# “F”

# Biological Resources Analysis

E&P Technology Way – Buildings A & B Use Permits
(P22-00307 / P22-00308)
Planning Commission Hearing Date November 20, 2024

FIRSTCARBONSOLUTIONS™

# Biological Resources Assessment
# Technology Way Buildings A and B
# Napa County, California

Prepared for:
**E&P Properties, Inc.**
2250 South Watney Way
Fairfield, CA 94533

Contact: Dennis Pulley, Chief Executive Officer

Prepared by:
**FirstCarbon Solutions**
2999 Oak Road, Suite 250
Walnut Creek, CA 94597

Contact: Jason Brandman, Project Manager
Yael Marcus, Project Manager

Date: January 30, 2024
Updated: February 21, 2024

THIS PAGE INTENTIONALLY LEFT BLANK

# Table of Contents



## List of Exhibits

THIS PAGE INTENTIONALLY LEFT BLANK

# SECTION 1: INTRODUCTION

## 1.1 - Purpose of Assessment

The purpose of this reconnaissance-level Biological Resources Assessment (BRA) is to evaluate the existence of special-status species and/or habitats, as well as assess the potential for SSS listed in Appendix B to occur on or near the site of commercial development activities. This BRA was prepared in order to support review of project impacts and mitigation measures under the California Environmental Quality Act (CEQA), pursuant to the County of Napa Guidelines for Preparing Biological Resources Reconnaissance Surveys (Napa County 2016). This BRA provides general information on the presence or potential presence of special-status species and their habitats, however, future protocol-level surveys for plants and animals may be required depending on the findings of this BRA. This BRA also analyzes the potential for jurisdictional wetlands and other waters of the State to exist on-site and classifies landforms that may potentially convey sediment to waters of the State, including dry creeks, washes, swales, gullys, and other erosional features, although a protocol-level wetland delineation was not performed. Also included is a set of mitigation measures that were prepared in order to ensure the protection of special-status species and their habitats.

## 1.2 - Project Summary

The site is currently undeveloped. The proposed project involves the construction of two warehouses measuring 143,325 square feet (Building A) and 66,915 square feet (Building B). The buildings would be located on the north side of Technology Way and Morris Court, on three parcels in unincorporated Napa County (Exhibit 1 and Exhibit 2). Surrounding the warehouses would be a combination of paved parking areas and permeable stormwater retention basins, as specified in the preliminary master plan set provided by RMW Architecture dated July 27, 2022. Building A would involve development of approximately 8.5 acres (75.7 percent) of the 13.2-acre west parcel with the remaining area preserving the existing riparian corridor surrounding Sheehy Creek (Exhibit 3). Building B would develop approximately 3.8 acres (77.5 percent) of the 4.9-acre middle parcel and approximately 1.9 acres (85.2 percent) of the 2.23-acre east parcel, with the remaining areas preserving the existing riparian corridor surrounding Sheehy Creek (Exhibit 4).

## 1.3 - Site Overview

The project site is located on the north side of Technology Way and Morris Court in unincorporated Napa County (County), 5 miles south of the City of Napa (City) (Exhibit 1). The topography is flat with no discernible topography aside from the engineered reach of Sheehy Creek, the thalweg of which is approximately 10 feet below grade and flows west along the north parcel boundary (Exhibit 2). The property consists of Assessor's Parcel Numbers (APNs) 057-250-030, 057-250-031, and 057-250-032 that are deeded 13.2, 4.9, and 2.23 acres respectively. The parcels are located in Section 2, Township 4 North, Range 4 West, on the United States Geological Survey (USGS) *Cutting's Wharf* 7.5-minute quadrangle (Exhibit 2). The approximate latitude and longitude of the centroid of the property is 38.2274 (N), -122.2679 (W). The property is under the jurisdiction of the San Francisco Bay (Region

2) Water Quality Control Board (RWQCB) and the Bay Delta Region (Region 3) of the California Department of Fish and Wildlife (CDFW).

## 1.4 - Methods

### 1.4.1 - Records Search and Literature Review

Based on a review of the literature and relevant databases, a list was compiled of special-status plant and animal species that are known to occur within Napa County or that occupy habitats known to be present on or near the project site (Appendices B-D). Sources of information referenced include the CDFW California Natural Diversity Database (CNDDB 2022), United States Fish and Wildlife Service (USFWS) Environmental Conservation Online System (USFWS 2022), the California Native Plants Society (CNPS) Inventory of Rare and Endangered Vascular Plants of California (CNPS 2022), the CDFW Habitat Relationships System (HRS), and the knowledge of staff familiar with the species and habitats of Napa County. Additional information on sensitive habitats, including wetlands, was obtained from the USFWS National Wetlands Inventory (NWI 2022) and the County of Napa Geographic Information System Portal (Napa Co. 2022). Plant species included here are State or Federally Endangered or Threatened species and/or considered rare by CDFW, and/or recognized as special-status species by CNPS and/or CDFW. Animal species included here are designated as State or Federally Endangered or Threatened, and/or CDFW Species of Special Concern, and/or CDFW fully protected species. In addition, nests of most native bird species, regardless of their regulatory status, are protected from take or harassment under the Migratory Bird Treaty Act (MBTA) and relevant sections of the California Fish and Game Code.

### 1.4.2 - Field Surveys

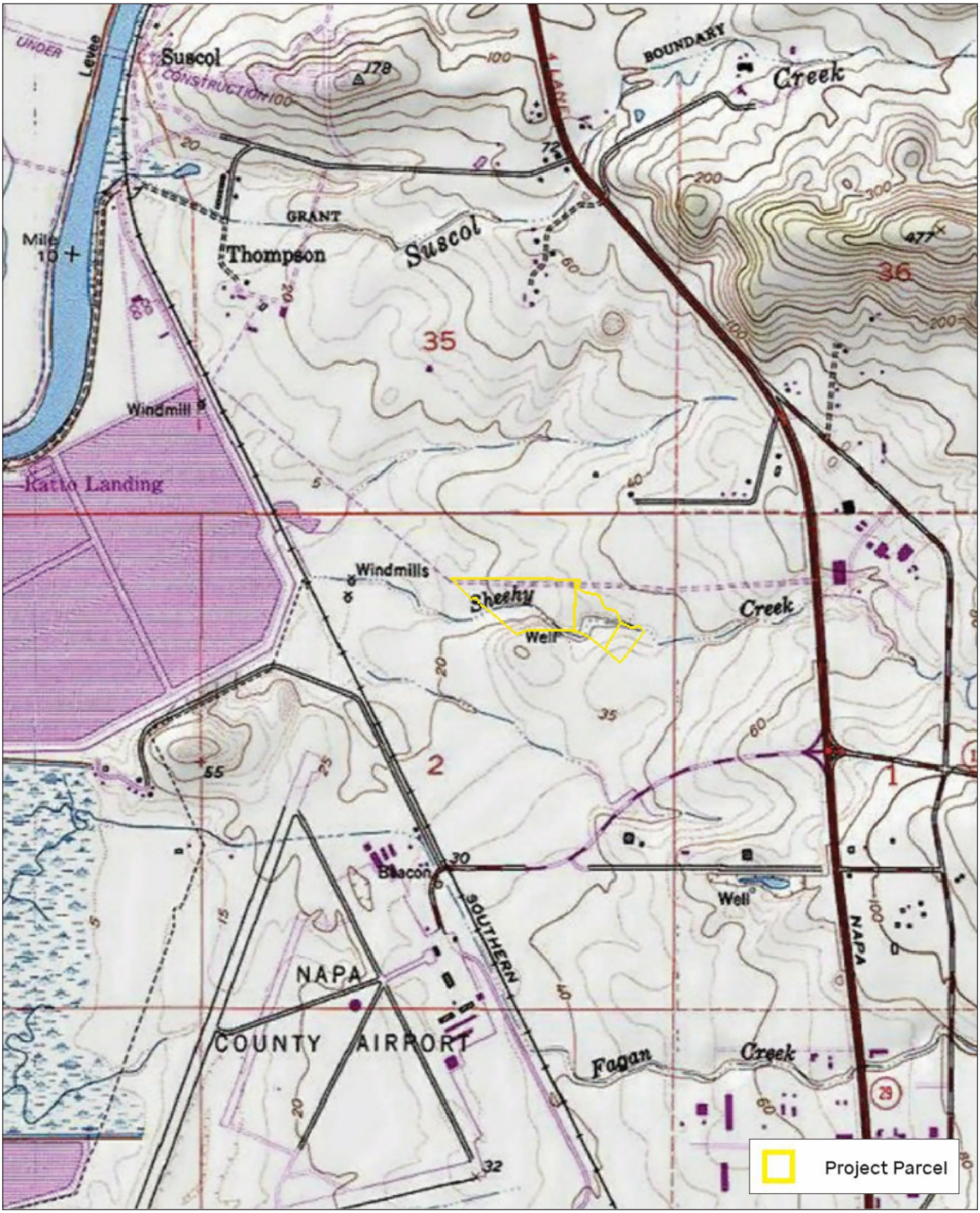
A wildlife and botanical survey was conducted at the site on December 8, 2022. The weather was cool and cloudy at the time of the survey, which began at 11:00 a.m. The temperature at the start of the survey was 50 degrees Fahrenheit (°F), relative humidity was 66 percent, and wind gust speed was 2–4 miles per hour (mph), as measured with Kestrel 3000 handheld weather station. Approximately 3 inches of rain fell the preceding 7 days, and most annual plants had germinated. Starting with the southeast corner of the property, the entire project site was surveyed on foot by Biologist Dr. Christopher T. DiVittorio, recording the location and identity of all plant and animal species encountered. Secondary plant identification was made by Botanist Dr. Zoya Akulova. Resumes of Dr. DiVittorio and Dr. Akulova are provided at the end of this BRA (Appendix A). Plant voucher specimens were taken of any species that were not identifiable in the field and that were not likely to be special-status. The majority of species were identifiable at the time of the survey, although some had to be identified based on vegetative parts. Photographs and voucher specimens were taken of any plants that were identified solely based on vegetative characters.


Source: Pinecrest Environmental Consulting; California Dept. of Fish & Wildlife (CDFW).

FIRSTCARBON SOLUTIONS™

# Exhibit 1
# Regional Location

THIS PAGE INTENTIONALLY LEFT BLANK




Source: Pinecrest Environmental Consulting; USGS.

FIRSTCARBON SOLUTIONS™

# Exhibit 2
# 40-Foot Contours

58160001 • 01/2023 | 2_40-foot_contours.cdr

E&P PROPERTIES, INC.
TECHNOLOGY WAY BUILDINGS A AND B
BIOLOGICAL RESOURCES ASSESSMENT

THIS PAGE INTENTIONALLY LEFT BLANK


Source: Pinecrest Environmental Consulting, Google Earth PEC Inc.

FIRSTCARBON SOLUTIONS™

# Exhibit 3
# Watercourse - West

THIS PAGE INTENTIONALLY LEFT BLANK


Source: Pinecrest Environmental Consulting; Google Earth PEC Inc.

FIRSTCARBON SOLUTIONS™

# Exhibit 4
# Watercourse - East

THIS PAGE INTENTIONALLY LEFT BLANK

# SECTION 2: REGULATORY FRAMEWORK

## 2.1 - Federal

### 2.1.1 - Endangered Species Act

The USFWS has jurisdiction over federally listed threatened and endangered species under the Endangered Species Act. USFWS also maintains a list of proposed and candidate species that are not legally protected under the Endangered Species Act, but are often included in their review of a project as they may become listed in the near future. The Endangered Species Act protects listed animal species from harm or take, which is broadly defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct. Take can also include habitat modification or degradation that results in death or injury to a listed species. An activity can be defined as a take even if it is unintentional or accidental. Listed plant species are provided less protection than listed wildlife species. Listed plant species are legally protected from take under the Endangered Species Act if they occur on federal lands. Pursuant to the requirements of the Endangered Species Act, a federal agency reviewing a proposed project within its jurisdiction must determine whether any federally listed threatened or endangered species (plants and animals) may be present in the project area and determine whether the proposed project may affect such species. Any activities that could result in the take of a federally listed species will require formal consultation with the USFWS.

### 2.1.2 - Migratory Bird Treaty Act

The MBTA implements international treaties between the U.S. and other nations that were enacted to protect migratory birds, their parts, eggs, and nests from activities including hunting, pursuing, capturing, killing, selling, and shipping unless expressly authorized in the regulations or by permit. All migratory birds and their nests are protected from take and other impacts under MTBA (16 USC §703, *et. seq.*).

### 2.1.3 - Eagle Protection Acts

Both bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*) are additionally protected under the Eagle Protection Act (16 USC §669*, et. seq*.) and the Bald and Golden Eagle Protection Act (16 USC §668-668d).

### 2.1.4 - Clean Water Act

#### Section 404

Under Section 404 of the federal Clean Water Act (CWA), the United States Army Corps of Engineers (USACE) is responsible for regulating the discharge of fill material into waters of the United States. Waters of the United States and their lateral limits are defined in 33 Code of Federal Regulations Part 328.3(a) and include streams that are tributary to navigable waters and their adjacent wetlands. Wetlands that are not adjacent to waters of the United States are termed isolated wetlands and, depending on the circumstances, may also be subject to USACE jurisdiction. In general, a USACE

permit must be obtained before placing fill in wetlands or other waters of the United States. The type of permit depends on the acreage involved and the purpose of the proposed fill. Minor amounts of fill are sometimes covered by Nationwide Permits, which were established to streamline the permit process for projects with minimal impacts on wetlands or other waters of the United States. An Individual Permit is required for projects that result in more than a minimal impact on jurisdictional areas. The Individual Permit process requires evidence that fill of jurisdictional areas has been minimized to the extent practicable and provides an opportunity for public review of the project.

#### Section 401

Under Section 401 of the CWA, "any applicant for a federal permit for activities that involve a discharge to waters of the State, shall provide the federal permitting agency a certification from the State in which the discharge is proposed that states the discharge will comply with the applicable provisions under the federal Clean Water Act." In this case, applicants must obtain a Section 401 Water Quality Certification from the RWQCB from the region in which the proposed project would take place.

## 2.2 - State

### 2.2.1 - California Environmental Quality Act

The following CEQA guidelines are intended to determine significance thresholds when analyzing the potential impacts of a proposed project on biological resources. The following is a list of criteria for determining whether impacts are considered significant:

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

### 2.2.2 - California Endangered Species Act

The State of California enacted the California Endangered Species Act (CESA) in 1984. It is similar to the federal Endangered Species Act but pertains to State-listed threatened and endangered species. CESA requires State agencies to consult with CDFW when preparing a CEQA document to ensure that the State lead agency actions do not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of habitat essential to the continued existence of those species if there are reasonable and prudent alternative available (FGC § 2080). CESA directs agencies to consult with CDFW on proposed projects or actions that could affect listed species, directs CDFW to determine whether jeopardy would occur, and allows CDFW to identify reasonable and prudent alternatives to the proposed project consistent with conserving the species. CESA allows CDFW to authorize exceptions to the State's prohibition against take of a listed species if the take is incidental to carrying out an otherwise lawful project that has been approved under CEQA (FGC § 2081).

### 2.2.3 - California Fish and Game Code

Under CESA, the CDFW has the responsibility for maintaining a list of threatened and endangered species (FGC § 2070). Fish & Game Code Sections 2050-2098 outline the protection provided to California's rare, endangered, and threatened species. Fish and Game Code Section 2080 prohibits the taking of plants and animals listed under CESA. Fish and Game Code Section 2081 establishes an incidental take permit program for State-listed species. CDFW also maintains a list of candidate species that it formally notices as being under review for addition to the list of endangered or threatened species.

In addition, the Native Plant Protection Act of 1977 (NPPA) (FGC § 1900, *et seq*.) prohibits the taking, possessing, or sale within the State of any plants with a State designation of rare, threatened, or endangered (as defined by CDFW). An exception to this prohibition in NPPA allows landowners to take listed plant species under specified circumstances, provided that the owners first notify CDFW and give the agency at least 10 days to come and retrieve (and presumably replant) the plants before they are plowed under or otherwise destroyed. Fish and Game Code Section 1913 exempts from the take prohibition "the removal of endangered or rare native plants from a canal, lateral ditch, building site, or road, or other right-of-way." Project impacts to these species are not considered significant unless the species are known to have a high potential to occur within the area of disturbance associated with construction of the proposed project.

In addition to formal listing under federal Endangered Species Act and CESA, some species receive additional consideration by CDFW and local lead agencies during the CEQA process. Species that may be considered for review are those listed as a Species of Special Concern. CDFW maintains lists of Species of Special Concern that serve as species "watch lists." Species with this status may have limited distributions or limited populations and/or the extent of their habitats may have been reduced substantially such that their populations may be threatened. Thus, their populations are monitored and they may receive special attention during environmental review. While they do not have statutory protection, they may be considered rare under CEQA and specific protection measures may be warranted. In addition to Species of Special Concern, the CDFW Special Animals List identifies animals that are tracked by the CNDDB and may be potentially vulnerable but warrant no federal interest and no legal protection.

Sensitive species that would qualify for listing but are not currently listed are afforded protection under CEQA. CEQA Guidelines Section 15065 (Mandatory Findings of Significance) requires that a substantial reduction in numbers of a rare or endangered species be considered a significant effect. CEQA Guidelines Section 15380 (Rare or Endangered Species) provides for the assessment of unlisted species as Rare or Endangered under CEQA if the species can be shown to meet the criteria for listing. Unlisted plant species on the CNPS List ranked 1A, 1B, and 2 would typically require evaluation under CEQA.

Fish and Game Code Sections 3500-5500 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. The 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.

Under Fish and Game Code Section 3503.5, it is unlawful to take, possess, or destroy any birds in the orders of Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto. To comply with the requirements of CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any State-listed endangered or threatened species may be present in the project study area and determine whether the proposed project will have a potentially significant impact on such species. In addition, CDFW encourages informal consultation on any proposed project that may impact a candidate species. Project-related impacts to species on the CESA endangered or threatened list would be considered significant. State-listed species are fully protected under the mandates of CESA. Take of protected species incidental to otherwise lawful management activities may be authorized under Fish and Game Code Section 206.591. Authorization from CDFW would be in the form of an Incidental Take Permit.

Fish and Game Code Section 1602 requires any entity to notify CDFW before beginning any activity that “may substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of any river, stream, or lake” or “deposit debris, waste, or other materials that could pass into any river, stream, or lake.” This definition includes waters that are episodic and perennial and ephemeral streams, desert washes, and watercourses with a subsurface flow. A Lake or Streambed Alteration Agreement (LSAA) will be required if CDFW determines that project activities may substantially adversely affect fish or wildlife resources through alterations to a covered body of water.

### 2.2.4 - Porter-Cologne Water Quality Control Act

The RWQCB regulates actions that would involve “discharging waste, or proposing to discharge waste, within any region that could affect the water of the State” (Water Code §13260(a)), pursuant to provisions of the Porter-Cologne Water Quality Act. Waters of the State are defined as “any surface water or groundwater, including saline waters, within the boundaries of the State” (Water Code §13050(e)).

### 2.2.5 - California Native Plant Society

The CNPS maintains a rank of plant species that are native to California and that have low population numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. Following are the definitions of the CNPS ranks:

- Rank 1A: Plants presumed extirpated in California and either rare or extinct elsewhere
- Rank 1B: Plants Rare, Threatened, or Endangered in California and elsewhere
- Rank 2A: Plants presumed extirpated in California but common elsewhere
- Rank 2B: Plants rare, threatened, or endangered in California but more common elsewhere
- Rank 3: Plants about which more information is needed
- Rank 4: Watch List: Plants of limited distribution

Potential impacts to populations of CNPS ranked plants receive consideration under CEQA review. All plants appearing on CNPS Lists 1 or 2 are considered to meet the CEQA Guidelines Section 15380 criteria. While only some of the plants ranked 3 and 4 meet the definitions of threatened or endangered species, potential impacts to these species or their habitats should be analyzed during the preparation of environmental documents pursuant to CEQA, as they may meet the definition of Rare or Endangered under the CEQA Guidelines Section 15380 criteria.

## 2.3 - Regional and Local

### 2.3.1 - County of Napa Municipal Code

Natural resource use in Napa County is guided by the Napa County General Plan (Napa County 2008) and regulated by Napa County Code Section 18.108. Below are relevant policies from the General Plan pertaining to wetlands and biological resources which may be applicable to the proposed project.

#### Napa County Baseline Data Report

Sensitive biological communities are identified in the Napa County Baseline Data Report (NCBDR) (Napa County 2005). In addition to those biological communities identified by CDFW, the NCBDR also identifies biotic communities of limited distribution that "encompass less than 500 acres of cover within the County and are considered by local biological experts to be worthy of conservation" (Napa County 2005).

#### Natural Resource Goals and Policies

**Policy CON-13** The County shall require that all discretionary residential, commercial, industrial, recreation, agricultural, and water development projects consider and address impacts to wildlife habitat and avoid impacts to fisheries and habitat supporting special-status species to the extent feasible. Where impacts to wildlife and special-status species cannot be avoided, projects shall include effective mitigation measures and management plans including provisions to:

a) Maintain the following essentials for fish and wildlife resources:

- Sufficient dissolved oxygen in the water.
- Adequate amounts of proper food.
- Adequate amounts of feeding, escaping, and nesting habitat.
- Proper temperature through maintenance and enhancement of streamside vegetation volume flows, and velocity of water.

b) Employ supplemental planting and maintenance of grasses, shrubs and trees of like quality and quantity to provide adequate vegetation cover to enhance water quality, minimize sedimentation and soil transport, and provide adequate shelter and food for wildlife and special-status species and maintain the watersheds, especially streams side areas, in good condition.
c) Provide protection for habitat supporting special-status species through buffering or other means.
d) Provide replacement habitat of like quantity and quality on- or off-site for special-status species to mitigate impacts to special-status species.
e) Enhance existing habitat values, particularly for special-status species, through restoration and replanting of native plant species as part of discretionary permit review and approval.
f) Require temporary or permanent buffers of adequate size (based on the requirements of the special-status species) to avoid nest abandonment of birds and raptors associated with construction and site development activities.
g) Demonstrate compliance with applicable provisions and regulations of recovery plans for listed species.

**Policy CON-17** Preserve and protect native grasslands, serpentine grasslands, mixed serpentine chaparral, and other sensitive biotic communities and habitats of limited distribution. The County, in its discretion, shall require mitigation that results in the following standards:

a) Prevent removal or disturbance of sensitive natural plant communities that contain special-status plant species or provide critical habitat to special-status animal species.
b) In other areas, avoid disturbances to or removal of sensitive natural plant communities and mitigate potentially significant impacts where avoidance is infeasible.
c) Promote protection from overgrazing and other destructive activities.
d) Encourage scientific study and require monitoring and active management where biotic communities and habitats of limited distribution or sensitive natural plant communities are threatened by the spread of invasive non-native species.
e) Require no net loss of sensitive biotic communities and habitats of limited distribution through avoidance, restoration, or replacement where feasible.

Where avoidance, restoration, or replacement is not feasible, preserve like habitat at a 2:1 ratio or greater within Napa County to avoid significant cumulative loss of valuable habitats.

**Policy CON-18** To reduce impacts on habitat conservation and connectivity:

a) In sensitive domestic water supply drainages where new development is required to retain between 40 and 60 percent of the existing (as of June 16, 1993) vegetation on-site, the vegetation selected for retention should be in areas designed to maximize habitat value and connectivity.
b) Outside of sensitive domestic water supply drainages, streamlined permitting procedures should be instituted for new vineyard projects that voluntarily retain valuable habitat and connectivity, including generous setbacks from streams and buffers around ecologically sensitive areas.
c) Preservation of habitat and connectivity of adequate size, quality and configuration to support special-status species should be required within the project area. The size of habitat and connectivity to be preserved shall be determined based on the specific needs of the species.
d) The County shall require discretionary projects to retain movement corridors of adequate size and habitat quality to allow for continued wildlife use based on the needs of the species occupying the habitat.
e) The County shall require new vineyard development to be designed to minimize the reduction of wildlife movement to the maximum extent feasible. In the event the County concludes that such development will have a significant impact on wildlife movement, the County may require the applicant to relocate or remove existing perimeter fencing installed on or after February 16, 2007 to offset the impact cause by the new vineyard development.

**Policy CON-19** The County shall encourage the preservation of critical habitat areas and habitat connectivity through the use of conservation easements or other methods as well as through continued implementation of the Napa County Conservation Regulations associated with vegetation retention and setbacks from waterways.

**Policy CON-24** Maintain and improve oak woodland habitat to provide for slope stabilization, soil protection, species diversity, and wildlife habitat through appropriate measures including one or more of the following:

a) Preserve, to the extent feasible, oak trees and other significant vegetation that occur near the heads of drainages or depressions to maintain diversity of vegetation type and wildlife habitat as part of agriculture projects.
b) Comply with the Oak Woodlands Conservation Act regarding oak woodland preservation to conserve the integrity and diversity of oak woodlands, and retain, to the maximum extent feasible, existing oak woodland and chaparral communities and other significant vegetation as part of the residential, commercial, and industrial approvals.

c) Provide replacement of lost oak woodlands or preservation of like habitat at a 2:1 ratio when retention of existing vegetation is found to be infeasible. Removal of oak species limited in distribution shall be avoided to the maximum extent feasible.
d) Support hardwood cutting criteria that require retention of adequate stands of oak trees sufficient for wildlife, slope stabilization, soil production be left standing.
e) Maintain, the extent feasible, a mixture of oak species which is needed to ensure acorn production. Black, canyon, live, and brewer oaks as well as blue, white, scrub and live oaks are common associations.

### Vegetation Preservation and Replacement

Napa County Code 18.108.100 requires the following conditions when granting a discretionary permit for activities within an erosion hazard area (slopes greater than 5 percent):

a) Existing vegetation shall be preserved to the maximum extent consistent with the project.
b) Vegetation shall not be removed if it is identified as being necessary for erosion control in the approved erosion control plan or if necessary for the preservation of threatened or endangered plant or animal habitats as designated by State or federal agencies with jurisdiction and identified on the County's environmental sensitivity maps.

Additionally, existing trees 6 inches in diameter or larger, measured at diameter breast height (DBH), or tree stands of trees 6-inches DBH or larger located on a site for which either an administrative or discretionary permit is required shall not be removed until the required permits have been approved by the decision-making body and tree removal has been specifically authorized.

a) Trees to be retained or designated for retention shall be protected through the use of barricades or other appropriated methods to be placed and maintained at their outboard drip line during the construction phase.
b) Where appropriate, the director may require an applicant to install and maintain construction fencing around the trees to ensure their protection during earthmoving activities.
c) Where removal of vegetation is necessitated or authorized, the director or designee may require the planting of replacement vegetation of an equivalent kind, quality and quantity.

## 2.3.2 - Habitat Conservation Plans

The project site is not located in an area that is covered by any Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State Habitat Conservation Plan. Therefore, no additional mitigation related to local or regional conservation plans is necessary.

# SECTION 3: RESULTS

## 3.1 - Regional Ecological Setting

Using a review of published literature and the knowledge of staff, all of the natural communities and known special-status species present in the region surrounding the project site were assessed. Regionally, the land use types are light industrial and residential developments on upland valley bottoms, emergent wetland and slough habitats in low-lying portions of the valley near the Napa River, and mixed oak woodland and savanna on lower elevation slopes.

### 3.1.1 - Federal Critical Habitat

A graphical representation of regional Federal Critical Habitat (FCH) is provided in Appendix E. The nearest FCH to the project parcels is for vernal pool fairy shrimp (*Branchinecta lynchi*) and comes as close as 0.4 miles west of the project site in vernal pool habitat at the Napa County Airport. The next nearest FCH is for soft bird's beak (*Cordylanthus mollis* spp. *mollis*), located 0.9 miles to the southwest in tidal marsh to the west of the Napa County Airport. The next nearest FCH is for chinook salmon (*Oncorhynchus tshawytscha*), located in the Napa River and associated tributaries.

The next nearest FCH is for Contra Costa goldfields (*Lasthenia conjugens*), located 0.95 miles north of the site immediately to the east of CA-29. The next nearest FCH is for California red-legged frog (*Rana draytonii*; CRLF) located as close as 2.1 miles east of the parcel in the foothills south of Suscol Creek. The next nearest FCH is for western snowy plover (*Charadrius nivosus nivosus*) located 3.6 miles southwest of the parcel in tidal marsh to the north of Napa Slough. The next nearest FCH is for delta smelt (*Hypomesus transpacificus*) located 8.9 miles east of the parcel near Cordelia Slough. There is no other FCH within 10 miles of the project site.

### 3.1.2 - Regional Special-status Species

Special-status species are those species that receive special protections under either local, State, or federal law and include both State and Federally Endangered and Threatened species of animals and plants as well as candidate listing species and other species or populations of special concern for which additional information is required. The CNDDB provides information on most known SSS occurrences in the State of California.

A description of the habitat requirements and likelihood of occurrence of potential SSS on the project site based the CNDDB database, published scientific literature, and the expertise of staff, is provided in Appendix B, with a description of the nearest locality of all SSS known from within a 5-mile radius around the project site. Additionally, map-based representation of all of the SSS within an approximately 5-mile radius around the project site is provided in Appendix C and Appendix D.

### 3.1.3 - Landforms and Topography

The maximum elevation of the site is 37 feet above sea level along the south-central boundary of the property. The minimum elevation is 19 feet above sea level at the northwest corner of the property where Sheehy Creek exits the parcel (Exhibit 2). The topography of the site is flat, with grades

between 0 percent and 1 percent, as measured by Suunto PM5 handheld clinometer. The exception is the active channel of Sheehy Creek, which exhibits banks slopes of 5 percent to 10 percent. Water passing off-site flows west for 0.3 miles as Sheehy Creek before eventually entering a channelized drainage ditch, turning southwest, and flowing for 1.3 miles before the confluence with Steamboat Slough, which flows west for 0.7 miles before the confluence with the Napa River, that then flows south for 12 miles before emptying into the Carquinez Straight, San Pablo Bay, and then the Pacific Ocean (Exhibit 1). More information about wetlands and watercourses on-site is provided in Section 3.4, below.

## 3.2 - Natural Communities Within the Project Site

The site visit conducted on December 8, 2022, documented the existence of two distinct habitat types on the parcel: disked ruderal grassland and recreated Sheehy Creek channel and riparian corridor (Exhibit 3 and Exhibit 4). The grassland portion of the site is disked several times per year and has low cover of plants and low species diversity. The Sheehy Creek riparian corridor does contain native species, however, the entire habitat was recreated and moved to its present location sometime between July 2003 and July 2004 based on aerial imagery. The specific community descriptions below are organized based on these zones. The Manual of California Vegetation (Sawyer et al. 2009) was used to guide community classification, and The Jepson Manual (Baldwin et al. 2012) was used to guide plant nomenclature.

### 3.2.1 - Disked Upland *Bromus* Species Non-native Grassland

The majority of the site is disked ruderal grassland with low cover of plants and low species diversity (Exhibit 5). The only woody plants in this area occur on the margins of the parcel boundary, such as coyote brush shrubs along Technology Way (Exhibit 6). There is one coast live oak (*Quercus agrifolia*) individual that exists inside this habitat type that would have to be removed (Exhibit 4); otherwise, no trees exist in this area. Native shrub species observed in the upland include coyote brush (*Baccharis pilularis*). Non-native shrub species observed on-site include firethorn (*Pyracantha angustifolia*). Native herbaceous species include California poppy (*Eschscholzia californica*). Non-native herbaceous species include hairgrass (*Aira caryophyllea*), wild oatgrass (*Avena barbata*), soft chess (*Bromus hordeaceous*), foxtail barley (*Hordeum murinum*), Italian ryegrass (*Festuca perennis*), Harding grass (*Phalaris aquatica*), common geranium (*Geranium molle*), yellow star thistle (*Centaurea solstitialis*), shortpod mustard (*Hirschfeldia incana*), curly dock (*Rumex crispus*), field bindweed (*Convolvulus arvensis*), field parsley (*Torilis nodosa*), crane's bill filaree (*Erodium botrys*), wild radish (*Raphanus sativa*), common plantain (*Plantago major*), and bristly ox-tongue (*Helminthotheca echioides*).

### 3.2.2 - Recreated Sheehy Creek and Salix Lasiolepis-Populus Fremontii Riparian Corridor

The reach of Sheehy Creek that flows west along the north parcel line is a perennial Class I watercourse that was recreated between July 2003 and July 2004 as a part of development of the industrial park (Exhibit 3 and Exhibit 4). This recreated watercourse exhibits a well-developed riparian corridor with native riparian species having been planted throughout the corridor (Exhibit 7). Water pools in several places due to beaver dams (Exhibit 8) that create additional habitat for

aquatic plants and wildlife. Native aquatic species observed in Sheehy Creek include mosquito fern (*Azolla filiculoides*), duckweed (*Lemna minor*), common cattail (Typha latifolia), bog rush (*Juncus patens*), and hardstem bulrush (*Schoenoplectus acutus*). Native riparian species include those native species mentioned in Section 3.2.1 and additional species, including Fremont cottonwood (*Populus fremontii*), arroyo willow (*Salix lasiolepis*), California buckeye (*Aesculus californica*), willow herb (*Epilobium brachycarpum*), California rose (*Rosa californica*), California blackberry (*Rubus ursinus*), coffeeberry (*Rhamnus californica*), toyon (*Heteromeles arbutifolia*), and black elderberry (*Sambucus nigra*). Non-native species in the riparian zone include those mentioned in Section 3.2.1, and additional species including dogstail grass (*Cynosurus echinatus*), spring vetch (*Vicia sativa*), chickweed (*Stellaria media*), curly dock (*Rumex crispus*), Himalayan blackberry (*Rubus armeniacus*), Fuller's teasel (*Dipsacus fullonum*), cheeseweed (*Malva parviflora*), poison hemlock (*Conium maculatum*), fennel (*Foeniculum vulgare*), and saltgrass (*Distichlis spicata*).

## 3.3 - Wildlife

Animal species observed directly and indirectly on-site include crow (*Corvus brachyrhynchos*), turkey vulture (*Cathartes aura*), black phoebe (*Sayornis nigricans*), California towhee (*Melozone crissalis*), western scrub jay (*Aphelocoma californica*), dark-eyed junco (*Junco hyemalis*), Anna's hummingbird (*Calypte anna*), white-crowned sparrow (*Zonotrichia leucophrys*), unidentified flycatcher (*Empidonax* spp.), unidentified gull (*Larus* spp.) and unidentified sandpiper (*Calidris* spp.).

Also observed in Sheehy Creek riparian corridor were American beaver (*Castor canadensis*) dams, skull bones, and chewed tree trunks (Exhibit 8). A raptor nest was observed in the northwest corner of the parcel in the riparian corridor in a dead Fremont cottonwood (*Populus fremontii*) tree (Exhibit 9). Two raptors were also observed soaring near the nest and they appeared to be either red-tailed hawks (*Buteo jamaicensis*) or Cooper's hawk (*Accipiter cooperii*); however, positive identification was not possible during the December 2022 site visit. This nest and the raptors are protected; thus, follow-up surveys are recommended as described in Section 4.3.1, below.

## 3.4 - Watercourses and Potential Wetlands

Jurisdictional watercourses on-site were classified according to the three-tier method used by the California Department of Forestry and Fire Protection (CAL FIRE 2017). Based on these criteria there are no jurisdictional watercourses in the project area (Exhibit 3 and Exhibit 4). There is one Class I jurisdictional watercourse on-site, a perennial reach of Sheehy Creek that was re-routed to its present location between July 2003 and July 2004 based on aerial imagery, as part of development of the rest of the industrial park to the south. There are no jurisdictional culverts on-site required to reach the project area, and no crossings over Sheehy Creek are included as part of the proposed project (Exhibit 3 and Exhibit 4).

Potential wetlands on-site were assessed based on the likelihood to satisfy the three-tier wetland delineation criteria used by the USACE Wetland Delineation Manual (USACE 1987); however, a protocol-level wetland delineation was not performed. For this BRA, we identified potential wetlands in Exhibit 3 based on the presence of one of the three USACE criteria, usually hydrophytic vegetation cover but sometimes soil indicators or hydrology or a combination of these. Based on

these criteria there are no potentially jurisdictional wetlands in the project area (Exhibit 3 and Exhibit 4). There is likely to be jurisdictional wetland in the riparian corridor and channel of Sheehy Creek, however, this area is protected from development and is not included in the project area.

## 3.5 - Soils and Local Geomorphology

Soil types were determined by using the SoilWeb service (USDA 2022). Soil formations on the entirety of the project site are mapped as Haire loam, 2–9 percent slopes (#146), with lesser proportions of Clear Lake (5 percent) soils. This soil type is composed of alluvium derived from sedimentary parent materials. This soil type is not alkaline and does not contain serpentinite. This soil type is classified as moderately well drained. There are no other mapped soil types on-site.

Source: Pinecrest Environmental Consulting, PEC Inc.

FIRSTCARBON SOLUTIONS™

Exhibit 5
Photograph of Disked Annual Grassland

THIS PAGE INTENTIONALLY LEFT BLANK

Source: Pinecrest Environmental Consulting, PEC Inc.

FIRSTCARBON SOLUTIONS™

Exhibit 6
Photograph of Technology Way Looking Northwest

THIS PAGE INTENTIONALLY LEFT BLANK

Source: Pinecrest Environmental Consulting, PEC Inc.

FIRSTCARBON SOLUTIONS™

Exhibit 7
Photograph of Sheehy Creek Riparian Corridor

THIS PAGE INTENTIONALLY LEFT BLANK

Source: Pinecrest Environmental Consulting, PEC Inc.

FIRSTCARBON SOLUTIONS™

Exhibit 8
Photograph of Beaver Dam

THIS PAGE INTENTIONALLY LEFT BLANK

Source: Pinecrest Environmental Consulting; PEC Inc.

FIRSTCARBON SOLUTIONS™

# Exhibit 9
# Photograph of Raptors Nest

THIS PAGE INTENTIONALLY LEFT BLANK

# SECTION 4: PROJECT ANALYSIS AND RECOMMENDATIONS

## 4.1 - Biological Communities

### 4.1.1 - Terrestrial

The project area does not contain significant natural biological communities or habitat for special-status species due to the history of disking and lack of vegetation present currently (Exhibit 6). Therefore, impacts to sensitive upland terrestrial biological communities in the footprint of the proposed development would not be anticipated. One coast live oak tree greater than 6-inches DBH that may provide wildlife habitat would have to be removed from the project area; this is discussed in Section 4.4, below.

### 4.1.2 - Aquatic

The recreated reach of Sheehy Creek that runs along the northern property is not in the project area and would be entirely avoided. Ground-disturbing activities occurring during the dry season will utilize silt fencing that will ameliorate any potential impacts to these aquatic natural resources. The following recommendation would protect the Sheehy Creek riparian corridor.

**Recommendation 1**

A Conservation Easement along Sheehy Creek was recorded in 2006 and extends approximately 1 mile of both banks of the Sheehy Creek riparian corridor, which provide high quality habitat for a variety of plant and animal species commonly associated with wetland and riparian habitats in the County. The Conservation Easement, held by the County, is located within APNs 057-200-009; 057-210-038 and 039; and 057-250-008, 021, 024, and 025.

The boundary of this Conservation Easement would serve as the setback for the proposed project. Silt fencing should be installed along the entire length of the riparian corridor (the Conservation Easement boundary) in order to avoid any impacts to this watercourse. The fencing shall be constructed of standard silt fencing with a minimum height above ground of 24 inches, with the bottom of the fence buried to a minimum depth of 6 inches. Grading shall occur during the dry season and should be suspended during rainfalls of greater than one-half inch over a 24-hour period. If rainfall is in the forecast, standard erosion control measures, such as straw waddles, bales, or additional silt fencing, should be deployed in any areas where silt fencing does not appear to be adequate. Construction personnel should be informed of the location of the site's aquatic resources and those locations should be demarcated with high-visibility flagging or staking prior to construction. No materials or equipment shall be stored in or near aquatic resources, and spill prevention materials shall be kept on-site at all times.

## 4.2 - Special-status Plant Species

No special-status plant species were observed during the survey performed at the site in December 2022. There are no species whose CNDDB polygons overlap with the project site, and the project area has a low likelihood of harboring special-status plants due to the history of disking. Despite this,

the site visit was not performed during the flowering time of most herbaceous plant species in the region, thus the existence of special-status plants cannot be ruled out at this time. The following recommendation is provided to ensure that no special-status plants currently exist in the project area.

### Recommendation 2

Protocol-level special-status plant surveys should be performed during the flowering time of the target species (see Appendix B), following protocols as specified in *Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Sensitive Natural Communities* dated March 20, 2018 (CDFW 2018). Two follow-up visits during the early and late flowering times of these species should be performed to determine whether any special-status plants exist in the project area. If this spring survey does not result in positive occurrences of special-status plants, no impacts to special-status plant species or their habitats are anticipated. If spring plant surveys do detect special-status plant species on-site, species-specific mitigation measures shall be implemented in order to reduce the impacts from the proposed project to less than significant levels. Measures shall include transplanting of adult plants out of the project area, and collection of seed from on-site plants for propagation at a local nursery. Both nursery plants and transplanted adult plants should be planted in suitable habitat on-site that will not be subject to disturbance, such as the easement area surrounding Sheehy Creek. If no suitable habitat is available on-site for planting, plants shall be located on an off-site location confirmed by the project Biologist as a suitable location. Plants shall be replaced at a minimum of 3:1 ratio and monitored for a minimum of 5 years, with any dead plants replaced so as to maintain the desired replacement ratio.

## 4.3 - Special-status Wildlife Species

### 4.3.1 - Migratory Birds and Nesting Raptors

One raptor nest was observed on-site in December 2022, along with a pair of unidentified species of raptor soaring in the vicinity of the nest. There is also an occurrence of burrowing owl within 1 mile of the project site. Thus, it is indicated that protected species of raptors may be utilizing the habitat in the Sheehy Creek riparian corridor. Migratory birds may also utilize the shrubs and trees surrounding the Sheehy Creek riparian corridor. Because of the potential for bird species to nest on-site, the following measures are recommended.

### Recommendation 3

Surveys for Swainson's hawk, burrowing owl, nesting raptors, and migratory passerine birds shall be conducted by a qualified Biologist prior to project implementation. Surveys shall follow protocols approved by CDFW for detecting the presence or absence of these species. A final pre-construction survey for these species shall also be performed no more than 14 days prior to the start of project activities, including vegetation removal, grading, or other ground-disturbing activities, if ground-disturbing activities commence during the nesting season (February 1 through August 31). The survey shall be conducted in a sufficient area around the project site to identify the location and status of any nests that could potentially be directly or indirectly affected by vegetation removal or grading activities, including in the disked area of the project site.

### Recommendation 4

If active nests of protected species are found within the project area or close enough to the area to affect nesting success, a work exclusion zone shall be established around each nest. Established exclusion zones shall remain in place until all young in the nest have fledged or the nest otherwise becomes inactive. Appropriate exclusion zone sizes vary dependent upon bird species, nest location, existing visual buffers, ambient sound levels, and other factors. An exclusion zone radius may be as small as 25 feet (for common, disturbance-adapted species) or as large as 250 feet or more for raptors. Exclusion zone size may also be reduced from established levels if supported with nest monitoring by a qualified Biologist indicating that work activities are not significantly impacting the nest.

## 4.3.2 - Amphibians

Targeted surveys for foothill yellow-legged frog, California red-legged frog, and western pond turtle were not performed as part of this assessment; thus, their presence on-site is not known. Foothill yellow-legged frog, California red-legged frog, and western pond turtle require aquatic habitat but may move away from watercourses and ponds for dispersal, to seek refuge in the dry season, and to nest in adjacent uplands. To prevent foothill yellow-legged frog, California red-legged frog, and western pond turtle from entering the project area and to avoid any potential impacts to these species, the following measures are recommended.

### Recommendation 5

Exclusion fence shall be installed during the wet season (prior to April 1) along the entire length of the Sheehy Creek riparian corridor to prevent native amphibian species from entering the project site from Sheehy Creek. The fencing shall be constructed of standard silt fencing with a minimum height above ground of 24 inches, with the bottom of the fence buried to a minimum depth of 6 inches. Areas to be fenced shall be inspected for foothill yellow-legged frog, California red-legged frog, and western pond turtle by a qualified Biologist prior to installation, and the installed fencing shall again be inspected by the Biologist to ensure that it is installed properly. The fencing shall remain installed until on-site mechanized ground disturbance is completed. Following fencing installation and within 48 hours of the initiation of ground disturbance, a visual pre-construction survey for foothill yellow-legged frog, California red-legged frog, and western pond turtle covering all ground disturbance areas shall be performed by a qualified Biologist. If either of the subject species are observed within the covered areas, ground disturbance shall not proceed and other measures will be determined in coordination with the CDFW, as well as the USFWS if California red-legged frog is observed.

### Recommendation 6

Following the pre-construction survey and prior to the initiation of ground-disturbing activities, a biological education program shall be provided by a qualified Biologist to all personnel who will be present at the site during ground disturbance and related activities. The worker education program shall include information regarding the identification and natural history of foothill yellow-legged frog, California red-legged frog, and western pond turtle (including photographs), the potential for occurrence of these species within work areas, the legal status of each species, and the ramifications

for unauthorized take. The Biologist shall also explain the purpose of the exclusion fencing and measures for maintaining it. The Biologist shall also provide guidance on what to do if animals are observed on-site, including halting all ground disturbance and immediately alerting the qualified Biologist.

## 4.4 - County-designated Sensitive Habitats and Tree Removal

No sensitive habitat types such as serpentine soils or native grasslands were observed on-site. No impacts to fisheries or wildlife habitat are anticipated from work in the upland grassland portions of the site. No impairment to wildlife connectivity is anticipated due to the existence of this project in an entirely developed industrial park. There is one coast live oak tree greater than 6-inches DBH that exists in the project area (but not in the Sheehy Creek riparian zone). This tree was identified in the project area (Exhibit 4) and is subject to tree removal restrictions.

### Recommendation 7

A qualified Biologist shall determine the final number of trees greater than 6-inches DBH to be removed in the project area. Trees shall be replaced elsewhere on-site at a replanting ratio to be determined in consultation with the County of Napa. Trees should be replaced at not less than a 3:1 ratio and shall be of same species from local genotypes. Replanting should consist of irrigation and caging and shall be monitored for a minimum of 5 years.

# SECTION 5: REFERENCES

Baldwin, B.G. et al. 2012. The Jepson Manual: Vascular Plants of California. Berkeley, CA: University of California Press.

Cafferata, P. et al. 2017. Designing Watercourse Crossings for Passage of 100-Year Flood Flows, Wood, and Sediment. California Natural Resources Agency, Sacramento, CA.

California Department of Fish and Wildlife (CDFW). 2021. California Natural Diversity Database. CDFW Wildlife and Habitat Data Analysis Branch, Sacramento, CA. Website: https://www.wildlife.ca.gov/data.

California Department of Fish and Wildlife (CDFW). 2018. Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Sensitive Natural Communities. Sacramento, CA.

California Department of Forestry and Fire Protection (CAL FIRE). 2017. California Forest Practice Rules. California Natural Resources Agency, Sacramento, CA.

California Native Plant Society (CNPS). 2021. Inventory of Rare and Endangered Plants. CNPS, Sacramento, CA.

California State Water Resources Control Board (State Water Board). 2019. Cannabis Cultivation General Order WQ 2019-0001-DWQ. State Water Board, Sacramento, CA.

Central Valley Regional Water Quality Control Board (Central Valley RWQCB). 2015. Waste Discharge Requirements General Order for Discharges of Waste Associated with Medicinal Cannabis Cultivation Activities. Order No. R5-2015-0113.

County of Napa. 2021. Geographical Information Systems (GIS) Databases. County of Napa, Napa, CA.

Natural Resources Conservation Service (NRCS). 2021. SoilWeb. University of California, Agricultural and Natural Resources, Davis, CA. Website: http://casoilresource.lawr.ucdavis.edu/gmap//.

North Coast Regional Water Quality Control Board (North Coast RWQCB). 2015. Best Management Practices for Discharges of Waste Resulting from Cannabis Cultivation and Associated Activities or Operations with Similar Environmental Effects. Order No. R1-2015-0023.

Sawyer, J.O., T. Keeler-Wolf, J. Evens. 2009. Manual of California Vegetation. Sacramento, CA: California Native Plant Society Press.

United States Army Corps of Engineers (USACE). 1987. Wetlands Delineation Manual. Watershed Research Program Technical Report Y-87-1. Washington, D.C.

United States Department of Agriculture (USDA). 2022. Soil Survey of Napa County, California. Soil Conservation Service, Washington D.C.

United States Fish and Wildlife Service (USFWS). 2021. Environmental Conservation Online System. USFWS, Washington, DC. Website: https://ecos.fws.gov/ecp/.

United States Fish and Wildlife Service (USFWS). 2021. National Wetlands Inventory. USFWS, Washington, DC. Website: https://www.fws.gov/wetlands/.

United States National Weather Service (USNWS). 2021. National Climatic Data Center. USNWS, Washington, DC. Website: https://w2.weather.gov/climate/.

Weaver, W.E. et al. 2015. Culvert Sizing Procedures for the 100-Year Peak Flow. Mendocino County Resource Conservation District, Ukiah, CA.

# Appendix A:
# Personnel Qualifications

THIS PAGE INTENTIONALLY LEFT BLANK

# CHRISTOPHER T. DIVITTORIO, PHD

## Co-Founder and President, Pinecrest Research Corp., Inc.

### Summary

Dr. Christopher DiVittorio is the co-founder and President of Pinecrest Research Corporation, Inc., that performs research and advocacy in the public interest and performs environmental consulting and ecological restoration for private individuals and organizations doing business as Pinecrest Environmental Consulting (PEC). Dr. DiVittorio has taught and performed research throughout the world on a variety of topics including evolutionary biology and biological conservation and has published in journals such as *Proceedings of the National Academy of Sciences* and *New Phytologist*. With PEC, Dr. DiVittorio performs a variety of environmental assessments and special-status species surveys for rare plants and animals as well as designing and monitoring restoration of ecosystems including vernal pools, riparian corridors, and pygmy forest.

### Education

PhD, Integrative Biology, University of California, Berkeley (Advisor: Dr. Bruce Baldwin)
BA with Honors, Integrative Biology, University of California, Berkeley

### Awards and Service

Joseph LeConte Award (2003, U.C. Berkeley)
Outstanding Graduate Student Instructor (2010, U.C. Berkeley)
Vice Chair Elect, Natural History Section, Ecological Society of America (2011)

### Publications

Singhal S, Roddy AB, DiVittorio CT, Sanchez-Amaya A, Henriquez CL, Brodersen CR, Fehlberg S, Zapata F. 2021. Diversification, disparification, and hybridization in the evolution of *Encelia*, an adaptive radiation in the deserts of the Americas. New Phytologist.

DiVittorio CT, Singhal S, Roddy A, Zapata F, Ackerly D, Baldwin B, Brodersen CR, Burquez A, Fine PVA, Padilla-Flores M, Solis E, Morales-Villavicencio J, Morales-Arce D, Kyhos DW. 2020. Natural selection maintains species despite widespread hybridization in the desert shrub *Encelia*. Proceedings of the National Academy of Sciences.

DiVittorio, C.T., J.D. Corbin and C.M. D'Antonio. 2007. Spatial and temporal patterns of seed dispersal: an important determinant of grassland invasion. Ecological Applications 17:311-316.

DiVittorio, C.T, M.E. Power, and seven others. *In preparation*. Hydrological determinants of White Alder riparian forest restoration in a Northern California stream.

### Selected Presentations

DiVittorio, C.T. 2021. Darwinian speciation, publication inflation, and social reproduction in science. Center for Theoretical Genomics, invited seminar, April 2, 2021.

DiVittorio, C.T. 2014. Extremely strong natural selection across a wild sunflower hybrid zone. American Society of Naturalists, Asilomar, CA, January 12-15, 2014.

DiVittorio, C.T. and A. Burquez. 2011. Adaptación y hibridizacion en dos especies de arbusto endémico al Desierto Vizcaíno. Conservation Science Symposium, Loreto, Baja California Sur, Mexico, May 25-28, 2011.

DiVittorio, C.T., J. De Wolf, S. Workman, W. Dietrich, M. Power. 2005. Biological-physical coupling: reciprocal effects of White Alder tree recruitment on channel structure. National Center for Earth-Surface Dynamics, Minneapolis, Minnesota, August 29-30, 2005.

DiVittorio, C.T., W. Dietrich, and M. E. Power. 2005. Recovery of White Alder riparian forests in Northern California: influence of climate and disturbance history. 90th Annual Meeting, Ecological Society of America, Montreal, Quebec, Canada, August 7-12, 2005.

DiVittorio, C.T., J.D. Corbin, and C. M. D'Antonio. 2004. Patterns of seed banks and seed rain of native and exotic species. Ecology and Management of California Grasslands, Berkeley, California, April 2-3, 2004.

DiVittorio, C.T., C.M. D'Antonio, and J. D. Corbin. 2003. Local dispersal and seed limitation promotes native grass persistence. 88th Annual Meeting, Ecological Society of America, Savannah, Georgia, August 3-8, 2003.

## Professional Experience

Co-Founder and President, Pinecrest Research Corporation, Inc. dba Pinecrest Environmental Consulting (12/2016-present)

Co-Founder and President, TruBreed Technologies, Inc. (5/2015-present)

Postdoctoral Scholar (11/2015-2017) University of California, Institute for México and the U.S., Dr. Exequiel Ezcurra, supervisor.

Restoration Ecologist (5/2014 – 2016) LSA Associates Inc., Point Richmond, California, Dr. Ross Dobberteen, supervisor.

Research Assistant (6/2007, 1/2014) Smithsonian Tropical Research Institute, Galeta Research Station, Panamá, Dr. Wayne P. Sousa, supervisor.

Staff Research Associate (7/2003 – 10/2007) Angelo Coast Range Reserve, Mendocino County, Dr. Mary E. Power and Dr. William Dietrich, supervisors.

Biological Consultant (3/2005 – 7/2008), LSA Associates Inc., Point Richmond, California, Dr. Malcolm Sproul, supervisor.

Habitat Protection and Restoration Assistant (2/2005 – 12/2005), Audubon Canyon Ranch, Marin and Sonoma County, California, Dr. Dan Glusenkamp, supervisor.

Biological Technician (5/2002 – 8/2002), Institute of Arctic Biology, University of Alaska, Fairbanks, Drs. F. Stuart Chapin III, Ted Schurr and Michelle Mack, supervisors.

Research Assistant (9/2000 – 5/2002), Department of Integrative Biology, University of California, Berkeley, Dr. Carla M. D'Antonio, supervisor.

# ZOYA V. AKULOVA-BARLOW, PHD

## Independent Botanical Consultant

### Expertise

Plant Identification and Taxonomy
Rare Plant Surveys
Vegetation Mapping and Analysis

### Education

PhD, Botany, Russian Academy of Sciences, 1986.
MA, Biology and Chemistry, Leningrad University, Russia, 1975.

### Professional Experience

**Independent Environmental Consultant (1999, 2006–present)**

Conducted botanical surveys independently and as a part of the team with environmental consulting companies Aspen, Sequoia, Environmental Collaborative, Coastal Range Biological, Jane Valerius Consulting, Realm, and Zander Associates in Sonoma, Napa, Madera, Mendocino, Fresno, Sacramento, Stanislaus, Merced, San Mateo, Monterey, and Yuba Counties, identified plants, prepared plant lists, mapped special-status species, mapped and described vegetation, including sensitive plant communities. Construction monitoring.

**ICF International, Sacramento, CA**
**On-call Botanist (2012-2013, 2017–present)**

Conducted botanical surveys in Yolo, Butte, Sant Barbara, Mendocino, and San Mateo Counties, identified plants, wrote plant lists, mapped special-status species, conducted vegetation and rare plant monitoring.

**LSA Associates, Inc. Pt. Richmond, CA**
**Botanist, part-time employee (1998-1999, 2005–present)**
Extensive experience in plant morphology, taxonomy, and ecology, expert in Californian flora.

Conduct special-status plant surveys, map and describe vegetation, identify plants and prepare lists of plants for the project areas, conduct floristic monitoring and re-vegetation monitoring of trees, shrubs, and grasslands, participate in restoration of habitats. Found many new locations of special-status plants, including a new record for counties, and distribution extensions. Found a non-native species new to California and North America. Took part in the LSA projects as a botanist in the following California counties: Alameda, Contra Costa, Kern, Lassen, Marin, Merced, Napa, San Mateo, Sonoma, Solano, Santa Clara, Santa Cruz, Stanislaus, and Santa Barbara.

**UC Berkeley, Department of Plant and Microbial Biology, Freeling Lab**
**Lab Assistant III (2000-2005)**

Phenotypic screening and photographing plant anomalies for the database, performing maize and grass genetics field and greenhouse experiments, harvesting, supervising undergraduate lab assistants and coordinating greenhouse planting, search for grass hybrids for worldwide grass hybrid list. Organized a trip to central Asia for collecting salt tolerant grasses in September 2000. Two field seasons worked in Hawaii making corn hybrids and collecting tissue samples.

**Komarov Botanical Institute, Russian Academy of Sciences (1975-1996)**
**Botanist, Scientific Employee**

Conducted scientific research in taxonomy, morphology, ecology, ontogenesis, population of plants, medicinal plant use, ethnobotany, and restoration of the native vegetation. Established a collection of medicinal plants in the Institute field station. Assistant of Curator in Caucasian sector of Herbarium. Participated in five scientific expeditions in different parts of Russia.

## Selected Publications

2016. Unusual Shapes of Plants of California Coast. Fremontia, 2016.

2014. The First Collection of *Dittrichia viscosa* in California. Madroño, Vol. 62:3, p. 183.

2014. A Diversity of Trichomes in Succulents. Avonia, Vol. 32:4, pp.147-154.

2012. Rare and Endangered Succulents in the University of California Botanical Garden at Berkeley. Avonia, Vol. 30:2, p. 99-107 (in German).

2011. *Conophytum burgeri* L. Bolus. Avonia News, Vol. 9, p.12-13 (in German).

2010. Genus *Anthyllis* L. Flora of North America. In publication.

2009. *Kalanchoe:* beginner's delight, collector's dream. Cactus and Succulent Journal. Vol. 81:6, p. 268-276.

2007. Argentina's Paper Spine Cacti and notes on *Tephrocactus* cultivation. Cactus and Succulent Journal. Vol. 79:5, p. 228-233.

2000. The structure of inflorescence in genus *Anthyllis (Papilionaceae, Loteae*). Botanical Journal, Vol. 85:1, p. 12-25 (in Russian).

1980-1995. Families Amaranthaceae, Paeoniaceae, Primulaceae, Celastraceae, Aquifoliaceae, Adoxaceae, Valerianaceae, Lycopodiaceae, Selaginellaceae, selected genera from families Fabaceae, Scrophulariaceae, Asteraceae, Cyperaceae. Plant Resources of the USSR, Vol. 1-9 (in Russian).

1987. Demographic structure of *Anthyllis vulneraria L.* populations in Leningrad Region. Problems of Evolution, Population Botany and Systematic, p. 35-39 (in Russian).

1987. Genus *Anthyllis L.* Flora of European Part of the USSR, Vol. 6, p. 98-103 (in Russian).

1981. Genus *Anthyllis L.* Manual of Higher Plants of the Northwest of the USSR, p. 233-234 (with N. Miniaev, in Russian).

1980. *Polygonales.* Life of Plants, Vol. 5:1, p. 382-385 (in Russian).

## Participation in Conferences

**2018** Plant Skeletons of California Deserts. CNPS Conservation Conference, Los Angeles
**2017** Natural Mutations of California Plants. Symposium of Northern California Botanists, Chico
**2016** California Plants-cushions. Symposium of Northern California Botanists, Chico
**2015** A Diversity of Thorns, Spines, and Prickles of California Plants. CNPS Conservation Conference, San Jose
**2014** Tendrils of California Plants. 6th Annual Symposium of Northern California Botanists, Chico
**2013** Polymorphism of California Plants. 5th Annual Symposium of Northern California Botanists, Chico
**2012** Seed Dispersal Methods of California Plants. CNPS Conservation Conference, San Diego
**2011** A Diversity of Fruit and Seed Dispersal Methods in California Asteraceae. 4th Annual Symposium of Northern California Botanists, Chico
**2010** Identification of Northern California plants in early stages of development. 3rd Annual Symposium of Northern California Botanists, Chico
**2010** Distribution Extension of Some New to Bay Area Non-native Plants. First Annual BAEDN Meeting, Oakland
**2003** The characterization of pleiotropic shoot phenotype in *leafy coleoptile (LCO) 1-R* (with N. Inada, M. Freeling). 45th Annual Maize Genetics Conference
**2001** Some new mutants affecting the coleoptile in maize (with M. Freeling). 43rd Annual Maize Genetics Conference

## Professional Activities

Botanical Society of America
California Botanical Society
Northern California Botanists
California Native Plant Society
San Francisco Succulent and Cactus Society
Cactus and Succulent Society of America
Donated more than 20,000 photos to UC Berkeley website CalPhotos
Donated photos of plants to Encyclopedia of Life and CalFlora
Plant photographer at UC Botanical Gardens at Berkeley
Collected data of weed distribution for BAEDN

THIS PAGE INTENTIONALLY LEFT BLANK

# Appendix B:
# Special-status Species Considered

THIS PAGE INTENTIONALLY LEFT BLANK

The following is a list of special-status plant and animal species generated based on knowledge of the species and habitats of Napa County by staff, various State and Federal databases, and from the California Natural Diversity Database (CNDDB). Known occurrences within 5 miles of the project site are shown in bold with a description of the location of the nearest known locality.

## Special-status Species Considered

| Taxon | Status[1] Fed/State/CNPS | Habitat | Potential to Occur Within the Project Area |
|---|---|---|---|
| **Plants** | | | |
| **Alkali milk vetch (*Astragalus tener* var. *tener*)** | **—/—/1B.2** | **Alkali grassland** | **Very Low: No alkali habitat exists in the project area. Nearest known occurrence is 1.5 miles N of the project site near Bordeaux Way.** |
| Anthony peak lupine (*Lupinus antoninus*) | —/—/1B.2 | Coniferous forest | None: No coniferous forest habitat exists in the project area. |
| Baker's goldfields (*Lasthenia californica* ssp. *bakeri*) | —/—/1B.2 | Coastal grasslands | Very Low: Some grassland habitat exists in the project area. |
| Baker's larkspur (*Delphinium bakeri*) | FE/SE/1B.1 | Coastal scrub | Very Low: No coastal scrub habitat exists in the project area. |
| Baker's manzanita (*Arctostaphylos bakeri* ssp. *bakeri*) | —/—/1B.1 | Serpentine chaparral | None: No serpentine chaparral exists in the project area. |
| Baker's navarretia (*Navarretia leucocephala* ssp. *bakeri*) | —/—/1B.1 | Vernal pool | None: No vernal pool habitat exists in the project area. |
| Beaked tracyina (*Tracyina rostrata*) | —/—/1B.2 | Grassland, foothill woodland | Very Low: Some grassland habitat exists in the project area. |
| Bent flowered fiddleneck (*Amsinckia lunaris*) | —/—/1B.2 | Grassland, foothill woodland | Very Low: Some grassland habitat exists in the project area. |
| **Big-scale balsamroot (*Balsamorhiza macrolepis*)** | **—/—/1B.2** | **Grassland** | **Very Low: Some grassland habitat exists in the project area. Nearest known occurrence is 4.5 miles SE of the project site near American Canyon.** |
| Blasdale's bent grass (*Agrostis blasdalei*) | —/—/1B.2 | Coastal grassland | Very Low: No coastal grassland habitat exists in the project area. |
| Blue coast gilia (*Gilia capitata* ssp. *chamissonis*) | —/—/1B.1 | Coastal sand dunes | None: No sand dune habitat exists in the project area. |
| Bluff wallflower (*Erysimum concinnum*) | —/—/1B.2 | Coastal scrub | None: No coastal scrub habitat exists in the project area. |
| Bogg's Lake hedge-hyssop (*Gratiola heterosepala*) | —/—/1B.2 | Vernal pool, pond | None: No vernal pool habitat exists in the project area. |
| Bolander's horkelia (*Horkelia bolanderi*) | —/—/1B.2 | Coniferous forest, grassland | Very Low: Some grassland exists in the project area. |
| Brandegee's eriastrum (*Eriastrum brandegeeae*) | —/—/1B.1 | Chaparral | None: No chaparral habitat exists in the project area. |

| Taxon | Status[1] Fed/State/CNPS | Habitat | Potential to Occur Within the Project Area |
|---|---|---|---|
| Bristly sedge (*Carex comosa*) | —/—/2B.1 | Wetland, riparian | None: No potential wetland habitat exists in the project area. |
| Brownish beaked-rush (*Rhynchospora capitellata*) | —/—/2B.2 | Wetland, riparian | None: No potential wetland habitat exists in the project area. |
| Burke's goldfields (*Lasthenia burkei*) | FE/SE/1B.1 | Vernal pools, grassland | Very Low: Some grassland habitat exists in the project area. |
| California alkali grass (*Puccinellia simplex*) | —/—/1B.2 | Alkali grassland | None: No alkali grassland habitat exists in the project area. |
| California beaked-rush (*Rhynchospora californica*) | —/—/1B.1 | Freshwater wetlands | None: No potential wetland habitat exists in the project area. |
| California satintail (*Imperata brevifolia*) | —/—/2B.1 | Chaparral, coastal scrub | None: No chaparral habitat exists in the project area. |
| California sedge (*Carex californica*) | —/—/2B.3 | Wetlands | None: No wetland habitat exists in the project area. |
| Calistoga ceanothus (*Ceanothus divergens*) | —/—/1B.2 | Chaparral | None: No chaparral habitat exists in the project area. |
| Calistoga popcornflower (*Plagiobothrys strictus*) | FE/ST/1B.1 | Wetland, riparian | None: No wetland habitat exists in the project area. |
| Clara Hunt's milk vetch (*Astragalus claranus*) | —/—/1B.1 | Chaparral, grassland | Very Low: Some grassland habitat exists in the project area. |
| Coast lily (*Lilium maritimum*) | —/—/1B.1 | Coastal grassland | Very Low: Some grassland habitat exists in the project area. |
| Coastal bluff morning glory (*Calystegia purpurata* ssp. *saxicola*) | —/—/1B.2 | Coastal grassland | Very Low: Some grassland habitat exists in the project area. |
| Cobb Mountain lupine (*Lupinus sericatus*) | —/—/1B.2 | Chaparral, coniferous forest | None: No chaparral habitat exists in the project area. |
| Colusa layia (*Layia septentrionalis*) | —/—/1B.2 | Chaparral, valley grassland | Very Low: Some grassland habitat exists in the project area. |
| Congested-headed hayfield tarplant (*Hemizonia congesta* ssp. *congesta*) | —/—/1B.2 | Grassland, coastal scrub | Low: Some grassland habitat exists in the project area. |
| **Contra Costa goldfields (*Lasthenia conjugens*)** | **FE/—/1B.1** | **Vernal pool** | **Very Low: No vernal pool habitat exists in the project area. Nearest known occurrence is 1.0 miles N of the project site near Soscol Creek Road.** |
| Crystal Springs lessingia (*Lessingia arachnoidea*) | —/—/1B.2 | Serpentine grassland | None: No serpentine grassland habitat exists in the project area. |
| Cunningham Marsh cinquefoil (*Potentilla uliginosa*) | —/—/1A | Wetland | None: No wetland habitat exists in the project area. |
| Dark-eyed gilia (*Gilia millefoliata*) | —/—/1B.2 | Coastal sand dunes | None: No coastal sand dune habitat exists in the project area. |

| Taxon | Status[1] Fed/State/CNPS | Habitat | Potential to Occur Within the Project Area |
|---|---|---|---|
| Deceiving sedge (*Carex saliniformis*) | —/—/1B.2 | Grassland | Very Low: Some grassland habitat exists in the project area. |
| Deep-scarred cryptantha (*Cryptantha excavata*) | —/—/1B.2 | Woodland | None: No woodland habitat exists in the project area. |
| **Delta tule pea (*Lathyrus jepsonii* var. *jepsonii*)** | **—/—/1B.2** | **Freshwater and brackish marsh** | **Very Low: No marsh habitat exists in the project area. Nearest known occurrence is 0.8 miles W of the project site near Sheehy Creek.** |
| Dimorphic snapdragon (*Antirrhinum subcordatum*) | —/—/4.3 | Serpentine chaparral | None: No serpentine chaparral exists in the project area. |
| **Dwarf downingia (*Downingia pusilla*)** | **—/—/2B.2** | **Vernal pool, wetland** | **Very Low: No vernal pool habitat exists in the project area. Nearest known occurrence is 0.3 miles N of the project site near Delvin Road.** |
| Dwarf soaproot (*Chlorogalum pomeridianum* var. *minus*) | —/—/1B.2 | Serpentine chaparral | None: No serpentine chaparral exists in the project area. |
| Eel-grass pondweed (*Potamogeton zosteriformis*) | —/—/2B.2 | Wetland, pond | None: No wetland habitat exists in the project area. |
| Fragrant fritillary (*Fritillaria liliacea*) | —/—/1B.2 | Grassland | Very Low: Some grassland habitat exists in the project area. |
| Few-flowered navarretia (*Navarretia leucocephala* ssp. *pauciflora*) | FE/SE/1B.1 | Vernal pool, wetland | None: No vernal pool habitat exists in the project area. |
| **Franciscan onion (*Allium peninsulare* var. *franciscanum*)** | **—/—/1B.2** | **Coastal grassland** | **Very Low: Some grassland habitat exists in the project area. Nearest known occurrence is 5.2 miles NE of the project site near Carneros Creek.** |
| Geysers panicum (*Panicum acuminatum* var. *thermale*) | —/—/1B.2 | Chaparral, wetland | None: No chaparral habitat exists in the project area. |
| Glandular western flax (*Hesperolinon adenophyllum*) | —/—/1B.2 | Chaparral | None: No chaparral habitat exists in the project area. |
| Golden larkspur (*Delphinium luteum*) | FE/SR/1B.1 | Coastal grassland | Very Low: No coastal grassland habitat exists in the project area. |
| Grassleaf water plantain (*Alisma gramineum*) | —/—/2B.2 | Wetland, pond | None: No wetland habitat exists in the project area. |
| **Greene's narrow-leaved daisy (*Erigeron greenei*)** | **—/—/1B.2** | **Serpentine chaparral** | **None: No serpentine chaparral habitat exists in the project area. Nearest known occurrence is 2.5 miles NE of the project site near Skyline Park.** |
| Hall's harmonia (*Harmonia hallii*) | —/—/1B.2 | Serpentine chaparral | None: No chaparral habitat exists in the project area. |

| Taxon | Status[1] Fed/State/CNPS | Habitat | Potential to Occur Within the Project Area |
|---|---|---|---|
| Hoffman's bristly jewelflower (*Streptanthus glandulosus* spp. *hoffmanii*) | —/—/1B.3 | Chaparral, woodland | None: No chaparral habitat exists in the project area. |
| **Holly-leaved ceanothus (*Ceanothus purpureus*)** | **—/—/1B.2** | **Chaparral** | **None: No chaparral habitat exists in the project area. Nearest known occurrence is 2.6 miles NE of the project site near Skyline Park.** |
| Hospital Canyon larkspur (*Delphinium californicum* ssp. *interius*) | —/—/1B.2 | Woodland | None: No woodland habitat exists in the project area. |
| Humboldt County milk vetch (*Astragalus agnicidus*) | —/—/1B.1 | Coniferous forest | None: No coniferous forest habitat exists in the project area. |
| Jepson's coyote thistle (*Eryngium jepsonii*) | —/—/4.2 | Wetland, vernal pool | None: No wetland habitat exists in the project area. |
| Jepson's leptosiphon (*Leptosiphon jepsonii*) | —/—/1B.2 | Chaparral | None: No chaparral habitat exists in the project area. |
| Jepson's milk vetch (*Astragalus rattanii* var. *jepsonianus*) | —/—/1B.2 | Chaparral, grassland | None: No chaparral habitat exists in the project area. |
| Kenwood Marsh checkerbloom (*Sidalcea oregana* ssp. *valida*) | FE/SE/1B.1 | Wetland | None: No wetland habitat exists in the project area. |
| Konocti manzanita (*Arctostaphylos manzanita* ssp. *elegans*) | —/—/1B.3 | Chaparral, woodland | None: No chaparral habitat exists in the project area. |
| Lake County stonecrop (*Sedella leiocarpa*) | —/—/1B.1 | Grassland, wetland | None: No wetland habitat exists in the project area. |
| **Legenere (*Legenere limosa*)** | **—/—/1B.1** | **Wetland, grassland** | **Very Low: No potential wetland habitat exists in the project area. Nearest known occurrence is 0.9 miles N of the project site near Soscol Creek.** |
| Loch Lomond button-celery (*Eryngium constancei*) | FE/SE/1B.1 | Vernal pool | None: No vernal pool habitat exists in the project area. |
| Long-styled sand-spurrey (*Spergularia macrotheca* var. *longistyla*) | —/—/1B.2 | Wetland, grassland | None: No potential wetland habitat exists in the project area. |
| **Lyngbye's sedge (*Carex lyngbyei*)** | **—/—/2B.2** | **Salt marsh** | **None: No salt marsh habitat exists in the project area. Nearest known occurrence is 2.2 miles SW of the project site near the community of Brazos.** |
| Many-flowered navarretia (*Navarretia leucocephala* spp. *plieantha*) | FE/SE/1B.2 | Vernal pool | None: No wetland habitat exists in the project area. |

| Taxon | Status[1] Fed/State/CNPS | Habitat | Potential to Occur Within the Project Area |
|---|---|---|---|
| Maple-leaved checkerbloom (*Sidalcea malachroides*) | —/—/4.2 | Coastal grassland, coniferous forest | Very Low: Some grassland habitat exists in the project area. |
| Marin checker lily (*Fritillaria lanceolata* var. *tristulis*) | —/—/1B.1 | Grassland | Very Low: Some grassland habitat exists in the project area. |
| Marin checkerbloom (*Sidalcea hickmanii* spp. *viridis*) | —/—/1B.2 | Grassland | Very Low: Some grassland habitat exists in the project area. |
| Marin County navarretia (*Navarretia rosulata*) | —/—/1B.2 | Serpentine forest | None: No serpentine habitat exists in the project area. |
| **Marin knotweed (*Polygonum marinense*)** | **—/—/3.1** | **Coastal salt marsh** | **None: No coastal salt marsh habitat exists in the project area. Nearest known occurrence is 0.8 miles SW of the project site near Fagan Marsh.** |
| Marin manzanita (*Arctostaphylos virgata*) | —/—/1B.2 | Chaparral | None: No chaparral habitat exists in the project area. |
| Marin western flax (*Hesperolinon congestum*) | FT/ST/1B.1 | Chaparral | None: No chaparral habitat exists in the project area. |
| Marsh checkerbloom (*Sidalcea oregana* ssp. *hydrophila*) | —/—/1B.2 | Wetland, riparian | None: No wetland habitat exists in the project area. |
| Marsh microseris (*Microseris paludosa*) | —/—/1B.2 | Wetland, grassland | None: No wetland habitat exists in the project area. |
| Marsh pea (*Lathyrus palustris*) | —/—/2B.1 | Coastal grassland | Very Low: No coastal grassland habitat exists in the project area. |
| Mason's ceanothus (*Ceanothus masonii*) | —/SR/1B.2 | Chaparral | None: No chaparral habitat exists in the project area. |
| **Mason's lilaeopsis (*Lilaeopsis masonii*)** | **—/SR/1B.1** | **Freshwater and brackish marsh** | **None: No marsh habitat exists in the project area. Nearest known occurrence is 0.8 miles W of the project site near the Napa River.** |
| Milo Baker's lupine (*Lupinus milo-bakeri*) | —/—/1B.1 | Woodland, grassland | None: No woodland habitat exists in the project area. |
| Morrison's jewelflower (*Streptanthus morrisonii* ssp. *morrisonii*) | —/—/1B.2 | Chaparral | None: No chaparral habitat exists in the project area. |
| Mt. St. Helena morning glory (*Calystegia collina* ssp. *oxyphylla*) | —/—/4.2 | Serpentine chaparral | None: No serpentine habitat exists in the project area. |
| Mt. Tamalpais bristly jewelflower (*Streptanthus glandulosus* spp. *pulchellus*) | —/—/1B.2 | Chaparral, grassland | None: No chaparral habitat exists in the project area. |
| Mt. Tamalpais manzanita (*Arctostaphylos montana* spp. *montana*) | —/—/1B.3 | Chaparral | None: No chaparral habitat exists in the project area. |
| Mt. Tamalpais thistle (*Cirsium hydrophilum* var. *vaseyi*) | —/—/1B.2 | Grassland | Very Low: Some grassland habitat exists in the project area. |

| Taxon | Status[1] Fed/State/CNPS | Habitat | Potential to Occur Within the Project Area |
|---|---|---|---|
| Napa blue grass (*Poa napensis*) | FE/SE/1B.1 | Wetland, grassland | Very Low: Some grassland habitat exists in the project area. |
| Napa checkerbloom (*Sidalcea hickmanii* ssp. *napensis*) | —/—/1B.1 | Chaparral | None: No chaparral habitat exists in the project area. |
| Napa false indigo (*Amorpha californica* var. *napensis*) | —/—/1B.2 | Forest, woodland | None: No woodland habitat exists in the project area. |
| **Narrow-anthered brodiaea (*Brodiaea leptandra*)** | **—/—/1B.2** | **Woodland, grassland** | **Very Low: Some grassland habitat exists in the project area. Nearest known occurrence is 2.5 miles NE of the project site near Skyline Park.** |
| North Coast semaphore grass (*Pleuropogon hooverianus*) | —/—/1B.1 | Wetland, vernal pool | None: No wetland habitat exists in the project area. |
| Nuttall's ribbon-leaved pondweed (*Potamogeton epihydrus*) | —/—/2B.2 | Pond | None: No pond habitat exists in the project area. |
| **Oval-leaved viburnum (*Viburnum ellipticum*)** | **—/—/2B.3** | **Chaparral** | **None: No chaparral habitat exists in the project area. Nearest known occurrence is 2.5 miles NE of the project site near Skyline Park.** |
| Pacific gilia (*Gilia capitata* ssp. *pacifica*) | —/—/1B.2 | Coastal grassland | Very Low: No coastal grassland habitat exists in the project area. |
| Pacific Grove clover (*Trifolium polyodon*) | —/—/1B.1 | Grassland, wetland | None: No wetland habitat exists in the project area. |
| Pappose tarplant (*Centromadia parryi* ssp. *parryi*) | —/—/1B.2 | Grassland, wetland | None: No wetland habitat exists in the project area. |
| Pennell's bird's beak (*Cordylanthus tenuis* ssp. *capillaris*) | FE/SR/1B.2 | Chaparral | None: No chaparral habitat exists in the project area. |
| Perennial goldfields (*Lasthenia californica* ssp. *macrantha*) | —/—/1B.2 | Coastal scrub | None: No coastal scrub habitat exists in the project area. |
| Peruvian dodder (*Cuscuta obtusiflora* var. *glandulosa*) | —/—/1B.2 | Parasitic plant, grassland, chaparral | Very Low: Some grassland habitat exists in the project area. |
| Petaluma popcornflower (*Plagiobothrys mollis* var. *vestitus*) | —/—/1A | Coastal salt marsh | None: No coastal salt marsh habitat exists in the project area. |
| Pink sand verbena (*Abronia umbellata* var. *breviflora*) | —/—/1B.1 | Coastal sand dune | None: No sand dune habitat exists in the project area. |
| Pitkin Marsh lily (*Lilium pardalinum* ssp. *pitkinense*) | FE/SE/1B.1 | Wetland | None: No wetland habitat exists in the project area. |
| Pitkin Marsh paintbrush (*Castilleja uliginosa*) | FE/SE/1A | Wetland | None: No wetland habitat exists in the project area. |
| Point Reyes checkerbloom (*Sidalcea calycosa* ssp. *rhizomata*) | —/—/1B.2 | Coastal salt marsh | None: No salt marsh habiat exists in the project area. |

| Taxon | Status[1] Fed/State/CNPS | Habitat | Potential to Occur Within the Project Area |
|---|---|---|---|
| Point Reyes salty bird's beak (*Chloropyron maritimum* ssp. *palustre*) | —/—/1B.2 | Coastal salt marsh | None: No salt marsh habitat exists in the project area. |
| Purple-stemmed checkerbloom (*Sidalcea malviflora* spp. *purpurea*) | —/—/1B.2 | Wetland | None: No wetland habitat exists in the project area. |
| Pygmy cypress (*Hesperocyparis pygmaea*) | —/—/1B.2 | Hardpan soil | None: No hardpan forest habitat exists in the project area. |
| Raiche's manzanita (*Arctostaphylos stanfordiana* ssp. *raichei*) | —/—/1B.1 | Chaparral | None: No chaparral habitat exists in the project area. |
| Raiche's red ribbons (*Clarkia concinna* spp. *raichei*) | —/—/1B.1 | Coastal scrub | Very Low: No coastal scrub habitat exists in the project area. |
| Rincon Ridge ceanothus (*Ceanothus confusus*) | —/—/1B.1 | Chaparral | None: No chaparral habitat exists in the project area. |
| Rincon Ridge manzanita (*Arctostaphylos stanfordiana* ssp. *decumbens*) | —/—/1B.1 | Chaparral | None: No chaparral habitat exists in the project area. |
| Rose leptosiphon (*Leptosiphon rosaceus*) | —/—/1B.1 | Coastal scrub | None: No coastal scrub habitat exists in the project area. |
| Round-headed beaked-rush (*Rhynchospora globularis*) | —/—/2B.1 | Wetland, riparian | None: No wetland habitat exists in the project area. |
| Round-headed Chinese houses (*Collinsia corymbosa*) | —/—/1B.2 | Coastal strand | None: No coastal strand habitat exists in the project area. |
| Round-leaved filaree (*California macrophylla*) | —/—/1B.2 | Foothill grassland | Very Low: Some grassland habitat exists in the project area. |
| **Saline clover (*Trifolium hydrophilum*)** | **—/—/1B.2** | **Wetland, riparian** | **Very Low: No potential wetland habitat exists in the project area. Nearest known occurrence is 0.9 miles N of the project site near Soscol Creek.** |
| San Francisco spineflower (*Chorizanthe cuspidata* var. *cuspidata*) | —/—/1B.2 | Coastal sand dunes | None: No coastal sand dune habitat exists in the project area. |
| **San Joaquin spearscale (*Extriplex joaquinana*)** | **—/—/1B.2** | **Alkali scrub, grassland** | **Very Low: No alkali scrub habitat exists in the project area. Nearest known occurrence is 3.2 miles N of the project site near Kennedy Park.** |
| Santa Cruz clover (*Trifolium buckwestiorum*) | —/—/1B.1 | Wetland, grassland | Very Low: Some grassland habitat exists in the project area. |
| Santa Cruz microseris (*Stebbinsoseris decipiens*) | —/—/1B.2 | Coastal scrub | None: No coastal scrub habitat exists in the project area. |
| Santa Cruz tarplant (*Holocarpha macradenia*) | FT/SE/1B.1 | Coastal prairie | None: No coastal prairie habitat exists in the project area. |

| Taxon | Status[1] Fed/State/CNPS | Habitat | Potential to Occur Within the Project Area |
|---|---|---|---|
| Santa Rosa horkelia (*Horkelia tenuiloba*) | —/—/1B.2 | Chaparral | None: No chaparral habitat exists in the project area. |
| Seaside bittercress (*Cardamine angulata*) | —/—/2B.2 | Forest, riparian | None: No forest habitat exists in the project area. |
| Sebastopol meadowfoam (*Limnanthes vinculans*) | FE/SE/1B.1 | Wetland, vernal pool | None: No wetland habitat exists in the project area. |
| Serpentine cryptantha (*Cryptantha dissita*) | —/—/1B.2 | Serpentine chaparral | None: No chaparral habitat exists in the project area. |
| Serpentine daisy (*Erigeron serpentinus*) | —/—/1B.3 | Serpentine chaparral | None: No serpentine chaparral exists in the project area. |
| Short-leaved evax (*Hesperevax sparsiflora var. brevifolia*) | —/—/1B.2 | Coastal grassland | Very Low: No coastal grassland habitat exists in the project area. |
| Slender Orcutt grass (*Orcuttia tenuis*) | FT/SE/1B.1 | Vernal pool | None: No vernal pool habitat exists in the project area. |
| Small-flowered calycadenia (*Calycadenia micrantha*) | —/—/1B.2 | Chaparral | None: No chaparral habitat exists in the project area. |
| Small groundcone (*Kopsiopsis hookeri*) | —/—/2B.3 | Redwood forest | None: No redwood forest habitat exists in the project area. |
| **Soft salty bird's beak (*Chloropyron molle* ssp. *molle*)** | **FE/ST/1B.2** | **Coastal salt marsh** | **None: No salt marsh habitat exists in the project area. Nearest known occurrence is 0.8 miles SW of the project site near Fagan Marsh.** |
| Sonoma alopecurus (*Alopecurus aequalis* var. *sonomensis*) | FE/—/1B.1 | Wetland, vernal pool | None: No wetland habitat exists in the project area. |
| Sonoma beardtongue (*Penstemon newberryi* var. *sonomensis*) | —/—/1B.3 | Chaparral | Very Low: Some grassland habitat exists in the project area. |
| Sonoma ceanothus (*Ceanothus sonomensis*) | —/—/1B.2 | Chaparral | None: No chaparral habitat exists in the project area. |
| Sonoma spineflower (*Chorizanthe valida*) | FE/SE/1B.1 | Coastal grassland | Very Low: Some grassland habitat exists in the project area. |
| Sonoma sunshine (*Blennosperma bakeri*) | FE/SE/1B.1 | Grassland, wetland | Very Low: Some grassland habitat exists in the project area. |
| **Suisun marsh aster (*Symphyotrichum lentum*)** | **—/—/1B.2** | **Freshwater and brackish marsh** | **None: No marsh habitat exists in the project area. Nearest known occurrence is 0.8 miles SW of the project site near Fagan Marsh.** |
| Supple daisy (*Erigeron supplex*) | —/—/1B.2 | Coastal scrub | None: No coastal scrub habitat exists in the project area. |
| Swamp harebell (*Campanula californica*) | —/—/1B.2 | Coastal grassland, wetland | None: No wetland habitat exists in the project area. |

| Taxon | Status[1] Fed/State/CNPS | Habitat | Potential to Occur Within the Project Area |
|---|---|---|---|
| Tamalpais jewelflower (*Streptanthus batrachopus*) | —/—/1B.3 | Serpentine | None: No serpentine habitat exists in the project area. |
| Tamalpais lessingia (*Lessingia micradenia* var. *micradenia*) | —/—/1B.2 | Grassland | Very Low: Some grassland habitat exists in the project area. |
| Tamalpais oak (*Quercus parvula* var. *tamalpaisensis*) | —/—/1B.3 | Woodland | None: No woodland habitat exists in the project area. |
| The Cedars fairy lantern (*Calochortus raichei*) | —/—/1B.2 | Hardpan chaparral | None: No chaparral habitat exists in the project area. |
| The Cedars manzanita (*Arctostaphylos bakeri* ssp. *sublaevis*) | —/—/1B.2 | Hardpan chaparral | None: No chaparral habitat exists in the project area. |
| Thin-lobed horkelia (*Horkelia tenuiloba*) | —/—/1B.2 | Chaparral | None: No chaparral habitat exists in the project area. |
| Thurber's reed grass (*Calamagrostis crassiglumis*) | —/—/2B.1 | Coastal scrub, wetland | None: No wetland habitat exists in the project area. |
| Tiburon buckwheat (*Eriogonum luteolum* var. *caninum*) | —/—/1B.2 | Serpentine grassland | None: No serpentine grassland exists in the project area. |
| **Tiburon paintbrush (*Castilleja affinis* var. *neglecta*)** | **FE/ST/1B.2** | **Serpentine grassland** | **Very Low: No serpentine grassland exists in the project area. Nearest known occurrence is 4.5 miles SE of the project site near American Canyon.** |
| Two-carpellate western flax (*Hesperolinon bicarpellatum*) | —/—/1B.2 | Serpentine chaparral | None: No serpentine chaparral exists in the project area. |
| **Two-fork clover (*Trifolium amoenum*)** | **FE/—/1B.1** | **Grassland, wetland** | **Very Low: Some grassland habitat exists in the project area. Nearest known occurrence is 2.5 miles W of the project site near Milton Road.** |
| Vine Hill ceanothus (*Ceanothus foliosus* var. *vineatus*) | —/—/1B.1 | Chaparral | None: No chaparral habitat exists in the project area. |
| Vine Hill clarkia (*Clarkia imbricata*) | FE/SE/1B.1 | Chaparral, grassland | None: No chaparral habitat exists in the project area. |
| Vine Hill manzanita (*Arctostaphylos densiflora*) | —/SE/1B.1 | Chaparral | None: No chaparral habitat exists in the project area. |
| Watershield (*Brasenia schreberi*) | —/—/2B.3 | Pond | None: No pond habitat exists in the project area. |
| Western leatherwood (*Dirca occidentalis*) | —/—/1B.2 | Woodland, chaparral | None: No woodland habitat exists in the project area. |
| White beaked-rush (*Rhynchospora alba*) | —/—/2B.2 | Wetland, riparian | None: No wetland habitat exists in the project area. |

| Taxon | Status[1] Fed/State/CNPS | Habitat | Potential to Occur Within the Project Area |
|---|---|---|---|
| White-flowered rein orchid (*Piperia candida*) | —/—/1B.2 | Coniferous forest | None: No coniferous forest habitat exists in the project area. |
| White-rayed pentachaeta (*Pentachaeta bellidiflora*) | FE/SE/1B.1 | Grassland | Very Low: Some grassland habitat exists in the project area. |
| Wolly-headed gilia (*Gilia capitata* ssp. *tomentosa*) | —/—/1B.1 | Coastal grassland | Very Low: No coastal grassland habitat exists in the project area. |
| Wolly meadowfoam (*Limnanthes floccosa* ssp. *floccosa*) | —/—/4.2 | Vernal pool | None: No wetland habitat exists in the project area. |
| Wolly spineflower (*Chorizanthe cuspidata* var. *villosa*) | —/—/1B.2 | Coastal sand dunes | None: No sand dune habitat exists in the project area. |
| **Mosses, Lichens, and Liverworts** | | | |
| Angel's hair lichen (*Ramalina thrausta*) | —/—/2B.1 | Forest, woodland | None: No forest habitat exists in the project area. |
| Coastal triquetrella (*Triquetrella californica*) | —/—/1B.2 | Forest, woodland | None: No forest habitat exists in the project area. |
| Elongate copper moss (*Mielichhoferia elongata*) | —/—/4.3 | Rock outcrops | None: No rock outcrop habitat exists in the project area. |
| Koch's cord moss (*Entosthodon kochii*) | —/—/1B.3 | Forest, woodland | None: No forest habitat exists in the project area. |
| Methuselah's beard lichen (*Dolichousnea longissima*) | —/—/4.2 | Forest, woodland | None: No forest habitat exists in the project area. |
| Slender silver moss (*Anomobryum julaceum*) | —/—/4.2 | Rocky substrates in forests | None: No forest habitat exists in the project area. |
| Torren's grimmia (*Grimmia torenii*) | —/—/1B.3 | Forest, woodland | None: No forest habitat exists in the project area. |
| **Fish** | | | |
| **Chinook salmon Coastal California DPS (*Oncorhynchus kisutch*)** | **FT/SE/—** | **Freshwater streams, open ocean and estuaries** | **None: No suitable streams exist in the project area. Nearest known occurrence is 0.6 miles W of the project site in the Napa River.** |
| Coho salmon Central California Coast ESU (*Oncorhynchus kisutch*) | FE/SE/— | Freshwater streams, open ocean and estuaries | None: No suitable streams exist in the project area. |
| **Green sturgeon–Southern DPS Pop. 1 (*Acipenser medirostris*)** | **FT/SSC/—** | **Freshwater streams** | **None: No suitable streams exist in the project area. Nearest known occurrence is 3.2 miles S of the project site in the Napa River.** |
| Gualala roach (*Lavinia symmetricus parvipinnis*) | —/SSC/— | Freshwater streams | None: No suitable streams exist in the project area. |
| **Longfin smelt (*Spirinchus thaleichthys*)** | **FT/ST/—** | **Estuaries and coastal lakes** | **None: No suitable estuary habitat exists in the project area. Nearest known occurrence is 0.6 miles W of the project site in the Napa River.** |

| Taxon | Status[1] Fed/State/CNPS | Habitat | Potential to Occur Within the Project Area |
|---|---|---|---|
| Navarro roach (*Lavinia symmetricus navarroensis*) | —/SSC/— | Freshwater streams | None: No suitable streams exist in the project area. |
| Russian River tule perch (*Hysterocarpus traski pomo*) | —/SSC/— | Low gradient rivers | None: No suitable habitat exists in the project area. |
| Sacramento perch (*Archoplites interruptus*) | —/SSC/— | Low gradient sloughs and lakes | None: No suitable habitat exists in the project area. |
| Sacramento splittail (*Pogonichthys macrolepidotus*) | —/SSC/— | Low gradient freshwater streams | None: No suitable streams exist in the project area. |
| Southern coastal roach (*Hesperoleucus venustus subditus*) | —/SSC/— | Freshwater streams | None: No suitable streams exist in the project area. |
| **Steelhead trout Central California Coast DPS (*Oncorhynchus mykiss irideus*)** | **FT/—/—** | **Freshwater streams, open ocean and estuaries** | **None: No suitable streams exist in the project area. Nearest known occurrence is 3.2 miles S of the project site in the Napa River.** |
| Tidewater goby (*Eucyclogobius newberryi*) | FE/SSC/— | Brackish coastal lagoons and streams | None: No brackish coastal lagoons exist in the project area. |
| **Amphibians and Reptiles** | | | |
| California giant salamander (*Dicamptodon ensatus*) | —/SSC/— | Wetlands and riparian areas | Very Low: No suitable wetland habitat exists in the project area. |
| **California red-legged frog (CRLF) (*Rana draytonii*)** | **FT/SSC/—** | **Lakes, stock ponds, and associated grasslands** | **Low: No suitable breeding habitat exists in the project area although some suitable habitat exists in Sheehy Creek. Some marginally suitable estivation habitat exists on-site. Nearest known occurrence is 2.3 miles S of the project site near North Slough.** |
| California tiger salamander (*Ambystoma californiense*) | FE/ST/— | Ponds, streams, drainages, and associated uplands | Vey Low: No suitable breeding habitat exists in the project area. |
| **Foothill yellow-legged frog (FYLF) North Coast DPS (*Rana boylii*)** | **—/ST/—** | **Wetlands, riparian, streams and ponds** | **Low: No suitable breeding habitat exists in the project area although some suitable habitat exists in Sheehy Creek. Some marginally suitable estivation habitat exists on-site. Nearest known occurrence is 2.0 miles S of the project site near the community of Lombard.** |
| Red-bellied newt (*Taricha rivularis*) | —/SSC/— | Woodland streams, riparian corridors | None: No suitable habitat exists in the project area. |

| Taxon | Status[1] Fed/State/CNPS | Habitat | Potential to Occur Within the Project Area |
|---|---|---|---|
| **Western pond turtle (*Emys marmorata*)** | **—/SSC/—** | **Slow-moving creeks, streams, ponds, rivers, ditches** | **None: No suitable pond habitat exists in the project area although some suitable habitat exists in Sheehy Creek. Some marginally suitable nesting habitat exists on-site. Nearest known occurrence is 2.2 miles N of the project site near Napa Golf Course.** |
| **Invertebrates** | | | |
| Barr's amphipod (*Stygobromus cherylae*) | —/SSC/— | Subterranean, aquatic | None: No suitable aquatic habitat in the project area. |
| Behren's silverspot butterfly (*Speyeria zerene behrensii*) | FE/SSC/— | Coastal grassland, blue violet host plants | Very Low: No suitable host plants exist in the project area. |
| Blennosperma vernal pool andrenid bee (*Andrena blennospermatis*) | —/SSC/— | Upland areas near vernal pools | None: No vernal pool habitat exists in the project area. |
| California brackishwater snail (*Tryonia imitator*) | —/SSC/— | Brackish wetland | None: No wetland habitat exists in the project area. |
| California floater (*Anodonta californiensis*) | —/SSC/— | Ponds, stream | None: No suitable stream habitat exists in the project area. |
| California freshwater shrimp (*Syncaris pacifica*) | FE/SE/— | Ponds, stream | None: No suitable stream habitat exists in the project area. |
| **California isopod (*Calasellus californicus*)** | **—/SSC/—** | **Freshwater ponds** | **None: No pond habitat exists in the project area. Nearest known occurrence is 3.9 miles N of the project site near the City of Napa.** |
| California linderiella (*Linderiella occidentalis*) | —/SSC/— | Vernal pool | None: No vernal pool habitat exists in the project area. |
| Crotch bumble bee (*Bombus crotchii*) | —/SSC/— | Grassland, chaparral | Medium: Some grassland habitat exists in the project area. |
| Giuliani's dubiraphian riffle beetle (*Dubiraphia giulianii*) | —/SSC/— | Stream | None: No suitable habitat exists in the project area. |
| Hypoheic amphipod (*Stygobromus hyporheicus*) | —/SSC/— | Soil | None: No suitable habitat exists in the project area. |
| Leech's skyline diving beetle (*Hydroporus leechi*) | —/SSC/— | Pond | None: No suitable pond habitat exists in the project area. |
| Marin elfin butterfly (*Callophrys mossii marinensis*) | —/SSC/— | Coastal grassland | Very Low: Some suitable grassland habitat exists in the project area. |
| Marin hesperian (*Vespericola marinensis*) | —/SSC/— | Woodland | None: No woodland habitat exists in the project area. |
| Myrtle silverspot butterfly (*Speyeria zerene myrtleae*) | FE/SSC/— | Coastal grassland, chaparral with *Viola* plants | None: No suitable host plants exists in the project area. |

| Taxon | Status[1] Fed/State/CNPS | Habitat | Potential to Occur Within the Project Area |
|---|---|---|---|
| Monarch butterfly California overwintering Population #1 (*Danaus plexippus*) | —/SSC/— | Large trees for roosting | Very Low: Some suitable trees for roosting in the project area. |
| Obscure bumble bee (*Bombus caliginosus*) | —/SSC/— | Grassland, woodland, chaparral | Low: Some grassland habitat exists in the project area. |
| Opler's longhorn moth (*Adela oplerella*) | —/SSC/— | Usually associated with *Platystemon* (creamcups) | None: No suitable host plants observed in the project area. |
| Oregon floater (*Anodonta oregonensis*) | —/SSC/— | High order stream | None: No suitable stream habitat exists in the project area. |
| Ricksecker's water scavenger beetle (*Hydrochara rickseckeri*) | —/SSC/— | Freshwater pond | None: No suitable pond habitat exists in the project area. |
| San Francisco leaf-cutter bee (*Trachusa gummifera*) | —/SSC/— | Wood cavities | None: No suitable habitat exists in the project area. |
| Sonoma arctic skipper (*Carterocephalus palaemon magnus*) | —/SSC/— | Grasslands with suitable host plants | None: No suitable host plants exist in the project area. |
| Sonoma zerene fritillary (*Speyeria zerene sonomensis*) | —/SSC/— | Grassland with *Viola* plants | None: No suitable host plants exists in the project area. |
| Tomales isopod (*Caecidotea tomalensis*) | —/SSC/— | Pond, stream | None: No pond or stream habitat exists in the project area. |
| **Vernal pool fairy shrimp (*Branchinecta lynchi*)** | **—/SSC/—** | **Vernal pools** | **None: No vernal pool habitat exists in the project area. Nearest known occurrence is 1.5 miles SW of the project site near Napa Airport.** |
| **Western bumblebee (*Bombus occidentalis*)** | **—/SSC/—** | **Grassland** | **Low: Some disturbed grassland habitat exists in the project area. Nearest known occurrence is 4.0 miles N of the project site near the City of Napa.** |
| Western ridged mussel (*Gonidea angulata*) | —/SSC/— | Stream | None: No suitable stream habitat exists in the project area. |
| **Birds** | | | |
| **American perigrine falcon (*Falco peregrinus anatum*)** | **—/SSC/—** | **Nests in rock outcrops** | **Very Low: No suitable nesting habitat exists in the project area. Some marginal foraging habitat exists on-site. Nearest known occurrence is located somewhere in the USGS *Cordelia* 7.5 minute quad, that comes as close as 0.9 miles E of the project site.** |
| Bald eagle (*Haliaeetus leucocephalus*) | —/SSC/— | Nests in forests, forages over lakes and streams. | Very Low: No suitable nesting or foraging habitat exists in the project area. |

| Taxon | Status[1] Fed/State/CNPS | Habitat | Potential to Occur Within the Project Area |
|---|---|---|---|
| Bank swallow (*Riparia riparia*) | FE/SE/— | Banks of lakes, streams | None: No suitable stream habitat exists in the project area. |
| **Black-crowned night heron (*Nycticorax nycticorax*)** | **—/SSC/—** | **Nests in colonies in trees** | **Very Low: No suitable nesting habitat exists in the project area. Nearest known occurrence is 4.8 miles NW of the project site in Congress Valley.** |
| Black swift (*Cypseloides niger*) | —/SSC/— | Cliff faces near water | None: No suitable stream habitat exists in the project area. |
| **Burrowing owl (*Athene cunicularia*)** | **—/SSC/—** | **Grasslands with ground squirrel burrows** | **Very Low: Some disturbed grassland habitat exists in the project area. Nearest known occurrence is 0.15 miles E of the project site near Delvin Road.** |
| **California black rail (*Laterallus jamaicensis coturniculus*)** | **FE/SE/—** | **Coastal salt marshes, mudflats** | **None: No suitable salt marsh habitat exists in the project area. Nearest known occurrence is 0.7 miles SW of the project site near Fagan Creek.** |
| California horned lark (*Eremophila alpestris actia*) | —/SSC/— | Herbaceous vegetation, chaparral | None: No suitable nesting and foraging habitat exists in the project area. |
| Cooper's hawk (*Accipiter cooperii*) | —/WL/— | Forages over open grassland, nests in old growth trees | None: No suitable nesting and foraging habitat exists in the project area. Some potential nesting habitat in Sheehy Creek. |
| **Ferruginous hawk (*Buteo regalis*)** | **—/SSC/—** | **Forages over open grassland, nests in old growth trees** | **Low: Some suitable nesting and foraging habitat exists in the project area. Some potential nesting habitat in Sheehy Creek. Nearest known occurrence is a CNDDB polygon that overlaps with the project parcel.** |
| **Golden eagle (*Aquila chrysaetos*)** | **—/SSC/—** | **Forages over open grassland, nests in old growth trees** | **Low: No suitable nesting habitat exists in the project area. Some potential nesting habitat in Sheehy Creek. Nearest known occurrence is 1.7 miles NW of the project site near Stanly Crossroad.** |
| Grasshopper sparrow (*Ammodramus savannarum*) | —/SSC/— | Forages over open grassland | Very Low: No suitable nesting and foraging habitat exists in the project area. |
| Great blue heron (*Ardea herodias*) | —/SSC/— | Nests in trees, forages in wetlands and grasslands | Very Low: No suitable nesting and foraging habitat exists in the project area. |

| Taxon | Status[1] Fed/State/CNPS | Habitat | Potential to Occur Within the Project Area |
|---|---|---|---|
| Great egret (*Ardea alba*) | FE/SE/— | Nests in trees, forages in wetlands and grasslands | Very Low: No suitable nesting and foraging habitat exists in the project area. |
| Marbled murrelet (*Brachyramphus marmoratus*) | FT/SE/— | Old growth forest | None: No suitable nesting or foraging habitat exists in the project area. |
| Northern goshawk (*Accipiter gentilis*) | —/SSC/— | Old growth forest | Very Low: No suitable nesting and foraging habitat exists in the project area. |
| **Northern harrier (*Circus hudsonius*)** | **FT/ST/—** | **Nests and forages in prairies and forests** | **Low: No suitable nesting or foraging habitat exists in the project area. Some potential nesting habitat in Sheehy Creek. Nearest known occurrence is 3.5 miles SW of the project site near Napa Slough.** |
| Northern spotted owl (*Strix occidentalis*) | FT/ST/— | Nests primarily in old growth forest | None: No suitable nesting or foraging habitat exists in the project area. |
| Osprey (*Pandion haliaetus*) | —/WL/— | Areas with fish | Very Low: No suitable nesting or foraging habitat exists in the project area. |
| Prairie falcon (*Falco mexicanus*) | —/SSC/— | Forages over grasslands | Very Low: No suitable nesting and foraging habitat exists in the project area. |
| Purple martin (*Progne subis*) | FE/SE/— | Insectivorous, nests in cavities | Very Low: No suitable nesting and foraging habitat exists in the project area. |
| **Ridgway's rail (*Rallus obsoletus obsoletus*)** | **FE/SE/—** | **Mudflats and tidal sloughs** | **None: No suitable tidal habitat exists in the project area. Nearest known occurrence is 0.8 miles SW of the project site near Fagan Marsh.** |
| **Salt marsh common yellowthroat (*Geothlypis trichas sinuosa*)** | **—/SSC/—** | **Forages in grasslands, nests in dense freshwater marshes** | **Very Low: No suitable nesting habitat exists in the project area. Nearest known occurrence is 0.8 miles SW of the project site near Fagan Marsh.** |
| **San Pablo song sparrow (*Melospiza melodia samuelis*)** | **—/SSC/—** | **Marsh, grassland** | **Very Low: No suitable nesting habitat exists in the project area. Nearest known occurrence is 1.7 miles W of the project site near Steamboat Slough.** |

| Taxon | Status[1] Fed/State/CNPS | Habitat | Potential to Occur Within the Project Area |
|---|---|---|---|
| Sharp-shinned hawk (*Accipiter striatus*) | —/SSC/— | Forest, woodland | Very Low: No suitable nesting habitat exists in the project area. Some potential nesting habitat in Sheehy Creek. |
| **Swainson's hawk (*Buteo swainsoni*)** | **—/SSC/—** | **Forages in grasslands, nests in trees** | **Very Low: No suitable nesting habitat exists in the project area. Some potential nesting habitat in Sheehy Creek. Nearest known occurrence is 0.25 miles N of the project site near Sheehy Creek.** |
| **Tricolored blackbird (*Agelaius tricolor*)** | **—/SSC/—** | **Nests in dense vegetation** | **Very Low: No suitable nesting habitat exists in the project area. Nearest known occurrence is 0.7 miles SE of the project site near Delvin Road.** |
| **Western snowy plover (*Charadrius nivosus nivosus*)** | **FT/SSC/—** | **Tidal marshes** | **None: No suitable marsh habitat exists in the project area. Nearest known occurrence is 3.3 miles W of the project site near Napa Slough.** |
| Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) | —/SE/— | Woodland, riparian | Very Low: No suitable nesting habitat exists in the project area. |
| **White-tailed kite (*Elanus leucurus*)** | **—/CFP/—** | **Grassland, woodland** | **Very Low: No suitable nesting habitat exists in the project area. Some potential nesting habitat in Sheehy Creek. Nearest known occurrence is 2.2 miles N of the project site near Napa Golf Course.** |
| Yellow-breasted chat (*Icteria virens*) | —/SSC/— | Dense shrubby growth, farmland | Very Low: No suitable nesting habitat exists in the project area. |
| Yellow rail (*Coturnicops noveboracensis*) | —/SSC/— | Breeds in marshes, forages in wet meadows | None: No suitable marsh habiat exists in the project area. |
| Yellow warbler (*Coturnicops noveboracensis*) | —/SSC/— | Riparian, shrubland, farmland | Very Low: No suitable nesting habitat exists in the project area. |
| **Mammals** | | | |
| **American badger (*Taxidea taxus*)** | **—/SSC/—** | **Open grassland habitats with plenty of prey** | **None: No suitable habitat exists in the project area. Nearest known occurrence is 2.0 miles NW of the project site near Stanly Lane.** |
| Big free-tailed bat (*Nyctinomops macrotis*) | —/SSC/— | Forages over open areas, roots in trees or caves | Very Low: No suitable foraging or roosting habitat exists in the project area. |
| Fisher (*Pekania pennanti*) | —/SSC/— | Forages and breeds primarily in forests | None: No suitable forest habitat exists in the project area. |

| Taxon | Status[1] Fed/State/CNPS | Habitat | Potential to Occur Within the Project Area |
|---|---|---|---|
| Fringed myotis (*Myotis thysanodes*) | —/SSC/— | Roosts in caves or buildings and forages in open habitats | Very Low: No suitable foraging or roosting habitat exists in the project area. |
| Hoary bat (*Lasiurus cinereus*) | —/SSC/— | Forages over open areas, roots in trees or caves at high altitude | Very Low: No suitable foraging or roosting habitat exists in the project area. |
| Long-eared myotis (*Myotis evotis*) | —/SSC/— | Roosts in caves or buildings and forages in open habitats | Very Low: No suitable foraging or roosting habitat exists in the project area. |
| Long-legged myotis (*Myotis volans*) | —/SSC/— | Roosts in caves or buildings and forages in open habitats | Very Low: No suitable foraging or roosting habitat exists in the project area. |
| North American porcupine (*Erethizon dorsatum*) | —/SSC/— | Require rocky areas or trees for dens, abundant open space for foraging | Very Low: Some suitable foraging habitat, no suitable den habitat. |
| **Pallid bat (*Antrozous pallidus*)** | **—/SSC/—** | **Common in open dry habitats with rocky areas for roosting** | **Very Low: No suitable foraging or roosting habitat exists in the project area. Nearest known occurrence is 2.8 miles NW of the project site near Cutting's Wharf Road.** |
| Point Reyes mountain beaver (*Aplodontia rufa phaea*) | —/SE/— | Coastal scrub | None: No suitable coastal scrub habitat exists in the project area. |
| **Salt marsh harvest mouse (*Reithrodontomys raviventris*)** | **FE/SE/—** | **Salt marshes** | **None: No suitable salt marsh habitat exists in the project area. Nearest known occurrence is 0.8 miles SW of the project site near Fagan's Marsh.** |
| Silver-haired bat (*Lasionycteris noctivagans*) | —/SSC/— | Nocturnal, migratory, solitary, roosts in tree cavities | Very Low: No suitable foraging or roosting habitat exists in the project area. |
| Sonoma tree vole (*Arborimus pomo*) | —/SSC/— | Old growth Douglas fir canopies | None: No suitable Douglas fir forest habitat exists in the project area. |
| Townsend's big-eared bat (*Corynorhinus townsendii*) | —/SSC/— | Hibernate in mines or caves, roost in man made structures and caves | Very Low: No suitable foraging or roosting habitat exists in the project area. |

| Taxon | Status[1] Fed/State/CNPS | Habitat | Potential to Occur Within the Project Area |
|---|---|---|---|
| Western red bat (*Lasiurus blossevillii*) | —/SSC/— | Forages over open areas, roots in trees or caves | Very Low: No suitable foraging or roosting habitat exists in the project area. |
| Yuma myotis (*Myotis yumanensis*) | —/SSC/— | Forages over open areas, roots in trees or caves | Very Low: No suitable foraging or roosting habitat exists in the project area. |
| **Habitats** | | | |
| Coastal and Valley Freshwater Marsh (CVFM) | — | — | None: No marsh habitat exists in the project area. |
| Coastal Brackish Marsh (CVFM) | — | — | None: No brackish marshes exist in the project area. |
| Northern Coastal Salt Marsh (NCSM) | — | — | None: No salt marsh habitat exists in the project area. |
| Northern Hardpan Vernal Pool (NHVP) | — | — | None: No hardpan vernal pool habitat exists in the project area. |
| Northern Vernal Pool (NVP) | — | — | None: No vernal pool habitat exists in the project area. |
| Sycamore Alluvial Woodland (SAW) | — | — | None: No woodland habitat exists in the project area. |
| Valley Needlegrass Grassland (VNG) | — | — | Very Low: Some disturbed grassland habitat exists in the project area. |
| Valley Oak Woodland (VOW) | — | — | None: No valley oaks exist in the project area. |
| Valley Sink Scrub (VSS) | — | — | None: No sink habitat exists in the project area. |

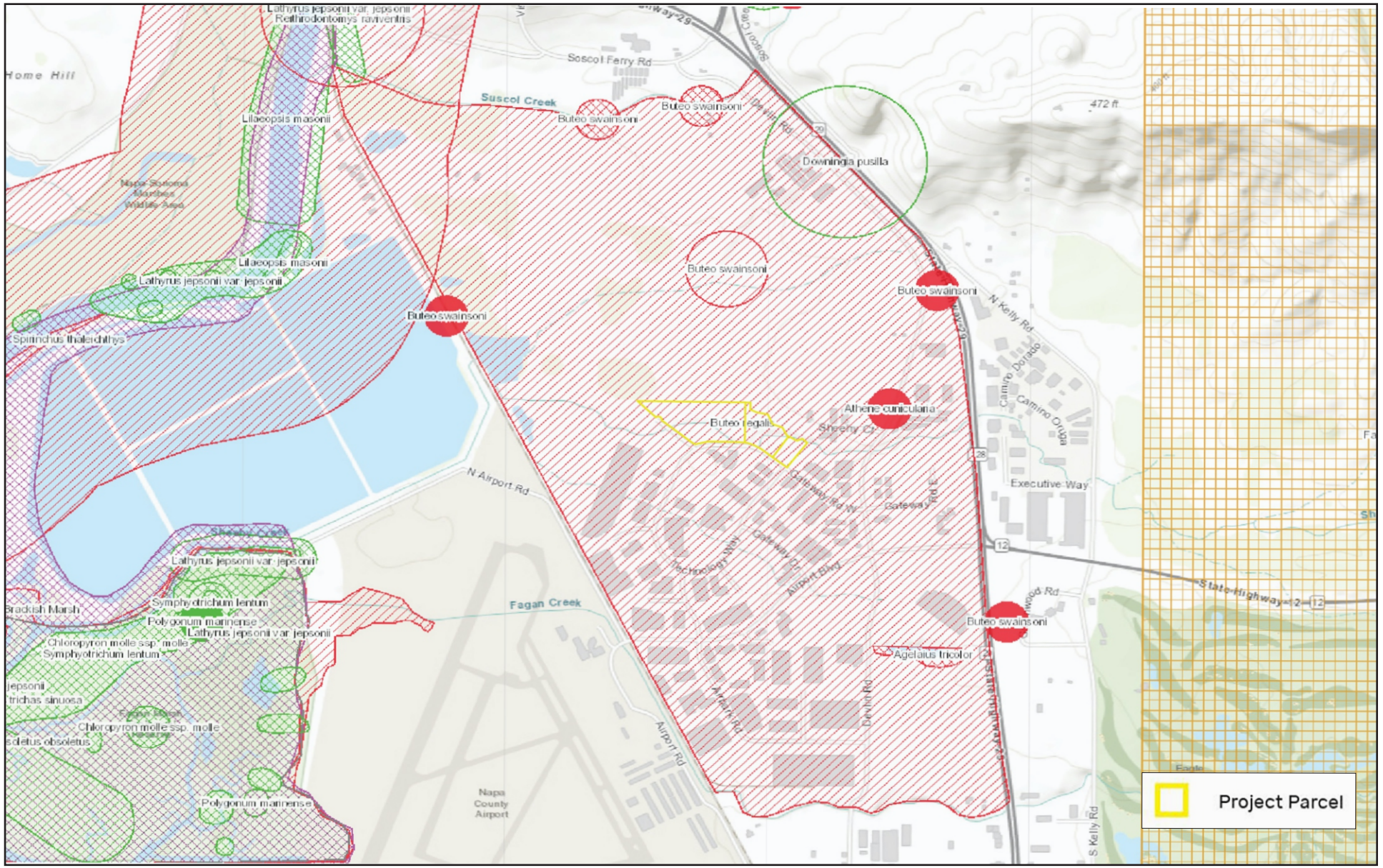
Notes:
[1] Status:
Federal
FE = Federally Endangered Species
FT = Federally Threatened Species

State
SE = State Endangered Species
ST = State Threatened Species
SSC = California Species of Special Concern
CFP = California Fully Protected Species

CNPS (applies to plants only)
List 1B = plants considered rare, threatened, or endangered in California and elsewhere
List 2B = plants rare, threatened or endangered in California, but more common elsewhere
List 3 = plant is likely rare but more information is required
List 4 = plants of limited distribution

# Appendix C:
# CNDDB Occurrences Map

THIS PAGE INTENTIONALLY LEFT BLANK




Source: Pinecrest Environmental Consulting; United States Fish & Wildlife Service (USFWS): CNDDB.

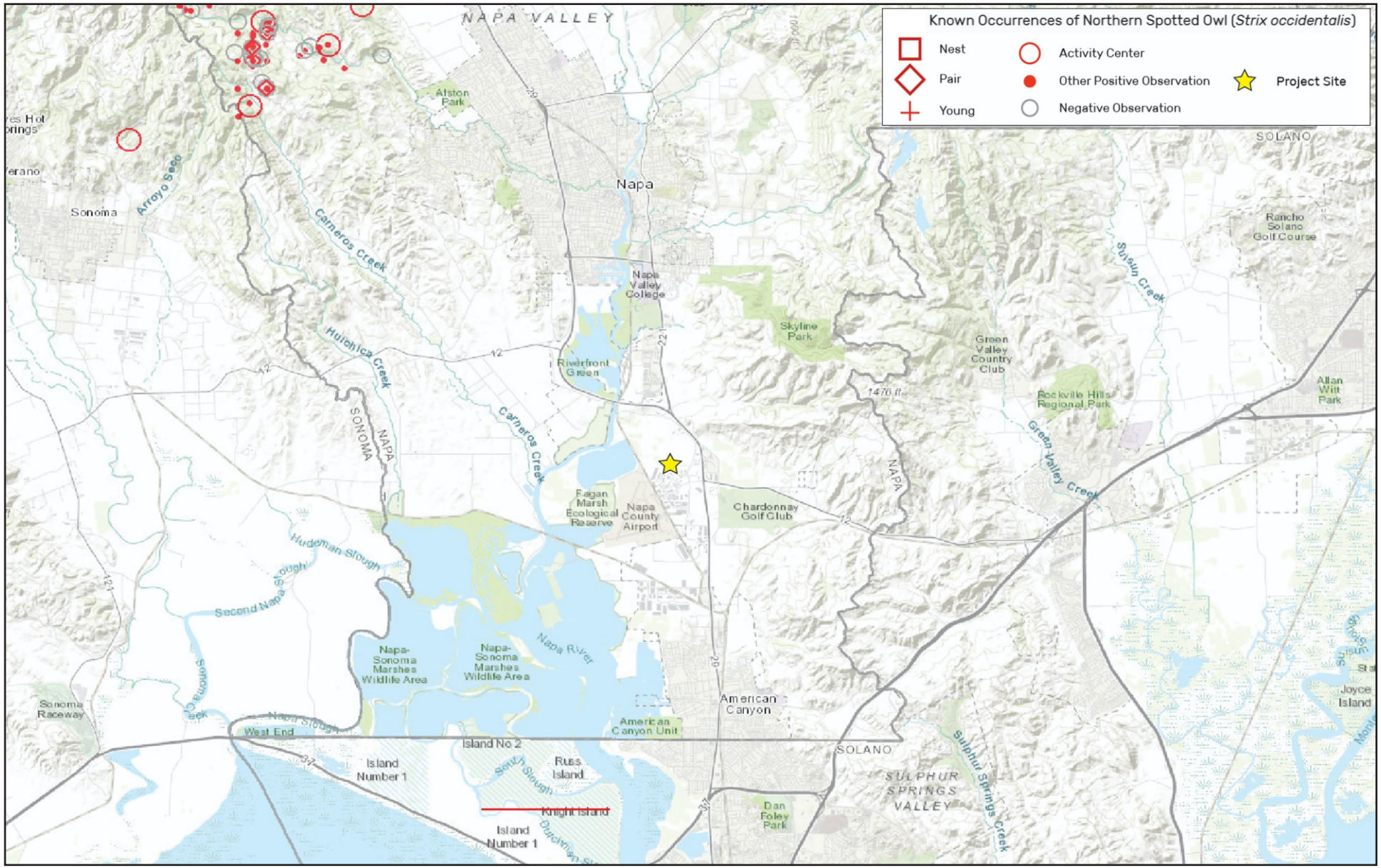
FIRSTCARBON SOLUTIONS™

# Appendix C
# CNDDB Occurrences Map

THIS PAGE INTENTIONALLY LEFT BLANK

# Appendix D:
# NSO Occurrences Map

THIS PAGE INTENTIONALLY LEFT BLANK




Source: Pinecrest Environmental Consulting; United States Fish & Wildlife Service (USFWS).

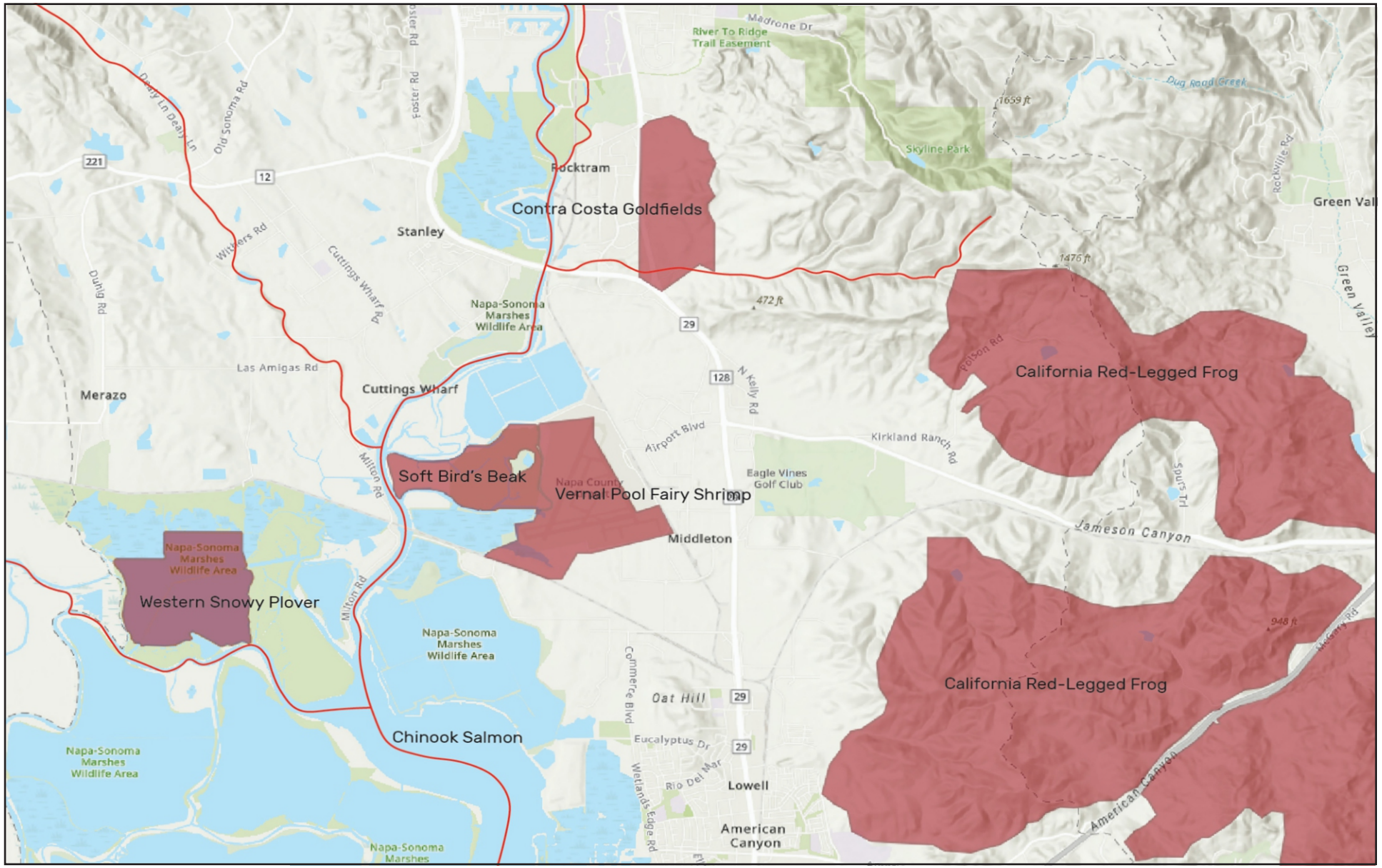
FIRSTCARBON SOLUTIONS™

# Appendix D
# NSO Occurrences Map

THIS PAGE INTENTIONALLY LEFT BLANK

# Appendix E:
# Critical Habitat Map

THIS PAGE INTENTIONALLY LEFT BLANK




Source: Pinecrest Environmental Consulting; United States Fish & Wildlife Service (USFWS).

FIRSTCARBON SOLUTIONS™

# Appendix E
# Critical Habitat Map

THIS PAGE INTENTIONALLY LEFT BLANK