unknown	Yes	Yes	1	24.0	NR	0 - Dead	NR	Riparian Forests	EPC
317228	Unknown sp.	unknown sp.	unknown	Yes	Yes	1	32.0	NR	0 - Dead	NR	Riparian Forests	EPC
317291	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	39.0	NR	0 - Dead	NR	Oak Forest	EPC
317295	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	35.0	NR	0 - Dead	NR	Oak Forest	EPC
3144NT9	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	29.0	NR	0 - Dead	NR	Oak Forest	EPC
31458NT	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	41.0	NR	0 - Dead	NR	Oak Woodland	EPC
3147NT4	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	20.0	NR	0 - Dead	NR	Oak Forest	EPC
3147NT9	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	19.0	NR	0 - Dead	NR	Oak Forest	EPC
3148NT1	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	37.0	NR	0 - Dead	NR	Oak Forest	EPC
3148NT4	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	22.0	NR	0 - Dead	NR	Oak Forest	EPC
314NT28	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	40.0	NR	0 - Dead	NR	Oak Forest	EPC
314NT33	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	43.0	NR	0 - Dead	NR	Oak Woodland	EPC
314NT3NT	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	20.0	NR	0 - Dead	NR	Oak Woodland	EPC
31722NT	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	30.0	NR	0 - Dead	NR	Valley and Foothill Grassland	EPC
3173NT1	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	42.3	NR	0 - Dead	NR	Oak Forest	EPC
317NTNT8	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	28.0	NR	0 - Dead	NR	Oak Forest	EPC
3NT5	Unknown sp.	unknown sp.	unknown	Yes	No	0	11.0	NR	0 - Dead	1	Oak Forest	Dudek
4NT1	Unknown sp.	unknown sp.	unknown	Yes	Yes	0	28.0	NR	0 - Dead	2	Oak Woodland	Dudek

South Sacramento Habitat Conservation Plan Consistency Analysis

Coyote Creek Agrivoltaic Ranch Project

AUGUST 2023

REVISION VERSION #01 FEBRUARY 2024

REVISION VERSION #02 NOVEMBER 2024

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
AC	alternating current
AMM	avoidance and minimization measure
ARP	Aquatic Resources Program
BMPs	Best Management Practices
BTR	Biological Technical Report
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
County	County of Sacramento
DVH	Designated Critical Habitat
EFH	Essential Fish Habitat
ESA	Endangered Species Act
gen-tie	Generation tie line
ITP	Incidental Take Permit
PAR	Property Analysis Record
PGP	Programmatic General Permit
PMP	preserve management plan
PPU	preserve planning unit
Project	Coyote Creek Agrivoltaic Ranch Project
PSA	Project Study Area
PV	photovoltaic
RWQCB	Regional Water Quality Control Board
SSCA	South Sacramento Conservation Agency
SSHCP	South Sacramento Habitat Conservation Plan
SVRA	State Vehicle Recreation Area
UDA	Urban Development Area
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
VPIH	vernal pool invertebrate habitat

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1 Introduction

This South Sacramento Habitat Conservation Plan Consistency Analysis for the Coyote Creek Agrivoltaic Ranch Project (Project) supplements the Biological Technical Report (BTR; Dudek 2024) by providing an in-depth evaluation of the Project's consistency with the South Sacramento Habitat Conservation Plan (SSHCP) for purposes of CEQA Guidelines section 15125(d). While the Project is not considered a covered activity under the SSHCP, the SSHCP "does not preclude activities from occurring … provided they obtain the legally required local, state, and federal permits and approvals otherwise and customarily required, including mitigation for impacts caused by those activities." The SSHCP acknowledges that the Sacramento County General Plan (General Plan) provides for land uses that are not SSHCP covered activities, but that are within the SSHCP Plan Area. Thus, while not a covered activity, the Project utilized the SSHCP to develop a mitigation approach for the Project that is consistent with the SSHCP. A mitigation approach that aligns with the SSHCP will allow for consistency of review among regulators and decision-makers within a framework that is familiar for all parties involved.

1.1 Project Overview

The Project would involve construction and operation of an approximately 200-megawatt alternating current (AC) photovoltaic (PV) solar energy-generating facility and include an on-site substation, inverters, fencing, roads, and supervisory control and data acquisition system. The proposed energy storage components would include an approximately 100-megawatt AC power output with approximately 400 megawatt-hours of capacity battery energy storage system (BESS). The site of the Project, Barton Ranch, has an existing easement for access and utilities that go from Barton Ranch to the intersection of Grantline Road and White Rock Road. The Project's generation tie (gen-tie) line is approximately 1.3-mile-long, where a new Switchyard will be constructed to interconnect into Sacramento Municipal Utility District's (SMUD) 230-kilovolt powerline in proximity to the Prairie City State Vehicle Recreation Area (SVRA).

Barton Ranch has historically been grazed with sheep and cattle. The Project would ensure grazing and ranching activities continue, and that the ranch remains as a large ranch under the Williamson Act. New troughs and fencing will be installed, along with new seeding of portions of the ranch to provide quality grazing habitat within the fenced solar array. Additionally, areas of pollinator-friendly habitat would be created.

1.2 Project Location

The approximately 2,704-acre Project Study Area (PSA) is located on the Barton Ranch adjacent to 3830 Scott Road, Sacramento County, California (Figure 1, Project Location). The PSA is comprised of the "solar development area" (1,412 acres), and all other areas referenced as "adjacent other lands" (1,292 acres).

The site is approximately 2.5 miles south of White Rock Road in the Cosumnes community. The Project site is located approximately 4.5 miles south of U.S. Route 50, southeast of the Prairie City SVRA and is bisected by Scott Road. A gen-tie line would extend approximately 1.3 miles to provide an interconnection to the SMUDs 230-kilovolt powerline which runs through Prairie City SVRA (Figure 2, Project Setting).

The location of the Project was selected because of its proximity to the existing SMUDs transmission corridor, the fact that the land is actively used for grazing activities[1], the site's nearby access to existing roads, and the site's excellent solar irradiance. The Project gen-tie (15.83 acres) corridor will be within/connecting to SMUDs transmission corridor. Land uses in the area include grazing, mining, Aerojet's industrial lands, and the Prairie City SVRA. Locally, the main access to the Project would be from Scott Road.

The PSA is located within the SSHCP Plan Area, however most of the solar development area of the Project is located outside the SSHCP Urban Development Area (UDA), with only a small portion of the northwestern boundary of the solar development area of the Project located inside the UDA (159.80 acres; only PPU 1). The solar development area of the PSA comprises Preserve Planning Unit (PPU) 1 (159.80 acres) and PPU 5 (147.96 acres) (Figure 3, South Sacrament Habitat Conservation Plan Modeled Land Cover) (see Section 2 below).

1.3 Purpose of the Consistency Analysis

The purpose of this analysis is to evaluate under CEQA the consistency of the proposed Project's impacts and compensatory mitigation relative to the final approved and adopted SSHCP (County of Sacramento et al. 2018).

[1] The SSHCP classifies grazing lands as 'irrigated pasture- grassland land cover' most commonly used as seasonal pasture. The SSHCP describes grazing on these lands as 'grazed primarily by cattle during some part of the year'. Grazing is also described as an adaptive habitat management and monitoring method/tool (County of Sacramento et. al. 2018).

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2 SSHCP Background and the Project

The SSHCP is a regional plan that allows project proponents within the Plan Area to expedite federal and state Endangered Species Acts (ESA) permitting. As such, the SSHCP permittees (i.e., County of Sacramento [County], City of Rancho Cordova, City of Galt, Sacramento County Water Agency, and the Southeast Connector Joint Powers Authority) received Incidental Take Permits (ITPs) for certain project activities covered by the SSHCP. This allows for the County and cities to be covered for incidental take coverage under their California Department of Fish and Wildlife (CDFW) and U.S. Fish and Wildlife Service (USFWS) ESA ITPs to third-party project proponents covered activities. The SSHCP also integrates an Aquatic Resources Program that allows the U.S. Army Corps of Engineers (USACE) to issue a Programmatic General Permit for SSHCP covered activities. The PGP allows many Clean Water Act impacts to be mitigated through the SSHCP, without separately applying for USACE permit coverage. For impacts that exceed the thresholds of the Programmatic General Permit (i.e., generally two acres), the USACE has developed an expedited process for issuance of Letters of Permission or Individual Permits for covered activities. The Regional Water Quality Control Board (RWQCB) and CDFW are unable to delegate the approval authority to the SSHCP permittees, however, have established an expedited permitting approval process for covered activities (County of Sacramento et. al. 2018).

The approximately 317,600-acre SSHCP Plan Area is in the southern portion of the County and is broken into two components: (1) areas within the UDA, and (2) certain areas outside the UDA. The SSHCP identified eight types of covered activities: (1) urban developing in the UDA, (2) mining in the UDA, (3) rural transportation projects, (4) recycled water projects, (5) covered activities in preserve setbacks in the UDA, (6) covered activities in stream setbacks in the UDA, (7) SSHCP preserve system covered activities, and (8) covered activities in the Laguna Creek Wildlife Corridor of the preserve. Solar development outside the UDA is not expressly prohibited but is also not analyzed in the SSHCP or its environmental document. Only activities that the County determines were analyzed in those documents could be considered as new covered activities using the existing SSHCP permits (County of Sacramento et. al. 2018).

The Project is located within the SSHCP Plan Area; most of the solar development area of the Project is located outside the UDA and a portion of the solar development area of the Project is located inside the UDA. The solar development area is composed of PPU 1 and PPU 5 of the SSHCP Plan Area. Only the portion of PPU 1 in the solar development area is within the UDA. The Project is located primarily outside the UDA, and the Project does not meet the SSHCP criteria for adding the Project as a covered activity. As described in SSHCP Section 1.2.5, the SSHCP "does not preclude activities from occurring outside the UDA, provided they obtain the legally required local, state, and federal permits and approvals otherwise and customarily required, including mitigation for impacts caused by those activities." As such, this consistency analysis assumes the Project is not a covered activity under the SSHCP, as the SSHCP does not explicitly cover utility-scale solar projects (County of Sacramento et. al. 2018). Therefore, species ESA take permits for any listed species and wetlands impact permits would need to be obtained by other means separate from the SSHCP. It is noted that the SSHCP acknowledges that the General Plan provides for land uses that are not SSHCP covered activities, but that are within the SSHCP Plan Area.

2.1 SSHCP Conservation Strategy

The SSHCP 'Conservation Strategy' mitigates to the maximum extent practicable the impacts of covered activities. The Conservation Strategy is built around Avoidance and Minimization Measures (AMMs) for covered activities (i.e.,

SSHCP Section 5.4), biological goals and objectives (i.e., SSHCP Section 7.3), and development of a preserve system (i.e., SSHCP Section 7.4) for the land covers and covered species in the Plan Area. Most of the biological goals and objectives are tied to how the preserve system is assembled, but some objectives are separate from preserve system assembly with measurable objectives (Sacramento County et. al. 2018).

2.1.1 SSHCP Land Covers

The SSHCP describes land cover types that have been mapped and modeled within the entirety of the Plan Area. This land cover mapping provides the baseline for calculation of SSHCP covered activity impacts and fees, as well preliminary assessment of preserve parcel value. The SSHCP land cover types with habitat value that have been mapped within PSA include (County of Sacramento et. al. 2018):

- **Terrestrial:** Valley grassland, blue oak savanna, blue oak woodland, cropland, and irrigated pasture.
- **Riparian:** Mixed riparian scrub, and mine tailings riparian woodland.
- **Aquatic Resources:**
  - **Wetlands:** Vernal pool, swale, seasonal wetland, and freshwater marsh.
  - **Non-Wetland Waters:** Stream/creeks (vernal pool invertebrate habitat [VPIH]), stream/creek, and open water.

Other developed/non-habitat land cover in the Plan Area, however not mapped within the PSA include (County of Sacramento et. al. 2018).

- **Developed/Non-Habitat:** Mine tailings, high density development, low density development, major roads, and recreation/landscaped.

Figure 3 provides an overview of the SSHCP modeled land cover types within the PSA; and Figure 4, SSHCP Land Cover Types in the Plan Area, provides an overview of all modeled and mapped land cover through the SSHCP Plan area in the County.

2.1.2 SSHCP Covered Species

The SSHCP addresses 28 covered species (20 wildlife species and 8 plant species). Of these SSHCP 28 covered species, 23 have known occurrences and/or the potential to occur within the PSA. Species excluded due to range restrictions, etc. comprise mid-valley fairy shrimp (*Branchinecta mesvallensis*), giant gartersnake (*Thamnophis gigas*), northern harrier (*Circus cyaneus*), greater sandhill crane (*Grus canadensis tabida*), and loggerhead shrike (*Lanius ludovicianus*) (Dudek 2024). All species listed below are covered under the SSCHP and have the potential to occur within the PSA ("*" denotes those species that are listed as threatened, endangered, and/or candidate species under a federal and/or state ESA).

- **Invertebrates:** Vernal pool tadpole shrimp* (*Lepidurus packardi*), vernal pool fairy shrimp* (*Branchinecta lynchi*), valley elderberry longhorn beetle* (*Desmocerus californicus dimorphus*), and Ricksecker's water scavenger beetle (*Hydrochara rickseckeri*);
- **Amphibians:** Western spadefoot (*Spea hammondii*)*, and California tiger salamander (Central Valley population, *Ambystoma californiense)**;
- **Reptiles:** Western pond turtle (*Actinemys marmorata*)*;

- **Birds:** Cooper's hawk (*Accipiter cooperii*), tricolored blackbird* (*Agelaius tricolor*), western burrowing owl (*Athene cunicularia hypugaea*), ferruginous hawk (*Buteo regalis*), Swainson's hawk* (*Buteo swainsoni*), and white-tailed kite (*Elanus leucurus*)*;
- **Mammals:** Western red bat (*Lasiurus blossevillii*) and American badger (*Taxidea taxus*); and
- **Plants:** Dwarf downingia (*Downingia pusilla*), Boggs Lake hedge-hyssop* (*Gratiola heterosepala*), Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii),* legenere (*Legenere limosa*), pincushion navarretia (*Navarretia myersii*), slender Orcutt grass* (*Orcuttia tenuis*), Sacramento Orcutt grass* (*Orcuttia viscida*), and Sanford's arrowhead (*Sagittaria sanfordii*).

2.1.3 SSHCP AMMs

The SSHCP AMMs are intended to be implemented, as appropriate, for covered activities under the plan to avoid or minimize direct and indirect impacts to covered species and their habitats. The SSHCP permittees (e.g., the County) are responsible for ensuring that covered activities authorized under the plan implement the SSHCP AMMs appropriate to those projects/activities. A summary of general AMMs are outlined below.

General AMMs

- **Condition 1. Avoid And Minimize Urban Development Impacts to Watershed Hydrology and Water Quality:** SSHCP AMMs include LID-1 (Stormwater Quality), LID-2 (Groundwater Recharge), and LID-3 (Natural Site Features).
- **Condition 2. Avoid and Minimize Urban Development Direct and Indirect Impacts to Existing Preserves and SSHCP Preserves:** SSHCP AMMs include EDGE-1 (Compatible Land Uses), EDGE-2 (Single-Loaded Streets), EDGE-3 (Preserve Setbacks), EDGE-3a (Setback Recreational Trails), EDGE-3b (Setback Firebreaks), EDGE-3c (Setback Shade Trees and Landscaping), EDGE-4 (Locate Stormwater Control Outside Preserves), EDGE-5 (Stormwater Control in Preserve Setbacks), EDGE-6 (Detention Basins in Linkage Preserves), EDGE-7 (Hardpan/Duripan Protection), EDGE-8 (Outdoor Lighting), EDGE-9 (Livestock Access to Preserves), and EDGE-10 (Prevent Invasive Species Spread).
- **Condition 3. Implement Construction Best Management Practices (BMPs):** SSHCP AMMs include BMP-1 (Construction Fencing), BMP-2 (Erosion Control), BMP-3 (Equipment Storage and Fueling), BMP-4 (Erodible Materials), BMP-5 (Dust Control), BMP-6 (Construction Lighting), BMP-7 (Biological Monitor), BMP-8 (Training of Construction Staff), BMP-9 (Soil Compaction), BMP-10 (Revegetation), and BMP-11 (Speed Limit).
- **Condition 4. Avoid and Minimize Impacts That May Result from Implementation of Covered Transportation Projects:** SSHCP AMMs include ROAD-1 (Road Project Location), ROAD-2 (Wildlife Crossing Structures), and Road-3 (Roadside Pesticide Use).
- **Condition 5. Avoid and Minimize Impacts that Result From Public Use of Low-Impact Nature Trails in Preserves:** SSHCP AMMs include NATURE TRAIL-1 (Nature Trail Plan), NATURE TRAIL-2 (Nature Trail Protection of Duripan), NATURE TRAIL-3 (Nature Trail Location), NATURE TRAIL-4 (Biological Studies Prior to Nature Trail Design), and NATURE TRAIL-5 (Monitoring of Nature Trail Impacts).
- **Condition 6. Avoid and Minimize Impacts When Re-Establishing or Establishing Wetlands:** SSHCP AMMs include RE-ESTABLISHMENT/ESTABLISHMENT-1 (Vernal Pool), RE-ESTABLISHMENT/ESTABLISHMENT-2 (Vernal Pool Inocula Bank), and RE-ESTABLISHMENT/ESTABLISHMENT-3 (Re-establishment/Establishment of Freshwater Marsh or Open Water Near Airports).
- **Condition 7. Avoid and Minimize Impacts to Streams and Creeks:** SSHCP AMMs include STREAM-1 (Laguna Creek Wildlife Corridor), STREAM-2 (UDA Stream Setbacks, STREAM-3 (Minor Tributaries to UDA Streams),

STREAM-4 (Minimize Effects from Temporary Channel Re-Routing), and STREAM-5 (Design for Stream Channel Re-Routing, Widening, or Deepening).

- **Condition 8. Avoid and Minimize Impacts to Covered Species From Utility and Utility Maintenance Covered Activities:** SSHCP AMMs include UTILITY-1 (Avian Collision Avoidance), UTILITY-2 (Utility Maintenance on Preserves), UTILITY-3 (Trenchless Construction Methods), and UTILITY-4 (Siting of Entry and Exit Locations).
- **Condition 9. Avoid and Minimize Impacts That Might Result from Removing or Breaching Levees to Establish or Re-Establish Riparian Habitat:** SSHCP AMM include LEVEE-1 (Preparation of Hydraulic Analysis).
- **Condition 10. Avoid and Minimize Impacts That Might Result from Potential Residual Contamination of Preserves and Related Exposure of People to Such Hazardous Materials:** SSHCP AMMs include HAZARDOUS MATERIALS-1 (Preparation of Phase 1 Environmental Site Assessment) and HAZARDOUS MATERIALS-2 (Contingency Plan).

Covered Species Take AMMs

- **General Covered Species Take Avoidance and Minimization:** SSHCP AMMs include SPECIES-1 (Litter Removal Program), SPECIES-2 (No Pets in Construction Areas), SPECIES-3 (Take Reports), and SPECIES-4 (Post-Construction Compliance Report).
- **Rare Plants:** SSHCP AMMs include PLANT-1 (Rare Plant Surveys) and PLANT-2 (Rare Plant Protection).
- **Sacramento and Slender Orcutt Grass:** SSHCP AMMs include ORCUTT-1 (Orcutt Grass Surveys) and ORCUTT-2 (Orcutt Grass Protection).
- **California Tiger Salamander:** SSHCP AMMs include CTS-1 (California Tiger Salamander Daily Construction Schedule), CTS-2 (California Tiger Salamander Exclusion Fencing), CTS-3 (California Tiger Salamander Monitoring), CTS-4 (Avoid California Tiger Salamander Entrapment), CTS-5 (California Tiger Salamander Encounter Protocol), CTS-6 (Erosion Control Materials in California Tiger Salamander Habitat), and CTS-7 (Rodent Control).
- **Western Spadefoot:** SSHCP AMMs include WS-1 (Western Spadefoot Work Window), WS-2 (Western Spadefoot Exclusion Fencing), WS-3 (Western Spadefoot Monitoring), WS-4 (Avoid Western Spadefoot Entrapment), WS-5 (Erosion Control Materials in Western Spadefoot Habitat), and WS-6 (Western Spadefoot Encounter Protocol).
- **Giant Gartersnake:** SSHCP AMMs include GGS-1 (Giant Gartersnake Surveys), GGS-2 (Giant Gartersnake Work Window), GGS-3 (Giant Gartersnake Monitoring), GGS-4 (Giant Gartersnake Habitat Dewatering and Exclusion), GGS-5 (Avoid Giant Gartersnake Entrapment), GGS-6 (Erosion Control Materials in Giant Gartersnake Habitat), GGS-7 (Giant Gartersnake Encounter Protocol), and GGS-8 (Giant Gartersnake Post-Construction Restoration).
- **Western Pond Turtle:** SSHCP AMMs include WPT-1 (Western Pond Turtle Surveys), WPT-2 (Western Pond Turtle Work Window), WPT-3 (Western Pond Turtle Monitoring), WPT-4 (Western Pond Turtle Habitat Dewatering and Exclusion), WPT-5 (Avoid Western Pond Turtle Entrapment), WPT-6 (Erosion Control Materials in Western Pond Turtle Habitat), WPT-7 (Western Pond Turtle Modeled Habitat Speed Limit), WPT-8 (Western Pond Turtle Encounter Protocol), and WPT-9 (Western Pond Turtle Post-Construction Restoration.
- **Tricolored Blackbird:** SSHCP AMMs include TCB-1 (Tricolored Blackbird Surveys), TCB-2 (Tricolored Blackbird Pre-Construction Surveys), TCB-3 (Tricolored Blackbird Nest Buffer), TCB-4 (Tricolored Blackbird Nest Buffer Monitoring), and TCB (Timing of Pesticide Use and Harvest Timing in Agricultural Preserves).

- **Swainson's Hawk:** SSHCP AMMs include SWHA-1 (Swainson's Hawk Surveys), SWHA-2 (Swainson's Hawk Pre-Construction Surveys), SWHA-3 (Swainson's Hawk Nest Buffer), and SWHA-4 (Swainson's Hawk Nest Buffer Monitoring).
- **Greater Sandhill Crane:** SSHCP AMMs include GSC-1 (Greater Sandhill Crane Surveys), GSC-2 (Greater Sandhill Crane Pre-Construction Surveys), GSC-3 (Greater Sandhill Crane Roosting Buffer), GSC-4 (Greater Sandhill Crane Visual Barrier), and GSC-5 (Greater Sandhill Crane Roosting Buffer Monitoring).
- **Western Burrowing Owl:** SSHCP AMMs include WBO-1 (Western Burrowing Owl Surveys), WBO-2 (Western Burrowing Owl Pre-Construction Surveys), WBO-3 (Burrowing Owl Avoidance), WBO-4 (Burrowing Owl Construction Monitoring), WBO-5 (Burrowing Owl Passive Relocation), WBO-6 (Burrowing Owl Timing of Maintenance Activities, and WBO-7 (Rodent Control).
- **Covered Raptor Surveys:** SSHCP AMMs include RAPTOR-1 (Raptor Surveys), RAPTOR-2 (Raptor Pre-Construction Surveys), RAPTOR-3 (Raptor Nest/Roost Buffer), and RAPTOR-4 (Raptor Nest/Roost Buffer Monitoring).
- **Western Red Bat:** SSHCP AMMs include BAT-1 (Winter Hibernaculum Surveys), BAT-2 (Winter Hibernaculum Pre-Construction Surveys), BAT-3 (Winter Hibernaculum Buffer), and BAT-4 (Bat Eviction Methods).

2.1.4 SSHCP Biological Goals and Objectives

The SSHCP landscape, natural community, and covered species biological goals and objectives summarized in Table 1 below.

Table 1. Sacramento Habitat Conservation Plan (SSHCP) Biological Goals and Objectives

SSHCP Goal	SSHCP Objective
Goal 1. Preserve and link intact landscapes that include the highest-quality habitat for covered species within the Plan Area.	**Objective L1.** Establish a minimum 'Preserve System' of 36,282 acres of natural land covers that preserves 34,495 acres and reestablishes or establishes 1,787 acres of habitat for covered species and other native biota as a component of the Preserve System. Of the 34,495 acres of preservation, at least 6,941 acres will be within the Urban Development Area (UDA). Of the 1,787 acres of reestablishment or establishment, at least 130 acres will be within the UDA. Preserves will be assembled in accordance with the Conservation Actions in this table. **Objective L2.** Establish a minimum of 11 'Linkage Preserves' that provide interconnections between the 'Landscape, Core, Minor, and Satellite Preserves' or existing preserves. The Linkage Preserves will be designed and located to maintain connectivity between existing preserves and SSHCP Preserves, providing for wildlife movement and, in many cases, hydrological connections between Preserves. Linkage Preserves will have a minimum width of 600 feet, except where this minimum width is not possible due existing physical constraints such as adjacent existing land uses or ownership constraints and in such cases minor variations on minimum width may be allowed in accordance with the processes outlined in the SSHCP.
Goal 2. Maintain or improve physical, chemical, and biological functions of aquatic resources within the Plan Area.	**Objective W1.** Ensure that during implementation of Objective L2 (establishing minimum of 11 Linkage Preserves), the Linkage Preserves that include creeks or streams will include the creek plus a minimum 300-foot setback on each side of the creek. **Objective W2. '**Covered Activities' will implement the following, as outlined in Section 5.4.2: ▪ Incorporate the SSHCP Design Avoidance and Minimization Measures (AMMs; Low-Impact Development (LID) and ROAD AMMs). ▪ Ground disturbance AMMs (Best Management Practices [BMPs] and ROAD AMMs). **Objective W3.** Covered Activities will implement 'Stream Setback' requirements in the UDA for creeks and streams, as described in AMM STREAM-1, STREAM-2, and STREAM-3. Covered Activities will implement Preserve Setback requirements in the UDA as described in AMM EDGE-3. **Objective W4.** Ensure that aquatic resources are preserved during assembly of the SSHCP Preserve System and are managed in perpetuity (see Objectives VG1, VP1, VP3, SW1, FWM1, ES1, SC1, OW1, RIP1, and RIP3). **Objective W5.** Ensure that aquatic resources are re-established and/or established at a minimum 1:1 ratio during assembly of the SSHCP Preserve System in compliance with Conservation Actions listed in this table (see Objectives VP2, VP5, SW2, FWM2, OW2, RIP2, and RIP4). **Objective W6.** Covered Activities will avoid a minimum of 20% of first and second order tributaries to Elder Creek, Frye Creek, Gerber Creek, Morrison Creek, Paseo Central, and Sun Creek in the UDA.

Table 1. Sacramento Habitat Conservation Plan (SSHCP) Biological Goals and Objectives

SSHCP Goal	SSHCP Objective
	Objective W7. Ensure that when re-establishing/establishing vernal pools, swales, and freshwater marsh that a minimum of 50 acres of vernal pool, 30 acres of swale, and 50 acres of freshwater marsh re-establishment/establishment will occur within the Morrison Creek Watershed.
Goal 3. Preserve, re-establish, or establish natural land covers (including Cropland and Irrigated Pasture/ Grassland) that provide habitat for covered species. [Aquatic]	**Objective VG1.** Preserve a minimum of 22,014 acres of Valley Grassland land cover within the Vernal Pool ecosystem. The Preserves will be assembled in accordance with the Conservation Actions in this table and the overall SSHCP. **Objective VP1a.** Preserve a minimum of 966 acres of Vernal Pool in the Plan Area. **Objective VP1b.** Impacts to Vernal Pool within or adjacent to (within 1 mile of) the Mather Core Recovery Area and Cosumnes/Rancho-Seco Recovery Area will be mitigated within or adjacent to (within 1 mile of) the Mather Core Recovery Area and/or Cosumnes/Rancho-Seco Recovery Area. **Objective VP2.** Re-establish and/or establish a minimum of 389 acres of functional Vernal Pool, including at least 50 acres within or adjacent to (within 1 mile of) the Mather Core Recovery Area. **Objective VP3.** Preserve a minimum of 278 acres of Swale. The Preserves will be assembled in accordance with the Conservation Actions in this table and in accordance with the overall SSHCP. **Objective VP4.** Preserve a minimum of 26 acres of Swale or Stream/Creek (Verbal Pool Invertebrate Habitat [VPIH]) land cover type for impacts to the Stream/Creek (VPIH) land cover type. The Preserves will be assembled in accordance with the Conservation Actions in this table and in accordance with the overall SSHCP. **Objective VP5.** Re-establish and/or establish a minimum of 256 acres of Swale or vernal pool for impacts to the Swale and Stream/Creek (VPIH) land covers. Re-establishment and/or establishment will occur in accordance with the Conservation Actions in this table. **Objective VP6.** Re-establish and/or establish a minimum of 300 acres of functional Vernal Pool Ecosystem within or adjacent to (within 1 mile of) the Mather Core Recovery Area. **Objective SW1.** Preserve a minimum of 105 acres of Seasonal Wetland. The Preserves will be assembled in accordance with the Conservation Actions in this table and in accordance with Section 7.5. **Objective SW2.** Re-establish and/or establish a minimum of 105 acres of Seasonal Wetland. Re-establishment and/or establishment will occur in accordance with the Conservation Actions in this table. **Objective FWM1.** Preserve a minimum of 127 acres of Freshwater Marsh. The Preserves will be assembled in accordance with the Conservation Actions in this table and in accordance with the overall SSHCP. **Objective FWM2.** Re-establish and/or establish a minimum of 127 acres of functional Freshwater Marsh. Re-establishment and/or establishment will occur in accordance with the Conservation Actions in this table.

Table 1. Sacramento Habitat Conservation Plan (SSHCP) Biological Goals and Objectives

SSHCP Goal	SSHCP Objective
	Objective SC1. Preserve a minimum of 117 acres of the Stream/Creek land cover. The Preserves will be assembled in accordance with the Conservation Actions in this table and in accordance with the overall SSHCP. **Objective SC2.** Re-establish and/or establish a minimum of 117 acres of the Stream/Creek land cover. Re-establishment and/or establishment will occur in accordance with the Conservation Actions in this table and in accordance with the overall SSHCP. **Objective OW1.** Preserve a minimum of 155 acres of Open Water (or a land cover that provides equivalent or better habitat for covered species affected by the loss of Open Water, as determined by the Technical Advisory Committee [TAC]. The Preserves will be assembled in accordance with the Conservation Actions in this and in accordance with the overall SSHCP. **Objective OW2.** Re-establish and/or establish a minimum of 155 acres of Open Water (or a land cover that provides equivalent or better habitat value for covered species affected by the loss of Open Water, as determined by the TAC). Re-establishment and/or establishment will occur in accordance with the Conservation Actions in this table and in accordance with the overall SSHCP. **Objective RIP1.** Preserve a minimum of 964 acres of Mixed Riparian Woodland and/or Mixed Riparian Scrub for impacts to Mixed Riparian Woodland, Mixed Riparian Scrub and Mine Tailing Riparian Woodland land cover type. The Preserves will be assembled in accordance with the Conservation Actions in this table and in accordance with the overall SSHCP. **Objective RIP2.** Re-establish and/or establish a minimum of 591 acres of Mixed Riparian Woodland and/or Mixed Riparian Scrub for impacts to Mixed Riparian Woodland, Mixed Riparian Scrub and Mine Tailing Riparian Woodland land cover type. Re-establishment and/or establishment will occur in accordance with the Conservation Actions in this table and in accordance with the overall SSHCP.
Goal 3. Preserve, re-establish, or establish natural land covers (including Cropland and Irrigated Pasture/ Grassland) that provide habitat for covered species. [Terrestrial]	**Objective BOW1.** Preserve a minimum of 47 acres of Blue Oak Woodland and/or Blue Oak Savanna for direct impacts to Blue Oak Woodland and Blue Oak Savanna. The Preserves will be assembled in accordance with the Conservation Actions in this table and in accordance with the overall SSHCP. **Objective BOW2.** Re-establish and/or establish a minimum of 47 acres of Blue Oak Woodland and/or Blue Oak Savanna for direct impacts to Blue Oak Woodland and Blue Oak Savanna. Re-establishment and/or establishment will occur in accordance with the Conservation Actions in this table. **Objective AG1.** Preserve a minimum of 9,696 acres of Cropland and/or Irrigated Pasture-Grassland, including 1,000 acres outside the 100-year floodplain in accordance with Objective GS6. The Preserves will be assembled in accordance with the Conservation Actions in this table and in accordance with the overall SSHCP.
Goal 4. Maintain or improve habitat value of	**Objective HAB1.** Develop Preserve Management Plans (PMP) for the benefit of covered species.

Table 1. Sacramento Habitat Conservation Plan (SSHCP) Biological Goals and Objectives

SSHCP Goal	SSHCP Objective
natural land covers (including Cropland and Irrigated Pasture/ Grassland) that are preserved within the Plan Area.	**Objective HAB2.** Assess whether SSHCP Preserves are being managed and maintained for the benefit of covered species. **Objective HAB3.** Record management history for Preserve parcels as they are obtained. Consider management history when developing Initial PMP. **Objective HAB4.** Develop and implement an early detection and eradication program for invasive species within the Plan Area. The program will include regular weed assessment and mapping within the UDA, and a comprehensive weed detection and abatement plan for the Plan Area, including training of road crews to identify and report weeds. **Objective HAB5.** Monitor Preserves for edge effects (e.g., weeds, noise, hydrology, litter). **Objective HAB6.** Collect weather data throughout Sacramento County to assist in developing status and trends and tracking climate change and data. **Objective HAB7.** Monitor vegetation biomass within Grassland land covers. **Objective AG2.** Of the 9,696 acres preserved under Objective AG1, maintain at least 2,000 of those acres of high-quality foraging crops (e.g., corn, alfalfa, or wheat) preferred by tricolored blackbird (*Agelaius tricolor*), greater sandhill crane (*Grus canadensis*), and the Covered raptor species. The 2,000 acres will be distributed in strategic locations throughout Preserve Planning Units (PPUs) 4, 5, or 6 in plots of 20 acres or more. The Preserves will be assembled in accordance with the Conservation Actions in this table and in accordance with the overall SSHCP. **Objective AG3.** Maintain or increase raptor prey availability and improve raptor foraging habitat by strategically planting 10,000 linear feet of shrub or other substrate that provides cover and refugia for fossorial mammals and other prey species. **Objective RIP5.** Monitor groundwater table as it relates to status and trends for Riparian habitat.
Goal 5. Maintain or expand the existing distribution of each covered species within the Plan Area. [Plant covered species]	**Objective VPP1.** Protect the one currently documented unpreserved occurrence of Ahart's dwarf rush in the Plan Area. Prior to take of any occurrence of Ahart's dwarf rush (*Juncus leiospermus*), protect six currently unpreserved and "biologically equivalent or superior" (as defined by the TAC) occurrences of Ahart's dwarf rush within the Plan Area. After six currently unpreserved occurrences are protected, prior to take of an occurrence of Ahart's dwarf rush, protect one currently unpreserved and "biologically equivalent or superior" (as defined by the TAC) occurrence of Ahart's dwarf rush within the Plan Area. **Objective VPP2.** Prior to take of any occurrence of Boggs Lake hedge-hyssop (*Gratiola heterosepala*), protect one currently unpreserved1 and "biologically equivalent or superior" (as defined by the TAC) occurrence of Boggs Lake hedge hyssop within the Plan Area.

Table 1. Sacramento Habitat Conservation Plan (SSHCP) Biological Goals and Objectives

SSHCP Goal	SSHCP Objective
	Objective VPP3. Prior to take of any occurrence of dwarf downingia (*Downingia pusilla*), protect one currently unpreserved1 and "biologically equivalent or superior" (as defined by the TAC) occurrence of dwarf downingia within the Plan Area.
	Objective VPP4. Protect and maintain in perpetuity a minimum of 15 occurrences of legenere (*Legenere limosa*) within the SSHCP Preserve System. Legenere occurrences will be preserved in accordance with the Conservation Actions described in this table. Prior to take of any occurrence of legenere, one currently unpreserved and "biologically equivalent or superior" (as defined by the TAC) occurrence of legenere will be preserved and maintained within the Plan Area.
	Objective VPP5. Prior to take of any occurrence of pincushion navarretia (*Navarretia myersii* ssp. *myersii*), protect one currently unpreserved2 and "biologically equivalent or superior" (as defined by the TAC) occurrence of pincushion navarretia within the Plan Area.
	Objective VPP6. Protect and maintain in perpetuity all known currently unprotected occurrences of Sacramento Orcutt grass (*Orcuttia viscida*) in the Plan Area to preserve existing distribution, and any currently unknown sites discovered in locations subject to an SSHCP Covered Activity.
	Objective VPP7. Protect and maintain in perpetuity all known currently unprotected occurrences of slender Orcutt grass in the Plan Area to preserve existing distribution, and any currently unknown sites discovered in locations subject to an SSHCP Covered Activity.
	Objective SA1. Prior to take of an occurrence of Sanford's arrowhead (*Sagittaria sanfordii*), protect one currently unpreserved and "biologically equivalent or superior" (as defined by the TAC) occurrence of Sanford's arrowhead within the Plan Area.
	Objective SA2. During re-establishment and/or establishment of Seasonal Wetland, Freshwater Marsh, Open Water, and Stream/Creek, translocate impacted Sanford's arrowhead from other sites.
Goal 5. Maintain or expand the existing distribution of each covered species within the Plan Area. [Aquatic Animal covered species]	**Objective VPI1.** Protect and maintain in perpetuity 1,270 acres of Vernal Pool tadpole shrimp modeled aquatic habitat within the Plan Area to preserve existing distribution.
	Objective VPI2. Protect and maintain in perpetuity 1,270 acres of Vernal Pool fairy shrimp (*Branchinecta lynchi*) modeled aquatic habitat within the Plan Area to preserve existing distribution.
	Objective VPI3. Protect and maintain in perpetuity 1,059 acres of mid-valley fairy shrimp (*Branchinecta mesovallensis*) modeled aquatic habitat within the Plan Area to preserve existing distribution.
	Objective VPI4. Protect and maintain in perpetuity 1,245 acres of Ricksecker's water scavenger beetle (*Hydrochara rickseckeri*) modeled aquatic habitat within the Plan Area to preserve existing distribution.

Table 1. Sacramento Habitat Conservation Plan (SSHCP) Biological Goals and Objectives

SSHCP Goal	SSHCP Objective
	Objective VPI5. Ensure that during implementation of Objective VP2, re-established or established vernal pools are inoculated with soils from impacted vernal pools within 1 mile of re-establishment/establishment in accordance with the Conservation Actions in this table. **Objective CTS1.** Preserve at least five occupied California tiger salamander breeding ponds. **Objective CTS2.** During assembly of the SSHCP Preserve System, ensure that modeled aquatic and upland habitat for California tiger salamander is preserved. Minimum preservation will total 141 acres of aquatic habitat and 1,677 acres of upland habitat. Ensure that mitigation for modeled high value habitat impacted within California tiger salamander critical habitat occurs within California tiger salamander critical habitat (see Objectives BOW1, VP1, SW1, and VG1). **Objective CTS3.** Rural transportation project Covered Activities within California tiger salamander modeled habitat will be designed to allow California tiger salamander movement across the roadway area. **Objective WS1.** During assembly of the SSHCP Preserve System, ensure that modeled aquatic and upland habitat for western spadefoot (*Spea hammondii*) is preserved. Minimum preservation will total: ▪ 1,531 acres of aquatic habitat; and ▪ 22,044 acres of upland habitat. Ensure that mitigation for modeled high value habitat impacted within the Mather Core or Cosumnes/Rancho-Seco Core Recovery Areas occurs within the Core Recovery Areas (see Objectives BOW1, VP1, VP3, SW1, SC1, OW1, and VG1). **Objective WS2.** During assembly of the SSHCP Preserve System, ensure that modeled aquatic habitat for western spadefoot is re-established and/or established. Minimum re-establishment and/or establishment will total 906 acres of aquatic habitat. Ensure that mitigation for modeled high value habitat impacted within the Mather Core or Cosumnes/Rancho-Seco Core Recovery Areas occurs within the Core Recovery Areas (see Objectives VP2, SW2, and OW2). **Objective GGS1.** During assembly of the SSHCP Preserve System, ensure that modeled habitats for giant gartersnake are preserved along the following creeks (or other creeks that are determined by the TAC to provide similar giant gartersnake habitat value): ▪ Lower Laguna Creek, mainly between Twin Cities Road (State Route 104) and Meiss Road; ▪ Skunk Creek, which flows into the Cosumnes River northwest of the City of Galt; ▪ The short Willow Creek and tributaries of Badger Creek, which are to the north of the lower Laguna Creek and west of the Folsom South Canal; and

Table 1. Sacramento Habitat Conservation Plan (SSHCP) Biological Goals and Objectives

SSHCP Goal	SSHCP Objective
	▪ Badger Marsh. Mitigation for impacts to modeled habitats for giant gartersnake that occur along Badger Creek and Stone Lakes will occur along these drainages. Minimum preservation will total: ▪ 170 acres of giant gartersnake high-value aquatic habitat and ▪ 2,323 acres of giant gartersnake high value upland habitat. (See Objectives AG1, FWM1, SW1, SC1, OW1, RIP1, RIP3, and VG1.) **Objective GGS2.** During assembly of the SSHCP Preserve System, ensure that modeled habitats for giant gartersnake are re-established and/or established along the following creeks (or other creeks that are determined by the TAC to provide similar habitat value): ▪ Lower Laguna Creek, mainly between Twin Cities Road (State Route 104) and Meiss Road; ▪ Skunk Creek: this creek flows into the Cosumnes River northwest of the City of Galt; ▪ north of Lower Laguna Creek and west of the Folsom South Canal are several small creeks—the short Willow Creek and tributaries of Badger Creek; and ▪ Badger Marsh. Mitigation for impacts to modeled habitats for giant gartersnake that occur along Badger Creek and Stone Lakes will occur along these drainages. Minimum re-establishment and/or establishment will total 170 acres of high-value aquatic habitat and 134 acres of high-value upland habitat (See Objectives SW2, OW2, RIP2, and RIP4) **Objective GGS3.** Plan Permittees will conduct a study to establish hydrologic baseline conditions along Badger Creek to identify what level of hydrology is necessary to support giant gartersnake and acquire a water source to maintain the minimum level of hydrology during the summer months when agricultural runoff may wane. **Objective WPT1.** During assembly of the SSHCP Preserve System, ensure that modeled aquatic and upland habitat for western pond turtle (*Actinemys marmorata*) is preserved. Minimum preservation will total 315.35 acres of aquatic habitat and 10,971 acres of upland habitat. (See Objectives FWM1, OW1, RIP1, RIP3, VG1, BOW1, and SC1.) **Objective WPT2.** During assembly of the SSHCP Preserve System, ensure that modeled aquatic habitat for western pond turtle is re-established and/or established. Minimum re-establishment and/or establishment will total 315 acres of aquatic habitat. (See Objectives RIP2, FWM2, and OW2)
Goal 5. Maintain or expand the existing distribution of each covered species within the Plan Area.	**Objective VELB1.** Relocate or replace each impacted elderberry shrub (*Sambucus* spp.) according to the 1999 U.S. Fish and Wildlife Service (USFWS) Conservation Guidelines for the Valley Elderberry Longhorn Beetle Mitigation will occur in locations that are not inundated for 2 continuous weeks, as determined by the TAC. **Objective VELB2.** During implementation of Riparian habitat re-establishment and/or establishment, strategically include elderberry shrub in the planting palette (see Objectives RIP2 and RIP4).

Table 1. Sacramento Habitat Conservation Plan (SSHCP) Biological Goals and Objectives

SSHCP Goal	SSHCP Objective
[Terrestrial Invertebrate covered species]	
Goal 5. Maintain or expand the existing distribution of each covered species within the Plan Area. [Bird covered species]	**Objective CH1.** During assembly of the SSHCP Preserve System, ensure that a minimum of 974 acres of modeled foraging and nesting habitat for Cooper's hawk (*Accipiter cooperii*) is preserved in accordance with the Conservation Actions described in this table (see Objectives RIP1, RIP3, and BOW1). **Objective CH2.** During assembly of the SSHCP Preserve System, ensure that a minimum of 601 acres of modeled foraging and nesting habitat for Cooper's hawk is re-established and/or established (see Objectives RIP2 and RIP4). **Objective CH3.** During assembly of the SSHCP Preserve System, ensure that a minimum of 38 acres of modeled foraging habitat for Cooper's hawk is preserved, in accordance with the Conservation Actions described in this table (see Objectives RIP1, RIP3, and BOW1) **Objective FH1.** During assembly of the SSHCP Preserve System, ensure that a minimum of 25,881 acres of modeled foraging habitat for ferruginous hawk is preserved, including 19,625 acres in PPUs 5 and/or 7 (see Objectives AG1, VG1, VP1, VP3, and SW1). **Objective FH2.** During assembly of the SSHCP Preserve System, ensure that a minimum of 729 acres of modeled foraging habitat for ferruginous hawk is re-established and/or established (see Objectives VP2 and SW2). **Objective SH1.** During assembly of the SSHCP Preserve System, ensure that a minimum of 31,033 acres of modeled foraging habitat for Swainson's hawk is preserved (see Objectives AG1, AG2, SW1, VP1, VP3, and VG1). Ensure that mitigation for high-value modeled habitat impacted within PPUs 4, 6, or 8 occurs within PPUs 4, 6, or 8. **Objective SH2.** At least 2,000 acres of cropland habitat within high-value habitat within PPUs 4, 6, and 8 will be preserved in fee title to ensure that intensive management actions can be taken. Land held in fee title will be restricted to growing field or row crops. Fee title lands must maintain, at a minimum, an average of 50% of their crop cover-type in alfalfa. Other crop types or land covers may be substituted for alfalfa if the TAC determines that such other crop types or land cover types are of the same or better quality foraging habitat as alfalfa. **Objective SH3.** During assembly of the SSHCP Preserve System, ensure a minimum of 746 acres of modeled nesting habitat for Swainson's hawk is preserved (see Objectives RIP1 and RIP3). **Objective SH4.** During assembly of the SSHCP Preserve System, ensure that a minimum of 373 acres of modeled riparian nesting habitat for Swainson's hawk is re-established and/or established. Ensure that mitigation for modeled nesting habitat impacted within PPUs 4, 6, or 8 occurs within PPUs 4, 6, or 8 (see Objectives RIP2 and RIP4). **Objective SH5.** For each of the 36 known nesting trees within the UDA, plant 10 trees that are modeled for Swainson's hawk nesting within SSHCP Preserves. Plant nesting trees on properties protected by the SSHCP within PPUs 4, 6, and 8,

Table 1. Sacramento Habitat Conservation Plan (SSHCP) Biological Goals and Objectives

SSHCP Goal	SSHCP Objective
	and near protected foraging habitat. Tree species will be selected based on known suitability as nesting habitat for Swainson's hawk, and the planted trees must be maintained and/or replaced in perpetuity. **Objective SH6.** During assembly of the SSHCP Preserve System, ensure that a minimum of 729 acres of modeled foraging habitat for Swainson's hawk is re-established and/or established (see Objectives RIP2 and RIP4). **Objective WK1.** During assembly of the SSHCP Preserve System, ensure that a minimum of 31,205 acres of modeled foraging habitat for white-tailed kite is preserved (see Objectives VG1, AG1, RIP1, RIP3, SW1, VP1, VP3, and BOW1). **Objective WK2.** During assembly of the SSHCP Preserve System, ensure that a minimum of 974 acres of modeled nesting or nesting/foraging habitat for white-tailed kite is preserved (see Objectives RIP1, RIP3, and BOW1). **Objective WK3.** During assembly of the SSHCP Preserve System, ensure a minimum of 767 acres of modeled foraging habitat for white-tailed kite is re-established and/or established (see Objectives VP2, RIP2, RIP4, and SW2). **Objective WK4.** During assembly of the SSHCP Preserve System, ensure that a minimum of 601 acres of modeled nesting or nesting/foraging habitat for white-tailed kite is re-established and/or established (see Objectives RIP2 and RIP4). **Objective NH1.** During assembly of the SSHCP Preserve System, ensure that a minimum of 1,245 acres of modeled foraging habitat for northern harrier (*Circus cyaneus*) is preserved (see Objectives VG1, AG1, VP1, VP3, FWM1, and SW1). **Objective NH2.** During assembly of the SSHCP Preserve System, ensure that a minimum of 30,048 acres of modeled nesting/foraging habitat for northern harrier is preserved (see Objectives VG1 and AG1). **Objective NH3.** During assembly of the SSHCP Preserve System, ensure that a minimum of 856 acres of modeled foraging habitat for northern harrier is re-established and/or established (see Objectives VP2, FWM2, and SW2). **Objective BO1.** Preserve seven occupied western burrowing owl (*Athene cunicularia*) sites (commensurate with 20% of the estimated number of sites within the UDA as of 2014), preserve at least 200 acres of land surrounding each occupied burrow site, and maintain modeled habitat for western burrowing owl within 0.4 mile of breeding sites. **Objective BO2.** For each western burrowing owl or western burrowing owl pair passively excluded, protect 200 acres of modeled habitat for western burrowing owl and establish a ground squirrel (*Spermophilus ([Otospermophilus] beecheyi*) colony and augment with artificial burrows as appropriate (determined by TAC). Artificial burrows will be established at appropriate locations throughout the Preserve System pursuant to 2012 California Department of Fish and Game CDFG (CDFG) 2012 guidelines, or as otherwise determined by the TAC. **Objective LS1.** During assembly of the SSHCP Preserve System, ensure that a minimum of 9,152 acres of modeled foraging habitat for loggerhead shrike (*Lanius ludovicianus*) is preserved (see Objectives VG1, AG1, SW1, VP1, and VP3)

Table 1. Sacramento Habitat Conservation Plan (SSHCP) Biological Goals and Objectives

SSHCP Goal	SSHCP Objective
	Objective LS2. During assembly of the SSHCP Preserve System, ensure that a minimum of 22,014 acres of modeled nesting/foraging habitat for loggerhead shrike is preserved (see Objectives VG1, RIP1, and RIP3). **Objective LS3.** During assembly of the SSHCP Preserve System, ensure that a minimum of 592 acres of modeled nesting habitat for loggerhead shrike is re-established and/or established (see Objectives RIP2 and RIP4). **Objective LS4.** During assembly of the SSHCP Preserve System, ensure that a minimum of 965 acres of modeled nesting habitat for loggerhead shrike is preserved (see Objectives RIP2 and RIP4). **Objective LS5.** During assembly of the SSHCP Preserve System, ensure that a minimum of 729 acres of modeled foraging habitat for loggerhead shrike is re-established and/or established (see Objective SW2). **Objective GS1.** During assembly of the SSHCP Preserve System, ensure that a minimum of 257 acres of modeled roosting or roosting/foraging habitat for greater sandhill crane is preserved. Roosting habitat will be preserved and maintained within PPUs 4, 6, and 8, with a minimum of 75% within PPU 6 (see Objectives VP1, SW1, and FWM1). **Objective GS2.** During assembly of the SSHCP Preserve System, ensure that a minimum of 7,751 acres of modeled foraging habitat for greater sandhill crane is preserved (see Objectives AG1, AG2, and VG1). **Objective GS3.** During assembly of the SSHCP Preserve System, ensure that a minimum of 184 acres of modeled roosting habitat or roosting/foraging habitat for greater sandhill crane is established and/or re-established. Re-establish two new roost sites (minimum of 90 acres of Freshwater Marsh/Seasonal Wetland complex each) every 2 miles in the gap between the Cosumnes population and the Stone Lakes' population or other strategic locations if that gap is closed by another habitat conservation plan or conservation project (see Objectives VP2, SW2, and FWM2). **Objective GS4.** Create a visual screen of woody vegetation near human disturbances such as buildings, bridges, and paved roads from permanent roosting habitat within PPU 6. Screens should be located as appropriate to not interfere with habitat usage by greater sandhill crane. **Objective GS5.** As part of the 2,000 acres preserved under Objective AG2, establish, and maintain 10 food plots in strategic locations totaling a minimum of 200 acres within an agricultural setting for greater sandhill crane foraging habitat within PPU 6. Maintain the 200 acres among the 10 food plots as irrigated pasture or planted with crops preferred by greater sandhill crane as foraging habitat. Crops may include alfalfa, corn, wheat, or rice. Strategic placement of food plots will include locations for food plots in upland areas above the floodplain. **Objective GS6.** During assembly of the SSHCP Preserve System, ensure that a minimum of 1,000 acres of high-value modeled foraging habitat for greater sandhill crane outside the 100-year floodplain is preserved (see Objectives VP1, SW1, and FWM1).

Table 1. Sacramento Habitat Conservation Plan (SSHCP) Biological Goals and Objectives

SSHCP Goal	SSHCP Objective
	Objective TB1. During assembly of the SSHCP Preserve System, ensure that a minimum of 4,149 acres of modeled foraging habitat for tricolored blackbird is preserved (see Objectives AG1, AG2, FWM1, VG1, VP1, VP3, FWM1, OW1, and SW1) **Objective TB2.** During assembly of the SSHCP Preserve System, ensure that a minimum of 27,532 acres of modeled nesting/foraging habitat for tricolored blackbird is preserved, including a minimum of 402 acres of Freshwater Marsh and Seasonal Wetland (see Objectives AG1, AG2, VG1, VG1, FWM1, and SW1). **Objective TB3.** During assembly of the SSHCP Preserve System, ensure that a minimum of 917 acres of modeled foraging habitat for tricolored blackbird is re-established and/or established (see Objectives FWM2, SW2, OW2, and VP2). **Objective TB4.** During assembly of the SSHCP Preserve System, ensure that a minimum of 232 acres of modeled nesting/foraging habitat for tricolored blackbird is re-established and/or established (see Objectives FWM2 and SW2). **Objective TB5.** Provide mitigation for loss of any tricolored blackbird nesting colony site that is occupied at the time of Covered Activity implementation or was recorded as an occupied nesting colony at any time since 2008. Sources for occupied nesting colonies are the California Natural Diversity Database, Tricolored Blackbird Portal, eBird, or other data sources approved by the Wildlife Agencies. Minimum mitigation is to protect one extant unprotected occurrence of a nesting colony prior to take of one nesting colony of tricolored blackbird. Ensure that at least five extant tricolored blackbird colonies that were occupied in recent years are maintained and managed within the SSHCP Preserve System. **Objective TB6.** Conduct an experimental study to identify management actions to protect tricolored blackbird colonies (e.g., coarse netting to reduce nest predation or impact of pesticides). **Objective TB7.** Ensure that at least one large tricolored blackbird colony (i.e., one that has historically (from 1950 onward) supported a minimum of 1,500 individuals) is protected. **Objective TB8.** For any tricolored blackbird nesting colony that is removed by a Covered Activity, re-establish and/or establish three new colonies within SSHCP Preserves. Re-established and/or established colonies can be in aquatic (freshwater marsh, seasonal wetland) or upland (annual grassland) habitat types and must be within 0.5 mile of appropriate agricultural forage crops (especially alfalfa) or annual grasslands that provide adequate foraging opportunities.
Goal 5. Maintain or expand the existing distribution of each covered species within the Plan Area. [Mammal covered species]	**Objective AB1.** During assembly of the SSHCP Preserve System, ensure that a minimum of 23,171 acres of modeled habitat for American badger (*Taxidea taxus*) is preserved (see Objectives BOW1, VG1, VP1, VP3, and SW1). **Objective AB2.** During Preserve Assembly, ensure that a minimum of 767 acres of modeled habitat for American badger is re-established and/or established (see Objectives VP2 and SW2).

Table 1. Sacramento Habitat Conservation Plan (SSHCP) Biological Goals and Objectives

SSHCP Goal	SSHCP Objective
	Objective WR1. During Preserve Assembly, ensure that a minimum of 23,910 acres of modeled foraging habitat for western red bat (*Lasiurus blossevillii*) is preserved (see Objectives BOW1, RIP1, RIP3, AG1, VG1, VP1, VP3, SW1, OW1, FWM1, and SC1).
	Objective WR2. During assembly of the SSHCP Preserve System, ensure that a minimum of 841 acres of modeled roosting/foraging habitat for western red bat is preserved (see Objectives BOW1, RIP1, and RIP3).
	Objective WR3. During assembly of the SSHCP Preserve System, ensure that a minimum of 1,317 acres of modeled foraging habitat for western red bat is re-established and/or established (see Objectives VP2, SW2, OW2, FWM2, RIP2, and RIP4).
	Objective WR4. During assembly of the SSHCP Preserve System, ensure that a minimum of 450 acres of modeled roosting/foraging habitat for western red bat is re-established and/or established (see Objectives RIP2 and RIP4).

Source: SSHCP (County of Sacramento et al. 2018).
Notes: Text directly from the South Sacramento Habitat Conservation Plan (SSHCP); refer to the SSHCP for references to other documents, SSHCP sections, or terms used in the Plan.

2.1.5 SSHCP Preserve System

As described in SSHCP Section 7.4, the SSHCP preserve system will total 36,282 acres and is divided into 8 PPUs with different targets for preservation. SSHCP preserves are categorized based on their size, shape, land cover types, and locations as either landscape preserve, core preserve, minor preserve, satellite preserve, linkage preserve, wildlife movement corridor, or cropland preserve. The SSHCP preserve system will be created through a hardline process (for preserves where the exact preserve boundaries were known during plan preparation) and a criteria-based process. Nine hardline preserves, totaling approximately 1,800 acres and all located in the UDA, were identified in the SSHCP. Criteria-based preserves, located both within and outside the UDA, will be established through SSHCP implementation. These criteria-based preserves are not provided as maps in the SSHCP. The SSHCP conceptually describes potential targets for acquisition in each PPU in Sections 7.5.1 and 7.5.2. The SSHCP preserve system will be built around and connect to a network of existing preserves, totaling approximately 64,535 acres in the Plan Area; however, these already existent preserves are not part of the SSHCP preserve system and do not contribute towards meeting the SSHCP obligations.

See Figure 5, Proposed Biological Mitigation, for the map of existing preserves and SSHCP planned hardline preserves relative to the regional PSA location. The Project is mostly located outside of PPUs, but a small portion in the southeast is in PPU 5 and a few portions of the Project in the west are within the UDA in PPU 1.

2.2 SSHCP Implementation

The SSCA is a Joint Powers Authority that serves as the implementing entity of the SSHCP, and it is responsible for overseeing implementation, including acquisition of land or easements to develop the preserve system, implementing habitat restoration, managing, and monitoring lands in the preserve system, and ensuring compliance with the SSHCP. Key aspects associated with SSHCP implementation are summarized below including preserve assembly and monitoring, management, and reporting.

2.2.1 Preserve Assembly

SSHCP Section 9.4 describes the preserve acquisition process for assembling the SSHCP preserve system. The SSCA acquires properties by fee title or conservation easement from willing sellers only to achieve the plan's biological goals and objectives. Third-party project proponents implementing covered activities pay development fees that fund the SSHCP program, including preserve acquisition. Project proponents may also dedicate preserve lands in-lieu of paying the acquisition portion of the development fees provided that such dedication lands are approved by the SSCA and meet defined criteria, including contributing to the plan's biological goals and objectives. The SSCA may also purchase credits from established conservation or mitigation banks located within the Plan Area.

2.2.2 Monitoring, Management, and Reporting

SSHCP Section 8 describes the SSHCP monitoring and management programs, which includes a program for monitoring plan compliance and AMM implementation and a program for preserve system monitoring and management. The plan permittees and SSCA are responsible for implementing these programs over the SSHCP permit term and, in the case of preserve monitoring and management, in perpetuity. The SSCA conducts resource and covered species-specific monitoring within the preserve system to track conservation strategy effectiveness

and progress towards achieving biological goals and objectives. The SSCA develops individual PMPs for each preserve within the SSHCP preserve system to describe the routine management, monitoring activities, and data analysis.

The SSCA prepares annual reports to document SSHCP implementation, compliance, and effectiveness. The First Annual Report covering the period of October 2019 through September 2020 was released December 2021 (SSCA 2021). This annual report addressed covered activities receiving take coverage under the plan during the reporting period and preserve system acquisitions prior to, during, and after the reporting period.

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3 Analysis of Project Consistency with the SSHCP

The following section provides an analysis of Project consistency with the SSCHP. Section 3.1 summarizes the proposed biological conservation approach for the Project in terms of avoidance and minimization, impacts, and mitigation for those impacts. Section 3.2 provides an evaluation of Project consistency with relevant SSHCP elements.

3.1 Proposed Project Biological Conservation Approach

The following summary of the proposed Project biological conservation approach is based on information provided in the Coyote Creek Agrivoltaic Ranch Project BTR- Revised (Dudek 2024). The Project is in the process of obtaining CEQA approval through the County and obtaining all other regulatory permits necessary for construction and operation, and the Project BTR is part of the documentation developed to support those approvals. The BTR reflects the findings from biological studies in 2021, 2022, and 2023. An additional Memorandum will be prepared providing results of 2024 surveys for specific special-status species. These studies and the BTR were prepared to support applications for permits from state and federal wildlife and other environmental agencies for the Project.

3.1.1 Avoidance and Minimization

The Project BTR provides comprehensive analysis of the biological resources in the PSA and recommends a set of AMMs for resources that occur or have the potential to occur. The Project site design was developed in consideration of the existing environmental constraints including biological resources, aquatic resources, cultural resources, and visual resources. Figure 2 shows the solar development areas and other adjacent other lands within the PSA. Of the approximately 2,704-acre PSA, approximately 1,412 acres are within the solar development area and approximately 1,292 acres are adjacent other lands. Adjacent other lands are lands within the initial PSA but are located outside of the proposed footprint of Project construction activities. The solar development area will encompass the temporary construction footprint and placement of permanent Project infrastructures associated with the Project. Areas denoted as adjacent other lands that are encircled by the solar development area will be appropriately delineated with flagging ad or BMPs during construction so that impacts do not extend into those area. The Project has been designed to focus development in the lower habitat value areas and avoid the higher habitat value areas. The Project site design avoids areas of dense oak woodlands in the eastern portions of the property and avoids most of the protected tree species. The Project site design also avoids and buffers the primary drainage features through the property, including Carson Creek, Coyote Creek, and Little Deer Creek, and avoids many of the other aquatic resources on the property. This focused design to avoid and minimize impacts to environmental resources via clustering the solar development areas in the lower habitat value areas of the site and avoiding the major drainage features, cultural resources, north-south and east-west wildlife movement corridors will be maintained through the site providing habitat linkages to surrounding open spaces.

Site preparation will be planned and designed to minimize the amount of earth movement required for the Project. Some cut and fill will be necessary to accommodate safe construction working conditions and to accommodate the slope tolerances of the solar array racking system, The hydrology design will be given priority to protect the Project's facilities and adjacent facilities from large storm events through setbacks from the

floodplains. It is the intent of the Project to support the panels on driven piles. The on-site drainage patterns will be maintained to the greatest extent possible.

Construction activities will be phased across different portions of the site, and it is unlikely that the entire solar development area will be disturbed at any one time. Following grading and the installation of piles, much of the remaining disturbance is related to light duty vehicles to transport workers to the location of solar panel installation. Temporary graveled construction lay down, construction trailers, and parking areas will be provided within the solar development area for the duration of construction. Due to the size of the Project site, shorter duration temporary lay down areas may be utilized periodically within the solar field acreage as the project is built out in phases.

The Project may also include additional auxiliary facilities such as raw water/fire water storage, treated water storage, storm water retention basins, water filtration buildings and equipment, and equipment control buildings, septic system(s), and parking. The design and construction of the buildings, solar arrays (panels, etc.), energy storage facilities, and auxiliary facilities will be consistent with County building standards.

Section 3.2.1 below provides an evaluation of the consistency of the proposed Project AMMs relative to the SSHCP AMMs.

3.1.2 Impacts

The following section provides a summary of the potential impacts to special-status species and species habitats with the solar development area based on the Project BTR- Revised (Dudek 2024).

- **Special-Status Plant Species.** A total of 23 special-status plant species that have known occurrences either within the nine U.S. Geologic Survey 7.5-minute quadrangle and/or within 5 miles of the PSA were identified. Of these special-status plant species, 15 species have a low to high potential to occur or were observed on the Project site. As noted in Section 2.1.1 and 2.1.2 above, eight are Covered Species under the SSHCP. The remaining six special-status plant species were removed from the BTR for further consideration due to lack of suitable habitat within the solar development area, no known occurrences within 5 miles of the PSA, and/or because the PSA is outside of the species' known geographic or elevation range. Dudek conducted protocol-level botanical surveys in the solar development area in April 2021, June 2021, April 2022, May 2023, and July 2023, and detected one special-status plant species (*Spicate calycadenia*) (Dudek 2024). Additional results of 2024 surveys for specific special-status species will be provided as a supplement.
- **Sensitive Natural Communities.** CEQA defines sensitive natural communities and native plant communities as those listed as sensitive natural communities by CDFW. As such, the following sensitive communities were identified- riparian habitat (riparian forest) is present within the solar development area, including riparian habitat. In addition, CDFW listed sensitive natural communities, Northern Hardpan Vernal Pool and Valley Needlegrass Grassland community were identified within 5 miles of the solar development area. Aquatic communities, including vernal pools, were identified within the solar development area of the PSA (Dudek 2024).
- **Aquatic Resources.** Approximately 10.74 acres of aquatic resources within the solar development area that meet the criteria of waters of the U.S. and/or waters of the state by the USACE, RWQCB, and CDFW. Of the total resources within the solar development area, a maximum of 0.42 acres would be permanently

impacted, 0.55 acres would be indirectly impacted, and 8.0 acres would be temporarily impacted (Dudek 2024).

- **Designated Critical Habitat (DCH)/Essential Fish Habitat (EFH).** EFH was identified within the solar development area for chinook salmon; however, suitable habitat is absent, and the species is not expected to occur. No USFWS DCH was identified within the solar development area (USFWS 2023b).
- **Special-Status Wildlife Species.** A total of 23 special-status wildlife species have known occurrences either within the nine U.S. Geologic Survey 7.5-minute quadrangle or within 5 miles of the PSA. Of these 23 special-status wildlife species, 21 have potential to occur in the solar development area and/or are known to occur in the solar development area. As noted in Section 2.1.1 and 2.1.2 above, 12 are Covered Species under the SSHCP (County of Sacramento et. al. 2018). In addition, the solar development area provides suitable habitat for nesting birds protected by the federal Migratory Bird Treaty Act and California Fish and Game Code and native bats protected by the California Fish and Game Code. The remaining three special-status wildlife species were removed from further consideration due to lack of suitable habitat within or adjacent to the PSA, no known occurrences within 5 miles of the PSA, and/or because the PSA is outside of the species' known geographic range. Dudek conducted protocol-level surveys in the solar development area for burrowing owl, Swainson's hawk, tricolored blackbird, western spadefoot toad, Crotch's bumble bee, and valley elderberry longhorn beetle during the appropriate survey period(s) in 2021, 2022, and 2023. Special-status wildlife species including bald eagle, burrowing owl, Swainson's hawk, tricolored blackbird, and white-tailed kite were observed during field studies (Dudek 2024).
- **Protected Tree Species.** Based on the tree inventory results, a total of and 4,787 trees were inventoried within the solar development area of the PSA. Of the total trees inventoried in the solar development area, a maximum total of 4,394 may fall under Sacramento County Tree Preservation Ordinance protections criteria (i.e., 4,394 protected; 1,792 heritage; and 173 riparian), although some of these trees are dead and in severe decline. This inventory equates to 54.61 acres contiguous canopy of oak woodlands and forest within the solar development area (Dudek 2024).
- **PPUs.** The PPUs were delineated to capture specific habitat or agricultural land cover types or areas identified as being important for a specific suite of species. The SSHCP included an inventory of undeveloped potential habitat for SSHCP covered species, based on habitat models, and not based on site-specific surveys, in the SSHCP Plan Area and in each PPU.

  The large majority of PPU 1 is inside the UDA, about 2,156 acres of PPU 1 lie outside the UDA. The dominant land cover in PPU 1 is Valley Grassland. As such, species with documented occurrences within PPU 1 include Ahart's dwarf rush, Boggs Lake hedge hyssop, legenere, Sacramento Orcutt grass, slender Orcutt grass, valley elderberry longhorn beetle, vernal pool fairy shrimp, vernal pool tadpole shrimp, western spadefoot, American badger, and all the bird Covered Species except ferruginous hawk and loggerhead shrike. PPU 1 outside of the UDA contains documented occurrences for several of the Covered Species, but does not support significant occurrence concentrations for any particular species with the exception of Sacramento Orcutt grass.

  No portion of PPU 5 is within the UDA. PPU 5 also includes mixed riparian woodland, making it import for species dependent on riparian land cover types. There are 6,500 acres of existing Preserves in PPU 5, including the Deer Creek Hills Preserve and several smaller, scattered Preserve sites. PPU 5 also contains 243 acres of the 24,245 acre Mather Core Recovery Area (USFWS 2005b). PPU 5 contains documented occurrences for many of the Covered Species, including occurrences of legenere, vernal pool fairy shrimp, western spadefoot, western pond turtle and all of the bird Covered Species except greater sandhill crane

The Project is mostly located outside of PPUs, but a small portion in the west is in PPU 1, see Table 2, and in southeast is in PPU 5, see Table 3. The PPU inventory relative to species and landcover has been summarized in Table 4.

Lastly, AMMs have been incorporated into the Project to avoid and minimize these impacts and this is evaluated in Section 3.2.1. Unavoidable impacts requiring compensatory mitigation are described in Section 3.1.3 and consistency of this mitigation is part of the evaluation provided in Section 3.2.

Table 2. SSHCP Land Cover Impacts to PPU 1 in the Project Solar Development Area

Land Cover Type	Estimated Project Impact (Acres within SDA)	Total Land Cover Type (Acres) within PPU 1	Percent of Solar Development in PPU (Acres)	Remaining After Project (Acres)	Preserve Target Total (Acres)	Preserve Target within UDA (Acres)	Preserve Target outside UDA (Acres)
Terrestrial							
Annual Grassland	156	3,471	<1	3,315	3,471	3,267	204
Cropland/Irrigated Pasture	0	419	0	419	0	0	0
Blue Oak Woodland/Blue Oak Savannah	2	927	<1	925	0	0	0
Riparian							
Mixed Riparian Woodland/Mixed Riparian Scrub	0	0	0	0	0	0	0
Aquatic Resources (Wetlands and Non-Wetland Waters)							
Freshwater Marsh	0	10	0	10	10	10	0
Seasonal Wetland	0	0	<1	20	0	0	0
Swale	1.04	52	<1	51	52	49	3
Vernal Pool	0.41	145	<1	145	145	133	12
Open Water	0	51	0	51	51	51	0
Stream/Creek	0.01	10	<1	10	10	10	0
Stream/Creek (VPIH)	0	17	2	42	17	17	0

Source: Aecom 2024; County of Sacramento et al. 2018.
Notes: PPU= Preserve Planning Unit; SSHCP= South Sacramento Habitat Conservation Plan; UDA= Urban Development Area.

Table 3. SSHCP Land Cover Impacts to PPU 5 in the Project Solar Development Area

Land Cover Type	Estimated Project Impact (Acres)	Total Land Cover Type within PPU 5 (Acres)	Percent of Solar Development in PPU (Acres)	PPU 5 – Remaining After Project (Acres)	PPU 5 – Preserve Target (Acres)
Terrestrial					
Annual Grassland	129	27,463	<1	27,334	750
Cropland/Irrigated Pasture	0	2,462	0	2,462	388
Blue Oak Woodland/Blue Oak Savannah	19	6,556	<1	6,537	0
Riparian					
Mixed Riparian Woodland/Mixed Riparian Scrub	0	1,401	0	1,401	440
Aquatic Resources (Wetland & Non-Wetland Waters					
Freshwater Marsh	0	159	0	159	0
Seasonal Wetland	0	446	0	446	31
Swale	<1	89	<1	89	8
Vernal Pool	0	339	0	339	35
Open Water	0	365	0	365	6
Stream/Creek	0.41	481	<1	481	33

Source: Aecom 2024; County of Sacramento et al. 2018.
Notes: PPU= Preserve Planning Unit; SSHCP= South Sacramento Habitat Conservation Plan; UDA= Urban Development Area.

Table 4. SSHCP Special-Status Species Baseline Modeled Habitat and Land Cover within the Plan Area, the Undeveloped Lands in the Plan Area, and the Project Solar Development Area

SSHCP Modeled Habitat Land Cover Types	SSHCP PLAN AREA	SSCHP PPU 1		SSCHP PPU 5		SSHCP OUTSIDE PPUs AND UDA	
	Total Baseline Modeled Habitat Potentially Available (acres)	Total Modeled Habitat Potentially Available in PPU (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)	Total Modeled Habitat Potentially Available in PPU (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)	Total Modeled Habitat Potentially Available within other PPUs (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)
Wildlife							
California tiger salamander (*Ambystoma californiense*) – upland habitat							
Blue oak savanna	3,322	0	0	242	0	0	0
Blue oak woodland	3,774	0	0	992	0	0	0
Valley grassland[1]	78,274	0	0	13,897	0	0	0
California tiger salamander – aquatic habitat							
Seasonal wetland	1,391	0	0	355	0	0	0
Vernal pool	3,033	0	0	277	0	0	0
Western spadefoot (*Spea hammondii*) – upland habitat							
Blue oak savanna	5,637	0	0	692	0	1,847	576
Blue oak woodland	9,132	0	0	5,864	19	475	82
Valley grassland[1]	135,094	14,840	156	27,463	129	5,964	427
Western spadefoot – aquatic habitat							
Open water	2,344	92	0	365	0	24	0
Seasonal wetland	2,600	17	0	446	0	31	0
Streams/Creeks	2,674	15	0	481	0	63	2
Streams/Creeks (VPIH)	73	39	0	0	0	0	0

Table 4. SSHCP Special-Status Species Baseline Modeled Habitat and Land Cover within the Plan Area, the Undeveloped Lands in the Plan Area, and the Project Solar Development Area

SSHCP Modeled Habitat Land Cover Types	SSHCP PLAN AREA	SSCHP PPU 1		SSCHP PPU 5		SSHCP OUTSIDE PPUs AND UDA	
	Total Baseline Modeled Habitat Potentially Available (acres)	Total Modeled Habitat Potentially Available in PPU (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)	Total Modeled Habitat Potentially Available in PPU (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)	Total Modeled Habitat Potentially Available within other PPUs (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)
Swale	1,252	204	1	89	0	36	1
Vernal pool	4,536	432	0	0	0	53	0
Western pond turtle (*Actinemys marmorata*) –upland habitat							
Blue oak savanna	4,825	0	0	519	0	1,841	574
Blue oak woodland	7,610	0	0	4,983	19	442	101
Mine tailing riparian woodland	306	41	0	59	0	0	0
Mixed riparian scrub	1,178	2	0	170	0	4	0
Mixed riparian woodland	5,347	0.07	0	1,152	0	11	0
Valley grassland[1]	91,580	3,932	135	22,373	129	5,739	555
Western pond turtle – aquatic habitat							
Freshwater marsh	2,240	9	0	122	0	4	0
Open water	1,441	43	0	205	0	24	0
Stream/Creeks	2,674	15	0	480	0	63	2
Tricolored blackbird (*Agelaius tricolor*) – nesting and foraging habitat							
Cropland	47,905	411	0	2,549	0	0	0

Table 4. SSHCP Special-Status Species Baseline Modeled Habitat and Land Cover within the Plan Area, the Undeveloped Lands in the Plan Area, and the Project Solar Development Area

SSHCP Modeled Habitat Land Cover Types	SSHCP PLAN AREA	SSCHP PPU 1		SSCHP PPU 5		SSHCP OUTSIDE PPUs AND UDA	
	Total Baseline Modeled Habitat Potentially Available (acres)	Total Modeled Habitat Potentially Available in PPU (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)	Total Modeled Habitat Potentially Available in PPU (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)	Total Modeled Habitat Potentially Available within other PPUs (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)
Freshwater marsh	2,922	19	0	159	0	4	0
Seasonal wetland	2,600	17	0	446	0	31	0
Valley grassland[1]	135,112	14,846	156	27,463	129	5,964	555
Tricolored blackbird – foraging habitat							
Irrigated pasture-Grassland	15,991	8	0	2,203	0	0	0
Open water	2,344	92	0	365	0	24	0
Swale	1,222	204	1	89	0	36	1
Vernal pool	4,536	432	0	339	0	53	0
Burrowing owl (*Athene cunicularia*) – nesting and foraging habitat							
Blue oak savanna	5,637	0	0	692	0	1,847	576
Cropland	47,905	411	0	2,549	0	0	0
Irrigated pasture-Grassland	15,991	8	0	2,203	0	0	0
Valley grassland[1]	135,112	14,846	156	27,463	129	5,964	555
Burrowing owl – foraging habitat							
Seasonal wetland	2,600	17	0	446	0	31	0
Stream/Creek (VPIH)	73	39	0	0.4	0	0	0

Table 4. SSHCP Special-Status Species Baseline Modeled Habitat and Land Cover within the Plan Area, the Undeveloped Lands in the Plan Area, and the Project Solar Development Area

SSHCP Modeled Habitat Land Cover Types	SSHCP PLAN AREA	SSCHP PPU 1		SSCHP PPU 5		SSHCP OUTSIDE PPUs AND UDA	
	Total Baseline Modeled Habitat Potentially Available (acres)	Total Modeled Habitat Potentially Available in PPU (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)	Total Modeled Habitat Potentially Available in PPU (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)	Total Modeled Habitat Potentially Available within other PPUs (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)
Swale	1,252	204	0	89	0	36	0
Vernal pool	4,536	432	0	339	0	53	0
Swainson's hawk (*Buteo swainsoni*) – nesting habitat							
Mixed riparian scrub	1,449	3	0	173	0	4	0
Mixed riparian woodland	5,785	2	0	1,169	0	11	0
Swainson's hawk – foraging habitat							
Cropland	47,905	411	0	2,549	0	0	0
Irrigated pasture-Grassland	15,991	8	0	2,203	0	0	0
Seasonal wetland	2,600	17	0	446	0	31	0
Swale	1,252	204	1	89	0	35	1
Valley grassland[1]	133,705	14,846	156	26,503	129	5,518	555
Vernal pool	4,536	432	0	339	0	53	0
White-tailed kite (*Elanus leucurus*) – nesting and foraging habitat							
Blue oak savanna	5,637	46	0	692	0	1,949	576
Blue oak woodland	9,132	0	0	5,871	19	503	101
Cropland	47,905	411	0	2,591	0	0	0

Table 4. SSHCP Special-Status Species Baseline Modeled Habitat and Land Cover within the Plan Area, the Undeveloped Lands in the Plan Area, and the Project Solar Development Area

SSHCP Modeled Habitat Land Cover Types	SSHCP PLAN AREA	SSCHP PPU 1		SSCHP PPU 5		SSHCP OUTSIDE PPUs AND UDA	
	Total Baseline Modeled Habitat Potentially Available (acres)	Total Modeled Habitat Potentially Available in PPU (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)	Total Modeled Habitat Potentially Available in PPU (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)	Total Modeled Habitat Potentially Available within other PPUs (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)
Irrigated pasture-Grassland	15,991	8	0	2,221	0	0	0
Mine tailing riparian woodland	641	881	1	59	0	0	0
Mixed riparian scrub	1,452	3	0	173	0	4	0
Mixed riparian woodland	5,785	2	0	1,69	0	11	0
Seasonal wetland	2,600	20	0	446	0	31	0
Swale	1,252	235	1	89	0	37	1
Valley grassland	135,112	17,045	156	27,531	129	6,957	555
Vernal pool	4,536	496	0	339	0	56	0
Vernal pool fairy shrimp (*Branchinecta lynchi*) and vernal pool tadpole shrimp (*Lepidurus packardi*)							
Streams/Creeks (VPIH)	73	39	0	0.4	0	0	0
Swale	1,252	204	1	89	0	36	1
Valley grassland[1]	97,349	14,729	156	13,028	0	2,239	320
Vernal pool	4,536	432	0	339	0	53	0

Table 4. SSHCP Special-Status Species Baseline Modeled Habitat and Land Cover within the Plan Area, the Undeveloped Lands in the Plan Area, and the Project Solar Development Area

SSHCP Modeled Habitat Land Cover Types	SSHCP PLAN AREA	SSCHP PPU 1		SSCHP PPU 5		SSHCP OUTSIDE PPUs AND UDA	
	Total Baseline Modeled Habitat Potentially Available (acres)	Total Modeled Habitat Potentially Available in PPU (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)	Total Modeled Habitat Potentially Available in PPU (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)	Total Modeled Habitat Potentially Available within other PPUs (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)							
Mine tailing riparian woodland	641	881	1	1,401	0	0	0
Mixed riparian scrub	1,451	3	0	173	0	4	1
Mixed riparian woodland	5,785	2	0	1,169	0	11	0
American badger (*Taxidea taxus*)							
Blue oak savanna	5,637	46	2	692	0	1,949	576
Seasonal wetland	2,600	20	0	446	0	31	0
Swale	1,252	235	1	89	0	37	1
Valley grassland	135,112	17,045	156	27,531	129	6,957	555
Vernal pool	4,536	496	0	339	0	56	0
Plants							
Dwarf downingia (*Downingia pusilla*)							
Swale	359	16	0	17	0	1	0
Valley grassland	22,241	943	9	2,327	0	61	7
Vernal Pool	1,539	20	0	79	0	0	0
Boggs Lake hedge hyssop (*Gratiola hereosepala*)							
Seasonal wetland	354	4	0	76	0	0	0

Table 4. SSHCP Special-Status Species Baseline Modeled Habitat and Land Cover within the Plan Area, the Undeveloped Lands in the Plan Area, and the Project Solar Development Area

SSHCP Modeled Habitat Land Cover Types	SSHCP PLAN AREA	SSCHP PPU 1		SSCHP PPU 5		SSHCP OUTSIDE PPUs AND UDA	
	Total Baseline Modeled Habitat Potentially Available (acres)	Total Modeled Habitat Potentially Available in PPU (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)	Total Modeled Habitat Potentially Available in PPU (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)	Total Modeled Habitat Potentially Available within other PPUs (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)
Valley grassland	35,113	20,383	64	4,507	0	430	80
Vernal Pool	1,532	395	0	132	0	18	0
Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii*)							
Swale	314	134	0	16	0	2	0
Valley grassland	23,885	9,295	21	1,857	0	127	0
Valley grassland	814	363	0	42	0	8	0
Legenere (*Legenere limosa*)							
Seasonal wetland	886	4	0	30	0	0	0
Valley grassland	47,526	11,203	21	4,087	0	323	15
Vernal pool	2,437	416	0	127	0	20	0
Pincushion navarretia (*Navarretia myersii* ssp. *myersii*)							
Swale	627	155	1	39	0	9	0
Valley grassland	54,967	10,793	96	4,990	0	585	62
Vernal pool	1,721	297	0	84	0	19	0
Slender Orcutt grass (*Orcuttia tenuis*) and Sacramento Orcutt grass (*Orcuttia viscida*)							
Valley grassland	33,265	9,644	27	2,170	0	317	4
Vernal pool	1,226	368	0	43	0	13	0
Sanford's arrowhead (*Sagittaria sanfordii*)							
Freshwater marsh	2,044	11	0	62	0	3	0
Open water	1,086	42	0	53	0	3	0

Table 4. SSHCP Special-Status Species Baseline Modeled Habitat and Land Cover within the Plan Area, the Undeveloped Lands in the Plan Area, and the Project Solar Development Area

SSHCP Modeled Habitat Land Cover Types	SSHCP PLAN AREA	SSCHP PPU 1		SSCHP PPU 5		SSHCP OUTSIDE PPUs AND UDA	
	Total Baseline Modeled Habitat Potentially Available (acres)	Total Modeled Habitat Potentially Available in PPU (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)	Total Modeled Habitat Potentially Available in PPU (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)	Total Modeled Habitat Potentially Available within other PPUs (acres)	Total Modeled Habitat within the Project Solar Development Area (acres)
Seasonal wetland	1,425	4	0	91	0	0	0
Streams/Creeks	894	10	0	54	0	14	1
Valley grassland	47,375	10,963	21	6,450	0	1,043	72

Source: County of Sacramento et al. 2018

Notes: PPU= Preserve Planning Unit; SSHCP= South Sacramento Habitat Conservation Plan; UDA= Urban Development Area; VPIH= Vernal Pool Invertebrate Habitat.

[1] Valley Grassland is synonymous with California Annual Grassland.

No SSHCP Valley Grassland landcover was modeled within the solar development area of the Project Study Area (PSA), however, approximately 361.91 acres of SSHCP California Annual Grassland landcover, a similar vegetation community, was mapped within the solar development area of the PSA.

For this table, the aquatic resource acreages are based on the total of SSHCP modeled landcover and differs from the final acreages defined by the aquatic resource delineation conducted for the Project.

3.1.3 Compensatory Mitigation

The Project will provide compensatory mitigation for impacts to aquatic resources and specific special-status species, including species that are SSHCP covered species, through a combination of on-site habitat preservation (within a portion of the adjacent other lands of the PSA which are outside the solar development area), purchase of credits from existing in-lieu fee program or conservation/mitigation banks, and/or off-site habitat acquisition and preservation that meet the criteria established during the CEQA and regulatory permitting process. Any on-site habitat preservation or off-site acquisition and preservation lands used for compensatory mitigation would require legal protections (e.g., conservation easement, restrictive covenant, or other approved mechanism), funding for long-term habitat management and monitoring, and preparation of a preserve management plan that describes the preserved biological resources, responsible parties, management goals and objectives, management and monitoring activities, and reporting requirements. Funding for on-site preservation lands or lands acquired and preserved off-site will be estimated through preparation of a property analysis record (PAR) or PAR-equivalent analysis that is an itemized costs estimate of the initial and capital period costs and annual, ongoing costs.

3.2 Project Consistency with Relevant SSHCP Elements

The following evaluates Project consistency with relevant SSHCP AMMs (Section 3.2.1) and biological goals and objectives (Section 3.2.2), assesses the relationship of the Project to SSHCP preserve assembly (Section 3.2.3), and assesses the relationship of the Project to SSHCP Take and Conservation (Section 3.2.4).

3.2.1 Consistency with Avoidance and Minimization Measures

The Project is not a covered activity under the SSHCP and will not receive take coverage under the SSHCP; therefore, the Project is not required to implement or comply with the SSHCP AMMs. Although the SSHCP AMMs are not applicable to the Project, the Project has incorporated relevant AMMs consistent with the SSHCP, as described below.

General Avoidance and Minimization Measures

SSHCP General AMMs (SSHCP Section 5.4.1 and as summarized above in Section 2.1.3) considered not relevant to this Project due to the type of project and location of the Project include the following: LID-2 (Groundwater Recharge), EDGE 2 (Single-Loaded Streets), EDGE-3a (Setback Recreational Trails), EDGE-3b (Setback Firebreaks), EDGE-3c (Setback Shade Trees and Landscaping), EDGE-4 (Locate Stormwater Control Outside Preserves), EDGE-5 (Stormwater Control in Preserve Setbacks), EDGE-6 (Detention Basins in Linkage Preserves), EDGE-9 (Livestock Access to Preserves), ROAD-1 (Road Project Location), ROAD-2 (Wildlife Crossing Structures), and Road-3 (Roadside Pesticide Use), NATURE TRAIL-1 (Nature Trail Plan), NATURE TRAIL-2 (Nature Trail Protection of Duripan), NATURE TRAIL-3 (Nature Trail Location), NATURE TRAIL-4 (Biological Studies Prior to Nature Trail Design), and NATURE TRAIL-5 (Monitoring of Nature Trail Impacts), RE-ESTABLISHMENT/ESTABLISHMENT-1 (Vernal Pool), RE-ESTABLISHMENT/ESTABLISHMENT-2 (Vernal Pool Inocula Bank), and RE-ESTABLISHMENT/ESTABLISHMENT-3 (Re-establishment/Establishment of Freshwater Marsh or Open Water Near Airports), STREAM-1 (Laguna Creek Wildlife Corridor), STREAM-2 (UDA Stream Setbacks), STREAM-3 (Minor Tributaries to UDA Streams), STREAM-4 (Minimize Effects from Temporary Channel Re-Routing), STREAM-5 (Design for Stream Channel Re-Routing, Widening, or Deepening), UTILITY-2 (Utility Maintenance on Preserves), UTILITY-3 (Trenchless Construction Methods), UTILITY-4 (Siting of Entry and Exit Locations), LEVEE-1 (Preparation of Hydraulic Analysis), HAZARDOUS MATERIALS-1 (Preparation of Phase 1 Environmental Site Assessment) and HAZARDOUS MATERIALS-2 (Contingency Plan).

SSHCP General AMMs related to stormwater quality, site design, and indirect effects that could be considered relevant to the Project include: LID-1 (Stormwater Quality), LID-3 (Natural Site Features), EDGE-1 (Compatible Land Uses), EDGE-3 (Preserve Setbacks), EDGE-7 (Hardpan/Duripan Protection), EDGE-8 (Outdoor Lighting), EDGE-10 (Prevent Invasive Species Spread), UTILITY-1 (Avian Collision Avoidance), BMP-1 (Construction Fencing), BMP-2 (Erosion Control), BMP-3 (Equipment Storage and Fueling), BMP-4 (Erodible Materials), BMP-5 (Dust Control), BMP-6 (Construction Lighting), BMP-7 (Biological Monitor), BMP-8 (Training of Construction Staff), BMP-9 (Soil Compaction), BMP-10 (Revegetation), and BMP-11 (Speed Limit).

In consideration of LID-3, the site design for the solar development area in the PSA avoids natural site features to retain natural hydrologic patterns and habitat that might be used by SSHCP covered species. In consideration of EDGE-1, EDGE-3, and EDGE-7, the site design of the solar development area in the PSA avoids and buffers the primary drainage and wetland features through the property, including Carson Creek, Coyote Creek, and Little Deer Creek, and avoids other aquatic resources on the property to the greatest extent feasible. Of the 2,704 acres surveyed in the PSA, the Project has the following impacts to federal and state waters- 0.24 acre permanent, and 7.44 acre temporary. EDGE -8 will use the best information available to design to minimize effects of light pollution (on SSHCP listed species). EDGE-10 will prevent and reduce the spread of invasive plant species by inspecting equipment prior to entering the Project site and weed abatement where necessary. LID-1 and the BMP AMMs will be addressed appropriately through conditions of approval from the County under the CEQA process and permit conditions in the permits currently being sought for impacts to wetland waters and non-wetland waters from USACE, CDFW, and RWQCB. In consideration of UTILITY-1, the gen-tie line associated with the Project will be in conformance with Avian Powerline Interaction Committee standards and further specifications will be subject to permit conditions from the regulatory agencies.

Resource-Specific Avoidance and Minimization Measures

SSHCP Section 5.4.2 (and summarized above in Section 2.1.3) specifies the covered species take avoidance and minimization measures. SSHCP resource-specific AMMs considered not relevant to this Project due to the lack of impacts to the specific resource by the Project or due to being specific to the SSHCP include the following: SPECIES-3 (Take Reports), SPECIES-4 (Post-Construction Compliance Report), , CTS-1 (California Tiger Salamander Daily Construction Schedule), CTS-2 (California Tiger Salamander Exclusion Fencing), CTS-3 (California Tiger Salamander Monitoring), CTS-4 (Avoid California Tiger Salamander Entrapment), CTS-5 (California Tiger Salamander Encounter Protocol), CTS-6 (Erosion Control Materials in California Tiger Salamander Habitat), CTS-7 (Rodent Control), GGS-1 (Giant Gartersnake Surveys), GGS-2 (Giant Gartersnake Work Window), GGS-3 (Giant Gartersnake Monitoring), GGS 4 (Giant Gartersnake Habitat Dewatering and Exclusion), GGS-5 (Avoid Giant Gartersnake Entrapment), GGS-6 (Erosion Control Materials in Giant Gartersnake Habitat), GGS-7 (Giant Gartersnake Encounter Protocol), GGS-8 (Giant Gartersnake Post-Construction Restoration), GSC-1 (Greater Sandhill Crane Surveys), GSC-2 (Greater Sandhill Crane Pre-Construction Surveys), GSC-3 (Greater Sandhill Crane Roosting Buffer), GSC-4 (Greater Sandhill Crane Visual Barrier), and GSC-5 (Greater Sandhill Crane Roosting Buffer Monitoring).

Table 5 provides a summary of SSHCP AMMs that have been incorporated into the Project BTR AMMs with relevant resource. See The Project BTR- Revised (Dudek 2024) for full text of the Project AMMs.

Table 5. Consistency of Proposed Project Avoidance and Minimization Measures (AMMs) with Relevant Resource-Specific SSHCP AMMs

Biological Resource	Status of Resource in the PSA[1]	Relevant Resource-Specific SSHCP AMMs[2]	Consistency of Project Measures with Relevant SSHCP AMM[3]
General Species Avoidance and Minimization	N/A	SPECIES-1 (Litter Removal Program) and SPECIES-2 (No Pets in Construction Areas)	Project measures/conditions consistent with the intent of the SSHCP AMMs. The Project will not allow litter or pets on the Project site and will not promote residential or other development that will encourage litter or pets. Project conditions will include standard measures to address.
Special-Status Plant Species	Dudek conducted protocol-level botanical surveys in May 2021, April 2022, May 2023, and July 2023 within the PSA. Three special-status plant species were observed in the PSA during the 2021 through 2023 protocol-level surveys conducted.	PLANT-1 (Rare Plant Surveys), PLANT-2 (Rare Plant Protection), ORCUTT-1 (Orcutt Grass Surveys), and ORCUTT-2 (Orcutt Grass Protection)	Project measures/conditions consistent with the intent of the SSHCP AMMs. BTR Section 6.2 a.1 recommends the following: A Worker Environmental Awareness Program (WEAP) and protocol-level botanical pre-construction survey(s) will be completed prior to Project initiation. If special-status plant species are observed, the individuals will be mapped and flagged in the solar development area, project activities will be modified to avoid impact, and environmentally sensitive area fencing/signage will be installed at an approved avoidance distance buffer around the avoided plant populations. A biological monitor will then be present during construction activities. A Botanical Mitigation Plan will be prepared and implemented to achieve no net loss of the species. If no net loss is not achieved by the mitigation plan, additional compensatory mitigation would be required.
Western Spadefoot Toad	There is suitable habitat for western spadefoot toad (WST) within the PSA. During database and literature evaluation, WST were identified within 5 miles of the PSA. During 2021 focused surveys and 2022-2023 reconnaissance surveys of potential suitable habitat in the PSA, no WST or their larval masses were identified.	WS-1 (Western Spadefoot Work Window), WS-2 (Western Spadefoot Exclusion Fencing), WS-3 (Western Spadefoot Monitoring), WS-4 (Avoid Western Spadefoot Entrapment), WS-5 (Erosion Control Materials in Western Spadefoot Habitat), and WS-6 (Western	Project measures/conditions consistent with the intent of the SSHCP AMMs. BTR Section 6.2 a.2 recommends that Project ground-disturbing activities within western spadefoot suitable habitat will occur outside the breeding and dispersal season (after May 15 and before October 15), to the extent feasible. The Project should also enlist biologists with valid collecting permits to perform a pre-construction survey for WST within suitable habitat, including breeding habitat. If WST are encountered during the survey, individuals will be safely relocated to suitable habitat outside of the solar development area. WST should be hand-captured and relocated outside the construction area to suitable habitat by a biologist with a valid collecting permit or with proper agency authorization as determined during coordination with CDFW. If Project ground-disturbing activities must commence in suitable WST habitat during the breeding and dispersal season (i.e., January to May), exclusion fencing will be installed

Table 5. Consistency of Proposed Project Avoidance and Minimization Measures (AMMs) with Relevant Resource-Specific SSHCP AMMs

Biological Resource	Status of Resource in the PSA[1]	Relevant Resource-Specific SSHCP AMMs[2]	Consistency of Project Measures with Relevant SSHCP AMM[3]
		Spadefoot Encounter Protocol).	around the Project footprint and must be monitored by an approved biologist following rain events. At the end of each working day, open trenches and holes must be covered or installed with wildlife ramps to avoid wildlife entrapment overnight. If WST are determined to be present within the solar development area, then ongoing monitoring by a qualified biologist is required to ensure there are no impacts to this species and its habitat during construction and operation and maintenance activities for the Project. This species should be included in the WEAP described above for Special-Status Plant Species and should also educate staff on the presence of special-status wildlife species and ways to avoid and minimize impacts.
Western Pond Turtle	Western pond turtle (WPT) suitable aquatic and upland habitat, were observed to occur during reconnassince surveys conducted 2021 - 2023. Notably, WPT have also been documented along Carson Creek within the PSA.	WPT-1 (Western Pond Turtle Surveys), WPT-2 (Western Pond Turtle Work Window), WPT-3 (Western Pond Turtle Monitoring), WPT-4 (Western Pond Turtle Habitat Dewatering and Exclusion), WPT-5 (Avoid Western Pond Turtle Entrapment), WPT-6 (Erosion Control Materials in Western Pond Turtle Habitat), WPT-7 (Western Pond Turtle Modeled Habitat Speed Limit), WPT-8 (Western Pond Turtle Encounter Protocol), and WPT-9 (Western	Project measures/conditions consistent with the intent of the SSHCP AMMs. BTR Section 6.2 a.3 recommends that Project ground-disturbing activities will be conducted outside of WPTs active season (after May 1 and before September 15). A qualified biologist should conduct a pre-construction survey for WPT within 48 hours prior to the start of construction activities within 300 feet of suitable habitat (e.g., any adjacent riparian woodland) and nesting site searches will be conducted and will be avoided through flagging or fencing or relocated. If turtles and/or nests are encountered during the pre-construction survey, a qualified biologist should be present during grubbing and clearing activities in suitable habitat (aquatic) to monitor for WPT. If a turtle is observed in the active construction zone, construction should cease within a 100-foot buffer, and a qualified biologist will be notified. Construction may resume when the biologist has either hand-captured and relocated the turtle to nearby suitable habitat outside the construction zone, or, after thorough inspection, determined that the turtle has moved away from the construction zone. On-site personnel will observe a 20-mile-per-hour speed limit within WPT suitable habitat. This species should be included in the WEAP described above for Special-Status Plant Species that will also

Table 5. Consistency of Proposed Project Avoidance and Minimization Measures (AMMs) with Relevant Resource-Specific SSHCP AMMs

Biological Resource	Status of Resource in the PSA[1]	Relevant Resource-Specific SSHCP AMMs[2]	Consistency of Project Measures with Relevant SSHCP AMM[3]
		Pond Turtle Post-Construction Restoration.	educate staff on the presence of special-status wildlife species and ways to avoid and minimize impacts.
Tricolored Blackbird	There is suitable foraging habitat and limited suitable nesting habitat for tricolored blackbird (TRBL) within the PSA. During survey conducted in 2021-2023, there were several known occurrences of this species that overlap with the PSA boundaries, specifically throughout the entirety of the central-southern extent of the PSA, and several documented occurrences within the immediate vicinity. This species was documented within the PSA, west of Coyote Creek, during TRBL focused surveys conducted by Dudek in 2021. No nesting activity or nesting colonies were observed during these surveys	TCB-1 (Tricolored Blackbird Surveys), TCB-2 (Tricolored Blackbird Pre-Construction Surveys), TCB-3 (Tricolored Blackbird Nest Buffer), TCB-4 (Tricolored Blackbird Nest Buffer Monitoring), and TCB-5 (Timing of Pesticide Use and Harvest Timing in Agricultural Preserves).	Project measures/conditions consistent with the intent of the SSHCP AMMs. BTR Section 6.2 a.7 recommends that a qualified biologist should conduct a pre-construction survey for nesting TRBL approximately 2 days prior to vegetation or tree removal or ground-disturbing activities during the nesting season (April through August). The survey should cover the limits of construction and suitable nesting habitat within 500 feet. If any active nests are observed during surveys, a qualified biologist should establish a suitable avoidance buffer from the active nest. The buffer distance for TRBL will be 500 feet and should be determined based on factors such as topographic features, intensity and extent of the disturbance, timing relative to the nesting cycle, and anticipated ground disturbance schedule. Limits of construction to avoid active nests should be established in the field with flagging, fencing, or other appropriate barriers and should be maintained until the chicks have fledged and the nests are no longer active, as determined by the qualified biologist. If vegetation removal activities are delayed, additional nest surveys should be conducted such that no more than 7 days elapse between the survey and vegetation removal activities. It is recommended that disturbing potential nesting habitat (i.e., trimming and/or vegetation removal) be performed outside of the nesting season (September through March) to avoid impacts to nesting birds. If an active nest is identified within 50 feet of the construction zone after construction has started, work within 50 feet of the nest should be halted until the qualified biologist can provide appropriate avoidance and minimization measures to ensure that the nest is not disturbed by construction. Appropriate measures may include a no-disturbance buffer until the birds have fledged, limitations on construction activities that generate substantial vibration and/or noise, and/or full-time monitoring by a qualified biologist during construction activities conducted

Table 5. Consistency of Proposed Project Avoidance and Minimization Measures (AMMs) with Relevant Resource-Specific SSHCP AMMs

Biological Resource	Status of Resource in the PSA[1]	Relevant Resource-Specific SSHCP AMMs[2]	Consistency of Project Measures with Relevant SSHCP AMM[3]
			near the nest. This species should be included in the WEAP described above for Special-Status Plant Species that will also educate staff on the presence of special-status wildlife species and ways to avoid and minimize impacts.
Swainson's Hawk	There is suitable foraging and nesting habitat for Swainson's hawk (SWHA) within the PSA. There are known occurrences of SWHA within the PSA. Dudek conducted protocol-level SWHA surveys within the PSA, and visual surveys up to 0.5 miles outside of the PSA, in 2021, 2022, and 2023. Within the PSA, 24 SWHA individuals were observed foraging, perching, displaying courtship, and nesting. The majority of the SWHA observations were recorded in the southwestern portion of the PSA	SWHA-1 (Swainson's Hawk Surveys), SWHA-2 (Swainson's Hawk Pre-Construction Surveys), SWHA-3 (Swainson's Hawk Nest Buffer), and SWHA-4 (Swainson's Hawk Nest Buffer Monitoring), SWHA-5 (Swainson's Hawk Nest Tree Avoidance)	Project measures/conditions consistent with the intent of the SSHCP AMMs. BTR Section 6.2 a.5 recommends that if nesting SWHA are determined present within the solar development area or within 0.5 miles of the solar development area during construction of the Project, ongoing monitoring by a qualified biologist may be required to ensure there are no impacts to this species and its habitat. The requirement for monitoring will be determined in consultation with CDFW biologists after they are notified of the nesting SWHA. SWHA shall be included in the WEAP described above for Special-Status Plant Species that will also educate staff on the presence of special-status wildlife species and ways to avoid and minimize impacts. A SWHA Management Plan should be developed and implemented by the Project to ensure that the solar development area and adjacent suitable SWHA foraging habitat achieve a performance standard of no net loss of SWHA habitat function and value following Project completion. Compensatory mitigation shall be provided for impacts to SWHA foraging habitat by Project infrastructure to achieve a performance standard of no let loss of habitat value to SWHA. The methods and implementation measures to achieve this performance standard shall be described in a mitigation plan to be submitted to the County of Sacramento for review prior to the start of construction.
Western Burrowing Owl	There is suitable foraging and nesting habitat for (western) burrowing owl (BUOW) within the PSA. The PSA contains suitable open grassland habitat	WBO-1 (Western Burrowing Owl Surveys), WBO-2 (Western Burrowing Owl Pre-Construction Surveys), WBO-3	Project measures/conditions consistent with the intent of the SSHCP AMMs. BTR Section 6.2 a.4 recommends a qualified biologist should conduct surveys for BUOW within 30 days prior to ground-disturbing activities within suitable habitat for the species. The survey should cover the limits of ground disturbance and potentially suitable nesting habitat within 500 feet. If ground-disturbing activities are delayed, then additional

Table 5. Consistency of Proposed Project Avoidance and Minimization Measures (AMMs) with Relevant Resource-Specific SSHCP AMMs

Biological Resource	Status of Resource in the PSA[1]	Relevant Resource-Specific SSHCP AMMs[2]	Consistency of Project Measures with Relevant SSHCP AMM[3]
	with ground squirrel burrows to support this species. From 2021 – 2023, several indicators of BUOW signs were observed and recorded. During protocol-level surveys, multiple suitable burrows, and other ancillary indicators (e.g., feathers, whitewash, and pellet) were observed within the PSA. Specifically, the southern portion and northern portion of the PSA is where these resources were recorded	(Western Burrowing Owl Avoidance), WBO-4 (Western Burrowing Owl Construction Monitoring), WBO-5 (Western Burrowing Owl Passive Relocation), WBO-6 (Western Burrowing Owl Timing of Maintenance Activities, and WBO-7 (Rodent Control).	surveys should be conducted such that no more than 7 days elapse between the survey and ground-disturbing activities. If BUOW is encountered during the pre-construction survey, the approved biologist should prepare a Special-Status Species Avoidance, Minimization, and Relocation Plan for special-status species occurring in the solar development area, including BUOW. The Avoidance, Minimization, and Relocation Plan shall include a performance standard of no net loss of BUOW within the PSA. If non-nesting BUOWs are observed in or adjacent to the construction footprint during the survey, construction should be postponed until the qualified biologist can fully implement a Western Burrowing Owl Passive Relocation and Exclusion Plan (to be prepared by the qualified biologist). The plan should be prepared in accordance with the Staff Report on Burrowing Owl Mitigation (CDFG 2012). Once owls have been successfully excluded and unoccupied burrows evacuated, construction in the area may proceed. If nesting BUOWs are observed during the survey, construction activities within 300 feet of occupied burrows should be delayed until young owls have fledged and are independent of the burrow, as determined by a qualified biologist. The qualified biologist may reduce the 300-foot buffer based on the type, timing, extent, and intensity of the construction activity and other factors such as site topography and vegetation cover between the construction activity and the burrow. Once all young have fledged and are no longer dependent upon the nest burrow, the same burrow exclusion (i.e., environmentally sensitive area) procedure described above should be implemented prior to resuming construction activities in the area. If BUOW is determined present within the solar development area, then ongoing monitoring by a qualified biologist may be required to ensure there are no impacts to this species and its habitat during construction and operation and maintenance activities for the Project. This species should be included in the WEAP described above for Special-Status Plant Species that will also educate staff on the presence of special-status wildlife species and ways to avoid and minimize impacts. Compensatory mitigation shall be provided

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Biological Resource	Status of Resource in the PSA[1]	Relevant Resource-Specific SSHCP AMMs[2]	Consistency of Project Measures with Relevant SSHCP AMM[3]
			for impacts to BUOW nesting, wintering, and/or foraging habitat by Project infrastructure to achieve a performance standard of no let loss of habitat value to the BUOW.
Bald Eagle and Golden Eagle	Bald eagle and golden eagle individuals were both observed flying overhead during reconnaissance-level surveys 2021-2023 in the PSA. Large trees within the PSA, outside the PSA, and within 0.5 mile provide potential nesting habitat for these two species. Additionally, open areas in the PSA provide foraging habitat for this species.	No SSHCP AMMs specific to these species. See Nesting and Migratory Birds below.	No SSHCP AMMs specific to these species. BTR Section 6.2 a.6 recommends that if nesting bald or golden eagles are determined present in or within 0.5 mile of the solar development area during construction on-going monitoring by a qualified biologist may be required to ensure no impacts to this species and its habitat. A buffer may also be implemented around an active nest to alleviate any impacts (e.g., noise, dust). Bald and golden eagles shall be included in the WEAP described above for Special-Status Plant Species, which will also educate staff on the presence of special-status wildlife species and ways to avoid and minimize impacts.
Song Sparrow ("Modesto Population"), Grasshopper Sparrow, Bank Swallow, and White-tailed Kite	Numerous habitats and vegetation communities within the PSA provide suitable nesting and foraging habitat for these four species. Dudek conducted reconnaissance surveys 2021 -2023 and song sparrow and white-tailed kite were documented in various locations within the PSA previously.	No SSHCP AMMs specific to these species.	No SSHCP AMMs specific to these species. BTR Section 6.2 a.8 recommends a qualified biologist should conduct a pre-construction survey for nesting song sparrow, grasshopper sparrow, bank swallow, and white-tailed kite approximately two days prior to vegetation or tree removal or ground-disturbing activities during the nesting season. The survey should cover the limits of construction and suitable nesting habitat within 500 feet. If any active nests are observed during surveys, a qualified biologist should establish a suitable avoidance buffer from the active nest. The buffer distance will typically range from 50 to 300 feet and should be determined based on factors such as topographic features, intensity and extent of the disturbance, timing relative to the nesting cycle, and anticipated ground disturbance schedule. Limits of construction to avoid active nests should be established in the field with flagging, fencing, or other appropriate barriers and should be maintained until the chicks have

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Biological Resource	Status of Resource in the PSA[1]	Relevant Resource-Specific SSHCP AMMs[2]	Consistency of Project Measures with Relevant SSHCP AMM[3]
			fledged and the nests are no longer active. If vegetation removal activities are delayed, additional nest surveys should be conducted such that no more than seven days elapse between the survey and vegetation removal activities. If an active nest is identified within 50 to 300 feet of the construction zone after construction has started, work within 50 to 300 feet of the nest should be halted until the qualified biologist can provide appropriate avoidance and minimization measures to ensure that the nest is not disturbed by construction. Appropriate measures may include a no-disturbance buffer until the birds have fledged, limitations on construction activities that generate substantial vibration and/or noise, and/or full-time monitoring by a qualified biologist during construction activities conducted near the nest. This species should be included in the WEAP described above for Special-Status Plant Species, which will also educate staff on the presence of special-status wildlife species and ways to avoid and minimize impacts.
Nesting Raptors and Migratory Birds	Potential nesting habitat for migratory bird species within the PSA is generally limited to that for ground-nesting species. Development within the PSA could involve removal of vegetation and trees, which has the potential to support nesting birds.	RAPTOR-1 (Raptor Surveys), RAPTOR-2 (Raptor Pre-Construction Surveys), RAPTOR-3 (Raptor Nest/Roost Buffer), and RAPTOR-4 (Raptor Nest/Roost Buffer Monitoring).	Project measures/conditions consistent with the intent of the SSHCP AMMs. BTR Section 6.2 a.14 recommends a qualified biologist should conduct a survey for nesting birds within 1 week prior to vegetation removal or ground-disturbing activities during the nesting season within suitable habitat (i.e., February through August). The survey should cover the limits of construction and accessible suitable nesting habitat within 150 feet. If any active nests are observed during surveys, a qualified biologist should establish a suitable avoidance buffer from the active nest. The Avian Biologists will be responsible for monitoring all nests that are found within the Project survey area once construction work is initiated. Nests will be monitored within the following distances until the final nest outcome is determined (i.e., fledged or failed): 150 feet for passerines and other non-raptors, 500 feet for raptors and owls, 250 feet for occupied burrowing owl burrows, 500 feet for federally and/or state-listed species, and 0.25 miles for spotted owls. If the Avian Biologists determine that the recommended buffer may not avoid disturbance that could cause a nest

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			failure, the Avian Biologists will recommend additional measures (e.g., increased buffer width, noise or visual barriers, work intervals, stopping work as needed, or allowing only specific work types). These measures may be implemented on a case-by-case basis to minimize impacts to nesting birds and may be based on site-specific conditions and work requirements. The Avian Biologists will use behavioral cues that indicate nest disturbance (e.g., time off the nest, hesitation approaching the nest, incessant chattering, bill swiping, or other unusual behavior) to determine the buffer's effectiveness. All potential sources of nest disturbance will be assessed and documented, including non-construction activities (e.g., interspecific, and conspecific interactions and depredation) and other indirect Project activities (e.g., traffic and recreational activities). Limits of construction to avoid active nests should be established in the field with flagging, fencing, or other appropriate barriers and should be maintained until the chicks have fledged and the nests are no longer active, as determined by the qualified biologist. Vegetation or trees planned for removal shall be removed during the period of September through January, to avoid the nesting season. Any trees that are to be removed during the nesting season, which is February through August, will be surveyed by a qualified biologist and will only be removed if no nesting migratory birds are found. If vegetation removal activities are delayed, additional nest surveys should be conducted such that no more than 7 days elapse between the survey and vegetation removal activities. If an active nest is identified in or adjacent to the construction zone after construction has started, work in the vicinity of the nest should be halted as needed until the Project biologist can provide appropriate avoidance and minimization measures to ensure that the nest is not disturbed by construction. Appropriate measures may include a no-disturbance buffer until the nest has fledged and/or full-time monitoring by a qualified biologist during construction activities conducted near the nest. Nesting birds should be included in the WEAP described above for Special-Status

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Biological Resource	Status of Resource in the PSA[1]	Relevant Resource-Specific SSHCP AMMs[2]	Consistency of Project Measures with Relevant SSHCP AMM[3]
			Plant Species that will also educate staff on the presence of special-status wildlife species and ways to avoid and minimize impacts.
American Badger	American badger has not been documented within the PSA, but there are known occurrences of American badger within 5 miles. In addition, this species is known to occur in the vicinity, and suitable habitat, as well as SSHCP modeled habitat, is present (Sacramento County 2018).	No SSHCP AMMs specific to this species.	No SSHCP AMMs specific to this species. BTR Section 6.2 a.12 recommends a qualified biologist should conduct focused surveys for American badger dens within 2 weeks prior to ground-disturbing activities in undeveloped grassland. The survey should cover the limits of ground disturbance and a 100-foot buffer. Any winter or natal American badger dens located during the survey should be evaluated (typically with remote cameras) to determine activity status. If American badger is identified, then prior to construction, the qualified biologist should establish a 100-foot no-disturbance buffer (e.g., mesh exclusion fencing, flagging, or similar) around any active American badger natal dens identified during the survey. If construction occurs during the non-breeding period (i.e., typically from June through February) and an active non-natal den is found in or adjacent to the construction footprint, a qualified biologist should attempt to trap or flush the individual and relocate it to suitable habitat away from construction. If no dens are observed, and/or after a trapping or flushing effort is completed, and/or after it is confirmed that a natal den is no longer active, the vacated or unoccupied den can be excavated, and construction can proceed. If American badger is determined present within the solar development area of the PSA, then ongoing monitoring by a qualified biologist may be required to ensure there are no impacts to this species and its habitat during construction and operation and maintenance activities for the Project. This species should be included in the WEAP described above for Special-Status Plant Species that will also educate staff on the presence of special-status wildlife species and ways to avoid and minimize impacts.
Native Bats	Native bat roosting habitat in the PSA is limited to isolated trees near seasonal ponds or other	BAT-1 (Winter Hibernaculum Surveys), BAT-2 (Winter Hibernaculum	Project measures/conditions consistent with the intent of the SSHCP AMMs. BTR Section 6.2 a.13 recommends a qualified biologist should conduct a habitat assessment for roosting bats within the solar development area. The habitat assessment should include a visual

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Biological Resource	Status of Resource in the PSA[1]	Relevant Resource-Specific SSHCP AMMs[2]	Consistency of Project Measures with Relevant SSHCP AMM[3]
	aquatic habitat that provide nearby foraging opportunities. No active bat roosts or signs of occupation, such as guano or staining, were detected during the reconnaissance-level field surveys.	Pre-Construction Surveys), BAT-3 (Winter Hibernaculum Buffer), and BAT-4 (Bat Eviction Methods).	inspection of potential roosting features (bats need not be present) and presence of guano within the solar development area, access routes, and 300 feet around these areas. The qualified biologist should survey these areas no less than 30 days prior to the start of work. Potential roosting features found during the survey should be flagged or marked. Removal of potential roost habitat identified during the assessment (described above) should be avoided during the bat maternity season (i.e., May 1 through August 15). If removal of potential roost habitat occurs outside of the maternity season, no further mitigation should be required. If a bat roosting or maternity colony cannot be completely avoided, the individuals should be safely evicted under the direction of the qualified bat biologist. If individuals cannot be safely evicted due to factors such as lack of alternative roosting sites or the young still being reliant on adults, as determined by the qualified bat biologist, ground-disturbing activities within a specified distance of the roost (specified distance to be determined by the bat biologist, based on surroundings and vulnerability of roost site, etc.) should be postponed or halted until conditions are suitable for safe eviction or the roost has vacated naturally. If native bats are determined present within the solar development area, then ongoing monitoring by a qualified biologist may be required to ensure there are no impacts to this species and its habitat during construction and operation and maintenance activities for the Project. If native bats are identified in the solar development area, prior to Project initiation, a Bat and Avian Protection Plan will be prepared in coordination with CDFW and USFWS to reduce/eliminate impacts to bat and avian species. Native bats should be included in the WEAP described above for Special-Status Plant Species that will also educate staff on the presence of special-status wildlife species and ways to avoid and minimize impacts.
Valley Elderberry Longhorn Beetle	Suitable habitat for valley elderberry longhorn beetle (VELB) has been identified	VELB-1 (Valley Elderberry Longhorn Beetle Avoidance).	BTR Section 6.2 a.9 describes Project activities that may damage or kill an elderberry plant (e.g., trenching, paving, etc.) and that will be avoided to the extent feasible. If avoidance of all elderberry shrubs is not feasible,

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Biological Resource	Status of Resource in the PSA[1]	Relevant Resource-Specific SSHCP AMMs[2]	Consistency of Project Measures with Relevant SSHCP AMM[3]
	within the PSA (i.e., elderberry plants within riparian and adjacent non-riparian areas). Specifically, a total of 10 elderberry plants were identified within the PSA, with 10 shrubs being within 165 feet of the Project PSA and/or within the Project solar development area. Focused surveys conducted in March 2022 found that three elderberry plants, shrub IDs 6, 9, and 10, exhibited potential relict bore/exit holes from a burrowing insect, and no observations of VELB were recorded.		impacts to these plants will be compensated through planting of elderberry plants in areas not subject to Project disturbance at a ratio of 1:1. All areas to be avoided during construction activities will be fenced and/or flagged as close to the Project solar development area as feasible. Temporary construction fencing and flagging shall be installed at least 165 feet outside the edge of the driplines of the elderberry plants. All activities that could occur within 165 feet of an elderberry plant will be conducted outside of the flight season of the VELB (i.e., March through July) to the maximum extent feasible. To avoid and minimize direct impacts to VELB, trimming will occur between November and February and will avoid the removal of any branches or stems that are greater than 1 inch in diameter. Mechanical weed removal within the dripline of any elderberry plant will be limited to the season when adult VELB are not active (i.e., August through February) and will avoid damage to the elderberry plant. Mechanical weed removal within the dripline of any elderberry plant will be limited to the season when adult VELB are not active (i.e., August through February) and will avoid damage to the elderberry plant. Mechanical weed removal within the dripline of any elderberry plant will be limited to the season when adult VELB are not active (i.e., August through February) and will avoid damage to the elderberry plant. A qualified biologist will monitor the Project solar development area if work is approved to occur within the 165-foot avoidance buffer to assure that all avoidance and minimization measures are implemented. The amount and duration of monitoring will depend on the project specifics and should be discussed with USFWS. A qualified biologist will provide training for all contractors, work crews, and any on-site personnel on the status of the VELB, its host plant and habitat, the need to avoid damaging the elderberry shrubs, and the possible penalties for not complying with these requirements.
Large Listed Branchiopods	There are known occurrences of vernal pool fairy shrimp and vernal	No SSHCP AMMs specific to these species.	No SSHCP AMMs specific to this species. BTR Section 6.2 a.10 and 6.2 a.11 recommends unless a smaller buffer is approved through formal consultation with USFWS, construction fencing shall be installed to avoid the

Table 5. Consistency of Proposed Project Avoidance and Minimization Measures (AMMs) with Relevant Resource-Specific SSHCP AMMs

Biological Resource	Status of Resource in the PSA[1]	Relevant Resource-Specific SSHCP AMMs[2]	Consistency of Project Measures with Relevant SSHCP AMM[3]
	pool tadpole shrimp, recorded along the western portion of the gen-tie alignment route in the northwest vicinity of the PSA, as well as other known occurrences within 5 miles of the solar development area. There is DCH for this species within 7 miles of the solar development area. Conservancy fairy shrimp have been documented within the PSA but there is low potential within the PSA. No observation of vernal pool fairy shrimp, vernal pool tadpole shrimp, and/or conservancy fairy shrimp were made during the reconnaissance-level surveys.		delineated wetland edge. All construction activities are prohibited within this buffer area. If total avoidance is achieved, no further action is required.
Crotch's Bumble Bee	The PSA contains marginal open grassland habitat with floral resources to support this species. The nearest known occurrence for this species is	No SSHCP AMMs specific to this species.	No SSHCP AMMs specific to this species. BTR Section 6.2 a.15 recommends a pre-construction survey for Crotch's bumble bee shall occur within the construction area during the primary flight period for workers and males (March 1 through June 30) prior to the start of construction activities. The survey shall ensure that no nests for Crotch's bumble bee are located within the construction area. Crotch's bumble bee is a habitat generalist, ground-nesting bee. For the purposes of this

Table 5. Consistency of Proposed Project Avoidance and Minimization Measures (AMMs) with Relevant Resource-Specific SSHCP AMMs

Biological Resource	Status of Resource in the PSA[1]	Relevant Resource-Specific SSHCP AMMs[2]	Consistency of Project Measures with Relevant SSHCP AMM[3]
	approximately 5 miles west of the PSA.		mitigation measure, nest resources are defined as small mammal burrows, bunch grasses with a duff layer, thatch, hollow trees, rock walls, and brush piles.
Jurisdictional Aquatic Resources	There are approximately 10.74 acres of aquatic resources that would be subject to Project impacts in the PSA that are anticipated to meet the criteria for jurisdictional waters subject to regulation by the USACE, RWQCB, and/or CDFW. This includes the following aquatic resource features: ditch (0.02 acre), ephemeral drainage (6.10 acres), perennial channel (0.38 acre), intermittent drainage (0.38 acre), seasonal wetland swale (1.38 acres), upland swale (2.07 acres), seasonal wetland (0.16 acres), vernal pool (0.17 acres), vernal swale (0.04 acres), and seep (0.01 acre).	No SSHCP AMMs specific to these resources	No SSHCP AMMs specific to these resources. BTR Section 6.2 c recommends that temporary and permanent impacts to jurisdictional aquatic resources will require prior authorization from the applicable resource agencies with jurisdiction in the form of waters and wetland permits (e.g., 404 Nationwide or Individual Permit, 401 Water Quality Certification, 1600 Lake or Streambed Alteration Agreement, and/or Floodplain Encroachment Permit), as well as compensatory mitigation to ensure no net loss of the habitat function and value of jurisdictional resources and to comply with the permitting standards of the applicable permitting agency. Potential mitigation options include purchasing mitigation credits from an agency-approved wetlands mitigation bank, paying an agency-approved in-lieu fee, and/or on-site and/or off-site conservation measures to compensate for a net permanent loss of the function and value of the aquatic resources. An Aquatic Resources Mitigation Plan and/or a Restoration and Revegetation Plan that includes aquatic resources will be prepared if impacts cannot be avoided. An Approved Preliminary Jurisdictional Delineation from USACE for the Aquatic Resources Delineation Report must be completed prior to and/or in conjunction with permit submittals for USACE, CDFW, and RWQCB. Jurisdictional wetlands that may provide habitat to special-status species (e.g., large-listed branchiopods, WST, WPT, may require additional compensatory mitigation potential direct and indirect impacts to species habitat. Compensatory mitigation requirements and rate ratios are at the discretion of the USFWS and CDFW. Aquatic resources should be included in the WEAP described above for Special-Status Plant Species that will also educate staff on the presence of special-status wildlife species and ways to avoid and minimize impacts.

Table 5. Consistency of Proposed Project Avoidance and Minimization Measures (AMMs) with Relevant Resource-Specific SSHCP AMMs

Biological Resource	Status of Resource in the PSA[1]	Relevant Resource-Specific SSHCP AMMs[2]	Consistency of Project Measures with Relevant SSHCP AMM[3]
Protected Tree Species	Protected tree species are primarily located within the blue oak savanna and blue oak woodland, within the Project PSA. An inventory approximated a maximum total of 4,394 trees protected by Sacramento County Tree Preservation Ordinance (i.e., 4,394 oaks, 1,792 heritage species, and 173 riparian). The Project has the potential to directly impact (i.e., removal) and/or otherwise indirectly impact (i.e., root damage from construction equipment) oak species with greater than 6 inches DBH (4,394 individual trees, total of 78,028.8 diameter inches), heritage and landmark species with greater than 16 inches DBH (1,762 individual trees, total of 48,829.70 diameter inches), and oak woodlands and forest (54.61 acres contiguous canopy).	No SSHCP AMMs specific to these resources.	No SSHCP AMMs specific to these resources. BTR Section 6.2 e recommends that if tree removal and/or work within the dripline cannot be avoided, then the Sacramento County Tree Preservation Ordinance requires a tree removal permit for the removal of any native oak with a single trunk measuring 6 inches or greater in DBH, or a multiple-trunked tree with an aggregate DBH measuring 10 inches or greater. This ordinance also prohibits grading, trenching, or filling any area within the dripline of a native oak without being issued a permit. Potential impacts to trees must be mitigated in accordance with the Sacramento County Tree Preservation Ordinance. Generally, mitigation for protected oaks and heritage/landmark trees requires a 2:1 for preservation and/or replacement. Tree species within riparian limits may require a 3:1 replacement and/or preservation of habitat and must also comply with requirements detailed in the California FGC 1600.

Notes: AMM= Avoidance and Minimization Measure; BTR= Biological Technical Report; BUOW= Burrowing Owl; CDFW= California Department of Fish and Wildlife; DBH= Diameter at Breast Height; Project= Coyote Creek Agrivoltaic Project; SSHCP= South Sacramento Habitat Conservation Plan; RWQCB= Regional Water Quality Control Board; SWHA= Swainson's hawk; TRBL= Tricolored Blackbird. USFWS= U.S. Fish and Wildlife Service; VELB= Valley Elderberry Longhorn Beetle; WEAP= Worker Environmental Awareness Program; WST= Western Spadefoot Toad; WPT=Western Pond Turtle.

1 Based on results documented in the Coyote Creek Agrivoltaic Ranch Project Biological Technical Report- Revised (Dudek 2024). The impact analysis and potentially the AMMs are subject to revision as part of the revised BTR following completion of on-going biological surveys.

2 SSHCP Section 5.4.2

3 Based on measures from the Coyote Creek Agrivoltaic Ranch Project Biological Technical Report- Revised (Dudek 2024) and anticipated forthcoming County conditions of approval through the Project California Environmental Quality Act (CEQA) process and regulatory permit conditions. See Dudek 2024 for full text of the Project AMMs.

3.2.2 Consistency with Biological Goals and Objectives

Section 7.3 (and listed above in Section 2.1.4) identifies the biological goals and objectives of the SSHCP. The SSCHP biological goals and objectives were developed for the SSHCP conservation strategy to address covered activities in the Plan Area. The Project is within the Plan Area but is not a covered activity and will not obtain take coverage for the covered species under the plan; therefore, the SSHCP biological goals and objectives are not applicable to the Project. Nonetheless, this analysis evaluates whether the Project would preclude achievement of the relevant SSHCP goals and objectives, and the potential contribution the Project's compensatory mitigation could provide towards concurrently achieving and/or supplementing the SSHCP goals and objectives.

Based on a review of the SSHCP biological goals and objectives, numerous objectives address specific resources that would not be impacted by the Project, address specific locations not applicable to the Project, and/or are specific to implementation of the SSHCP itself. However, the following SSHCP objectives are nevertheless considered in the consistency analysis for the Project. As described below, the Project is consistent with SSHCP overall objectives: Objective W3 (Covered Activities in UDA will implement STREAM-1, STREAM-2, STREAM-3, and EDGE-3 AMMs), Objective W6 (Covered Activities in UDA will avoid a minimum of 20% of tributaries to Elder Creek, Frye Creek, Gerber Creek, Morrison Creek, Paseo Central, and Sun Creek), Objective W7 (Ensure minimum acreage of re-establishing/establishing within the Morrison Creek Watershed), Objective HAB6 (Collect weather data), Objective RIP5 (Monitor groundwater table), Objective VPP1 (Protect occurrence of Ahart's dwarf rush), Objective VPP2 (Protect occurrence of Boggs Lake hedge hyssop), Objective VPP3 (Protect occurrence of dwarf downingia), Objective VPP4 (Protect minimum occurrences of legenere), Objective VPP5. (Protect occurrence of pincushion navarretia), Objective VPP6 Protect all known occurrences of Sacramento Orcutt grass), Objective VPP7 Protect all known occurrences of slender Orcutt grass), Objective SA1 (Protect occurrence of Sanford's arrowhead), Objective SA2 (Translocate impacted Sanford's arrowhead during re-establishment and/or establishment), Objective VPI3 (Protect minimum acreage of mid-valley fairy shrimp modeled aquatic habitat), Objective VPI4 (Protect minimum acreage of Ricksecker's water scavenger beetle modeled aquatic habitat), Objective CTS1 (Preserve minimum number of occupied California tiger salamander breeding pond), Objective CTS2 (Ensure minimum acreage of modeled aquatic and upland habitat for California tiger salamander is preserved), Objective CTS3 (Allow California tiger salamander movement across the covered transportation projects), Objective GGS1 (Ensure minimum acreage of modeled habitats for giant gartersnake is preserved), Objective GGS2 ensure minimum acreage of modeled habitats for giant gartersnake is re-established and/or established), Objective GGS3 (Plan Permittees will conduct a study to establish hydrologic baseline conditions for giant gartersnake), Objective VELB2 (Include elderberry shrub in the planting palette of Riparian habitat re-establishment and/or establishment), Objective FH1 (Ensure that minimum acreage of modeled foraging habitat for ferruginous hawk is preserved), Objective FH2 (Ensure minimum acreage of modeled foraging habitat for ferruginous hawk is re-established and/or established), Objective SH5 (Tree planting for impacted nesting trees in the UDA), Objective BO1 (Preserve minimum number of occupied western burrowing owl sites and acreage within the UDA), Objective GS1 (Ensure minimum acreage of modeled roosting or roosting/foraging habitat for greater sandhill crane is preserved), Objective GS2 (Ensure minimum of modeled foraging habitat for greater sandhill crane is preserved), Objective GS3 (Ensure minimum acreage of modeled roosting habitat or roosting/foraging habitat for greater sandhill crane is established and/or re-established), Objective GS4 (Create a visual screen from permanent roosting habitat within PPU 6), Objective GS5 (Establish and maintain minimum foraging habitat for greater sandhill crane), Objective GS6 (Ensure minimum acreage of high-value modeled foraging habitat for greater sandhill crane outside the 100-year floodplain is preserved), Objective TB5 (Provide mitigation for loss of any tricolored blackbird nesting colony site that is occupied at the time of Covered Activity implementation), Objective TB6 (Conduct an experimental study to identify management actions to protect

tricolored blackbird colonies), Objective TB7 (Ensure minimum number of tricolored blackbird colony is protected), and Objective TB8 (For any tricolored blackbird nesting colony that is removed by a Covered Activity, re-establish and/or establish three new colonies within SSHCP Preserves).

Table 6 provides an evaluation of the Project consistency with relevant SSHCP biological goals and objectives.

Table 6. Consistency of Proposed Project with Relevant SSHCP Biological Goals and Objectives

SSHCP Goal	SSHCP Objective[1]	Project Consistency with SSHCP Goals and Objectives[2]
Goal 1. Preserve and link intact landscapes that include the highest-quality habitat for covered species within the Plan Area.	Objective L1 (Establish a minimum Preserve System) and Objective L2 (Establish a minimum number of Linkage Preserves).	As shown in Table 2 above, the Project impacts an extremely small percentage of the SSCHP modeled habitat in SSHCP Preserve Planning Unit 5 and 1, and a larger but still relatively small percentage of the area outside Preserve Planning Units outside the UDA. Additionally, as described in Section 3.1.1 above, development is focused in the lower habitat value areas and avoid the higher habitat value areas. The Project site design avoids areas of dense oak woodlands in the eastern portions of the property and avoids many of the protected tree species. The Project site design also avoids and buffers the primary drainage features through the property, including Carson Creek, Coyote Creek, and Little Deer Creek, and avoids many of the other aquatic resources on the property. Through clustering the solar development areas in the lower habitat value areas of the site and avoiding the major drainage features to the extent feasible, north–south and east-west wildlife movement corridors will be maintained through the site providing habitat linkages to surrounding open spaces. A majority of the Project site is located outside SSHCP PPUs where no preserve system or linkage preserves were planned under the SSHCP. In the small portion of the Project located in PPU 1, the Project would not impact or preclude buildout of the preserve system or mapped conceptually described preserves or wildlife movement in PPU 1[3]. In the small portion of the Project located in PPU 5, the Project would not impact or preclude buildout of the preserve system or conceptually described preserve or wildlife movement in PPU 5[3]. Therefore, implementation of the project would not preclude the SSHCP achieving objectives for preserve establishment because there are no SSHCP preserve establishment goals for much of the Project area that is outside PPUs, and the Project does not conflict with the defined goals for the small portions of the Project in PPU 1 and PPU 5. Additionally, the Project will provide compensatory mitigation for impacts to aquatic resources and special-status species habitats, including species that are SSHCP covered species, through the acquisition of credits from existing conservation/mitigation banks, on-

Table 6. Consistency of Proposed Project with Relevant SSHCP Biological Goals and Objectives

SSHCP Goal	SSHCP Objective[1]	Project Consistency with SSHCP Goals and Objectives[2]
		site preservation, and/or off-site acquisition and preservation. The specific compensatory mitigation package will be developed through the County CEQA process and in compliance with the permitting requirements and standards of the state and federal regulatory agencies. Therefore, compensatory mitigation from the Project would supplement and bolster the function of the SSHCP future preserve system and existing preserves and would not preclude achieving the SSHCP goals and objectives for the preserve system.
Goal 2. Maintain or improve physical, chemical, and biological functions of aquatic resources within the Plan Area.	Objective W1 (Ensure Linkage Preserves include creek setback), Objective W2 (Covered Activities will implement LID, ROAD, and BMP AMMs), Objective W4 (Ensure that aquatic resources are preserved and are managed), and Objective W5 (Ensure that aquatic resources are re-established and/or established at a minimum 1:1 ratio).	As shown in Table 3 above, the Project would implement specific avoidance and minimization measures that are consistent with relevant SSHCP AMMs. Additionally, the Project will provide compensatory mitigation for impacts to aquatic resources and specific special-status species habitats, including species that are SSHCP covered species, through the acquisition of credits from existing conservation/mitigation banks, on-site preservation, and/or off-site acquisition and preservation. A draft compensatory mitigation package will be finalized through the permitting process with the regulatory agencies. The solar development area clustering minimizes effects on on-site habitat, including terrestrial and aquatic habitats and associated special-status species and maintain wildlife movement. Therefore, the avoided habitat areas of the Project design and compensatory mitigation would contribute to maintaining and improving functions in the Plan Area.
Goal 3. Preserve, re-establish, or establish natural land covers (including Cropland and Irrigated Pasture/Grassland) that provide habitat for covered species.	Objective VG1 (Preserve a minimum acreage of Valley Grassland land cover within the Vernal Pool Ecosystem), Objective VP1a (Preserve a minimum acreage of Vernal Pool in the Plan Area), Objective VP1b (Mitigation for Impacts to Vernal Pool within/adjacent to the Mather Core Recovery Area and Cosumnes/Rancho-Seco Recovery Area occur in same area), Objective VP2 (Re-establish and/or establish a minimum acreage of functional Vernal Pool within/adjacent to the Mather Core Recovery Area), Objective VP3 (Preserve a minimum acreage of Swale), Objective VP4 (Preserve a	The Project will provide compensatory mitigation for impacts to aquatic resources and specific special-status species habitats, including species that are SSHCP covered species, through the acquisition of credits from existing conservation/mitigation banks, on-site preservation, and/or off-site acquisition and preservation. The specific compensatory mitigation package will be developed through the County CEQA process and finalized through the permitting process with the regulatory agencies. The Project's compensatory mitigation would supplement and bolster the function of the SSHCP preserve system and would not preclude achieving the SSHCP goals and objectives for the preserve system.

Table 6. Consistency of Proposed Project with Relevant SSHCP Biological Goals and Objectives

SSHCP Goal	SSHCP Objective[1]	Project Consistency with SSHCP Goals and Objectives[2]
[Aquatic]	minimum acreage of Swale or Stream/Creek (VPIH) land cover type). Objective VP5 (Re-establish and/or establish a minimum acreage of Swale or vernal pool for impacts to the Swale and Stream/Creek (VPIH) land covers), Objective VP6 (Re-establish and/or establish a minimum acreage of functional Vernal Pool Ecosystem within/adjacent to the Mather Core Recovery Area), Objective SW1 (Preserve a minimum acreage of Seasonal Wetland), Objective SW2 (Re-establish and/or establish a minimum acreage of Seasonal Wetland), Objective FWM1 (Preserve a minimum acreage of Freshwater Marsh), Objective FWM2 (Re-establish and/or establish a minimum of acreage of functional Freshwater Marsh), Objective SC1 (Preserve a minimum acreage of the Stream/Creek land cover), Objective SC2 (Re-establish and/or establish a minimum acreage of the Stream/Creek land cover), Objective OW1 (Preserve a minimum acreage of Open Water), Objective OW2 (Re-establish and/or establish a minimum acreage of Open Water), Objective RIP1 (Preserve a minimum acreage of Mixed Riparian Woodland and/or Mixed Riparian Scrub), Objective RIP2 (Re-establish and/or establish acreage of Mixed Riparian Woodland and/or Mixed Riparian Scrub), Objective BOW1 (Preserve a minimum acreage of Blue Oak Woodland and/or Blue Oak Savanna), Objective BOW2 (Re-establish and/or establish a minimum acreage of Blue Oak Woodland and/or Blue Oak Savanna).	
Goal 3. Preserve, re-establish, or establish natural land covers (including Cropland and Irrigated	Objective AG1 (Preserve a minimum acreage of Cropland and/or Irrigated Pasture-Grassland).	The Project will provide compensatory mitigation for impacts to aquatic resources and specific special-status species habitats, including species that are SSHCP covered species, through the acquisition of credits from existing conservation/mitigation banks, on-site preservation, and/or off-site acquisition and preservation. A draft compensatory mitigation package will be finalized through the

Table 6. Consistency of Proposed Project with Relevant SSHCP Biological Goals and Objectives

SSHCP Goal	SSHCP Objective[1]	Project Consistency with SSHCP Goals and Objectives[2]
Pasture/Grassland) that provide habitat for covered species. [Terrestrial]		permitting process with the regulatory agencies. Since the Project is not a covered activity and will not obtain take coverage for the covered species under the SSHCP, the compensatory mitigation will not contribute towards meeting the minimum acreage requirements of the SSHCP the Project's compensatory mitigation would supplement and bolster the function of the SSHCP preserve system and would not preclude achieving the SSHCP goals and objectives for the preserve system.
Goal 4. Maintain or improve habitat value of natural land covers (including Cropland and Irrigated Pasture/Grassland) that are preserved within the Plan Area.	Objective HAB1 (Develop Preserve Management Plans), Objective HAB2 (Assess whether SSHCP Preserves are being managed and maintained), Objective HAB3 (Record and consider management history for Preserve parcels when developing Initial Preserve Management Plan), Objective HAB4 (Develop and implement an early detection and eradication program for invasive species), Objective HAB5 (Monitor Preserves for edge effects), Objective HAB7 (Monitor biomass within Grassland land covers), Objective AG2 (Maintain minimum acreage of high-quality foraging crops), and Objective AG3 (Maintain or increase raptor prey availability).	The Project will provide compensatory mitigation for impacts to aquatic resources and specific special-status species habitats, including species that are SSHCP covered species, through the acquisition of credits from existing conservation/mitigation banks, on-site preservation, and/or off-site acquisition and preservation. A draft compensatory mitigation package will be finalized through the permitting process with the regulatory agencies to the extent existing mitigation banks are part of the Project's compensatory mitigation, these banks have existing, operating management and monitoring programs to maintain the resources over the long term. If other compensatory mitigation is used, the County and/or regulatory agencies will condition the project to ensure that sufficient long-term management and monitoring is provided for the conserved resources.
Goal 5. Maintain or expand the existing distribution of each covered species within the Plan Area. [Plant covered species]	No SSHCP Objectives relevant to the Project under this goal.	No SSHCP Objectives relevant to the Project under this goal.
Goal 5. Maintain or expand the existing distribution of each covered species	Objective VPI1 (Protect minimum acreage of Vernal Pool tadpole shrimp modeled aquatic habitat), Objective VPI2 (Protect minimum acreage of Vernal Pool fairy shrimp modeled aquatic habitat), Objective VPI5 (Ensure proper	The Project will provide compensatory mitigation for impacts to aquatic resources and specific special-status species habitats, including species that are SSHCP covered species, through the acquisition of credits from existing conservation/mitigation banks, on-

Table 6. Consistency of Proposed Project with Relevant SSHCP Biological Goals and Objectives

SSHCP Goal	SSHCP Objective[1]	Project Consistency with SSHCP Goals and Objectives[2]
within the Plan Area. [Aquatic Animal covered species]	soil inoculation during in re-established or established vernal pools), Objective WS1 (Ensure minimum acreage of modeled aquatic and upland habitat for western spadefoot is preserved), Objective WS2 (Ensure minimum acreage of modeled aquatic habitat for western spadefoot is re-established and/or established), Objective WPT1 (Ensure minimum acreage of modeled aquatic and upland habitat for western pond turtle is preserved), and Objective WPT2 (Ensure minimum acreage of modeled aquatic habitat for western pond turtle is re-established and/or established.	site preservation, and/or off-site acquisition and preservation. A draft compensatory mitigation package will be finalized through the permitting process with the regulatory agencies. Since the Project is not a covered activity and will not obtain take coverage for the covered species under the SSHCP, the compensatory mitigation will not contribute towards meeting the minimum acreage requirements of the SSHCP (and thus will not adversely affect the minimum acreage requirements of the SSHCP). The Project's compensatory mitigation would supplement and bolster the function of the SSHCP preserve system and would not preclude achieving the SSHCP goals and objectives for the preserve system.
Goal 5. Maintain or expand the existing distribution of each covered species within the Plan Area. [Terrestrial Invertebrate covered species]	Objective VELB1 (Relocate or replace each impacted elderberry shrubs).	As described above in Table 3, avoidance of all elderberry shrubs is not feasible, impacts to plants will be compensated through planting of elderberry plants in areas not subject to Project disturbance at a ratio of 1:1. See the other Project avoidance and minimization measures listed in Table 3 for Valley elderberry longhorn beetle.
Goal 5. Maintain or expand the existing distribution of each covered species within the Plan Area. [Bird covered species]	Objective CH1 (Ensure minimum acreage of modeled foraging and nesting habitat for Cooper's hawk is preserved), Objective CH2 (Ensure minimum acreage of modeled foraging and nesting habitat for Cooper's hawk is re-established and/or established), Objective CH3 (Ensure minimum acreage of modeled foraging habitat for Cooper's hawk is preserved), Objective SH1 (Ensure minimum acreage of modeled foraging habitat for Swainson's hawk is preserved), Objective SH2 (Ensure minimum acreage of cropland habitat within high-value habitat within PPUs 4, 6, and 8 will be preserved) Objective SH3 (Ensure minimum acreage of modeled	The Project will provide compensatory mitigation for impacts to aquatic resources and specific special-status species habitats, including species that are SSHCP covered species, through the acquisition of credits from existing conservation/mitigation banks, on-site preservation, and/or off-site acquisition and preservation. A draft compensatory mitigation package will be finalized through the permitting process with the regulatory agencies. Since the Project is not a covered activity and will not obtain take coverage for the covered species under the SSHCP, the compensatory mitigation will not contribute towards meeting the minimum acreage requirements of the SSHCP (and thus will not adversely affect the SSHCP minimum acreage requirements. The Project's compensatory mitigation would

Table 6. Consistency of Proposed Project with Relevant SSHCP Biological Goals and Objectives

SSHCP Goal	SSHCP Objective[1]	Project Consistency with SSHCP Goals and Objectives[2]
	nesting habitat for Swainson's hawk is preserved), Objective SH4 (Ensure minimum acreage of modeled riparian nesting habitat for Swainson's hawk is re-established and/or established), Objective SH6 (Ensure minimum acreage of modeled foraging habitat for Swainson's hawk is re-established and/or established), Objective WK1 (Ensure minimum acreage of modeled foraging habitat for white-tailed kite is preserved), Objective WK2 (Ensure minimum acreage of modeled nesting or nesting/foraging habitat for white-tailed kite is preserved), Objective WK3 (Ensure minimum acreage of modeled foraging habitat for white-tailed kite is re-established and/or established), Objective WK4 (Ensure minimum acreage of modeled nesting or nesting/ foraging habitat for white-tailed kite is re-established and/or established), Objective NH1 (Ensure minimum acreage of modeled foraging habitat for northern is preserved), Objective NH2 (Ensure minimum acreage of modeled nesting/foraging habitat for northern harrier is preserved), Objective NH3 Ensure minimum acreage of modeled foraging habitat for northern harrier is re-established and/or established), Objective BO2 (Protect minimum acreage of modeled habitat for western burrowing owl and establish a ground squirrel colony and augment with artificial burrows for each western burrowing owl or pair passively excluded), Objective LS1 (Ensure minimum acreage of modeled foraging habitat for loggerhead shrike is preserved), Objective LS2 (Ensure minimum acreage of modeled nesting/foraging habitat for loggerhead shrike is preserved), Objective LS3 (Ensure minimum acreage of modeled nesting habitat for loggerhead shrike is re-established and/or established), Objective LS4 (Ensure minimum acreage of modeled nesting habitat for loggerhead shrike is preserved), Objective LS5 (Ensure minimum acreage of	supplement and bolster the function of the SSHCP preserve system and would not preclude achieving the SSHCP goals and objectives for the preserve system.

Table 6. Consistency of Proposed Project with Relevant SSHCP Biological Goals and Objectives

SSHCP Goal	SSHCP Objective[1]	Project Consistency with SSHCP Goals and Objectives[2]
	modeled foraging habitat for loggerhead shrike is re-established and/or established), Objective TB1 (Ensure minimum acreage of modeled foraging habitat for tricolored blackbird is preserved), Objective TB2 Ensure minimum acreage of modeled nesting/foraging habitat for tricolored blackbird is preserved), Objective TB3 (Ensure minimum acreage of modeled foraging habitat for tricolored blackbird is re-established and/or established), Objective TB4 (Ensure minimum acreage of modeled nesting/foraging habitat for tricolored blackbird is re-established and/or established.	
Goal 5. Maintain or expand the existing distribution of each covered species within the Plan Area. [Mammal covered species]	Objective AB1 (Ensure minimum acreage of modeled habitat for American badger is preserved), Objective AB2 (Ensure minimum acreage of modeled habitat for American badger is re-established and/or established), Objective WR1 (Ensure minimum acreage of modeled foraging habitat for western red bat is preserved), Objective WR2 (Ensure minimum acreage of modeled roosting/foraging habitat for western red bat is preserved), Objective WR3 (Ensure minimum acreage of modeled foraging habitat for western red bat is re-established and/or established), Objective WR4 (Ensure minimum acreage of modeled roosting/foraging habitat for western red bat is re-established and/or established).	The Project will provide compensatory mitigation for impacts to aquatic resources and specific special-status species habitats, including species that are SSHCP covered species, through the acquisition of credits from conservation/mitigation banks, on-site preservation, and/or off-site acquisition and preservation. A draft compensatory mitigation package will be finalized through the permitting process with the regulatory agencies. Since the Project is not a covered activity and will not obtain take coverage for the covered species under the SSHCP, the compensatory mitigation will not contribute towards meeting the minimum acreage requirements of the SSHCP. The Project's compensatory mitigation would supplement and bolster the function of the SSHCP preserve system and would not preclude achieving the SSHCP goals and objectives for the preserve system.

Notes:

1 See SSHCP Section 7.3 and Section 2.1.4 above for full text of the SSHCP objectives.

2 The SSCHP biological goals and objectives were developed for the SSHCP conservation strategy to address covered activities in the Plan Area. The Project is within the Plan Area but is not a covered activity and will not obtain take coverage for the covered species under the plan; therefore, the SSHCP biological goals and objectives are not applicable to the Project. Nonetheless, this analysis evaluates whether the Project would preclude achievement of the relevant SSHCP goals and objectives, and the potential contribution the Project's compensatory mitigation could provide towards supplementing the SSHCP goals and objectives.

3 The relevant SSHCP textual descriptions of the linkage preserves in PPU 1 include: "Linkage Preserve L-1 (Carson Creek Linkage) will be a criteria-based linkage approximately 2 miles long and will connect Preserve C-1 to undeveloped lands east of the UDA. It is anticipated that Preserve L-1 will be bordered by urban development with full buildout of the UDA… The primary purpose of Linkage Preserve L-1 will be to facilitate wildlife movement in the northeastern portion of the Plan Area and to maintain a hydrological connection of an unnamed stream between Core Preserve C-1 and undeveloped lands located east of the UDA…Linkage Preserve L-2 (Deer Creek Linkage)…In the north, Linkage Preserve L-2 will connect directly to Linkage Preserve L-1 just north of Glory Lane and just south of where Linkage Preserve L-1 will connect to Core Preserve C-1. It is anticipated that

Linkage Preserve L-2 will be bordered by urban development with full buildout of the UDA." The relevant SSHCP textual descriptions of the preserve for PPU 5 is related to the Cosumnes River/Deer Creek Wildlife Movement Corridor located south of the Project site, which states that "approximately 1,482 acres will be preserved in PPU 5 in the Cosumnes River/Deer Creek Wildlife Movement Corridor…Because it is outside the UDA, this corridor has not defined width, but will provide habitat connectivity and a movement corridor."

3.2.3 Relationship to SSHCP Preserve Assembly

SSHCP Section 9.4 (and summarized above in Section 2.2.1) describes the SSHCP preserve acquisition process. The ultimate SSHCP preserve system totaling 36,282 acres will be assembled within the approximately 317,600-acre SSHCP Plan Area through preserve acquisitions by the SSCA, preserve dedications by third party project proponents, and potentially through credit purchases from established conservation or mitigation banks. Existing preserves (lands dedicated prior to SSHCP adoption) and mitigation lands dedicated for projects and activities not covered by the SSHCP do not contribute towards meeting the SSHCP obligations for the preserve system.

As described above in Section 3.1.3, the Project will provide compensatory mitigation for impacts to aquatic resources and specific special-status species, including species that are SSHCP covered species, through the acquisition of credits from existing conservation/mitigation banks, on-site preservation, and/or off-site acquisition and preservation. The specific draft compensatory mitigation package will be finalized through permitting requirements and standards of the regulatory agencies. The Project's compensatory mitigation would supplement and bolster the function of the SSHCP preserve system and would not preclude the plan permittees from meeting the obligations for SSHCP preserve assembly.

Use of mitigation banks to accomplish the Project's compensatory mitigation requirements would be consistent with the SSHCP, which allows conservation and mitigation banks to be used to assemble the SSHCP preserve system. The Project site is within the service area for the following existing banks: Clay Station Mitigation Bank, Bryte Ranch Conservation Bank, Laguna Creek Mitigation Bank, and Van Vleck Ranch Mitigation Bank. Use of existing conservation/mitigation banks may be used to compensate for unavoidable impacts to aquatic resources and large, listed Branchiopod (i.e., vernal pool fairy shrimp and vernal pool tadpole shrimp) habitat. On-site or offsite preservation may also be utilized to compensate for all or a portion of these resources.

The SSHCP contemplates the continued acquisition of mitigation credits as a component of the strategy to assemble a portion of the preserve system. If the Project employs existing mitigation banks to fulfill part or all its compensatory mitigation requirements, that will reduce the number of existing credits available to the SSCA. However, based on the expected limited role of credits in the SSHCP preserve system this would not constrain or preclude the plan permittees from meeting their SSHCP preserve system assembly obligations. As documented in the SSHCP First Annual Report (SSCA 2021), a total of nine preserves have been established under the SSHCP as of December 2021, all of which have been fee title dedications or easements (i.e., no bank credit purchases). These documented SSHCP preserve acquisitions to-date total 1,691 acres, including Gill Ranch No. 1 (160 acres), Ogden Ranch (32 acres), Arista del Sol (50 acres), Gill Ranch No. 2 (209 acres), Mahon Ranch (552 acres), The Ranch (198 acres), Van Vleck 1st Acquisition (237 acres), Van Vleck 2nd Acquisition (147 acres), and Rooney 2 (106 acres). Compensatory mitigation for upland species habitats will likely be compensated through preservation credit purchase from existing banks, the on-site habitat preserve, and/or off-site acquisition and preservation of lands from willing sellers. The on-site habitat areas and potential off-site compensatory mitigation lands are adjacent to or in the immediate vicinity of the Project site, include lands within PPU 1, PPU 5, and lands outside PPUs, and would build on existing preserve lands to buffer and provide a larger, connected preserve network. Goals and objectives relative to each PPU that is present within the PSAare summarized below as follows: PPU 1 is mostly within the UDA. PPU 1 also contains 2,156 acres outside the UDA, of which 1,468 acres are valley grassland and 531 acres are disturbed land cover. Within PPU 1 outside the UDA, approximately 219 acres will be preserved overall. The conservation strategy of the preserve design for PPU 1 outside the UDA is to maintain connectivity with wildlife corridor linkages inside the UDA and to provide connectivity to an existing preserve both within and south

of the UDA. PPU 5 encompasses approximately 52,534 acres in the central–eastern portion of the Plan Area. The conservation strategy for PPU 5 is to preserve approximately 1,691 acres, primarily to provide habitat linkages among preserves both outside and inside the UDA (e.g., along the Cosumnes River/Deer Creek corridors).

Therefore, compensatory mitigation from the Project would supplement and bolster the function of the SSHCP preserve system and would be consistent and not preclude achieving the SSHCP goals and objectives for the preserve system. Any compensatory mitigation needed to meet the criteria established during the CEQA and regulatory permitting process would be provided through a combination of retained on-site habitat and purchase of credits from existing in-lieu fee program or conservation/mitigation banks and/or additional off-site habitat acquisition and preservation. The compensatory mitigation acreage required to offset the impacts within the 1,224-acre solar development area will not constrain or preclude the plan permittees from meeting SSHCP preserve system assembly obligations. Additionally, if land acquisition/dedication is used for the Project, it is anticipated that the County and/or regulatory agencies will apply permitting standards and requirements to ensure that sufficient long-term management and monitoring is provided for the conserved properties, consistent with that of the SSHCP preserve lands.

Construction of the Project would for the 30-year life of the Project remove the lands within the Project site from potential acquisition as preserve lands by the SSCA. The SSCHP acquires land from willing sellers, and the owners of the Project lands have not indicated a willingness to sell their property. Under existing conditions, the Project site provides relatively uninterrupted connectivity between the habitats in PPU 1 to the west, habitats in PPU 5 to the southeast, and habitats northeast of the Project outside of PPUs. These types of linkage areas are potentially important to the SSHCP conservation strategy. As described in Section 3.1.1 above, the Project focuses development in the lowest habitat value areas of the PSA and avoids the higher habitat values areas including avoidance of dense oak woodlands in the eastern portion of the property and the primary drainage features and other aquatic resources including Carson Creek, Coyote Creek, and Little Deer Creek. Clustering of the solar development areas maintains north-south and east west wildlife movement corridors through the property providing habitat linkages to surrounding open spaces and adjacent existing preserves. Since a majority of the Project site is outside PPUs, the SSHCP does not identify habitat linkages that apply to the Project.

3.2.4 Relationship to SSHCP Take and Conservation

The SSHCP contemplates those activities that are not covered activities, and therefore are not regulated by the SSHCP, may nevertheless occur within the Plan Area of the SSHCP with the approval of the applicable state and federal environmental agencies. For example, the SSHCP acknowledges that the Sacramento County General Plan provides for land uses that are not covered activities, but that are within the Plan Area of the SSHCP. The SSHCP recognizes that land uses outside of the Plan Area that are not covered activities may be permitted through separate federal and state authorization.

The Project is required to obtain permits and other approvals from the USFWS, USACE, CDFW, and RWQCB, and will further minimize and mitigate impacts on natural resources to comply with the regulatory standards of these agencies. These are the same regulatory standards applied by the USFWS and the other environmental agencies in their review and approval of the SSHCP. Therefore, the Project mitigation strategy is designed to achieve the mitigation standards applicable to covered activities under the SSHCP.

The SSHCP covered species take limits and conservation obligations do not apply to the Project. As demonstrated in this document, the Project incorporates AMMs to reduce impacts and will provide compensatory mitigation for

unavoidable impacts through the County CEQA process and regulatory permitting processes that will provide for conservation for relevant landscape and ecological processes, land covers, and special-status species, including SSHCP covered species, comparable to that of the SSHCP.

Intentionally left blank4 Conclusion

The impacts to SSHCP land cover types from Project solar development are a very small percentage (i.e., 0.01 %) of the inventory of those lands in PPU 1, PPU 5, and the area outside PPUs and an even smaller percentage of the modeled habitat in the SSHCP Plan Area. Proposed mitigation for the Project includes mitigation measures that are equivalent to the relevant AMMs in the SSHCP. These avoidance and minimization measures, coupled with compensatory mitigation for unavoidable impacts, would ensure that Project effects on SSHCP covered species would be avoided, minimized, and mitigated so that the Project is consistent with the SSHCP.

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5 References

CDFG (California Department of Fish and Game). 2012. *Staff Report on Burrowing Owl Mitigation*. March 7, 2012. http://www.dfg.ca.gov/wildlife/nongame/docs/BUOWStaffReport.pdf.

County of Sacramento, City of Rancho Cordova, City of Galt, Sacramento County Water Agency, Sacramento Regional County Sanitation District, and the Southeast Connector Joint Powers Authority (County of Sacramento et. al.). 2018. *Final South Sacramento Habitat Conservation Plan.* January 2018. https://planning.saccounty.net/PlansandProjectsIn-Progress/Pages/SSHCPPlan.aspx.

Dudek. 2024. *Biological Technical Report (Revised), Coyote Creek Agrivoltaic Ranch Project*. Prepared for Sacramento Valley Energy Center, LLC. July 2023. Revised February 2024.

SSAC (South Sacramento Conservation Agency). 2021. *First Annual Report, Reporting Period: October 1, 2019 through September 30, 2020 for the South Sacramento Habitat Conservation Plan*. December 2021.

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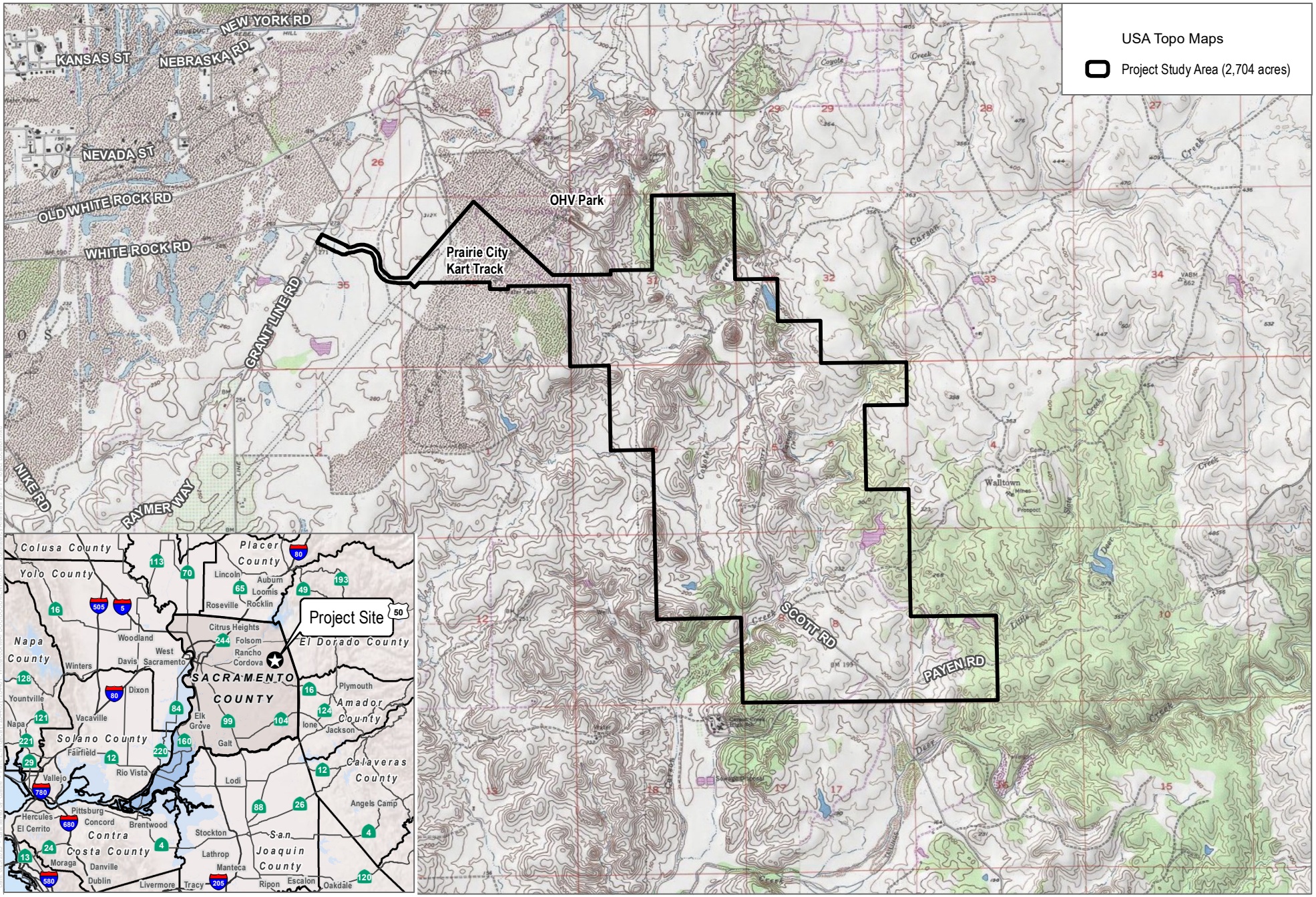

SOURCE: DigitalGlobe 2017

DUDEK

0 0.5 1 Miles

FIGURE 1

Project Location

Coyote Creek Agrivoltaic Project SSHCP Consistency Analysis

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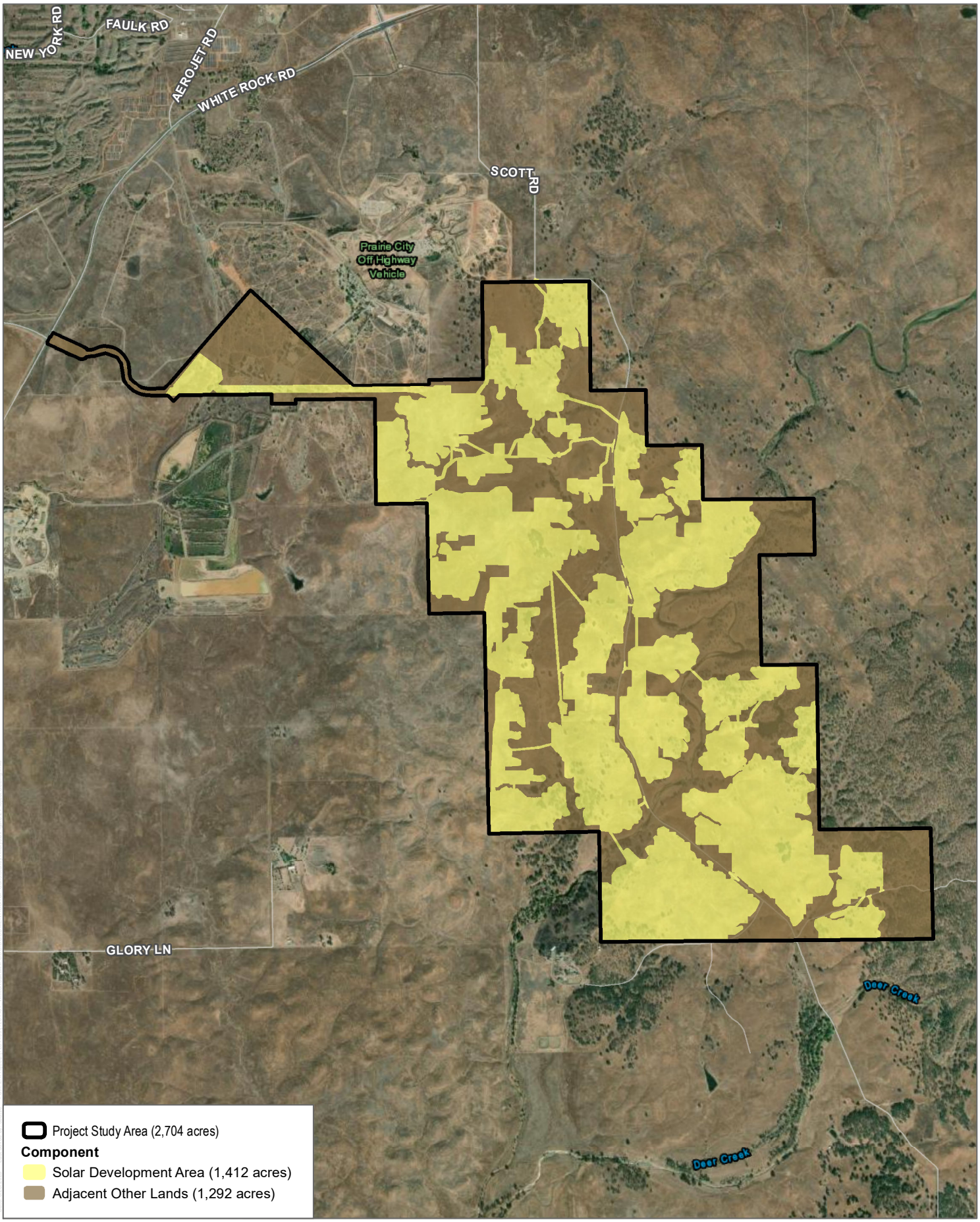

SOURCE: USGS 7.5-minute Quadrangle

DUDEK

0 1,000 2,000 Feet

FIGURE 2

Project Setting

Coyote Creek Agrivoltaic Project SSHCP Consistency Analysis

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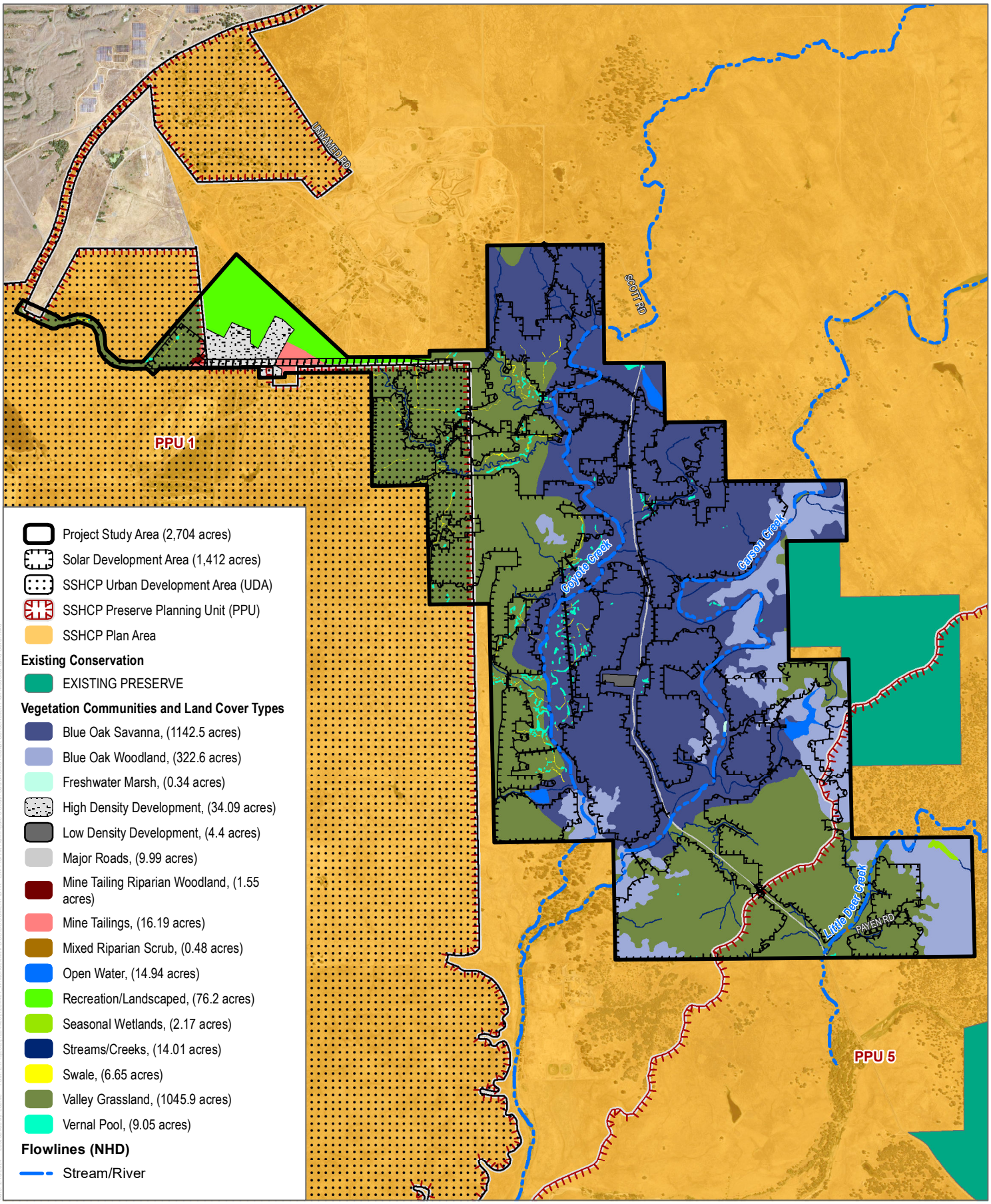

SOURCE: USGS 2018; SSHCP

DUDEK

0 1,000 2,000 Feet

NAD1983, CA State Plane Zone II

FIGURE 3

South Sacramento Habitat Conservation Plan Modeled Land Cover

Coyote Creek Agrivoltaic Project SSHCP Consistency Analysis

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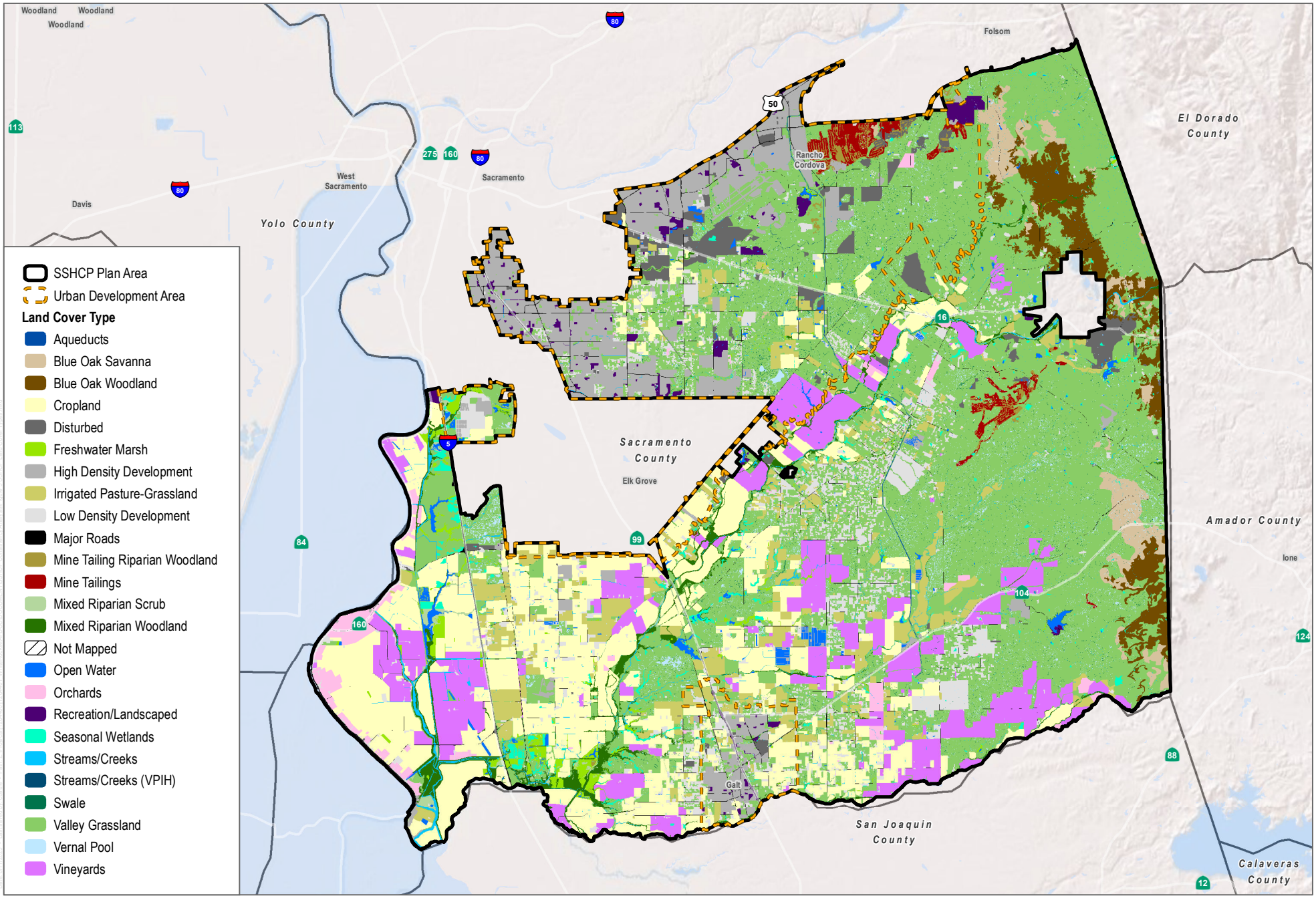

SOURCE: ESRI 2023

DUDEK

FIGURE 4

SSHCP Land Cover Types in Plan Area

Coyote Creek Agrivoltaic Project SSHCP Consistency Analysis

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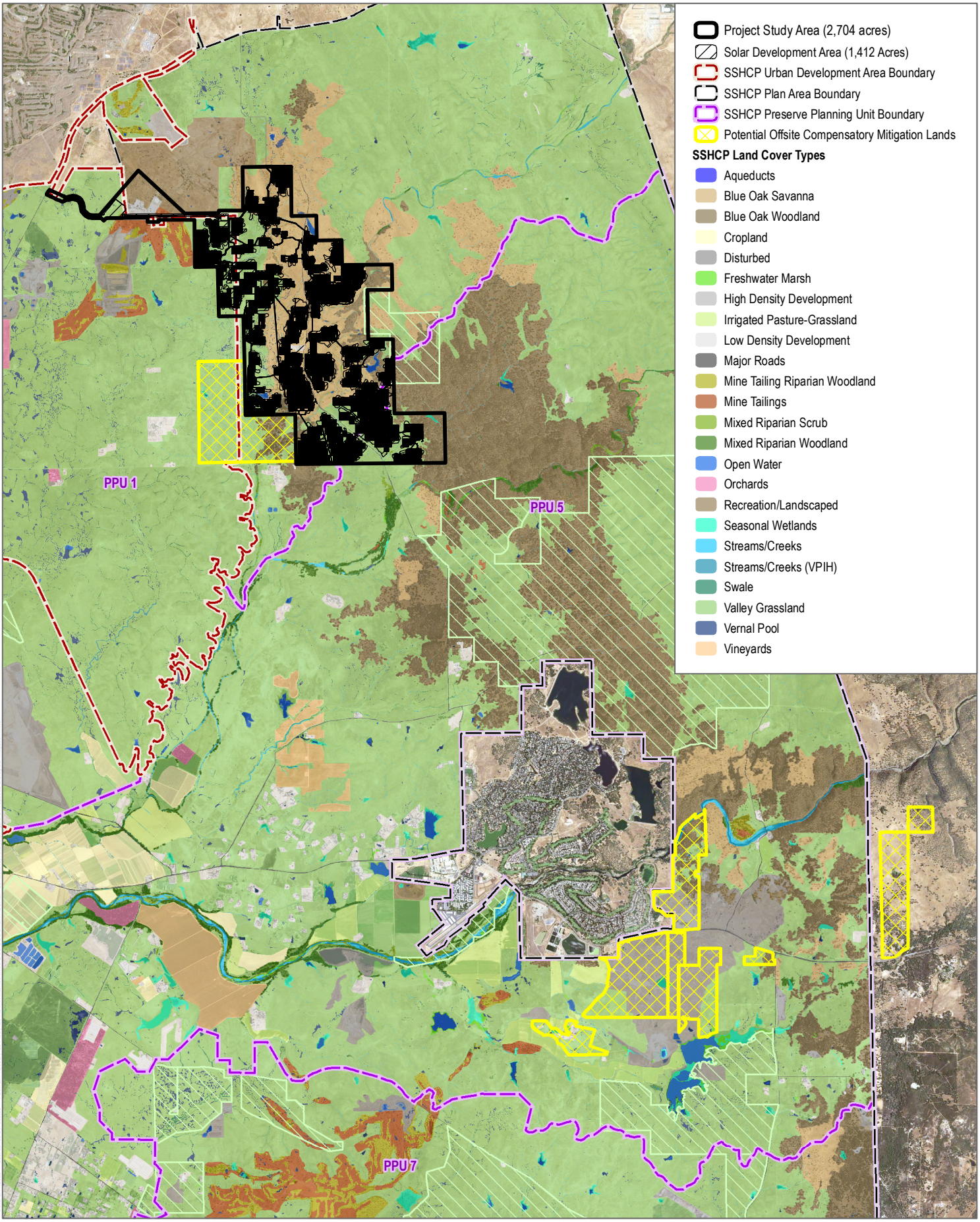

SOURCE: USDA 2020

DUDEK

0 3,400 6,800 Feet

FIGURE 5

Proposed Biological Mitigation

Coyote Creek Agrivoltaic Project SSHCP Consistency Analysis

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