

# **Biological Assessment for Building Demolition at Cape Vizcaino**

44000 North HWY 1, Westport  
Mendocino County, California 95488  
(APN-013-410-29)



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**List of Abbreviations, Definitions, and Acronyms**

CDFW	California Department of Fish and Wildlife
CDP	Coastal Development Permit
CESA	California Endangered Species Act
County	County of Mendocino
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
DPS	Distinct Population Segment
ESU	Evolutionary Significant Unit
FESA	Federal Endangered Species Act
League	Save the Redwoods League
MAMU	Marbled murrelet
NCRM	NCRM, Inc.
NMFS	National Marine Fisheries Service
Property	Cape Vizcaino 402-acre property
SSC	Species of Special Concern
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

## 1.0 Summary

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Biological surveys were conducted to determine if any direct or indirect impacts would be associated with the proposed demolition of aging infrastructure on APN-013-410-29. The parcel is located at 44000 N. Highway 1, Westport, Mendocino County, California (herein referred to as ‘the lot’). The lot is part of the larger Cape Vizcaino property (Property) and is owned by Save the Redwoods League (Figure 1). NCRM, Inc. (NCRM) botanist, Laura Moreno-Baker, surveyed for special-status plants and communities within the project vicinity in January and May of 2024; NCRM biologist, Ben Cook, surveyed for special-status wildlife species and associated habitat in January of 2024.

Surveys were conducted in accordance with a Coastal Development Permit (CDP) application, which is required before undertaking any development activity in the Coastal Zone (Chapter 3, Coastal Act). The removal of a rectangular rigid-frame prefabricated steel barracks building would be considered a parcel development under the Coastal Act (Section 30106); however, reviewing the potential impacts to sensitive or special-status species and their associated habitat is required in support of the CDP application.

Removal of existing vegetation and the use of heavy machinery could pose a temporary disturbance to three special-status plant species on the scoping list having “moderate” potential to occur and five special-status species having “high” potential to occur. No sensitive or special-status wildlife species were observed during surveys, but nine wildlife species on the scoping list have “moderate” potential to occur, while one species with “high” potential to occur (see Appendix A and Appendix B for species and communities with potential for occurrence). Following the included recommendations and mitigation measures, this project is unlikely to adversely affect any of these wildlife or botanical species. This project will not likely result in the disturbance of an Environmentally Sensitive Habitat Area (ESHA).

## 2.0 Project Location

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Cape Vizcaino is made up of approximately 402 acres located in Sections 25, 26, 35, and 36 in T22N, R18W, M.D.B.&M. located in Mendocino County, CA. The Property is further identified using Mendocino County assessor’s parcel numbers: 013-410-14, 013-410-21, 013-410-22, 013-410-29, and 013-410-30. The Property lies north of Fort Bragg along the Pacific Ocean approximately 2.7 miles north of Rockport, CA, and is within the Westport 7.5’ USGS Quadrangle. The lot is located on the southern face of Cottaneva Ridge, north of the mouth of Hardy Creek (see Figure 1).

## 3.0 Project Description



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The proposed activities include the demolition and removal of the barracks building that is 22 feet wide, 55 feet long, and stands approximately 12 feet tall. In addition to the demolition, electrical upgrades are proposed to restore power to the mess hall located south of the barracks (Figure 2). Currently, the mess hall electricity is supplied via subpanels attached to the barrack. To reinstall power to the mess hall, the applicant plans to relocate the subpanels and bury approximately 315 linear feet of two-inch conduit (Figure 2).

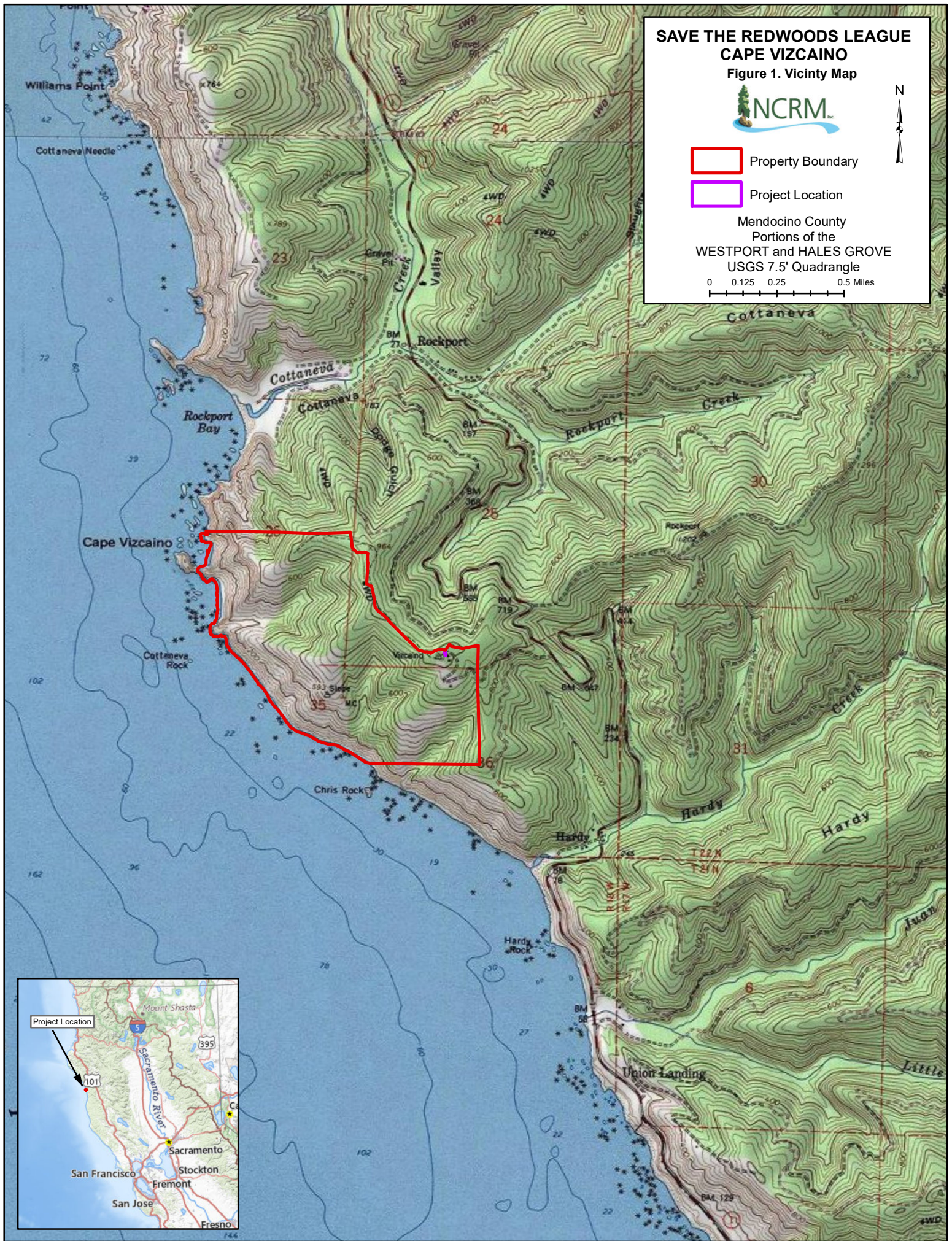
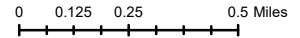
# SAVE THE REDWOODS LEAGUE CAPE VIZCAINO

Figure 1. Vicinity Map



-  Property Boundary
-  Project Location

Mendocino County  
Portions of the  
WESTPORT and HALES GROVE  
USGS 7.5' Quadrangle

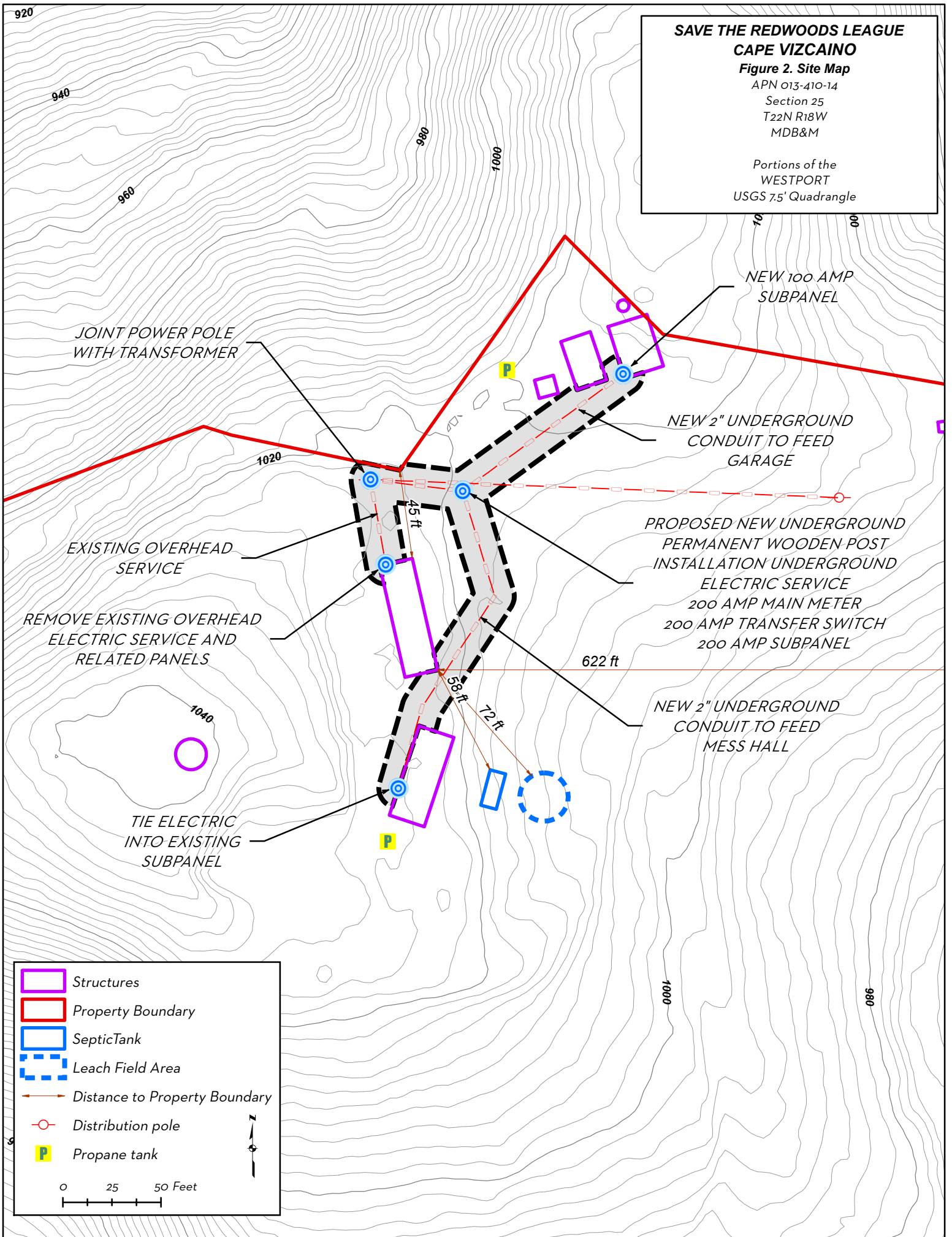









**SAVE THE REDWOODS LEAGUE  
CAPE VIZCAINO**

**Figure 2. Site Map**

APN 013-410-14  
Section 25  
T22N R18W  
MDB&M

Portions of the  
WESTPORT  
USGS 7.5' Quadrangle



-  Structures
-  Property Boundary
-  Septic Tank
-  Leach Field Area
-  Distance to Property Boundary
-  Distribution pole
-  Propane tank

0 25 50 Feet



The total work area spans approximately 8,951 square feet. The phases of this project will be broken down into 1) removal of salvageable materials from residences, 2) electrical changes, 3) demolition of structures, and 4) restoration of disturbed areas in the form of seeding and revegetating. Large machinery, including the use of an excavator and dump trucks, will likely be used to break down the structures and remove debris. All resulting debris and materials will be hauled off-site to a certified landfill.

## 4.0 Biological Setting

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### 4.1 Watershed

The Property sits atop the southern slope of the divide between Cottaneva Creek to the north and Hardy Creek to the south, at an elevation of approximately 328 feet above sea level. Cottaneva Creek watershed is home to populations of Northern California steelhead (*Oncorhynchus mykiss irideus*) and coho (*Oncorhynchus kisutch*). The National Marine Fisheries Service (NMFS) has designated Critical Habitat for steelhead within the South Fork of Cottaneva Creek. Hardy Creek, a tributary to the Pacific Ocean, shares similarities with Cottaneva Creek, but there is no designated Critical Habitat for either listed salmonid.

In 1997, a survey conducted by the California Department of Fish and Wildlife (CDFW) at the confluence of Hardy Creek, Middle Fork Hardy, and North Fork Creek, results yielded significant salmonid findings. The site revealed the presence of 36 steelhead (CDFW 1997). Subsequent electrofishing in 2009 at Middle Fork Hardy uncovered 24 young-of-the-year steelhead and four juvenile steelhead (CDFW 2009).

#### 4.1.1 Wetlands

Forested and scrub-shrub freshwater wetland habitat classified as PSS1C (Palustrine (P), scrub-shrub (SS), Broad-leaved Deciduous (1), seasonally flooded (C)) was identified approximately 950 feet away from the project area, buffering an unnamed tributary to the Pacific Ocean. The proposed operations will not have any impact on these wetlands.

### 4.2 Vegetation Communities

The lot exists within North Coast coniferous forest habitat, made up of redwood (*Sequoia sempervirens*), Douglas fir (*Pseudotsuga menziesii*), and grand fir (*Abies grandis*). The immediate perimeter surrounding the infrastructure is mostly herbaceous and made up of penny royal (*Mentha pulegium*), plantago (*Plantago lanceolata*), milk maids (*Cardamine californica*), modesty (*Whipplea modesta*), iris (*Iris douglasiana*), and sorrel (*Oxalis oregana*). The property is situated in a mountainous, maritime-influenced region that supports rich coniferous and hardwood forests. The natural community within the lot is classified as the *Sequoia sempervirens* (redwood) Forest & Woodland Alliance (S3, G3).

Other common mid-canopy woody plants and tall herbaceous perennials present on the lot include ferns (*Polystichum munitum* and *Pteridium aquilinum*), blackberry (*Rubus ursinus*), salal (*Gaultheria shallon*), and American stinging-nettle (*Urtica dioica* subsp. *gracilis*). The shady understory supports a diverse array of herbaceous species and could be conducive to populations of Humboldt County milk-vetch (*Astragalus agnicides*), a CRPR (California Rare Plant Rank) 1B.1 listed species; redwood lily (*Lilium rubescens*), a CRPR 4.2 listed species; heart-leaved twayblade (*Listera cordata*), a CRPR 4.2 species; and white-flowered rein orchid (*Piperia candida*), a CRPR 1B.2 species. See Appendix A below for definitions of rare plant ranks.

### **4.3 Climate**

The Property experiences climatic conditions typical of a Mediterranean climate, with cool wet winters and warm dry summers. Daytime low temperatures are in the 40's throughout the year. Daytime high temperatures range from the mid 50's during winter to high 60's in the summer months. Most of the precipitation across the region is generated between the months of October and April by a westerly flow of moist air off the Pacific Ocean. Most precipitation comes in the form of rain during the winter months, averaging approximately 40 inches annually. Cape Vizcaino's proximity to the ocean gives it typical exposure to the coastal fog moisture influence that is characteristic of many redwood forests.

### **4.4 Soils and Geology**

Geologic mapping of the region indicates that the Property is underlain by the Coastal Belt Franciscan Complex (Kelley 1984). In general, the Coastal Belt Franciscan Complex consists of greywacke sandstone and shale sequences that display varying degrees of deformation. Geology within the region has been formed over the past 25 million years through tectonic activity along the nearby San Andreas Fault. The fault runs north approximately eight miles west of the Property. South of the Property, the San Andreas fault turns inland around the town of Gualala and then returns offshore around Point Arena. The fault then again returns inland near Cape Mendocino forming the Mendocino Triple Junction. Repeated generations of folding, faulting, uplift, and subsidence have created a landscape with heterogeneous bedrock and fault-controlled run-off patterns. The area east of the San Andreas fault, including the Property, is part of the Franciscan Assemblage which makes up a large portion of the Coast Range. These rocks originate from deep ocean sediments that were scraped off the Pacific plate as it was subducted under the North American plate 100-150 million years ago. The property itself is underlain by sandstone and greenstone bedrock of the Franciscan Complex (Bailey, et al. 1964).



## 5.0 Survey Methodology

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### 5.1 Scoping

In February 2024, the following literature and database searches were reviewed or completed to assess the potential for sensitive natural communities and special-status species:

- USDA Soil Survey Report for Mendocino County, California (Data Version 18, 2024)
- California Natural Diversity Database (CDFW 2024)
- California Native Plant Society Electronic Inventory (CNPS 2024)
- National Wetlands Inventory (USFWS, 2024)
- Information of Planning and Consultation (USFWS, 2024)

Scoping lists and database searches (i.e., CNDDDB, CNPS) were based on a five-mile radius of the lot, including the Westport, Hales Grove, Lincoln Ridge, and Leggett 7.5' USGS quadrangles. Pelagic wildlife species were excluded from the scoping list due to the lack of suitable habitat near the lot. A desktop review evaluated the potential presence of suitable habitats for special-status species, as well as past observations of certain species. Suitable habitat conditions are based on the physical and biological conditions of the site. The potential for each special-status species to occur in proposed demolition areas was ranked based on the following criteria:

- **None.** No habitat components meeting the specific requirements are present (such as coastal marsh or coastal dunes) in the vicinity of the Project.
- **Unlikely.** Few to none of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.
- **Moderate.** Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
- **High.** All the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.
- **Present.** Species was observed on the site or have been recorded (database observation) on the site in the recent past.

### 5.2 Surveys

Botanical surveys were conducted within the lot and the surrounding vicinity on January 24 and May 28, 2024, by botanist, Laura Moreno-Baker. The survey methodology involved traversing habitats conducive to special-status species within and adjacent to the project area.

Wildlife biologist, Ben Cook, conducted biological surveys around the lot on January 24<sup>th</sup>, 2024, to assess existing biological conditions and the potential presence of special-status species and their habitats. Surveys consisted of an inventory of species observed, track and sign identification, as well as evaluations of all habitats within the proposed demolition area. These observations along with this year's field observations from nearby locations are documented in Appendix C. The site visit utilized the scoping lists in Appendices A and B, and the survey was conducted within the proximity of the lot.

NCRM has a longstanding history of conducting wildlife surveys, including a comprehensive study on the use of basal hollows by bats at Cape Vizcaino between April 2016 and August 2017 (NCRM 2020). This research involved species identification through genetic testing of guano. Of the twelve

hollows surveyed on the property, ten had guano present, predominantly from the California myotis (*Myotis californicus*), while two basal hollows were dominated by the Townsend's big-eared bat (*Corynorhinus townsendii*) guano presence. Other bat species identified at Cape Vizcaino from the guano testing included the fringed/western long-eared bat (*Myotis evotis*), long-legged myotis (*Myotis volans*), big brown bat (*Eptesicus fuscus*), hoary bat (*Lasiurus cinereus*), and silver-haired bat (*Lasionycteris noctivagans*). Notably, Cape Vizcaino exhibited low bat abundance in both summer and winter compared to other surveyed locations. In addition to bat studies, NCRM has been conducting northern spotted owl surveys for approximately ten years, with a call point located at the proposed demolition site. Despite regular surveys since 2014, no northern spotted owls have been documented within the property. Northern spotted owls have been detected within 0.7-mile buffer of the known Activity Center MEN 0576 toward the north and MEN 0434 in the south end of the property (Figure 4).

### 5.3 Reference Populations

The CNDDDB *RareFind 5* and *BIOS 6* tools, as well as past assessments (e.g., Timber Harvest Plans, Forest Management Plan, etc.), were utilized to locate reported rare plant populations in or adjacent to the lot (CDFW 2024a, CDFW 2024b, CalTREES 2024). Reference sites are used to identify rare species likely to occur within a project site and can serve to observe important plant characteristics and identify the potential for flower characteristics at the time of the survey.

## 6.0 Results

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### 6.1 Natural Communities

One Sensitive Natural Community included in the scoping list, North Central Coast Fall-Run Steelhead Stream, was deemed as having no potential to exist within the lot, due to the lack of watercourses. The nearest watercourse that would support the steelhead is Hardy Creek and Cottaneva Creek.

### 6.2 Special-Status Plants

Out of the 42 special-status plant species included in the scoping list, eight species were determined to have a “moderate” to “high” potential to exist within the lot. Below is a description of the rationale used for the species with a “moderate” to “high” likelihood, limited to those with state or federally listed status or listed by the California Native Plant Society (CNPS) in categories 1A, 1B, 2A, 2B, or 3. This limited analysis excludes the following four species as they do not meet the definition of rare or endangered under CEQA Guidelines (see Section 7.1): broad-lobed leptosiphon (*Leptosiphon latisectus*, CRPR 4.3, G4, S4), heart-leaved twayblade (*Listera cordata*, CRPR 4.2, G3, S3), Methuselah's beard lichen (*Usnea longissima*, CRPR 4.2, G4, S4). One CRPR 4.2 species, categorized as having “high” potential to occur, redwood lily (*Lilium rubescens*), was included below because it was found within the project footprint. No special-status species listed in Appendix A, or otherwise, were observed during surveys.

#### 6.2.1 “Moderate” Potential

Small groundcone (*Kopsiopsis hookeri*, CRPR 2B.3) was thought to have a “moderate” likelihood of occurring in the project vicinity given the plant's wide range and the presence of suitable habitat. It is a perennial rhizomatous herb that is known to flower from April to August. According to the CNPS Rare Plant Inventory, this species is known to parasitize salal (*Gaultheria shallon*) and huckleberry (*Vaccinium* spp.), both of which are present in the project area. No observations were made during surveys nor have any past observations been reported in or near the project area.

Robust false lupine (*Thermopsis robusta*, CRPR 1B.2) was categorized as having “moderate” potential to occur given the presence of suitable habitat and the proximity of a recent observation in 2019 by Heather Morrison, approximately five miles north-northeast of the project area. Robust false lupine is a perennial rhizomatous herb that flowers from May to July. No observations were made while surveying.

### 6.2.2 “High” Potential

Humboldt County milk-vetch (*Astragalus agnicidus*) was thought to have “high” potential to occur given the presence of suitable habitat and the proximity of CNDDDB occurrences approximately 2 miles east of the project area. This perennial herb is known to thrive in disturbed openings and roadsides within coniferous forest. The blooming window occurs between April and September. No observations were made while surveying.

White-flowered rein orchid (*Piperia candida*) was thought to have “high” potential to occur given the presence of suitable habitat. The blooming window for this species occurs between May and September. No observations were made while surveying.

Redwood lily (*Lilium rubescens*, CRPR 4.2) was found within the project footprint. Redwood lily is a perennial bulbiferous herb that flowers from April to August. Redwood lily generally occurs in dry soils within chaparral conifer forest habitats and is ranked as a CRPR 4.2, G3, S3 special-status plant species by CNPS and CNDDDB. CRPR 4.2 plants are of limited distribution and are moderately threatened in California; their status should be monitored regularly. The global and state rank, G3/S3, denotes plants that are vulnerable and at moderate risk of extinction or elimination.



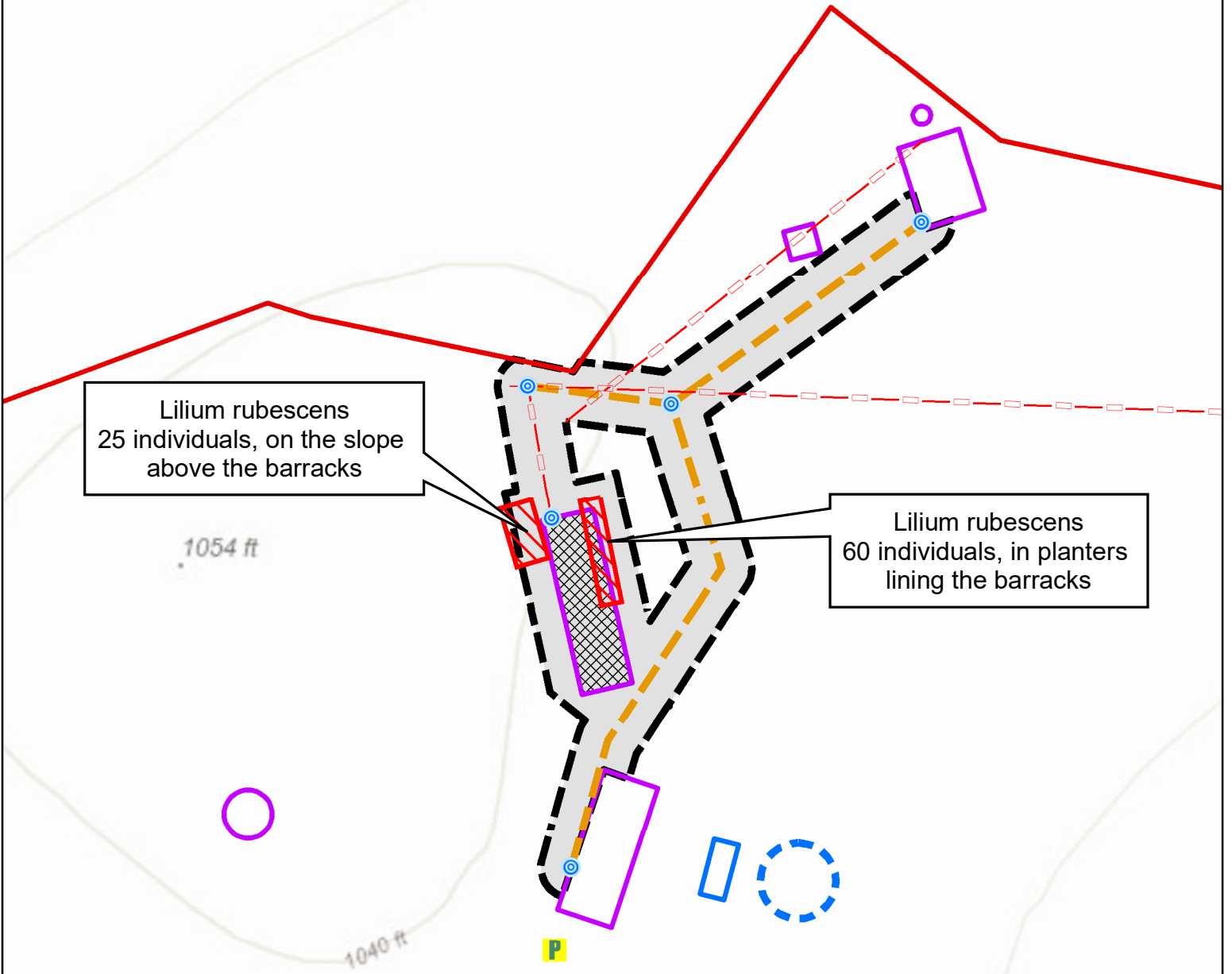
Photo 1. Redwood lily photographed near the barracks on July 8th, 2021, by Tori Perreault.

Approximately 85 lilies were observed within and around the planters lining the outside of the barracks proposed for demolition (Figure 3, Lily Locations Map). These lilies were not yet blooming, however vegetative characteristics were evaluated. Upon consulting with the stewards of this property, Tori Perreault and Lhasa Summers, who routinely visit the work area and assist with botanical surveys, the lilies were confirmed as redwood lilies (see Photo 1). Additionally, these lilies were observed in other areas of the Cape Vizcaino property that are not within the project area. Mrs. Moreno-Baker counted approximately 90 additional redwood lilies along the main road running through the property. It is thought that the population throughout the Cape Vizcaino property is larger than what was observed.

**SAVE THE REDWOODS LEAGUE  
CAPE VIZCAINO**

**Demolition/Electrical Relocation  
Figure 3. Lily Location Map**

Portions of the  
WESTPORT  
USGS 7.5' Quadrangle



Lilium rubescens  
25 individuals, on the slope  
above the barracks

Lilium rubescens  
60 individuals, in planters  
lining the barracks

Work Area	Existing Overhead Service
Removal of Barracks	Proposed Underground Service
Structures	Distribution pole
Property Boundary	Propane tank
Septic Tank	Lily Locations
Leach Field Area	

0 25 50 Feet

### 6.3 Special-Status Vertebrates and Invertebrates

A total of 23 sensitive vertebrate and invertebrate species were identified during the scoping for sensitive species. Seven of these species are federally listed (FESA), and two additional species are state listed as “candidate endangered” species (CESA). The remaining species on the scoping list are all considered species of special concern (SSC) by state or federal agencies. Although 23 species have either been identified in the scoping area in the past or have the potential to occur within it (CNDDDB 2024), no species on the list were observed during the wildlife survey. Of the 23 species identified by the CNDDDB (2024), six have no potential for occurring, four are unlikely to occur, nine have a moderate potential of occurring, one has high potential for occurrence, and three are considered present on the property. Because there is potential for 13 SSC to occur in the surrounding area, we have detailed those species below and mitigation measures for potential impacts are included in Section 8.0.

#### 6.3.1 Birds

During the wildlife survey, no bird species were identified that would be directly impacted by the demolition. Although no bird species from the scoping list were observed during our survey, we believe that one species has a “high” potential of occurring adjacent to the lot while two species were noted to be “present” near or around the lot.

One species with “high” potential to occur is, the federally listed as threatened and state listed as endangered, marbled murrelet (*Brachyramphus marmoratus*). No marbled murrelet (MAMU) detections were made during 2022 and 2023 protocol-level surveys that NCRM conducted on nearby properties, Cape Vizcaino does have some late seral trees and proximity to the ocean that could support nesting MAMUs. Four areas off property and north of Cape Vizcaino have been designated as MAMU habitat stands by CDFW through past NTMP consultations (Figure 4). The closest designated MAMU area is approximately 1.2 miles north of the proposed demolition site. MAMU surveys were conducted on the property in 2014 and 2015 resulting in no detections. MAMUs require old-growth forests with multiple canopy layers and moderate to high canopy closure. These specific characteristics are not present within the demolition footprint.

One species that was given a “present” occupation status that is both federal and state listed as threatened, is the northern spotted owl (*Strix occidentalis caurina*). Cape Vizcaino has two known northern spotted owl Activity Centers within a 0.7-mile radius around the Property (Figure 4). NCRM has conducted protocol-level spotted owl surveys on the Property since 2014. In the latest 2024 survey, two barred owls were observed north of the property near call point 3, while no northern spotted owls were detected within the property.

Northern spotted owls depend on both foraging and nesting habitats to survive and reproduce successfully. Foraging habitat contains over 40% canopy cover of trees that are 11 inches or greater in diameter and have a basal area that is greater than or equal to 75 square feet per acre of trees (11 inches or greater in diameter). Nesting and roosting habitat has over 60% canopy cover of trees that are greater than or equal to 11 inches in diameter and yet also have a basal area greater than or equal to 100 square feet per acre of trees (11 inches or greater in diameter). Northern spotted owls are particularly vulnerable to disturbance during their breeding season,

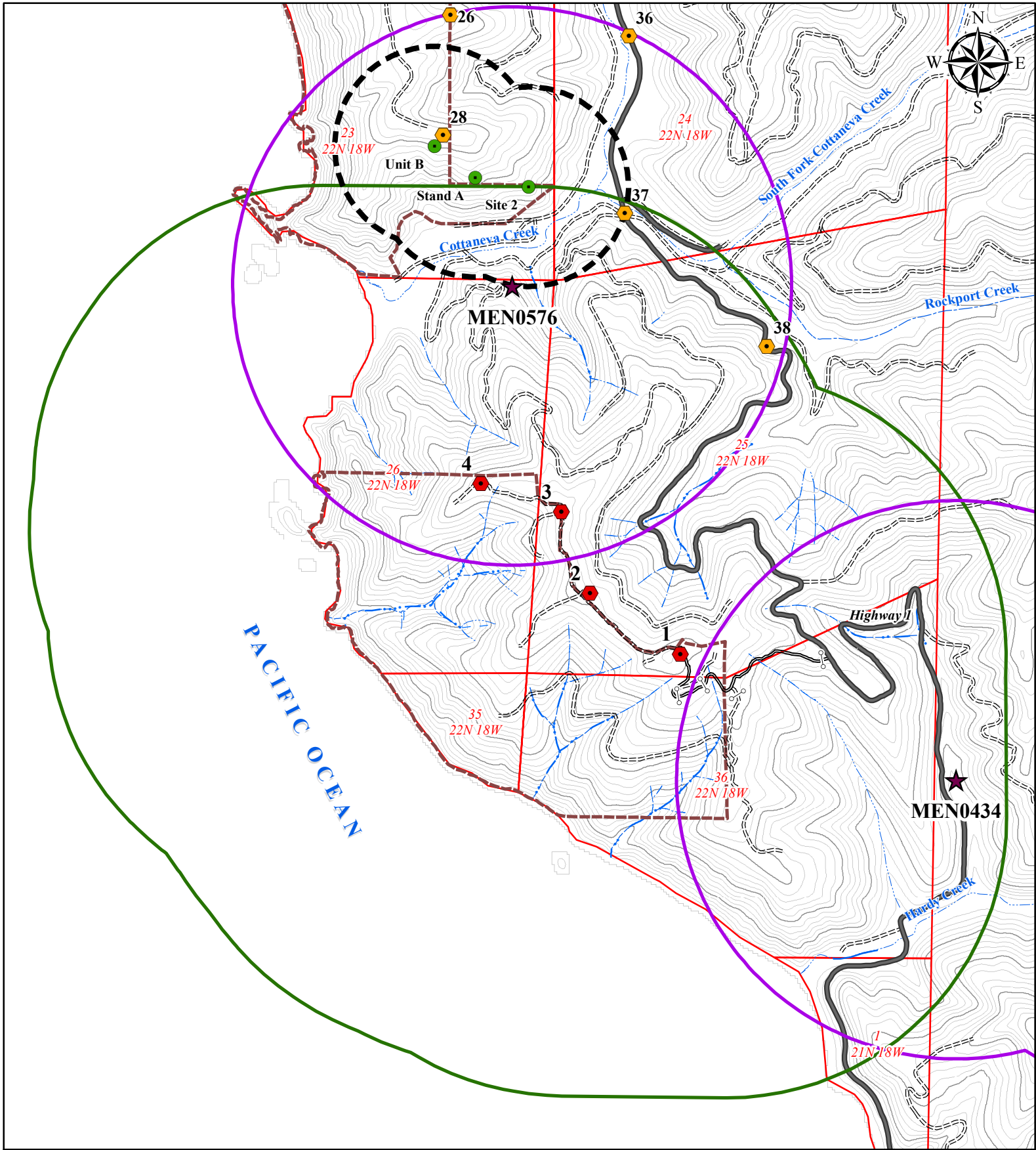


Figure 4. Map of CDFW designated MAMU habitat and the known spotted owl Activity Centers

**SRL- Cape Viziano**

Portions of Sections 25, 26, 35 & 36,  
T22N, R18W, Westport 7.5' USGS



0 0.15 0.3 0.6 Miles

1:20,000/ 1 inch = 1,667 feet

- ★ NSO Activity Center
- Potential MAMU Habitat Stands (Historic)
- ◆ NSO Call Points (Cape Viz)
- ◆ NSO Call Points (LCR)
- Potential MAMU Habitat Buffer (0.25 Mile)
- NSO AC Buffer (0.7mi)
- Cape Vizcaino Buffer (0.7mi)
- SRL Property Boundary

between February 1 and July 31<sup>1</sup>. Northern spotted owls have been documented to occupy nearby forested habitat, but the Project's proposed operations will not alter habitat and potential disturbance would be limited to noise during a short window of time. Following the guidance of USFWS's "Northern Spotted Owl Survey Protocol, 2012 revision" (2012; Section 9.0), this project would be categorized as a disturbance-only. Adequate surveys have already been conducted to determine the minimal chance of a noise-based take.

Another raptor species which is known to be "present" but not nesting on the property is the osprey (*Pandion haliaetus*), which is a state species of special concern. There is an established osprey nest located approximately two miles north of the lot. There is also documentation of osprey using the Cottaneva Creek outlet in July 2023 as well as August 2024. The proposed operations are not likely to affect the osprey habitat, as large trees with nesting potential will not be removed.

### 6.3.2 Mammals

Cape Vizcaino is home to numerous terrestrial mammals including mountain lion (*Puma concolor*), black-tailed deer (*Odocoileus hemionus*), racoon (*Procyon lotor*), coyote (*Canus latrans*), gray fox (*Urocyon cinereoargenteus*), dusky-footed woodrat (*Neotoma fuscipes*), western gray squirrel (*Sciurus griseus*), brush rabbit (*Sylvilagus bachmani*), black-tailed jack rabbit (*Lepus californicus*), bobcat (*Lynx rufus*), Roosevelt elk (*Cervus elaphus roosevelti*), and California black bear (*Ursus americanus californiensis*).

The scoping effort resulted in four sensitive mammal species that have potential to occur in the vicinity. Of the four, three have been determined to have a moderate chance of occurring within or adjacent to proposed development areas: Pacific fisher (*Pekania pennanti*), Sonoma tree vole (*Arborimus pomo*), and North American porcupine (*Erethizon dorsatum*).

Due to the Pacific fisher's historical range encompassing the area as well as their preference for coniferous old growth forests, it is determined to have a moderate chance of occurring in the Property. The Pacific fisher is currently listed as a U.S. Forest Service sensitive species and a CDFW SSC due to habitat loss, fragmentation, and other environmental pressures. This elusive member of the weasel family primarily inhabits dense, mature forests with a complex understory and abundant canopy cover. Preferred habitats include mixed coniferous and hardwood forests, often characterized by significant amounts of standing and fallen dead wood, which provide essential denning sites and protection from predators. The nearest known location is approximately 13 miles southeast of the property (CNDDDB 2024b).

The Sonoma tree vole is currently listed as an IUCN near threatened species and a CDFW SSC, reflecting its vulnerable status due to habitat loss and fragmentation. This small, arboreal rodent is primarily found in the coastal forests of northern California, where it exhibits a strong preference for old-growth and mature Douglas-fir forests. These forests provide the essential structure and food resources that the voles need, as they spend most of their lives in the canopy, feeding on the needles of Douglas-fir, grand fir (*Abies grandis*), and Sitka spruce (*Picea sitchensis*). TDue to the presence of mature Douglas-fir in the area, there is a moderate chance of Sonoma tree voles occurring. According to CNDDDB (2024b), one nest was observed in 1997, one mile east of Highway 1 north of Wages Creek, at the mouth of Jimmy Gulch which is five miles south of the property. The proposed operations will not remove any trees; therefore, the

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<sup>1</sup> This is the breeding season for the coast redwood ecotype found in the Coastal District of California.

disturbance would be limited to noise.

According to CNDDDB (2024), the last North American porcupine documented to have occurred in the area was in 1959. The existing range within California has been the center of much debate and conflicting data (Appel, et al., 2017). The North American porcupine is not currently listed as a threatened or endangered species; it is considered of least concern by IUCN. This distinctive mammal is highly adaptable and can be found in a variety of habitats across its range, which includes much of the United States, Canada, and northern Mexico. Preferred habitats include mixed forests, coniferous and deciduous woodlands, and shrublands. Porcupines are also known to inhabit areas with ample tree cover, as they rely on trees for food, shelter, and protection from predators. They feed on a variety of vegetation, including leaves, twigs, bark, and evergreen needles, and they sometimes venture into more open habitats in search of food. Porcupines prefer coniferous forests and mixed woodland habitat; therefore, they would have a moderate chance of occurring within the project area.

The Townsend's big-eared bat (*Corynorhinus townsendii*) is currently listed as a CDFW SSC and an IUCN species of least concern, largely due to habitat loss and disturbance of its roosting sites. This species has a “present” status for its chance of occurring around the project area in the abandoned buildings. This bat is highly dependent on specific habitats, primarily favoring caves, old mine shafts, and abandoned buildings for roosting and hibernation. They are also found in a range of forested environments, including deciduous and coniferous forests, as well as arid desert scrub and riparian zones. They prefer habitats that offer ample roosting opportunities and are near open spaces where they can forage for insects. The Townsend's big-eared bat was also determined to have a high chance of occurring in the vicinity. In 2017 and 2018, Townsend's big-eared bats were documented in basal hollows of large trees located on the property. This species typically roosts during the summer when they form maternity colonies that can grow to over 100 individuals (Kunz and Martin 1982). During our survey no bats were observed currently occupying the work site. No scat or sign was discovered which would have been evidence of their previous occupation.

### **6.3.3 Reptiles and Amphibians**

No reptiles or amphibians were documented during the survey. The scoping list from CNDDDB includes five amphibian species in the vicinity, but due to the lack of amphibian preferred habitat near the lot, there is an “unlikely” potential for the following SSC to occur: foothill yellow-legged frog (*Rana boylei*) North Coast Distinct Population Segment (DPS) and the Pacific tailed frog (*Ascaphus truei*). Of the remaining species, three have “moderate” potential to occur which include: northern red-legged frog (*Rana aurora*), red-bellied newt (*Taricha rivularis*), and the southern torrent salamander (*Rhyacotriton variegatus*). The closest watercourse to the lot is approximately 350 feet away from the proposed work and will not likely result in permanent impacts to the special status species habitat.

The northern red-legged frog is currently listed as a CDFW SSC in various parts of its range, reflecting concerns over habitat loss, degradation, and fragmentation. This amphibian is typically found inhabiting moist, forested areas, particularly those with abundant vegetation and still or slow-moving water bodies such as ponds, marshes, and streams. They prefer habitats with dense riparian cover, which provides essential shelter and breeding sites. The presence of clean, freshwater ecosystems is crucial for their survival, as they rely on these environments for laying eggs and the development of tadpoles. Although the project is not expected to impact bodies of water, this species is known to range beyond aquatic environments, resulting in a



"moderate" possibility of occurrence and some potential for impact

The red-bellied newt is currently listed as a CDFW SSC due to habitat loss, water pollution, and the impacts of climate change. This striking amphibian is endemic to the coastal regions of northern California, where it prefers moist, forested environments, particularly those in proximity to clean, fast-flowing streams. These streams are crucial for their breeding and larval development, while the surrounding forest provides shelter and feeding grounds. The red-bellied newt relies on a combination of aquatic and terrestrial habitats, migrating between them seasonally. Although the project is not expected to impact bodies of water, this species is known to range beyond aquatic environments, resulting in a "moderate" possibility of occurrence, and therefore some potential to impact individuals.

The southern torrent salamander is currently listed as a CDFW SSC to its limited range and the ongoing threats of habitat loss and degradation. This small, semi-aquatic salamander is endemic to the coastal forests of northern California and southern Oregon. It prefers cold, clear, fast-flowing streams and seepages in old-growth and mature second-growth coniferous forests. These pristine aquatic habitats, often characterized by a dense canopy cover and minimal sedimentation, are crucial for their survival as they provide essential breeding and foraging grounds. Although the project is not expected to impact bodies of water, this species is known to range beyond aquatic environments, resulting in a "moderate" possibility of occurrence. CNDDDB (2024b) has identified southern torrent salamanders approximately 300 feet from the project site.

#### **6.3.4 Fish**

The Property is located within the Northern California/Southern Oregon Coast Evolutionary Significant Unit (ESU) for coho salmon and the Northern California ESU for steelhead. These ESUs are listed as endangered and threatened under both the ESA and the CESA. Cottaneva Creek, which runs about a mile north of the barracks, across Highway 1, is considered Critical Habitat for both species by the National Marine Fisheries Service (NMFS 2009) and USFWS (1997). There are small Class III watercourses located on the Property, which are not suitable fish habitat and are not located near the lot; therefore, it was determined that no sensitive fish species would occur within the demolition footprint.

#### **6.3.5 Invertebrates**

The two mollusk species identified on our scoping list are the California floater (*Anodonta californiensis*) and western pearlshell (*Margaritifera falcata*), both are not expected to occur within the work site due to a lack of available habitat. Potential habitat for mollusk species on the scoping list included only the Class I watercourse, which is not present near the lot.

Of the four insect species on the scoping list, there is a moderate chance that three could occupy the demolition footprint. Crotch bumble bee (*Bombus crotchii*), obscure bumble bee (*Bombus caliginosus*), and the western bubble bee (*Bombus occidentalis*) all prefer grasslands and open prairies. Because there is a small meadow adjacent to the worksite which would meet some of the habitat needs for these species, along with an overlap of the species historic range, there is a moderate chance of occurring near the worksite.

## **7.0 Discussion**

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### **7.1 Potential Impacts**

The only SSC plant observed in the project area was the redwood lily. CRPR 4 plant taxa are of limited distribution throughout California and their vulnerability or susceptibility to threat typically appears low. While avoidance is generally recommended for CRPR 4 plants, strict mitigation is only required if the taxa meet the definition of rare or endangered under CEQA Guidelines. According to a 2020 Technical Memorandum adopted by the CNPS Rare Plant Program, *Considerations for Including CRPR 4 Plant Taxa in CEQA Biological Resource Impact Analysis*, only taxa that, “can be shown to meet the criteria for endangered, rare, or threatened status under CEQA Section 15380(d) or that can be shown to be regionally rare or unique as defined in CEQA Section 15125(c)”, require full analysis. Redwood lily does not meet these requirements based on Calflora observation data; therefore, no mitigations are recommended at this time.

Based on the proposed limited scope of work, we do not foresee any significant impacts on sensitive wildlife species from the Project. Very little work will occur outside of the existing footprints, such that the only biological resources that could be impacted, are terrestrial wildlife species that move into the demolition area during the limited work period, which would include roosting bats, migrating amphibians, or nesting birds within or immediately adjacent to the proposed development areas.

## **8.0 Recommendations and Mitigations**

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Because potential impacts to plant and wildlife species are almost exclusively limited to short-term temporal impacts in the existing worksite footprint surrounding the structure set for removal, it is unlikely that any sensitive or SSC may occur in the project footprint and unlikely that they will be impacted by the Project.

To mitigate excessive impacts to all surrounding vegetation, we recommend the following avoidance and minimization recommendations:

- All construction vehicles utilize only existing footprints or roadways.
- Maximize the preservation of existing vegetation by marking project area boundaries and any protected areas.
- Instruct employees and subcontractors to honor project boundaries and prohibit access of heavy equipment, vehicular traffic or storage of construction materials within the protected areas

In addition to vegetation protection, the following measures are recommended:

- Pre-construction surveys for nesting birds and roosting bats should take place no sooner than one week before work begins.
- If operations occur during the nesting bird season (February 15<sup>th</sup> -August 15<sup>th</sup>), a nesting bird survey should take place at the work site.
- Bat mitigation plan:
  - Demolition shall be conducted outside of pupping season (June-August).
  - Demolition shall occur during daylight hours to limit construction noise and artificial light.
  - Demolition will be incremental with disassembling small portions of the roof structure first. This will create a disturbance and an undesirable roost site, allowing any roosting bats to vacate the premises prior to the complete demolition of the structure.
  - Prior to demolition of the structure, a bat survey shall be conducted by a qualified biologist. The bat survey will involve surveying the structure for evidence of bat use (guano accumulation, ammonia odor, grease-stained cavities). If an active roost site is

found, the biologist will conduct acoustic surveys using an acoustic detector to determine whether a site is occupied. All positive results will be submitted to the Department of Planning & Building Services prior to demolition. If evidence of bat use is not found, then the work will proceed.

- If an active pupping colony is observed, a 100-foot exclusion zone shall be established around the roost site. Demolition and/or ground disturbance shall not occur within the exclusion zone until all young are no longer dependent upon the roost. If no dependent pups are present, bats will be gently flushed out from the structures prior to demolition, incentivizing relocation.
- Installation of three bat boxes to accommodate for loss of potential habitat.
- Amphibian mitigation measures:
  - Pre-construction surveys for amphibians should take place immediately before disturbance.
  - Consider salvage and translocation of individuals found within the project footprint to suitable nearby habitats. This should be conducted by qualified biologists using appropriate protocols.
  - Implement sediment and erosion control measures to prevent runoff and sedimentation into nearby water bodies where these species may reside or breed.

## 9.0 References

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Appel, 2017

Bailey, E.H., W.P. Irwin, and W.L. Jones. 1964. *Franciscan and related rocks and their significance in the geology of western California*. California Division of Mines and Geology, v. 183 p. 15-17.

Baldwin, B.G., Goldman, D.H., Keil, D.J., Patterson, R., Rosatti, T.J., Wilken, D.H. 2012. *The Jepson Manual Vascular Plants of California*. University of California Press, Berkeley, CA. California Department of Fish and Game.

Calflora: Information on California plants for education, research, and conservation. 2024. Berkeley, California: The Calflora Database. Accessed online at <https://www.calflora.org/>.

California Natural Diversity Database (CNDDDB). 2024a. California Department of Fish and Wildlife, Biogeographic Data Branch. RareFind Version 5.3.0.

California Natural Diversity Database (CNDDDB). 2024b. California Department of Fish and Wildlife, Biogeographic Data Branch. BIOS6 Version 6.23.1018.

California Department of Fish and Game (CDFG). 2018. Protocols for Surveying and Evaluating Impacts to Special-status Native Plant Populations and Sensitive Natural Communities. The Resource Agency, Sacramento, CA.

California Department of Fish and Game. 2010. California Terrestrial Natural Communities List. Biogeographic Data Branch.  
<https://wildlife.ca.gov/Data/VegCAMP/Natural-Communities#natural%20communities%20lists>

California Department of Fish and Game. 2009. Stream Inventory Report: Middle Fork Hardly Creek.

California Department of Fish and Game. 1997. Steam Inventory Report: Hardy Creek.

California Invasive Plant Council (Cal-IPC), 2015. California Invasive Plant Inventory Database. <http://www.cal-ipc.org/pdf/>

California Native Plant Society (CNPS), Rare Plant Program. 2024. Rare Plant Inventory (online edition, v9.5). Website <https://www.rareplants.cnps.org> [accessed 1 November 2023].

California Native Plant Society, Rare Plant Program. 2024. Rare Plant Inventory (online edition, v9.5). Website <https://www.rareplants.cnps.org> [accessed 1 March 2024].

CNPS. 2024. *A Manual of California Vegetation*. Online Edition. <http://www.cnps.org/cnps/vegetation/>; searched on November 1, 2023. California Native Plant Society, Sacramento, CA.

California Native Plant Society. 2020. *Rare Plant Program. Memo. Considerations For Including CRPR 4 Plant Taxa In CEQA Biological Resource Impact Analysis*.

CalPhotos Database. 2007. University of California, Berkeley. Accessed online at

<https://calphotos.berkeley.edu/flora/>.

CalTREES Database. 2024. State of California – Calfire. Accessed online at <https://caltreesplans.resources.ca.gov/caltrees/>

Holland, Robert F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. California Department of Fish and Game. Sacramento, California.

Kelley, F.R. 1984. Geology and Geomorphic Features Related to Landsliding, Hales Grove 7.5' Quadrangle, Mendocino County, California. DMG Open-File Report 84-15, scale 1:24,000.

Kunz, T., and R. Martin. 1982. *Plecotus townsendii*. Mammalian Species, 175: 1-6. Accessed October 10, 2023 at <http://www.science.smith.edu/departments/Biology/VHAYSSSEN/msi/default.html>.

National Marine Fisheries Service (NMFS) – Southwest Region (SWR) Habitat Conservation Division (HCD). 2009. Watershed Characterization – Cottaneva Creek Watershed. Accessed online at <https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=c0e2ee3a107ca76b2c6729430bedd0a24738998a>

National Wetlands Inventory (NWI) – Surface Waters and Wetlands. US Fish and Wildlife Service (USFWS) – Accessed online in 2024 at <https://www.fws.gov/program/national-wetlands-inventory/wetlands-mapper>

NCRM. 2020. Basal Hollow Study Results at Four SRL Properties.

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at the following link: <http://websoilsurvey.sc.egov.usda.gov/>. Accessed 09/07/2022.

Jepson Flora Project (eds.). 2022. Jepson eFlora. Accessed online at <https://ucjeps.berkeley.edu/eflora/>.

Sawyer, J. O. and T. Keeler-Wolf. 2009. A Manual of California Vegetation, Second Edition. California Native Plant Society, Sacramento, CA.

USFWS. 2012. Protocol for NSO.

**Appendix A. Special-Status Plant Species and Communities with Potential for Occurrence**

<i>Scientific Name</i> Common Name	Fed List	State List	Global Rank	State Rank	CA Rare Plant Rank	Associated Habitat	Blooming Period	Likelihood of Occurrence
<i>Abronia umbellata</i> subsp. <i>breviflora</i> pink sand-verbena	None	None	G4G5 T2	S2	1B.1	Coastal dunes. 0-10 meters in elevation.	Jun-Oct	None
<i>Agrostis blasdalei</i> Blasdale's bent grass	None	None	G2G3	S2	1B.2	Coastal bluff scrub, Coastal dunes, Coastal prairie. 0-150 meters in elevation.	May-Jul	None
<i>Arctostaphylos stanfordiana</i> subsp. <i>raichei</i> Raiche's manzanita	None	None	G3T2	S2	1B.1	Chaparral, Lower montane coniferous forest (openings). Rocky, Serpentinite (often). 450-1035 meters in elevation.	Feb-Apr	None
<i>Astragalus agnicidus</i> Humboldt County milk-vetch	None	Endangered	G2	S2	1B.1	Broadleafed upland forest, North Coast coniferous forest. Disturbed areas, openings, roadsides (sometimes). 120-800 meters in elevation.	Apr-Sep	High
<i>Astragalus rattanii</i> subsp. <i>rattanii</i> Rattan's milk-vetch	None	None	G4T4	S4	4.3	Chaparral, Cismontane woodland, Lower montane coniferous forest. Gravelly, Streambanks. 30-825 meters in elevation.	Apr-Jul	None
<i>Calamagrostis bolanderi</i> Bolander's reed grass	None	None	G4	S4	4.2	Bogs and fens, broadleafed upland forest, Closed-cone coniferous forest, Coastal scrub, Marshes and swamps (freshwater), Meadows and seeps (mesic), North Coast coniferous forest. Mesic. 0-455 meters in elevation.	May-Aug	Unlikely
<i>Calamagrostis foliosa</i> leafy reed grass	None	Rare	G3	S3	4.2	Coastal bluff scrub, North Coast coniferous forest. Rocky. 0-1220 meters in elevation.	May-Sep	Unlikely
<i>Cardamine angulata</i> seaside bittercress	None	None	G4G5	S3	2B.2	Lower montane coniferous forest, North Coast coniferous forest. wet areas. Streambanks. 15-915 meters in elevation.	(Jan) Mar-Jul	Unlikely

**Appendix A. Special-Status Plant Species and Communities with Potential for Occurrence**

<i>Castilleja litoralis</i> Oregon coast paintbrush	None	None	G3	S3	2B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub. Sandy. 15-100 meters in elevation.	Jun	None
<i>Castilleja mendocinensis</i> Mendocino Coast paintbrush	None	None	G2	S2	1B.2	Closed-cone coniferous forest, Coastal bluff scrub, Coastal dunes, Coastal prairie, Coastal scrub. 0-160 meters in elevation.	Apr-Aug	None
<i>Ceanothus foliosus</i> subsp. <i>vineatus</i> Vine Hill ceanothus	None	None	G3T1	S1	1B.1	Chaparral. 45-305 meters in elevation.	Mar-May	None
<i>Ceanothus gloriosus</i> subsp. <i>exaltatus</i> glory brush	None	None	G4T4	S4	4.3	Chaparral. 30-610 meters in elevation.	Mar-Jun (Aug)	None
<i>Clarkia amoena</i> subsp. <i>whitneyi</i> Whitney's farewell-to-spring	None	None	G5T1	S1	1B.1	Coastal bluff scrub, Coastal scrub. 10-100 meters in elevation.	Jun-Aug	None
<i>Coptis laciniata</i> Oregon goldthread	None	None	G4?	S3?	4.2	Meadows and seeps, North Coast coniferous forest (streambanks). Mesic. 0-1000 meters in elevation.	(Feb) Mar-May (Sep-Nov)	Unlikely
<i>Epilobium septentrionale</i> Humboldt County fuchsia	None	None	G4	S4	4.3	Broadleafed upland forest, North Coast coniferous forest. Rocky (sometimes), Sandy (sometimes). 45-1800 meters in elevation.	Jul-Sep	Unlikely
<i>Erigeron biolettii</i> streamside daisy	None	None	G3?	S3?	3	Broadleafed upland forest, Cismontane woodland, North Coast coniferous forest. Mesic, Rocky. 30-1100 meters in elevation.	Jun-Oct	Unlikely
<i>Eriogonum kelloggii</i> Kellogg's buckwheat	None	Endangered	G2	S2	1B.2	Lower montane coniferous forest (rocky, serpentinite). 579-1250 meters in elevation.	(May) Jun-Aug	None

**Appendix A. Special-Status Plant Species and Communities with Potential for Occurrence**

<i>Erysimum concinnum</i> bluff wallflower	None	None	G3	S2	1B.2	Coastal bluff scrub, Coastal dunes, Coastal prairie. 0-185 meters in elevation.	Feb-Jul	None
<i>Erythronium revolutum</i> coast fawn lily	None	None	G4G5	S3	2B.2	Bogs and fens, Broadleafed upland forest, North Coast coniferous forest. Mesic, Streambanks. 0-1600 meters in elevation.	Mar-Jul (Aug)	None
<i>Gilia capitata</i> subsp. <i>pacifica</i> Pacific gilia	None	None	G5T3	S2	1B.2	Chaparral (openings), Coastal bluff scrub, Coastal prairie, Valley and foothill grassland. 5-1665 meters in elevation.	Apr-Aug	None
<i>Hemizonia congesta</i> subsp. <i>tracyi</i> Tracy's tarplant	None	None	G5T4	S4	4.3	Coastal prairie, Lower montane coniferous forest, North Coast coniferous forest. Openings, Serpentinite (sometimes). 120-1200 meters in elevation.	(Mar-Apr) May-Oct	None
<i>Hesperocyparis pygmaea</i> pygmy cypress	None	None	G1	S1	1B.2	Closed-cone coniferous forest (usually podzol-like soil). 30-600 meters in elevation.	NA	None
<i>Horkelia marinensis</i> Point Reyes horkelia	None	None	G2	S2	1B.2	Coastal dunes, Coastal prairie, Coastal scrub. Sandy. 5-755 meters in elevation.	May-Sep	None
<i>Hosackia gracilis</i> harlequin lotus	None	None	G3G4	S3	4.2	Broadleafed upland forest, Cismontane woodland, Closed-cone coniferous forest, Coastal bluff scrub, Coastal prairie, Coastal scrub, Marshes and swamps, Meadows and seeps, North Coast coniferous forest, Valley and foothill grassland. wetlands. Roadsides. 0-700 meters in elevation.	Mar-Jul	Unlikely
<i>Kopsiopsis hookeri</i> small groundcone	None	None	G4?	S1S2	2B.3	North Coast coniferous forest. 90-885 meters in elevation.	Apr-Aug	Moderate



## Appendix A. Special-Status Plant Species and Communities with Potential for Occurrence

<i>Lathyrus glandulosus</i> sticky pea	None	None	G3	S3	4.3	Cismontane woodland. 300-800 meters in elevation.	Apr-Jun	Unlikely
<i>Leptosiphon latisectus</i> broad-lobed leptosiphon	None	None	G4	S4	4.3	Broadleafed upland forest, Cismontane woodland. 170-1500 meters in elevation.	Apr-Jun	Moderate
<i>Lilium rubescens</i> redwood lily	None	None	G3	S3	4.2	Broadleafed upland forest, Chaparral, Lower montane coniferous forest, North Coast coniferous forest, Upper montane coniferous forest. Roadsides (sometimes), Serpentinite (sometimes). 30-1910 meters in elevation.	(Mar) Apr-Aug (Sep)	High
<i>Listera cordata</i> heart-leaved twayblade	None	None	G5	S4	4.2	Bogs and fens, Lower montane coniferous forest, North Coast coniferous forest. 5-1370 meters in elevation.	Feb-Jul	High
<i>Micranthes marshallii</i> Marshall's saxifrage	None	None	G5	S3	4.3	Riparian forest. Rocky, Streambanks. 90-2130 meters in elevation.	Mar-Aug	None
<i>Mitellastrum caulescens</i> leafy-stemmed mitrewort	None	None	G5	S4	4.2	Broadleafed upland forest, Lower montane coniferous forest, Meadows and seeps, North Coast coniferous forest. Mesic, Roadsides (sometimes). 5-1700 meters in elevation.	(Mar) Apr-Oct	None
North Central Coast Fall-Run Steelhead Stream	None	None	GNR	SNR	NA	Inland Waters.	NA	None
<i>Piperia candida</i> white-flowered rein orchid	None	None	G3?	S3	1B.2	Broadleafed upland forest, Lower montane coniferous forest, North Coast coniferous forest. Serpentinite (sometimes). 30-1310 meters in elevation.	(Mar-Apr) May-Sep	High
<i>Pityopus californicus</i> California pinefoot	None	None	G4G5	S4	4.2	Broadleafed upland forest, Lower montane coniferous forest, North Coast coniferous forest, Upper montane coniferous forest. Mesic. 15-2225 meters in elevation.	(Mar-Apr) May-Aug	Unlikely

**Appendix A. Special-Status Plant Species and Communities with Potential for Occurrence**

<i>Pleuropogon refractus</i> nodding semaphore grass	None	None	G4	S4	4.2	Lower montane coniferous forest, Meadows and seeps, North Coast coniferous forest, Riparian forest. Mesic. 0-1600 meters in elevation.	(Feb-Mar) Apr-Aug	Unlikely
<i>Sedum eastwoodiae</i> Red Mountain stonecrop	None	None	G5T2	S2	1B.2	Lower montane coniferous forest (serpentinite). 600-1200 meters in elevation.	May-Jul	None
<i>Sidalcea malachroides</i> maple-leaved checkerbloom	None	None	G3	S3	4.2	Broadleaved upland forest, Coastal prairie, Coastal scrub, North Coast coniferous forest, Riparian woodland. Disturbed areas (often). 0-730 meters in elevation.	(Mar) Apr- Aug	Unlikely
<i>Silene bolanderi</i> Bolander's catchfly	None	None	G2	S2	1B.2	Chaparral (edges), Cismontane woodland, Lower montane coniferous forest, Meadows and seeps, North Coast coniferous forest. Usually grassy openings, sometimes dry rocky slopes, canyons, or roadsides. Openings (usually), Roadsides (sometimes), Rocky (sometimes), Serpentinite (sometimes). 420-1150 meters in elevation.	May-Jun	None
<i>Silene greenei</i> subsp. <i>angustifolia</i> Red Mountain catchfly	None	Endangered	G5T1	S1	1B.2	Chaparral, Lower montane coniferous forest. Peridotite. Rocky, Serpentinite (usually). 425-2085 meters in elevation.	May-Jun	None
<i>Thermopsis robusta</i> robust false lupine	None	None	G2	S2	1B.2	Broadleaved upland forest, North Coast coniferous forest. 150-1500 meters in elevation.	May-Jul	Moderate
<i>Usnea longissima</i> Methuselah's beard lichen	None	None	G4	S4	4.2	Broadleaved upland forest, North Coast coniferous forest. On tree branches; usually on old growth hardwoods and conifers. 50-1460 meters in elevation.	NA	High

**Appendix A. Special-Status Plant Species and Communities with Potential for Occurrence**

<i>Viburnum ellipticum</i> oval-leaved viburnum	None	None	G4G5	S3?	2B.3	Chaparral, Cismontane woodland, Lower montane coniferous forest. 215- 1400 meters in elevation.	May-Jun	None
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Plants addressed in the rare plant assessment are cataloged on the following lists:

- a) Species listed or proposed for listing as threatened or endangered under the FESA
- b) Species that are candidates for possible future listing as threatened or endangered under the FESA
- c) Species listed or proposed for listing by the State of California as threatened or endangered under the CESA
- d) CNPS list 1A species (plants presumed extinct in California)
- e) CNPS list 1B (plants rare, threatened, or endangered in California)
- f) CNPS list 2 species (plants rare, threatened, or endangered in California but more common elsewhere)
- g) CNPS list 3 and list 4 species (plants with limited distribution, more information needed, on review list); plants that are not on a specific list but have recognized regional or local interests and qualify for protection.

### **The CNPS New Threat Code extensions and their meanings:**

The classification system created by the CNPS helps distinguish between rarity, endangerment, and distribution:

- .1 – Seriously endangered in California
- .2 – Fairly endangered in California
- .3 – Not very endangered in California

### **Global Ranking**

The Global rank (G-rank) reflects the overall condition of a plant species or community throughout its global range.

#### **Species or Community Level**

- G1 – Less than 6 viable element occurrences (Eos) OR less than 1,000 individuals OR less than 2,000 acres
- G2 – 6-20 Eos OR 1,000-3,000 individuals OR 2,000-10,000 acres
- G3 – 21-80 Eos OR 3,000-10,000 individuals OR 10,000-50,000 acres
- G4 – Apparently secure; this rank is lower than G3, but factors exist to cause some concern (i.e., there is some threat or somewhat rare habitat)
- G5 – Population or stand demonstrably secure to ineradicable due to being commonly found in the world.

### **Subspecies Level**

Subspecies receive a T-rank attached to the G-rank. With the subspecies, the G-rank reflects the condition of the entire species, whereas the T-rank reflects the global situation of the subspecies or variety.

### **State Ranking**

The state rank (S-rank) is assigned much the same way as the global rank, except state ranks in California often also contain a threat designation attached to the S-rank:

- S1 – Less than 6 Eos OR less than 1,000 individuals OR less than 2,000 acres
  - S1.1 – very threatened
  - S1.2 – threatened
  - S1.3 – No current threats known
- S2 – 6-20 Eos OR 1,000-3,000 individuals OR 2,000-10,000 acres
  - S2.1 – very threatened
  - S2.2 – threatened
  - S2.3 – No current threats known
- S3 – 21-80 Eos or 3,000-10,000 individuals OR 10,000-50,000 acres
  - S3.1 – very threatened
  - S3.2 – threatened
  - S3.3 – No current threats known
- S4 – Apparently secure within California; this rank is lower than S3 but factors exist to cause some concern (i.e., there is some threat or somewhat rare habitat)
- S5 = Demonstrably secure to ineradicable in California. NO THREAT RANK.

**Appendix B. Special-Status Wildlife with Potential for Occurrence.**

COMMON NAME	SCIENTIFIC NAME	STATUS	BREEDING SEASON	HABITATS	GENERAL HABITAT	MICROHABITAT	RANGE	POTENTIAL TO OCCUR
<b>Amphibians</b>								
Foothill yellow-legged frog – north coast DPS	<i>Rana boylei</i> pop. 1	G3TNRQ, S4 – BLM   CSSC   USFS	Mating & egg-laying in streams & rivers (not ponds or lakes), April-early July, after streams slow from winter runoff.	Aquatic   Klamath/North coast flowing waters   Riparian forest   Riparian scrub   Riparian woodland	Partly shaded shallow streams and riffles with a rocky substrate in a variety of habitats.	Needs at least some cobble-sized substrate for egg-laying and at least 15 weeks to attain metamorphosis.	North Coast Ranges of the SF Bay Estuary, Klamath Mtns., and Cascade Range. Includes watershed subbasins Lower Pit, Battle Cr., Thomes Cr., and Big Chico Cr. In Lassen, Shasta, Tehama, and Butte counties.	Unlikely, due to the closest documented sighting was 150-miles from the Property.
Northern red-legged frog	<i>Rana aurora</i>	G4, S3 – CSSC   ILC   USFS	December-March. Eggs hatch after about four weeks.	Klamath/North coast flowing waters   Riparian forest   Riparian woodland	Humid forests, woodlands, grasslands, and streamside in northwestern California, usually near dense riparian cover.	Generally near permanent water, but can be found far from water, in damp woods and meadows, during non-breeding season.	Mendocino Co. north along the west coast through WA.	Moderate, due to the lack of riparian areas near the worksite. The closest documented sighting was 1.7-miles from the Property.
Pacific tailed frog	<i>Ascaphus truei</i>	G4, S3S4 – CSSC   ILC	Most breeding occurs in early fall (reported May-Oct.); breed in stream they inhabit. Eggs laid in spring/summer after spring runoff.	Aquatic   Klamath/ North coast flowing waters   Lower montane coniferous forest   North coast coniferous forest   Redwood   Riparian forest	Occurs in montane hardwood-conifer, redwood, Douglas-fir, and ponderosa pine habitats.	Restricted to perennial montane streams. Tadpoles require water below 15°C.	Known only from Del Norte, Siskiyou, Humboldt, Trinity, Shasta, Tehama, & Mendocino counties.	Unlikely, due to the lack of fast-moving streams near the worksite. The closest documented sighting was 1-mile from the Property.
Red-bellied newt	<i>Taricha rivularis</i>	G2, S2 – CSSC   ILC	Breeding takes place from late February to May, peaking in March.	Broadleaved upland forest   North coast coniferous forest	Coastal drainages. Will migrate over 1 km to breed,	Terrestrial habitats, juveniles generally underground, adults active at surface in moist environments.	Humboldt Co. south to Sonoma Co., inland to Lake Co. Isolated pop. Of	Moderate, due to the lack of streams near the worksite, but an abundance of moist terrestrial habitats. The closest

COMMON NAME	SCIENTIFIC NAME	STATUS	BREEDING SEASON	HABITATS	GENERAL HABITAT	MICROHABITAT	RANGE	POTENTIAL TO OCCUR
				Redwood   Riparian forest   Riparian woodland	typically in streams with moderate flow and clean, rocky substrate.		uncertain origin in Santa Clara Co.	documented sighting was 2.2-miles from the Property.
Southern torrent salamander	<i>Rhyacotriton variegatus</i>	G3G4, S2S3 – CSSC   ILC   USFS	Egg laying occurs in late spring and early summer.	Lower montane coniferous forest   Old growth   Redwood   Riparian forest	Coastal redwood, Douglas-fir, mixed conifer, montane riparian, and montane hardwood-conifer habitats. Old growth forest.	Cold, well-shaded, permanent streams and seepages, or within splash zone or on moss-covered rocks within trickling water.	Point Arena north to OR border.	Moderate, due to the lack of streams near the worksite, but an abundance of moist terrestrial habitats. The closest documented sighting was 300 feet from the project worksite.
<b>Birds</b>								
Northern goshawk	<i>Accipiter gentilis</i>	G5, S3 – BLM   CDF   CSSC   ILC   USFS	Nests typically in densest part of a stand; in trees greater than 12-in. diameter and nest generally built below the canopy in fork of large branch.	North coast coniferous forest   Subalpine coniferous forest   Upper montane coniferous forest	Within, and in vicinity of, coniferous forest. Uses old nests and maintains alternate sites.	Usually nests on north slopes, near water. Red fir, lodgepole pine, Jeffrey pine, and aspens are typical nest trees.	Year-round resident on northern 1/3 of CA.	Unlikely, due to the Property being considered part of the species non-breeding range. The closest documented sighting was over 150-miles from the Property.
Osprey	<i>Pandion haliaetus</i>	G5, S4 – CDF   CWL   ILC	Most are migratory, breeding starts in March and migrate south for the winter.	Riparian forest   Ocean shore, bays, freshwater lakes, and larger streams.	Associated strictly with large, fish-bearing waters, including rivers, lakes, bays, estuaries, and surf zones, primarily in ponderosa	Large nests built in treetops within 15 miles of a good fish-producing body of water.	Statewide.	Present, due to an active nest located about 2.8 miles away from the Property.

COMMON NAME	SCIENTIFIC NAME	STATUS	BREEDING SEASON	HABITATS	GENERAL HABITAT	MICROHABITAT	RANGE	POTENTIAL TO OCCUR
					pine through mixed conifer habitats. Preys mostly on fish.			
Northern spotted owl	<i>Strix occidentalis caurina</i>	FT   CT   CSSC   BLM   CDF   USFS	February-August.	Mature multi-layered mixed conifer, redwood and Douglas-fir forests with a permanent water source and suitable nesting sites.	Nests in cavities or broken tops of large trees or snags. A pair may use the same breeding site for 5 to 10 years, although not breed every year.	Prefer narrow, steep canyons with north-facing slopes.	Northern CA to WA.	Present, due to the documented Activity Center locations nearest to the Property (MEN0576 and MEN0434) are roughly 0.5-miles away.
Marbled murrelet	<i>Brachyramphus marmoratus</i>	G3, S2 - CDF   IUCN   NRWL   FT   CE	Eggs laid from mid-May to mid-June. Incubation from mid-June to mid-Aug. and lasts 30 days. Young fledge early July-early Sept.	Lower montane coniferous forest   Old growth   Redwood	Feeds near-shore; nests inland along coast from Eureka to OR border and from Half Moon Bay to Santa Cruz.	Nests in old-growth redwood-dominated forests, up to six miles inland, often in Douglas-fir.	Northern CA coast.	High, due to the designated MAMU habitat located about 0.45-miles away from the Property.
Western snowy plover	<i>Charadrius nivosus nivosus</i>	G3T3, S3 - CSSC   NRWL   FT	March 1 - September 30.	Great Basin standing waters   Sand shore   Wetland	Sandy beaches, salt pond levees and shores of large alkali lakes.	Needs sandy, gravelly, or friable soils for nesting.	Extends from Damon Point, WA to Baja California, MX.	None, due to the absence of habitat. The closest documented sighting was about 15-miles from the Property.
<b>Fish</b>								

COMMON NAME	SCIENTIFIC NAME	STATUS	BREEDING SEASON	HABITATS	GENERAL HABITAT	MICROHABITAT	RANGE	POTENTIAL TO OCCUR
Coho salmon – central California coast ESU	<i>Oncorhynchus kisutch</i> pop. 4	G5T2Q, S2 – AED   FE   CE	Adults enter fresh water from Nov.-Jan. to spawn. In the short coastal streams of CA, migration usually begins between mid-Nov.- mid-Jan.	Aquatic   Coastal watershed Streams	Relatively slow-moving water with fine gravel. In the ocean they tend to live closer to shores than in the open ocean.	Require beds of loose, silt-free, coarse gravel for spawning. Also need cover, cool water and sufficient dissolved oxygen.	Federally listed populations occur between Punta Gorda and San Lorenzo River. State listed populations occur south of Punta Gorda.	None, due to the absence of habitat. The closest documented sighting was about 7-miles from the Property.
Steelhead-northern California DPS summer-run	<i>Oncorhynchus mykiss irideus</i> , pop.48	G5TNRQ, S2, FT, SE, ATH	Return to freshwaters between May and October.	Aquatic   North Coast flowing waters	Migrating adults require a 7-inch depth minimum for migration. Water velocities of 10-13 ft/s begin to hinder the swimming ability of adult steelhead. Optimum temperature requirements fall in the range of 39 to 52°F.	Cool, swift, shallow water and clean loose gravel for spawning, and suitably large pools in which to spend the summer.	Mattole River, Eel River, Trinity River, Mad River, Redwood Creek, Klamath River, Smith River, Salmon River, and Scott River.	None, due to the absence of habitat. The closest documented sighting was about 5-miles from the Property.
Steelhead-northern California DPS winter-run	<i>Oncorhynchus mykiss irideus</i> , pop.49	G5TNRQ, S3, FT, ATH	Return to freshwaters between November and April.	Aquatic   Klamath/North coast flowing waters   Sacramento/San Joaquin flowing waters	Migrating adults require a 7-inch depth minimum for migration. Water velocities of 10-13 ft/s begin to hinder the	Cool, swift, shallow water and clean loose gravel for spawning, and suitably large pools in which to spend the summer.	NC winter steelhead DPS includes all naturally spawning populations in California coastal river basins below upstream barriers to migration from Redwood Creek (Humboldt Co.) to	None, due to the absence of habitat. The closest documented sighting was about 0.4-miles from the Property.



COMMON NAME	SCIENTIFIC NAME	STATUS	BREEDING SEASON	HABITATS	GENERAL HABITAT	MICROHABITAT	RANGE	POTENTIAL TO OCCUR
					swimming ability of adult steelhead. Optimum temperature requirements fall in the range of 39 to 52°F.		just south of the Gualala River (Mendocino Co.)	
<b>Insects</b>								
Crotch bumble bee	<i>Bombus crotchii</i>	G2, S1S2 – IUCN	Queen bees are active from March until May.	Grasslands   Shrublands	Pacific Coast, Western Desert, and adjacent foothills throughout most of California’s southwestern region.	Food plant genera include <i>Antirrhinum</i> , <i>Phacelia</i> , <i>Clarkia</i> , <i>Dendromecon</i> , <i>Eschscholzia</i> , and <i>Eriogonum</i> .	Coastal CA east to the Sierra-Cascade crest and south into MX.	Moderate, due to some small grassland areas near the project worksite. The closest documented sighting was about 8-miles from the Property.
Obscure bumble bee	<i>Bombus caliginosus</i>	G2G3, S1S2 – IVU	Active February-November.	Open grassy coastal prairies and coast range meadows.	Coastal areas.	Food plant genera include <i>Baccharis</i> , <i>Cirsium</i> , <i>Lupinus</i> , <i>Lotus</i> , <i>Grindelia</i> , and <i>Phacelia</i> .	Santa Barbara Co. north to WA, with scattered records from the east side of the Central Valley.	Moderate, due to some coastal range meadows existing on the Property. The closest documented sighting was detection on the Property in 1959. There has not been a detection within 50 miles of the Property since 1990.
Western bumble bee	<i>Bombus occidentalis</i>	G2G3, S1 – IVU   USFS	Active from February to November.	Found in a range of habitats.	Mixed woodlands, farmlands, urban areas, montane meadows and into the western edge of the prairie grasslands.	Once common and widespread, species has declined precipitously, perhaps from disease.	Central CA to southern B.C.	Moderate, due to suitable habitat located on the Property. The closest documented sighting was about 8-miles from the Property. There has not been a detection within 50 miles of the Property since 1984.

COMMON NAME	SCIENTIFIC NAME	STATUS	BREEDING SEASON	HABITATS	GENERAL HABITAT	MICROHABITAT	RANGE	POTENTIAL TO OCCUR
Monarch butterfly – California overwintering population	<i>Danaus plexippus plexippus</i> pop. 1	G4T1T2, S2 – IUCN   USFS   FC	Temperature increases at the overwintering sites in the spring, signaling individuals to breed and lay eggs on milkweed throughout the migration. The following generations breed and lay eggs throughout the summer.	Closed-cone coniferous forest	Winter roost sites extend along the coast from northern Mendocino Co. to Baja California, MX.	Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	Monarchs are native to North and South America but have since spread to many other locations where milkweed and suitable temperatures exist, including Australia, New Zealand and portions of the Iberian Peninsula.	Unlikely, due to the closest documented sighting was about 65-miles from the Property.
<b>Mammals</b>								
Pacific fisher	<i>Pekania pennanti</i>	G5, S2S3 – BLM   CSSC   ILC   USFS	Reproduction peaks in late March, and breeding may occur as late as May.	North coast coniferous forest   Old growth   Riparian forest	Intermediate to large-tree stages of coniferous forests and deciduous-riparian areas with high percent canopy closure.	Uses cavities, snags, logs and rocky areas for cover and denning. Needs large areas of mature, dense forest.	Northern Coastal Range, Klamath Mtns, southern Cascades, and Sierra Nevada mtn. ranges.	Moderate due to suitable habitat located on the Property. The closest documented sighting was about 8-miles from the Property.
North American porcupine	<i>Erethizon dorsatum</i>	G5, S3 – ILC	Breeding occurs in fall and early winter with young born in the spring/early summer	Broadleaved upland forest   Cismontane woodland   Closed-cone coniferous forest   Lower montane coniferous	Forested habitats.	Wide variety of coniferous and mixed woodland habitat.	Canada to northern MX.	Moderate, due to suitable habitat located on the Property. The closest documented sighting was about 10-miles from the Property, in 1959. The closest modern detection was about 26-miles from the Property in 2014.

COMMON NAME	SCIENTIFIC NAME	STATUS	BREEDING SEASON	HABITATS	GENERAL HABITAT	MICROHABITAT	RANGE	POTENTIAL TO OCCUR
				forest   North coast coniferous forest   Upper montane coniferous forest				
Sonoma tree vole	<i>Arborimus pomo</i>	G3, S3 – CSSC   INT	Breeds year-round, but mostly from February - September.	North coast coniferous forest   Old growth   Redwood	North coast fog belt fin Douglas-fir, redwood, and montane hardwood-conifer forests.	Feeds almost exclusively on Douglas-fir needles. Will occasionally take needles of grand fir, hemlock, or spruce.	Distributed along coast from Sonoma Co. to OR border, restricted to fog belt.	Moderate, due to suitable habitat located on the Property. The closest documented sighting was about 0.4-miles from the Property, in 1994.
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	G4, S2 – BLM   CSSC   ILC   USFS	Mating occurs Nov.- Feb. Young born May-June, peak birthing in late May. Young are capable of flight in 2-3 weeks and weaned after six weeks.	Broadleaved upland forest   Chaparral   Lower montane coniferous forest   Meadow & seep   Riparian forest   Riparian woodland   Upper montane coniferous forest   Valley & foothill grassland	Wide variety of habitats. Most common in mesic sites.	Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	Statewide; once common now uncommon.	Present, due to positive detections in two basal hallows during the 2017-2018 bat surveys on the Property.
<b>Mollusks</b>								
California floater	<i>Anodonta californiensis</i>	G3Q, S2? – USFS	Larvae released by female in the spring/early summer. Breeding varies depending on water temperature and habitat.	Aquatic	Freshwater lakes and slow-moving streams and rivers. Most often found in the sand and mud of lakes and reservoirs or in stable areas of low-	Generally, in shallow water.	Historically from BC to Baja. Extirpated in many areas including the Central Valley. Known populations. Occur in the Fall and Pit Rivers in Shasta Co.	None, due to the absence of habitat. The closest documented sighting was about 9-miles from the Property.

COMMON NAME	SCIENTIFIC NAME	STATUS	BREEDING SEASON	HABITATS	GENERAL HABITAT	MICROHABITAT	RANGE	POTENTIAL TO OCCUR
					gradient stream reaches. Taxonomy under review by specialists.			
Western pearlshell	<i>Margaritifera falcata</i>	G4G5, S1S2 – INT	Reproduction is dependent on salmonids for parasitic larvae to attach to.	Aquatic	Found in perennial, cold-water small streams and large rivers that support salmonid populations. Stable sand, gravel, or cobble stream bottoms. Can live more than 100 years.	In large streams with a higher gradient, they are found in sheltered areas behind boulders or log jams. Prefers lower velocity waters.	Southern California to British Columbia.	None, due to the absence of habitat. The closest documented sighting was about 9-miles from the Property.

\*Oceanic/pelagic species were omitted due to the location of the worksite in proximity to the ocean

Potential to Occur:	
<b>None</b>	No habitat components meeting the species requirements are present within the greater project area.
<b>Unlikely</b>	Few to none of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.
<b>Moderate</b>	Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
<b>High</b>	All the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.

<b>Acronym</b>	<b>Status:</b>
<b>AED</b>	American Fisheries Society (AFS) – <b>Endangered</b>
<b>AVU</b>	American Fisheries Society (AFS) – <b>Vulnerable</b>
<b>ATH</b>	American Fisheries Society (AFS) – <b>Threatened</b>
<b>BLM</b>	Bureau of Land Management (BLM) – <b>Sensitive</b>
<b>CDF</b>	CA Dept. of Forestry – <b>Sensitive</b>
<b>CC</b>	California – <b>Candidate</b>
<b>CD</b>	California – <b>Delisted</b>
<b>CE</b>	California – <b>Endangered</b>
<b>CFP</b>	California – <b>Fully Protected</b>
<b>CP</b>	California – <b>Protected</b>
<b>CT</b>	California – <b>Threatened</b>
<b>CSSC</b>	CDFW – <b>Species of Special Concern</b>
<b>CWL</b>	CDFW – <b>Watch List</b>
<b>FC</b>	Federal – <b>Candidate</b>
<b>FD</b>	Federal – <b>Delisted</b>
<b>FE</b>	Federal – <b>Endangered</b>
<b>FT</b>	Federal – <b>Threatened</b>
<b>IUCN</b>	International Union for the Conservation of Nature (IUCN) – <b>Sensitive or Near Endangered</b>
<b>ICE</b>	IUCN – <b>Critically Endangered</b>
<b>IDD</b>	IUCN – <b>Data Deficient</b>
<b>ILC</b>	IUCN – <b>Least Concern</b>
<b>INT</b>	IUCN – <b>Near Threatened</b>
<b>IVU</b>	IUCN – <b>Vulnerable</b>
<b>MSSC</b>	Marine Mammal Commission (MMC) – <b>Species of Special Concern</b>
<b>NRWL</b>	North American Bird Conservation Initiative (NABCI) – <b>Red Watch List</b>
<b>NYWL</b>	NABCI – <b>Yellow Watch List</b>
<b>UBCC</b>	U.S. Fish & Wildlife Service (USFWS) – <b>Birds of Conservation Concern</b>
<b>USFS</b>	U.S. Forest Service (USFS) – <b>Sensitive</b>
<b>Present</b>	Species were observed on or near the site or have been recorded (database observation) on the site in the recent past.

<b>G1</b>	Global Conservation Status Rank: <b>Critically Imperiled</b> – At very high risk of extinction due to extreme rarity (five or fewer populations).
<b>G2</b>	Global Conservation Status Rank: <b>Imperiled</b> – at risk of extinction or elimination (6-20 extant populations).
<b>G3</b>	Global Conservation Status Rank: <b>Vulnerable</b> – at moderate risk of extinction or elimination (21-100 extant populations).
<b>G4</b>	Global Conservation Status Rank: <b>Apparently secure</b> – at fairly low risk of extinction or elimination (100-1,000 extant populations).
<b>G5</b>	Global Conservation Status Rank: <b>Secure</b> – Common; widespread and abundant (1,000+ extant populations).
<b>S1</b>	Subnational Conservation Status Rank: <b>Critically Imperiled</b> – at very high risk of extirpation in the state/province due to extreme rarity.
<b>S2</b>	Subnational Conservation Status Rank: <b>Imperiled</b> – at high risk of extirpation in the state/province.
<b>S3</b>	Subnational Conservation Status Rank: <b>Vulnerable</b> – moderate risk of extirpation in the state/province.
<b>S4</b>	Subnational Conservation Status Rank: <b>Apparently secure</b> – at fairly low risk of extirpation in the state/province.
<b>S5</b>	Subnational Conservation Status Rank: <b>Secure</b> – at very low risk of extirpation in the state/province.
<b>T#</b>	Infraspecific (Subspecies) Taxon Conservation Status Rank

## Appendix C. Wildlife Species Observed

Common nighthawk (*Chordeiles minor*)  
Western screech owl (*Megascops kennicottii*)  
Coyote (*Canis latrans*)  
Great horned owl (*Bubo virginianus*)  
Northern saw-whet owl (*Aegolius acadicus*)  
Sharp-shinned hawk (*Accipiter striatus*)  
Common raven (*Corvus corax*)  
Steller's jay (*Cyanocitta stelleri*)  
American robin (*Turdus migratorius*)  
Swainson's thrush (*Catharus ustulatus*)  
Hermit thrush (*Catharus guttatus*)  
Pacific-slope flycatcher (*Empidonax difficilis*)  
Brown creeper (*Certhia americana*)  
Golden-crowned kinglet (*Regulus satrapa*)  
Dark-eyed junco (*Junco hyemalis*)  
Band-tailed pigeon (*Patagioenas fasciata*)  
Osprey (*Pandion haliaetus*)  
American black bear (*Ursus americanus*)  
California common scorpion (*Paruroctonus silvestrii*)  
California king snake (*Lampropeltis getula californiae*)  
Red-tailed hawk (*Buteo jamaicensis*)  
American bushtit (*Psaltriparus minimus*)  
Northern flicker (*Colaptes auratus*)  
Chestnut-backed chickadee (*Poecile rufescens*)  
Hairy woodpecker (*Leuconotopicus villosus*)  
Cellar spider (*Pholcus phalangioides*)

## Appendix D. Plant Species Observed

Family	Scientific Name	Common Name
<b>Dryopteridaceae</b> - Wood Fern Family		
	<i>Polystichum munitum</i>	western sword fern
<b>GYMNOSPERMS</b>		
<b>Cupressaceae</b> - Cypress Family		
	<i>Sequoia sempervirens</i>	coast redwood
<b>Pinaceae</b> - Pine Family		
	<i>Abies grandis</i>	grand fir
	<i>Pseudotsuga menziesii</i>	Douglas fir
<b>EUDICOTS</b>		
<b>Apiaceae</b> - Carrot Family		
	<i>Osmorhiza berteroi</i>	sweet cicely
	<i>Sanicula crassicaulis</i>	gamble weed
<b>Asteraceae</b> - Aster Family		
	<i>Anisocarpus madioides</i>	woodland tarweed
	<i>Bellis perennis</i>	English daisy
	<i>Hypochaeris glabra</i>	smooth cat's ear
<b>Brassicaceae</b> - Mustard Family		
	<i>Cardamine</i> spp.	milkmaids
<b>Caprifoliaceae</b> - Honeysuckle Family		
	<i>Lonicera hispidula</i>	honeysuckle
<b>Ericaceae</b> - Heath Family		
	<i>Gaultheria shallon</i>	salal
	<i>Vaccinium ovatum</i>	California huckleberry
<b>Fabaceae</b> - Pea Family		
	<i>Vicia</i> sp.	vetch
<b>Fagaceae</b> - Beech Family		
	<i>Notholithocarpus densiflorus</i>	tan oak
<b>Lamiaceae</b> - Mint Family		
	<i>Mentha pulegium</i>	penny royal
	<i>Stachys</i> sp.	hedge nettle
<b>Myricaceae</b> - Wax Myrtle Family		
	<i>Morella californica</i>	California wax myrtle
<b>Oxalidaceae</b> - Sorrel Family		
	<i>Oxalis oregana</i>	redwood sorrel
<b>Philadelphaceae</b> - Mock Orange Family		
	<i>Whipplea modesta</i>	yerba de selva, modesty
<b>Plantaginaceae</b> - Plantain Family		
	<i>Plantago lanceolata</i>	English plantain
<b>Rosaceae</b> - Rose Family		
	<i>Fragaria vesca</i>	wood strawberry
	<i>Rubus ursinus</i>	California blackberry
<b>Rubiaceae</b> - Madder Family		
	<i>Galium</i> sp.	bedstraw
<b>Violaceae</b> - Violet Family		



	<i>Viola sempervirens</i>	evergreen violet
MONOCOTS		
<b>Iridaceae</b> - Iris Family		
	<i>Iris</i> sp.	Douglas iris