COUNTY OF SAN MATEO - PLANNING AND BUILDING DEPARTMENT

ATTACHMENT E

Local Coastal Program Biological Impact Form
For

Fuli Li
1855 Sunshine Valley Road
Moss Beach, CA 94038

(Lots 13 and 14, Resubdivision of Marine View Terrace, Book 5, Maps 39, Block 4)

For compliance with San Mateo County Local Coastal Program Policies

PREPARED BY:

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August 2018

Applicant
Fuli Li
1855 Sunshine Valley Road
Moss Beach, CA 94038

Owner
Fuli Li
1855 Sunshine Valley Road
Moss Beach, CA 94038

Project Location
The property is a 0.11 acre parcel located on the south side of Sunshine Valley Road, in Moss Beach (San Mateo County), California (Figure 1). The property is surrounded by a developed parcel to the west (1855 Sunshine Valley Road), a developed parcel to the south, Sunshine Valley Road to the north, and undeveloped land to the east. Cabrillo Highway (State Route 1) is located approximately 0.4 mile to the west, and the Pacific Ocean is approximately ½ mile to the west. The proposed plan is for the construction of a single family residence.

Assessor's Parcel Number and any applicable Planning Permit numbers
Lots 13 and 14, Resubdivision of Marine View Terrace, Book 5, Maps 39, Block 4

Principal Investigators
The biological survey and biological impact form were completed by Patrick Kobernus and Jennifer Radtkey of Coast Ridge Ecology. See Appendix A for a qualification summary.

Report Summary (briefly state the results of the report, habitat type, rare, endangered, or unique species present, anticipated impacts, and proposed mitigation measures.)

This report was prepared to provide a thorough evaluation of the biological resources for the property located at 1855 Sunshine Valley Road (Lots 13 and 14, Book 5, Maps 39, Block 4) in Moss Beach, California. The report is required by the County of San Mateo and is consistent with the format required for Local Coastal Program (LCP) biological impact reports (San Mateo County 2013). The report includes recommended mitigation measures to offset potentially adverse impacts from future development of the site.

The property is a 0.11 acre parcel located on the south side of Sunshine Valley Road, in Moss Beach (San Mateo County), California (Figure 1). The property is a residential yard with Sunshine Valley Road to the north, developed parcels to the south and west, and undeveloped land to the east. Cabrillo Highway (State Route 1) is located approximately 0.4 mile to the west, and the Pacific Ocean is approximately ½ mile to the west. The proposed plan is for the construction of a single family residence.

The site was surveyed for biological resources by CRE biologists Patrick Kobernus and Jennifer Radtkey on July 12 and July 20, 2018. Surrounding properties were visually inspected for sensitive habitats and special status species. No special-status species were observed on site. Plant and animal species detected on site are shown in Table 1.

The property is a relatively flat parcel. Vegetation communities on site include landscaped ruderal, and arroyo willow thicket (off site) (Figure 2). Landscaped ruderal vegetation covers the property, with raised garden beds and landscape plants including two large trees in the middle of the parcel shading most of the site. The ruderal vegetation is also dominant within Dean creek along the northern edge of the property. Arroyo willow thicket (riparian vegetation) associated with Dean creek and is found to the east of the property.

Dean Creek (an intermittent creek) borders the property on the east and north. The creek runs along the northern edge of the property along Sunshine Valley Road, and through a culvert under the driveway, then daylights again west of the driveway. Just upstream of the property Dean Creek turns towards the southeast as it flows through an adjacent property to the east. The creek channel is earthen, 8-feet wide at the top from bank to bank and about 4-feet deep from top of bank to the stream bottom. No water was present in the creek at the time of the surveys in July 2018. This stream feature meets the criteria for an intermittent stream as it has a defined channel and is shown on the USGS Montara Mountain OE W 7.5 minute quadrangle as an intermittent stream (USGS 2015). It is therefore considered a Sensitive Habitat under the LCP (section 7.1). Thirty-foot and twenty-foot buffer zones from the riparian and Dean Creek are shown in Figures 2 and 4.

One coast redwood (*Sequoia sempervirens*) tree on the property may qualify as a Significant Tree under the County of San Mateo's Significant Tree Ordinance as it has a circumference greater than thirty-eight inches at four and one half feet vertically above the ground, and the removal of this tree may require a permit from the County of San Mateo. There are no heritage trees on the property, as defined by the County of San Mateo's Heritage Tree Ordinance.

Special status species were evaluated for their potential to occur on site based upon habitats observed on site and research using the California Natural Diversity Database (CNDDB 2018), and the California Native Plant Society's Online Inventory of Rare and Endangered Plants (CNPS 2018), (Figure 3, Appendix C). Based on this evaluation, four special status animals and no special status plants were determined to have potential for occurrence on the property.

Special status animal species that have some potential for occurrence on the property are the California red-legged frog (CRF), (*Rana aurora draytonii*), a federally threatened and California species of special concern; the San Francisco garter snake (SFGS), (*Thamnophis sirtalis tetrataenia*), a state and federally endangered species and California fully-protected species; San Francisco dusky footed woodrat (*Neotoma fuscipes annectens*), a California species of special concern; and the salt marsh common yellowthroat (*Geothlypis trichas sinuosa*), a California species of special concern. The property also provides potential nesting habitat for a variety of birds protected under the Migratory Bird Treaty Act (MBTA).

Mitigation measures to reduce potential impacts from development of the property are provided in Table 2.

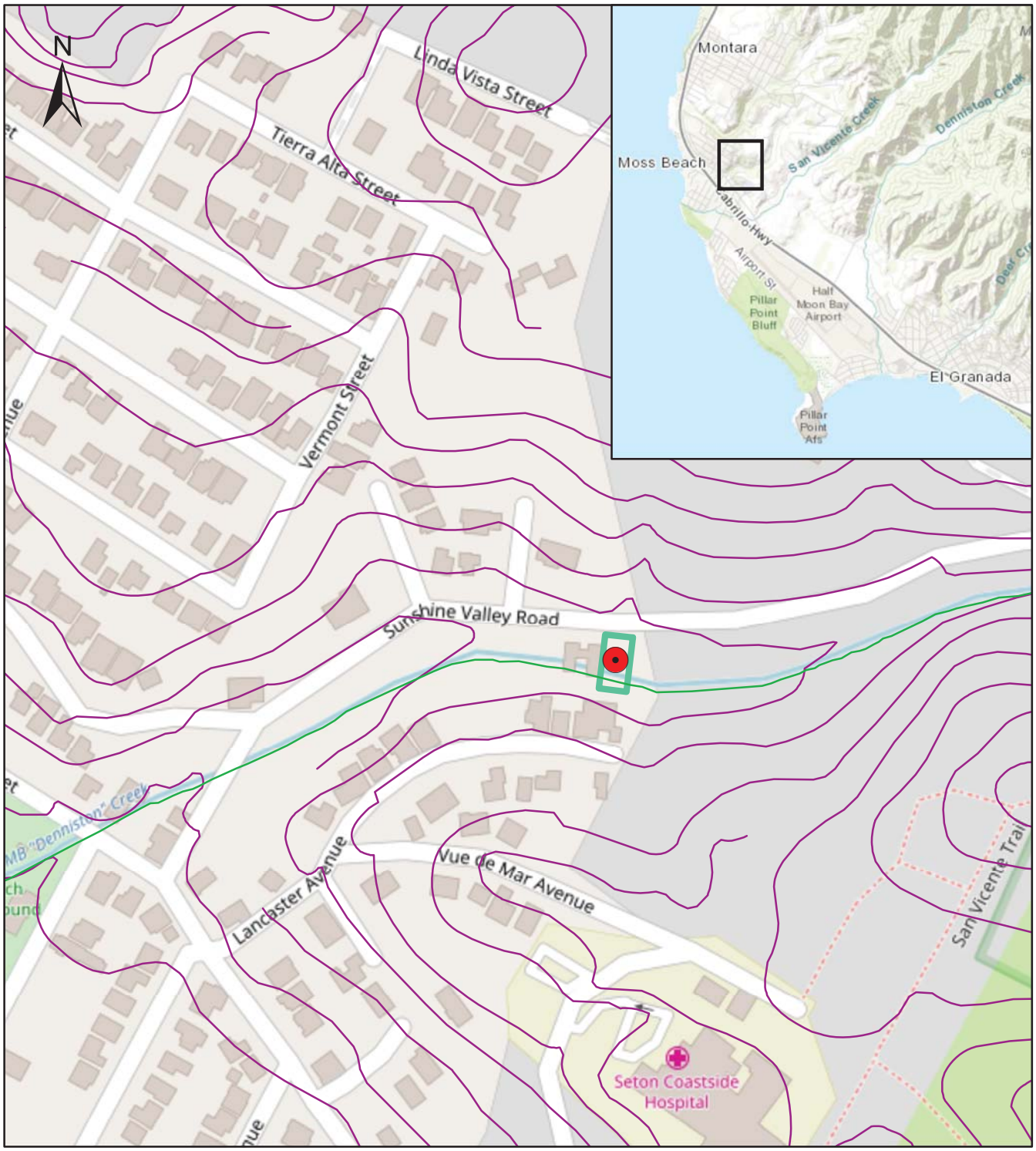

Figure 1: Project Location Map

1855 Sunshine Valley Road
Moss Beach CA 94038
San Mateo County

Miles
0 0.05 0.1 0.2

Legend

- Project Location
- STREAMS
- CONTOURS
- Parcel_Boundary

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Figure 2: Wetland Buffer and Vegetation Map

1855 Sunshine Valley Road, Moss Beach, CA

Source: San Mateo County

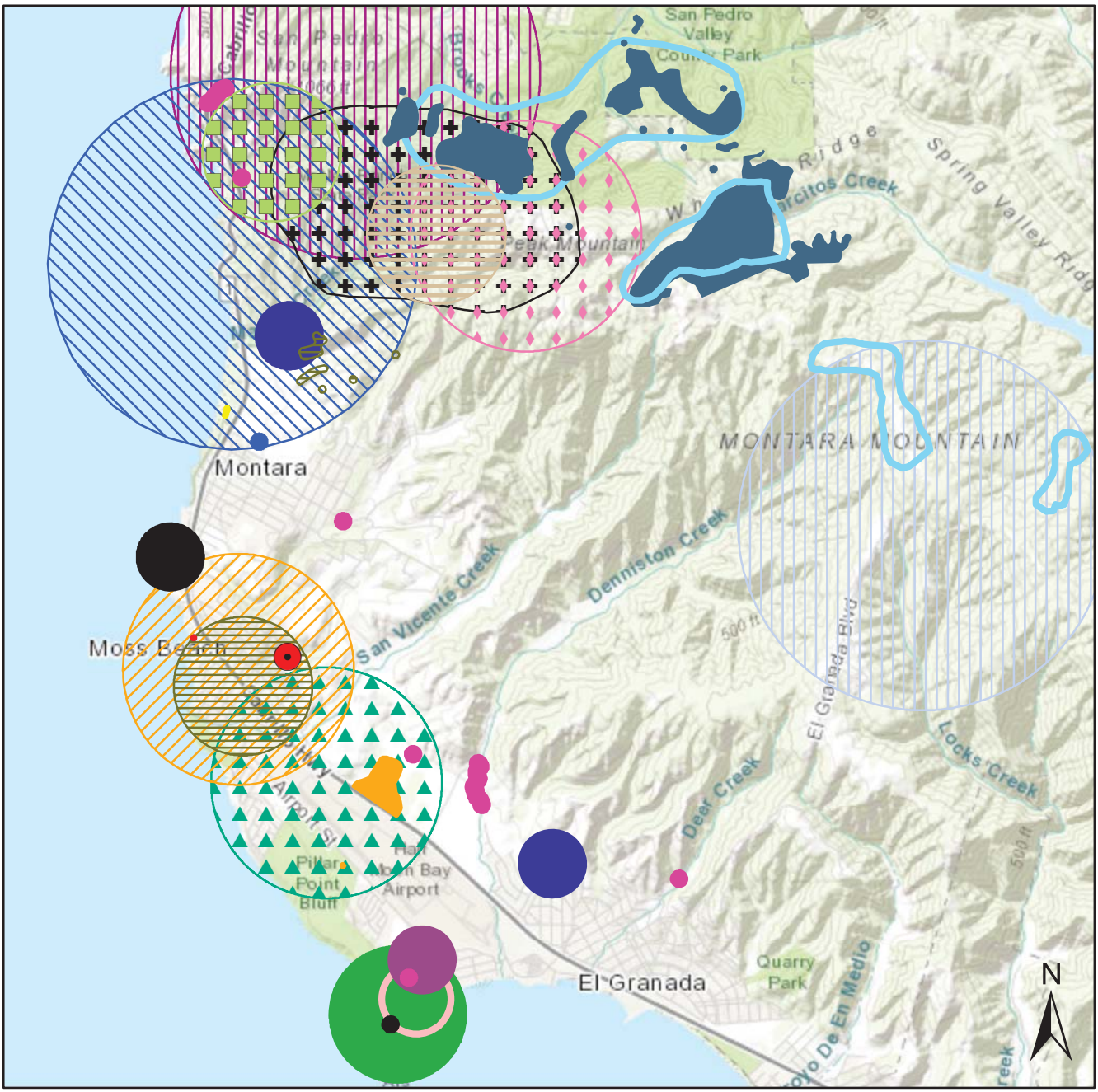

Figure 3: California Natural Diversity Database Records

1855 Sunshine Valley Road, Moss Beach CA 94038

Miles
0 0.5 1 2 3

Legend

- Agrostis blasdalei
- Arctostaphylos montaraensis
- Arctostaphylos regismontana
- Astragalus pycnostachyus var. pycnostachyus
- Bombus caliginosus
- Callophrys mossii bayensis
- Cirsium andrewsii
- Danaus plexippus pop. 1
- Geothlypis trichas sinuosa
- Grindelia hirsutula var. maritima
- Horkelia cuneata var. sericea
- Lasthenia californica ssp. macrantha
- Leptosiphon croceus
- Leptosiphon rosaceus
- Limnanthes douglasii ssp. ornduffii
- Northern Coastal Salt Marsh
- Northern Maritime Chaparral
- Plagiobothrys chorisianus var. chorisianus
- Potentilla hickmanii
- Rana draytonii
- Silene verecunda ssp. verecunda
- Taxidea taxus
- Thamnophis sirtalis tetrataenia (suppressed records)
- Triphysaria floribunda
- Project Location

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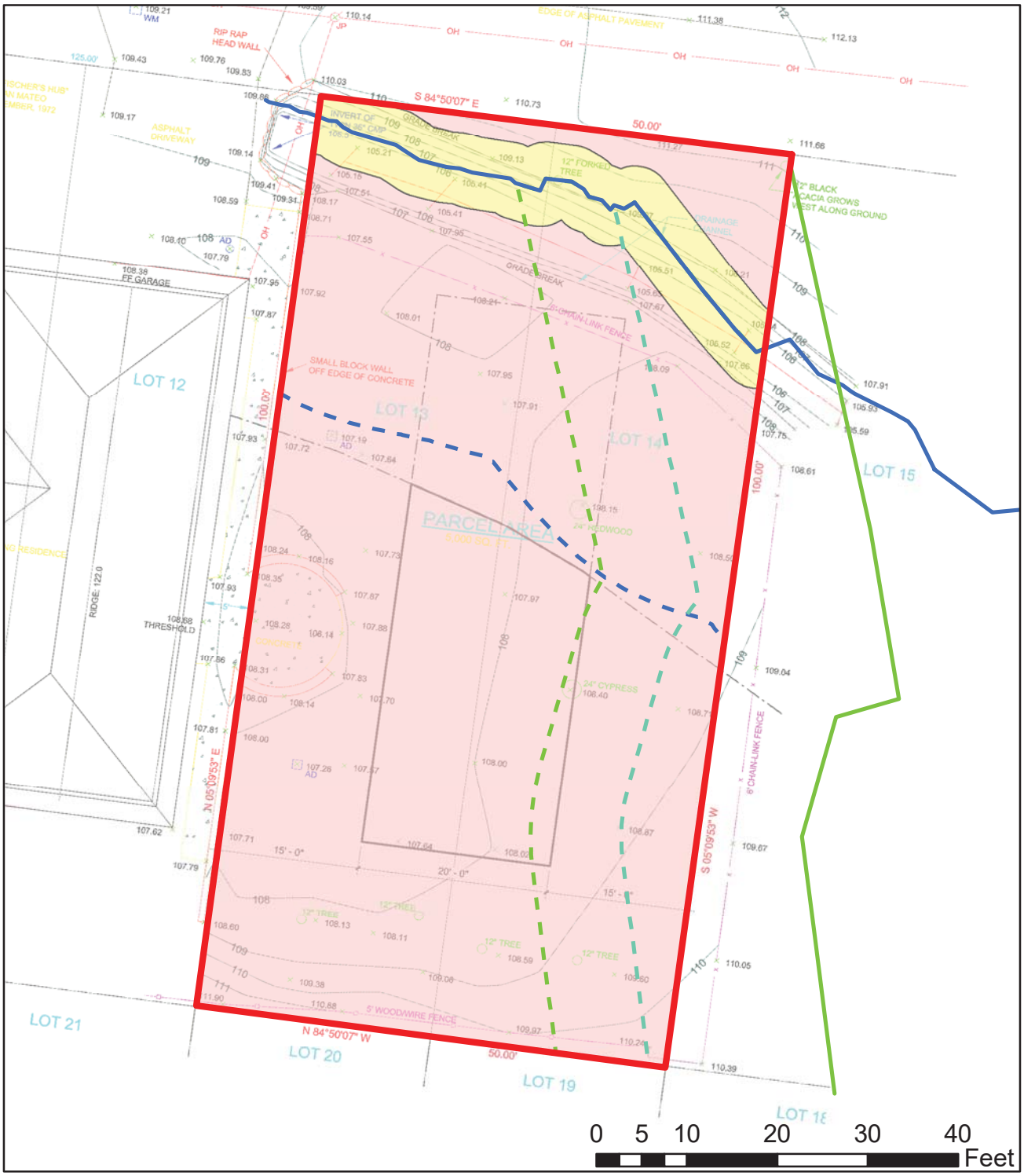

Figure 4: Site Plan Overlay

1855 Sunshine Valley Road, Moss Beach, CA

Source: David Jaehning Architect

Legend

- Parcel Boundary
- Channel Center
- Channel Buffer (30 feet from center)
- Limits of Riparian vegetation
- Riparian Vegetation Buffer (20 feet)
- Riparian Vegetation Buffer (30 feet)

Vegetation

- Landscaped Ruderal
- Ruderal

1. Project and property description (describe the proposed project and property, including the size, topographic characteristics, water resources, soil types, and land uses on the property and in the vicinity up to a radius of one-quarter mile. Include a map of the area from the USGS 7.5-minute quadrangle series.

Project

The proposed project is the construction of a single family residence on the property.

Land use

Land use in the immediate vicinity of the property is primarily single family residential properties. The property is a 0.11 acre parcel located on the south side of Sunshine Valley Road, in Moss Beach (San Mateo County), California (Figure 1). The property is surrounded by a developed parcel to the west (1855 Sunshine Valley Road), a developed parcel to the south, Sunshine Valley Road to the north, and undeveloped land to the east. Cabrillo Highway (State Route 1) is located approximately 0.4 mile to the west, and the Pacific Ocean is approximately ½ mile to the west. The proposed plan is for the construction of a single family residence.

Soils

Elevation of the property is approximately 87 feet above Mean Sea Level (MSL). One soil type is found on the property, Typic argiustolls (NRCS, 2018). Typic argiustolls is a moderately well drained soil type with loamy-urban land association and 5-15 percent slopes. The parent material is coastal alluvium derived from sedimentary rock. The typical soil profile is 0 to 60 inches sandy loam. There are no serpentine, calcareous or sandy soils present on the property.

Water Resources

Dean Creek, an intermittent creek, runs within the northern edge of the property. In addition, there are two creeks within approximately ½ mile of the property (San Vicente Creek and Montara Creek). Two agricultural ponds are located 0.75 miles from the property. San Vicente Creek is approximately 0.4 mile south of the property, and Montara Creek is approximately 0.3 mile north of the property. The two ponds are on the opposite side of San Vicente Creek, southeast of the site. The Pacific Ocean is located approximately ½ mile west of the property.

Dean Creek (Appendix B, Photo B-1) runs along the northern edge of the property along Sunshine Valley Road, and through a culvert under the driveway, then daylights again west of the driveway. Just upstream of the property Dean Creek turns towards the southeast as it flows through an adjacent property to the east. The creek channel is earthen, 8-feet wide at the top from bank to bank and about 4-feet deep from top of bank to the stream bottom. No water was present in the creek at the time of the surveys in July 2018. This stream feature meets the criteria for an intermittent stream as it has a defined channel and is shown on the USGS Montara Mountain OE W 7.5 minute quadrangle as an intermittent stream (USGS 2015). It is therefore considered a Sensitive Habitat under the LCP (section 7.1).

The creek was dry at the time of the surveys in July 2018 but the creekbed was damp. This stream feature meets the criteria for an intermittent stream as it has a defined channel and is shown on the USGS Montara Mountain OE W 7.5 minute quadrangle as an intermittent stream (USGS 2015). It is therefore considered a Sensitive Habitat under the LCP (section 7.1).

2. Methodology (briefly describe the survey methods used in preparing the report and show on an appropriately scaled map the location of sample points, transects, and any additional areas surveyed in the vicinity of the project.)

Coast Ridge Ecology biologists Patrick Kobernus and Jennifer Radtkey surveyed the site and adjacent surrounding areas for biological resources on July 12, 2018 and again on July 20, 2018 between 10:00 am and 12:00 pm. Weather at the time of both surveys was cloudy with temperatures in the mid 60's (F). All plant and animal species observed were documented and plant communities and habitats were assessed for their potential to support special status species. Plant and animal species detected on the property are shown in Table 1.

The California Department of Fish and Wildlife (CDFW) Natural Diversity Database (CNDDB) was consulted for known occurrences of sensitive plant, animal, and natural plant communities of concern found within the Half Moon Bay and five surrounding 7.5' USGS topographic quadrangles (CNDDB, 2018). Data from CNDDB, California Native Plant Society (CNPS) On-Line Inventory of Rare, Threatened, and Endangered Plants of California (CNPS 2018), and other relevant literature and databases, knowledge of regional biota, and observations made during the field survey, were used to evaluate on-site habitat suitability for special status plant and wildlife species within the property.

3. Results (at length, describe the botanical and zoological resources of the project site. To the extent possible, describe the food chain of the habitat and how the proposed project will impact those resources.

Vegetation

The site is comprised of two plant communities: landscape ruderal and ruderal (weedy vegetation). Just off site to the east of the property, one additional plant community is present: arroyo willow thicket (*Salix lasiolepis* Alliance). None of these plant communities are considered rare in California. A list of all plant and animal species identified on site is provided in Table 1.

Landscaped Ruderal

The majority of the site is landscaped ruderal vegetation covering 4,382 square feet (82% of the property). This area includes raised garden beds and ornamental plants including a coast redwood tree and a Monterey cypress (*Hesperocyparis macrocarpa*) tree in the middle of the parcel shading most of the site (Photos B-1 to B-6). Common plants within the landscaped yard include fruit trees and fava beans (*Vicia faba*), ornamental plants including hydrangea (*Hydrangea sp*.), pride of Madiera (*Echium candicans*) and nonnative honeysuckle (*Lonicera* sp.) along the chain link fence. Non-native grasses including veldt grass (*Ehrharta* sp.) and ripgut brome (*Bromus diandrus*), intermixed with other nonnative annuals including rose clover (*Trifolium hirtum*) and English plantain (*Plantago lanceolata*) were observed growing under the two large trees. There are two nonnative Ngaio trees (*Myoporum laetum*) growing along the creek on the north side of the property along Sunshine Valley Road.

Ruderal

Ruderal vegetation covers 467 square feet of the property and is found within Dean creek along the north side of the property. The dominant overstory of trees here is the Ngaio trees. One native sitka willow (*Salix sitchensis*), one native red elderberry (*Sambucus racemosa*) shrub and one twinberry (*Lonicera involucrata*) shrub are also present on the northeast section of the creek. The understory along the banks of the creek includes natives such as water parsley (*Oenanthe sarmentosa*), as well as nonnatives including cape ivy, nasturtium (*Tropaeolum spp*.), jubata grass (*Cortaderia jubata*), poison hemlock (*Conium maculatum*), wild radish (*Raphanus sativus*), watercress (*Nasturtium officinale*), and hairy cat's ear (*Hypochaeris radicata*).

Arroyo Willow Thicket

Arroyo willow thicket associated with Dean Creek is located to the east of the property. The dominant understory plants include California blackberry (*Rubus ursinus*), cape ivy (*Delairea odorata*), nasturtium, and hedge nettle (*Stachys ajugoides*). Wild cucumber (*Marah oregana*) vines run along the southern fenceline. Other species within the arroyo willow thicket outside the property boundary include stinging nettle (*Urtica dioica ssp. gracilis*), Calla lily (*Zantedeschia aethiopica*), California bee plant (*Scrophularia californica*), and coastal wood fern (*Dryopteris arguta*).

Wetlands / Water Features

To meet the US Army Corps of Engineers (USACE) definition of a wetland, an area must demonstrate three critical characteristics: wetland vegetation, wetland hydrology, and wetland soils (Federal Interagency Committee for Wetland Delineation, 1989). Additionally, to fall under jurisdiction of the USACE, a wetland must have some evident hydrological connection to other wetlands and/or waters of the United States. A formal wetland delineation is required to determine presence of wetlands and/or waters of the U.S. The US Fish and Wildlife Service definition of wetland is similar: at least periodically, the land must support predominantly hydrophytes; the substrate must be predominantly undrained hydric soil; or the substrate is non-soil that is saturated with water or covered by shallow water at some time during the growing season of the year (Cowardin, et al., 1979). The drainage on site does not appear to have a connection to other waters of the United States. Arroyo willow is considered a facultative wetland plant, which is defined as: "*Usually occurs in wetlands (estimated probability 67%-99%), but occasionally found in nonwetlands*"(Reed, et al 1988).

This project site is located within the San Mateo County Local Coastal Plan Area. The San Mateo County Local Coastal Program has the following policies that apply to this property (San Mateo County, 2013):

Policy 7.7 Definition of Riparian Corridors, states: "*Define riparian corridors by the "limit of riparian vegetation" (i.e., a line determined by the association of plant and animal species normally found near streams, lakes and other bodies of freshwater: red alder, jaumea, pickleweed, big leaf maple, narrow-leaf cattail, arroyo willow, broadleaf cattail, horsetail, creek dogwood, black cottonwood, and box elder). Such a corridor must contain at least a 50% cover of some combination of the plants listed.*

Policy 7.11 Establishment of Buffer Zones, states "*on both sides of riparian corridors, from the "limit of riparian vegetation" extend buffer zones 50 feet outward for perennial streams and 30 feet outward for intermittent streams*", and "*where no riparian vegetation exists along both sides of riparian corridors, extend buffer zones 50 feet from the predictable high water point for perennial streams and 30 feet from the midpoint of intermittent streams*."

Policy 7.12 Permitted Uses in Buffer Zones, states " *Within buffer zones, permit only the following uses: (1) uses permitted in riparian corridors; (2) residential uses on existing legal building sites, set back 20 feet from the limit of riparian vegetation, only if no feasible alternative exists, and only if no other building site on the parcel exists."*

The drainage on the property (Dean Creek) has a defined channel and is shown on the USGS map as an intermittent water feature (USGS Montara Mountain Quadrangle, 2013). On the north side of the property, along Sunshine Valley Road, the riparian vegetation along the creek is less than 50% cover of riparian species, and therefore, the buffer zone extends from the centerline of the creek. On the adjacent property to the east, the riparian vegetation (dominant species is arroyo willow) is over 50% cover and the buffer zone extends from the outside edge of the riparian vegetation (Figures 2 and 4).

Food Chain Resources

The property provides potential foraging habitat for a variety of common wildlife species. Although vegetation on the property is disturbed, the site has biological value for local wildlife species due to the presence of trees and adjacent riparian habitat. The landscape ruderal vegetation provides some foraging habitat and cover for herbivorous mammals such as California meadow vole (*Microtus californicus*), Botha's pocket gopher (*Thomomys bottae*), and brush rabbit (*Sylvilagus bachmani*). Bird species observed on-site at the time of the field survey include common raven (*Corvus corax*), chestnut-back chickadee (*Poecile rufescens*), California towhee (*Melozone crissalis*), and spotted towhee (*Pipilo maculatus*). A red-shouldered hawk (*Buteo lineatus*) was observed foraging adjacent to the site at the time of the field survey. A Pacific slope flycatcher (*Empidonax difficilis*) and a Wilson's warbler (*Cardellina pusilla*) were observed in the arroyo willow thicket to the east of the site. The site provides potential foraging habitat for raptors and the two large trees in the middle of the site have some limited potential to support raptor nests. The presence of rodent and avian prey species means that the site could provide habitat for carnivores such as bobcat (*Lynx rufus*), and gray fox (*Urocyon cinereoargenteus*).

Bats are likely to forage through the property for insects due to the presence of riparian woodland and open ruderal areas, but are unlikely to roost on site due to the lack of tree cavities or any structures (e.g. barns) to support roosting colonies of bats. The riparian corridor may provide suitable breeding habitat for semi-aquatic amphibians such as Sierran chorus frog (*Pseudacris sierra*) and reptiles such as coast garter snake (*Thamnophis elegans terrestris*). The site does not provide potential breeding habitat for special status species such as the California red-legged frog (*Rana draytonii*) or San Francisco garter snake (*Thamnophis sirtalis tetrataenia*). However, these species could be detected on site, due to their presence in the surrounding region and the potential for these species to travel through and utilize upland and riparian habitats.

Wildlife Movement Corridors

Wildlife corridors are important for persistence of wildlife in the landscape and, therefore, conservation. Linkages between habitat types can extend for miles between primary habitat areas and occur on a large scale throughout California. Habitat linkages facilitate movement between populations located in discrete areas and populations located within larger habitat areas. Even where patches of pristine habitat are fragmented, as commonly occurs with riparian vegetation, wildlife movement between populations is facilitated through habitat linkages, migration corridors and movement corridors. Wildlife movement includes migration (i.e., usually one direction per season), inter-population movement (i.e., long-term genetic exchange) and small travel pathways (i.e., daily movement within an animal's home range).

The area surrounding the property is primarily suburban land uses, however significant open spaces lies to the east of the site. The site is likely not an important wildlife corridor, however the riparian forest and the intermittent stream nearby provide some shelter cover for wildlife and may provide a potential minor travel corridor for local wildlife through the property.

Regulatory Setting

Federal and state-listed species (endangered, threatened, fully-protected) receive various levels of legal protection under the federal and state endangered species acts and the California Fish and Wildlife Code. The federal Migratory Bird Treaty Act of 1918 and Section 3500 of the California Fish and Wildlife Code protect active nests of migratory and other birds, and provide criminal penalties for take of hawks, owls, and take or disturbance of all bird nests or eggs. Potential impacts to other special status or otherwise sensitive species must be disclosed and

evaluated pursuant to the California Environmental Quality Act (CEQA). Additional protections for species and habitats that are applicable to the property are designated in the San Mateo County Local Coastal Program.

Federal and State Endangered Species Acts

The United States Endangered Species Act (ESA) is administered by the United States Fish and Wildlife Service (USFWS). The California Endangered Species Act (CESA), the Native Plant Protection Act (NPPA), and CEQA afford protection to species of concern included on State-maintained lists. The California Department of Fish and Wildlife (CDFW) has statutory responsibility for the protection of State listed species, and is a trustee agency under CEQA.

Both the Federal and State endangered species acts provide protection for listed species. In particular, the Federal act prohibits "take". "Take" is defined by the ESA as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect a federally listed, endangered species of wildlife, or to attempt to engage in any such conduct." While "take" is easily understood in the sense of deliberately capturing or killing individual animals, Federal regulations also define take to include the incidental destruction of animals in the course of an otherwise lawful activity, such as habitat loss due to development. Under those rules the definition of take includes significant habitat modification or degradation that actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR Section 17.3).

Section 10(a) of the ESA permits the incidental take of an endangered or threatened species. Similarly, Section 2081 of the CDFW Code or use of the CESA allows the Department to enter into management agreements that make lawful activities which may otherwise result in habitat loss or take of individuals of a state listed species.

California Species of Special Concern

The California Department of Fish and Wildlife has designated certain animal species as “Species of Special Concern” due to concerns about declining population levels, limited ranges, and continuing threats that have made these species vulnerable to extinction. The goal of this designation is to bring attention to these species in the hope that their population decline will be halted through mitigation or project redesign to avoid impact. Species of special concern are protected only through environmental review of projects under CEQA. The California Department of Fish and Wildlife is a trustee agency and is solicited for its comments during the CEQA process.

Nesting Birds

Nesting birds, including raptors, are protected by the California Department of Fish and Wildlife Code 3503, which reads, “It is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.” Passerines and non-passerine landbirds are further protected under the Federal Migratory Bird Treaty Act. As such, the CDFW typically recommends pre-construction surveys for potentially suitable nesting habitat that will be directly (actual removal of trees/vegetation) or indirectly (noise disturbance) impacted by construction-related activities.

California Native Plant Society and CEQA

The California Native Plant Society (CNPS) has developed a rating system for the state’s rare, threatened and endangered plants. Plants rated by CNPS are subject to protection under CEQA, and may also be protected by state and federal endangered species laws if they are listed by the state or federal government.

San Mateo County Local Coastal Program

Development of the property is subject to compliance with the San Mateo County Local Coastal Program, the municipal stormwater permit from the National Pollutant Discharge Elimination System (NPDES) and San Mateo County significant and heritage tree ordinances. The property is located with the Coastal Zone of San Mateo County, and proposed development of the parcel would require a Coastal Development Permit. For a permit to be issued the development must comply with the policies of the Local Coastal Program and those ordinances adopted to implement the LCP. Development of the subject property will also need to incorporate appropriate stormwater pollution control measures determined by the County of San Mateo to comply with the NPDES municipal permit.

San Mateo County Significant and Heritage Tree Ordinances

Removal or pruning of significant and/or heritage trees on the property is subject to the requirements of the County's significant and heritage tree ordinances.

Section 12,012 of the San Mateo County Significant Tree Ordinance defines a "SIGNIFICANT TREE" to mean any live woody plant rising above the ground with a single stem or trunk of a circumference of thirty-eight inches (38") or more measured at four and one half feet (4 1/2') vertically above the ground or immediately below the lowest branch, whichever is lower, and having the inherent capacity of naturally producing one main axis continuing to grow more vigorously than the lateral axes.

Section 11,050 of the San Mateo County Heritage Tree Ordinance defines a "HERITAGE TREE" to mean any of the following:

Class 1 shall include any tree or grove of trees so designated after Board inspection, advertised public hearing and resolution by the Board of Supervisors. The affected property owners shall be given proper written notice between 14 and 30 days prior to inspection and/or hearing by the Board.

Class 2 shall include any of the following trees, healthy and generally free from disease, with diameter equal to or greater than the sizes listed:
(1) Acer macrophyllum - Bigleaf Maple of more than 36 inches in d.b.h. west of Skyline Boulevard or 28 inches east of Skyline Boulevard.
(2) Arbutus menziesii - Madrone with a single stem or multiple stems touching each other 4 1/2 feet above the ground of more than 48 inches in d.b.h., or clumps visibly connected above ground with a basal area greater than 20 square feet measured 4 1/2 feet above average ground level.
(3) Chrysolepis chrysophylla - Golden Chinquapin of more than 20 inches in d.b.h.
(4) Cupressus abramsiana - All Santa Cruz Cypress trees.
(5) Fraxinus latifolia - Oregon Ash of more than 12 inches in d.b.h.
(6) Lithocarpus densiflorus - Tan Oak of more than 48 inches in d.b.h.
(7) Pseudotsuga menziesii - Douglas Fir of more than 60 inches in d.b.h. east of Skyline Boulevard and north of Highway 92.
(8) Quercus agrifolia - Coast Live Oak of more than 48 inches in d.b.h.
(9) Quercus chrysolepis - Canyon Live Oak of more than 40 inches in d.b.h.
(10) Quercus garryana - All Oregon White Oak trees.
(11) Quercus kellogii - Black Oak of more than 32 inches in d.b.h.
(12) Quercus wislizenii - Interior Live Oak of more than 40 inches in d.b.h.
(13) Quercus lobata - Valley Oak of more than 48 inches in d.b.h.
(14) Quercus douglasii - Blue Oak of more than 30 inches in d.b.h.
(15) Umbellularia californica - California Bay or Laurel with a single stem or multiple stems touching each other 4 1/2 feet above the ground of more than 48 inches in d.b.h., or clumps visibly connected above ground with a basal area of 20 square feet measured 4 1/2 feet above average ground level.
(16) Torreya californica - California Nutmeg of more than 30 inches in d.b.h.
(17) Sequoia sempervirens - Redwood of more than 84 inches in d.b.h. west of Skyline Boulevard or 72 inches d.b.h. east of Skyline Boulevard.

Table 1. Plants and animals identified on and/or adjacent to the property.

	Common Name	**Species**
Plants	Arroyo willow	*Salix lasiolepis*
	Sitka willow	*Salix sitchensis*
	California blackberry	*Rubus ursinus*
	Cape ivy	*Delairea odorata*
	English ivy	*Hedera helix*
	Nasturtium	*Tropaeolum spp.*
	Jubata grass	*Cortaderia jubata*
	Poison hemlock	*Conium maculatum*
	Stinging nettle	*Urtica dioica ssp. gracilis*
	Velvet grass	*Holcus lanatus*
	Wild radish	*Raphanus sativus*
	Red elderberry	*Sambucus racemosa*
	Western sword fern	*Polystichum munitum*
	Coastal wood fern	*Dryopteris arguta*
	Twinberry	*Lonicera involucrata*
	Forget me not	*Myosotis latifolia*
	Mock strawberry	*Duchesnea indica*
	Common bog rush	*Juncus effusus*
	Bullthistle	*Cirsium vulgare*
	California bee plant	*Scrophularia californica*
	Wild cucumber (marah)	*Marah oregana*
	Watercress	*Nasturtium officinale*
	Ngaio tree	*Myoporum laetum*
	Blue gum eucalyptus	*Eucalyptus globulus*
	Tall flatsedge	*Cyperus eragrostis*
	Smartweed	*Persicaria spp.*
	Hedge nettle	*Stachys ajugoides*
	Cotoneaster	*Cotoneaster franchetii*
	Curly dock	*Rumex crispus*
	Prickly sow thistle	*Sonchus asper*
	Smartweed	*Persicaria sp.*
	Hairy cat's ear	*Hypochaeris radicata*
	Rose clover	*Trifolium hirtum*
	Willowherb	*Epilobium sp.*
	Calla lily	*Zantedeschia sp.*
	Peach tree	*Prunus persica*
	English plantain	*Plantago lanceolata*
	Pride of madeira	*Echium candicans*
	Geranium	*Pelargonium sp.*
	Honeysuckle	*Lonicera sp.*
	Coast redwood	*Sequoia sempervirens*
	Ripgut brome	*Bromus diandrus*
	Yarrow	*Achillea millefolium*
	Monterey cypress	*Hesperocyparis macrocarpa*
	California bulrush	*Schoenoplectus californicus*
	California poppy	*Eschscholzia californica*
	Fava bean	*Vicia faba*
	Rattlesnake grass	*Briza maxima*
	Pittosporum	*Pittosporum tenuifolium*
	Hydrangea	*Hydrangea sp.*

	Common Name	**Species**
	Water parsley	*Oenanthe sarmentosa*
	Veldt grass	*Ehrharta spp.*
Birds	Common raven	*Corvus corax*
	Chestnut-backed chickadee	*Poecile rufescens*
	California towhee	*Melozone crissalis*
	Spotted towhee	*Pipilo maculatus*
	Steller's jay	*Cyanocitta stelleri*
	Dark-eyed junco	*Junco hyemalis*
	Bushtit	*Psaltriparus minimus*
	Allen's hummingbird	*Selasphorus sasin*
	Anna's hummingbird	*Calypte anna*
	Red-shouldered hawk	*Buteo lineatus*
	Purple finch	*Haemorhous purpureus*
	Pacific slope flycatcher	*Empidonax difficilis*
	Wilson's warbler	*Cardellina pusilla*
	Song sparrow	*Melospiza melodia*
Mammals	San Francisco dusky-footed woodrat	*Neotoma fuscipes*

4. List all direct and indirect impacts of the proposed project on the habitat. Include within the discussion an evaluation of the perceived cumulative biological impacts associated with the project.

The proposed project is a single-family residence. To minimize impacts to Dean Creek from construction, it is recommended that appropriate erosion and sedimentation controls be used to keep exposed soils from being washed into the intermittent creek. This may include using silt fencing, wattles or other appropriate methods. To avoid potential impacts to special status species and nesting birds, preconstruction surveys are recommended. There are no other foreseeable direct or indirect biological impacts or cumulative biological impacts of the project.

To improve the native riparian habitat within Dean Creek, it is also recommended to remove invasive species along the northern boundary of the property and plant native riparian plant species along the banks of Dean Creek.

5. List and discuss all probable impacts to threatened, rare, endangered or unique species either listed or proposed by the Local Coastal Program, a Federal or State agency, or the California Native Plant Society, both on-site and within an area of one-quarter mile radius from the project location.

Special Status Plants

Special status plant species that occur in the region, their habitat requirements and their potential for occurrence on the property are shown in Appendix C. The property does not provide suitable habitat for special status plant species due to the dominance of the site by nonnative plant species, and the site is actively maintained as a residential yard.

Monarch Butterfly

Monarch butterfly is not a state or federally listed species, however due to its unique life history and habitat requirements it is given special consideration under the California Environmental Quality Act (CEQA) review process. Winter roost sites extend along the western coast from Mendocino in northern California, south to Baja California, Mexico. Roost habitat consists of wind-protected tree groves, typically eucalyptus (*Eucalyptus globulus*), Monterey pine (*Pinus radiata*) and Monterey Cypress (*Cupressus macrocarpa*), with nectar and water sources nearby. Roost sites consist of congregations of several hundred to several thousand adult butterflies. Along the Central California coast, monarch butterflies typically roost between October and February.

Monarch butterflies have not been recorded near or on the property (CNDDB 2018). Although a lone Monterey cypress tree exists on the property, it does not likely provide roosting habitat for Monarch butterflies.

California Red-legged Frog

The California red-legged frog (CRF) is a federally listed Threatened species and a California Species of Special Concern. CRF are known to occur in freshwater ponds and marshes, grasslands, riparian woodlands, oak woodlands, and coniferous forests. The species is most frequently found in freshwater ponds, slow-flowing streams, and marshes with heavily vegetated shores for breeding. CRF typically are found within shoreline areas of aquatic habitats within ‘one leaping distance’ of water. CRLF typically require a permanent water source with a minimum depth of 0.7 meters (2.5 feet) for breeding (USFWS 2004). For successful

reproduction, water bodies must last through the winter and spring (approximately 20 weeks) for development from egg to the adult to be completed. Seasonal bodies of fresh or slightly brackish water provide important breeding habitat for the species, and are critical for CRF survival. CRF can disperse up to 2 miles from breeding habitats during autumn, winter, and spring rains. CRF can move through a broad range of upland habitat types when dispersing to and from aquatic breeding habitats. Juveniles use the wet periods to expand outward from their pond of origin and adults may move between aquatic areas. It is speculated that CRF may lie dormant during dry periods of the year or during drought, sometimes within upland habitats. CRF will utilize rodent burrows, debris piles and other man-made structures for shelter during overland movements.

There are six recorded occurrences of California red-legged frog within three miles of the project site. The two closest locations are within a mile to the northwest and northeast along Montara Creek (CNDDB 2018). There are no wetland habitats that could provide breeding habitat for CRF on or adjacent to the property, however there is a reasonable likelihood that CRF could occur on the property, due to the high mobility of the species and the abundance of creek and pond habitats within 1 mile of the property.

San Francisco Garter Snake

San Francisco garter snake (SFGS) is listed as both a state and federal endangered species and a California fully-protected species. The USFWS has not designated Critical Habitat for the SFGS. Preferred habitat for the snake includes densely vegetated ponds near open, upland habitat supporting rodent burrows. Temporary ponds and other seasonal freshwater bodies are also used. The snakes avoid brackish marsh areas because their preferred prey (California red-legged frogs) cannot survive in saline water. It occurs sympatrically with its primary prey species, the California red-legged frog; however, it will opportunistically prey on a variety of species including frogs, tadpoles, egg masses, newts, small fish, salamanders, reptiles, small mammals, birds and their eggs and several small invertebrates. Sierran tree frog (*Pseudacris sierra*) are an important prey species for juvenile SFGS, while Ranid frogs (California red-legged frog and bullfrog (*Lithobates catesbeianus*) have been identified as important prey for adult SFGS. San Francisco garter snakes prefer densely vegetated habitats close to water where they can retreat when disturbed (Stebbins 2003).

Emergent and bankside vegetation such as cattails (*Typha spp*.), bulrushes (*Scirpus spp*.) and spike rushes (*Juncus spp*. and *Eleocharis spp*.) apparently are preferred and used for cover. Adult snakes sometimes aestivate in rodent burrows during summer months when ponds are dry. On the coast, snakes hibernate during the winter, but further inland, if the weather is suitable, snakes may be active year-round. Snakes may move over several hundred yards away from wetlands to hibernate in upland small mammal burrows (USFWS 2007).

The nearest recorded occurrences of SFGS to the property are approximately 1 mile and two miles, respectively (CNDDB, 2018). Due to the proximity of creeks and ponds within one mile of the property, SFGS could use the site during periods of movement between breeding habitats.

Saltmarsh Common Yellowthroat

The saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*) is native warbler that is a California species of special concern. This bird is a year round resident in San Mateo County, and utilizes dense vegetation in wetlands, marshes, estuaries, moist scrub and riparian areas for nesting and foraging.

The saltmarsh common yellowthroat has been recorded at Princeton Marsh, approximately 2 miles southeast of the project site (CNDDB 2018). This species was not observed during field

surveys of the property however the adjacent property to the east has suitable vegetative cover to support this species.

San Francisco Dusky-footed Woodrat

The San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*) is a California species of special concern. The dusky-footed woodrat is generally a nocturnal mammal that occurs in a variety of brushy and wooded areas. The woodrat builds stick structures ('middens') for nesting up to 2 meters long and a meter in height. These elaborate dwellings help protect the woodrat from seasonal temperature extremes and predators. The dusky-footed woodrat eats primarily woody plants, including leaves, flowers, nuts, acorns and berries.

During the biological survey of the property, woodrat middens were observed within the arroyo willow thicket to the east of the property. The middens are all greater than 30 feet from the property boundary, and though this species could use the site for foraging, it is unlikely they would be impacted by the project.

Special Status Bats

No special status bat species were identified as having potential to roost on the property. The property is unlikely to support any special status bats, due to the lack of suitable structures, trees, rocky outcrops or vegetative shrub cover for roosting, and open water areas for foraging (Appendix C). Some bat species likely forage over the property.

Nesting Raptors and Birds Protected Under the MBTA

The willow thicket to the east of the property and the two large trees on the property provide potential nesting habitat for a variety of bird species protected under the Migratory Bird Treaty Act. Development activities may impact nesting birds through grading activities and noise disturbance from construction.

6. Tabulate by significant impact all feasible mitigation measures proposed to reduce the level of impact and explain how such measures will be successful.

Table 2. Impacts and Proposed Mitigation Measures to Reduce Impacts

Impact	Mitigation Measure	Effect
1) Potential erosion/ sedimentation impact on downstream drainage.	Use appropriate erosion and sedimentation control methods to keep exposed soils from being washed into the drainage. This may include using silt fencing, wattles, or other appropriate methods.	Drainage is protected from siltation.
2) Potential impacts to San Francisco dusky-footed woodrat	San Francisco dusky-footed woodrat nests have been observed within 30 feet of the property. Wildlife exclusion fencing installed around the site will minimize any potential impact to this species from construction activities.	San Francisco dusky-footed woodrats are protected from disturbance or harm.
3) Potential harassment or harm to California red-legged frog and/or San Francisco garter snake	Avoidance and Minimization Measures for CRF and SFGS 1) An exclusion fence at least 3 feet in height and trenched 6 inches deep, should be installed around areas to be disturbed by the project. The fence should be installed so that there are no openings or gaps through which a frog or snake could move into the project area. The fence shall have escape funnels in the fence every 100 feet or less for trapped snakes or frogs to exit the project area. 2) A pre-construction survey for CRF and SFGS should be conducted no less than 48 hours prior to the start of project activities. 3) A worker education program should be conducted in which all crews to be working on site are trained on CRF and SFGS identification, penalties for harming these species or their habitat, and the protocol to be followed should an SFGS or CRF be encountered. The worker education program should be offered by a qualified biologist and include color photocards of CRF and SFGS that remain on the project site. 4) Following the start of project activities, a qualified biologist or a trained biological monitor should check the site weekly to monitor the integrity of the exclusionary fence, confirm the limit of work and equipment is within project boundaries, and assess the overall project adherence to mitigation measures.	California red-legged frogs and San Francisco garter snakes are protected from disturbance or harm.
4) Potential impact to nesting birds (including salt marsh common yellowthroat and raptors)	If construction is proposed during the nesting season (February 15 - August 31), a qualified biologist shall inspect the property, including large trees within 250 feet of the property for nesting raptors, and any vegetation within 50 feet of the property for other nesting birds. If any nests or nesting activity is observed, consult with CDFW to determine appropriate protection measures.	Raptors and other birds potentially nesting in the area are protected from disturbance.

Impact	Mitigation Measure	Effect
5) Potential impact from removal of significant trees.	The coast redwood tree on site may qualify as a significant tree under the County of San Mateo's Significant Tree Ordinance. Removal of this tree may require a permit from the County of San Mateo.	Removal of any significant trees on site is permitted through the County of San Mateo.
6) Beneficial impact of removing invasive species and planting of native riparian plants within the Dean Creek riparian corridor.	Nonnative vegetation (Myoporum, poison hemlock, wild radish, etc.) along the north side of the property along Dean Creek shall be removed and this area replanted with native riparian species such as twinberry, red elderberry, arroyo willow and/or sitka willow.	Overall habitat value of Dean Creek riparian corridor is improved for native wildlife.

7. <u>Certification</u>. I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this biological evaluation to the best of my ability, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Patrick Kobernus,
Principal Biologist

Jennifer Radtkey
Associate Biologist

August 13, 2018

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Appendix A. Principle Investigator Qualifications

Patrick Kobernus, Wildlife Biologist

Patrick Kobernus is a Senior Biologist and Managing Member of Coast Ridge Ecology, LLC and has over 20 years' experience as a professional wildlife biologist. He currently manages a staff of six biologists and environmental specialists. He is experienced in conducting wildlife surveys for mammals, birds, amphibians, reptiles, fish, insects; supervising biological monitoring crews, endangered species monitoring and rare plant mapping; overseeing habitat management and restoration projects; and providing permitting assistance to a wide variety of public and private sector clients.

From 2010 to 2018, Mr. Kobernus has served as a consulting biologist for the Crystal Springs /San Andreas Transmission System Upgrade project and the SFPUC Bioregional Habitat Restoration Program. Mr. Kobernus has conducted extensive surveys and consulted on mitigation efforts for nesting birds, roosting bats, California red-legged frog, California tiger salamander, San Francisco garter snake, western pond turtle, steelhead, San Francisco dusky-footed woodrat and rare plants. Mr. Kobernus served as the Habitat Manager for the San Bruno Mountain Habitat Conservation Plan in San Mateo County for 13 years (1995-2007), where he supervised field crews monitoring the endangered mission blue, San Bruno elfin and callippe silverspot butterflies and mapping of the butterflies' host and nectar plants. He has conducted focused population monitoring and presence/ absence surveys for Bay checkerspot butterfly in the South San Francisco Bay Area and has conducted a research project for the USFWS on the distribution of the Lillian's silverspot butterfly in the North San Francisco Bay Area. He has conducted USFWS protocol surveys for California tiger salamander, California red-legged frog, as well as electrofishing and trapping surveys for steelhead, and nesting bird surveys for raptors including burrowing owl, peregrine falcon, northern spotted owl, passerines and shorebirds, and acoustic and habitat surveys for bats within San Mateo, Santa Clara and San Francisco Counties. Mr. Kobernus holds a California Department of Fish and Wildlife scientific collecting permit and USFWS 10(a)(1)(A) Recovery Permit for the California red-legged frog, San Francisco garter snake, and the California tiger salamander.

Mr. Kobernus has extensive experience in preparing Local Coastal Program biological impact forms, Joint Aquatic Resource Permit Applications (JARPA), California Department of Fish and Wildlife 1602 Streambed Alteration Agreements, section 404 permit applications with the US Army Corps of Engineers (ACOE) and 401 certification applications with the California Regional Water Quality Control Board.

Mr. Kobernus is a trained wetland delineator in the ACOE delineation methodology (wetland training institute, March, 2001), and has received specialty training in applied hydric soils (WTI, May 2003) and in acoustic surveys and mist-netting bats (The Wildlife Society bat trainings, 2006, 2008, 2012; Wildlife Acoustics bat training, 2013); Bat Conservation and Management training, July 2015); and in special status amphibian surveys (California tiger salamander workshop (2013) and Aquatic Species Survey Techniques Workshop in 2008 and 2010.

Jennifer Radtkey, Associate Biologist II

Ms. Radtkey has extensive experience as a wildlife biologist and has worked professionally for over 20 years conducting endangered species surveys, managing biological survey crews, and overseeing construction as a biological monitor. She has conducted numerous focused surveys and monitoring for wide variety of animals and plants including native fish, reptiles, raptors, small mammals, and invertebrates. Ms. Radtkey is proficient in performing surveys for California red-legged frog, Western pond turtle and Arroyo toad as well as nesting bird surveys for coastal California gnatcatcher, least Bell's vireo, and Burrowing owl. Ms. Radtkey has assisted with monitoring for sensitive and endangered species at Crystal Springs Reservoir and Sunol Goat Rock and Grimes sites for the San Francisco Public Utilities Commission Water System Improvement Program, as well as for the County of San Mateo Parks and the Port of San Francisco. Ms. Radtkey is well versed in invertebrate monitoring and survey work for the Quino checkerspot butterfly, San Bruno elfin, Mission blue butterfly, Hermes copper butterfly, Freshwater branchiopods and various pollinating insects. Ms. Radtkey is skilled in identifying and surveying for threatened and endangered plant species such as *Dienandra conjugens*, *Acanthomintha ilicifolia*, *Allium munzii*, *Arctostaphylos glandulosa* ssp. *crassifolia*, and *Monardella viminea*. Ms. Radtkey has also conducted construction monitoring for private and public clients. As a biologist for Coast Ridge Ecology since March 2017, she has assisted with nesting bird surveys and biweekly mission blue and San Bruno

elfin butterfly surveys on the peninsula watershed.

Ms. Radtkey holds a U.S. Fish and Wildlife Service 10(a)(1)(A) Recovery Permit for freshwater branchiopods, coastal California gnatcatcher, and Quino checkerspot butterfly and a CA Department of Fish and Wildlife Scientific Collection Permit for vernal pool and terrestrial invertebrates. She is a trained wetland delineator in the ACOE delineation methodology (Natural Resources Defense Council, March 2015), trained in the ecology of the California red-legged frog (Alameda County Resource Conservation District, April 2016). She has experience in preparing California Department of Fish and Wildlife 1602 Streambed Alteration Agreements, section 404 permit applications with the US Army Corps of Engineers (ACOE) and 401 certification applications with the California Regional Water Quality Control Board.

APPENDIX B: Representative Photos of 1855 Sunshine Valley Road

Photo B-1. View of Dean Creek looking east (upstream) from driveway of 1855 Sunshine Valley Road. Sunshine Valley Road is just to the left of view. Photo date: 07/20/2018.

Photo B-2. View of Dean Creek looking west with culvert under driveway. Photo date: 7/20/2018.

Photo B-3. View of project area with coast redwood and Monterey cypress visible in middle of image. Photo date: 7/20/2018.

Photo B-4. View of western side of property looking south. Residence at 1855 Sunshine Valley Road seen on right side of photo. Photo date: 7/20/2018.

Photo B-5. Closer view of southeast corner of the property with arroyo willow thicket. Photo date: 7/20/2018.

Photo B-6. View of dense understory vegetation to the east of the property.
Photo date: 7/12/2018.

Appendix C. Special Status Plant and Animal Species in the Vicinity of the Project Site

Table 1. Special status plant and animal species that were considered for their potential to occur on the Hermosa Avenue property, Half Moon Bay, CA.

Species Name	Status	Habitat[1]	Potential to Occur Onsite
MAMMALS			
American badger *Taxidea taxus*	SSC	Most abundant in drier open stages of shrub, forest, and herbaceous habitats, with friable soils.	**No potential.** Grassland is very limited in size. No burrows observed on site.
Big free-tailed bat *Nyctinomops macrotis*	SSC	Low-lying arid areas; roosts in high cliffs and rocky outcrops.	**No potential.** Suitable roosting habitat not present onsite.
Fringed myotis *Myotis thysanodes*	WBWG:H	Found in a wide variety of habitats, but prefers dry hardwood woodlands. Roosts in rock crevices, bridges, buildings and tree hollows.	**No potential.** Suitable roosting habitat not present.
Hoary bat *Lasiurus cinereus*	WBWG:M	Roosts in dense foliage of deciduous and evergreen trees, forages over streams and ponds. Prefers habitat edges for feeding.	**No potential**. Minimal suitable roosting sites present. This species does not breed in the San Francisco Bay area.
Pallid bat *Antrozous pallidus*	SSC	Generally found in dry, open habitats including deserts, grasslands, shrublands, woodlands and forests. Roosts in protected structures and rocky outcrops.	**No potential.** Minimal **s**uitable foraging habitat. No roosting structures on site.
Salt-marsh harvest mouse *Reithrodontomys raviventris*	FE, SE	Salt and brackish water wetlands in the San Francisco Bay only. Requires pickleweed (*Sarcocornia pacifica)* as cover and forage.	**No potential**. Suitable habitat not present.
San Francisco dusky-footed woodrat *Neotoma fuscipes annectens*	SSC	Forests with moderate canopies and moderate to dense understory.	**Moderate potential.** Suitable habitat is present for foraging. Middens observed greater than 30 feet away from the site.

[1] Habitat requirements summarized from species accounts and descriptions of reported localities (Zeiner, et al., 1990; Jennings and Hayes, 1994; CNDDB, 2018; CNPS, 2018).

Species Name	Status	Habitat[1]	Potential to Occur Onsite
Townsend's big-eared bat Corynorhinus townsendii	SSC	Occurs throughout California in a wide variety of habitats. Most common in mesic sites and roosts in man-made structures (e.g. barns) along California coast.	**No potential.** Suitable foraging habitat, but no suitable roosting habitat onsite.
BIRDS			
Alameda song sparrow *Melospiza melodia pusillula*	SSC	Salt marshes bordering south arm of San Francisco Bay. Inhabitats *Sarcocornia* marshes and nests in *Grindelia* bushes.	**No potential**. Property is not located within the San Francisco Bay salt marshes.
American peregrine falcon *Falco peregrinus anatum*	FSC	Hunts on beaches, mudflats and near water features including wetlands, lakes and rivers. Nests on ledges in cliffs or buildings.	**Low potential.** Minimal nesting or foraging habitat present on site.
Bank swallow *Riparia riparia*	CT	Riparian ecosystems, forages in a variety of ecosystems, but primarily over water features. Colonial nester in vertical banks/cliffs with fine sandy soils.	**No potential**, foraging only. No nesting habitat present.
Burrowing owl *Athene cunicularia*	SSC	Grassland, open areas with rodent activity; nest in burrows and is most often associated with the California ground squirrel.	**No potential.** Suitable habitat not present. No ground squirrel burrows or other suitable burrow features observed.
California black rail *Laterallus jamaicensis coturniculus*	CT, FSC	Freshwater marsh, wet meadows, and margins of saltwater marshes. Requires water depths of approximately one inch for nesting habitat.	**No potential.** No foraging or nesting habitat present.
California Ridgway's rail *Rallus obsoletus obsoletus*	FE, CE	Salt-water and brackish marshes in the San Francisco Bay. Associated with pickleweed.	**No potential**. No foraging or nesting habitat present.
Double-crested cormorant *Phalacrocorax auritus*	WL	Nesting habitat includes coastal cliffs, offshore islands, and along lake margins in inland areas.	**No potential**. No suitable nesting or foraging habitat present.

Species Name	Status	Habitat[1]	Potential to Occur Onsite
Great blue heron *Ardea herodias*	Sensitive	Nests in colonial rookeries in trees and cliffs near marshes. Forages in marshes, lake margins, rivers and streams, wet meadows.	**No potential**. No suitable nesting or foraging habitat present.
Marbled murrelet *Brachyramphus marmoratus*	FT, CE	Nests in old growth coniferous forest and old growth Redwood forest.	**No potential**. No suitable nesting or foraging habitat present.
Merlin *Falco columbarius*	WL	Seacoast, tidal estuaries, open woodlands, savannahs, grassland and desert edges, farms and ranches. Roosts in trees, nests in northern Canada and Alaska.	**Low potential**, foraging habitat present only. Merlins do not nest in California.
Saltmarsh common yellowthroat *Geothlypis trichas sinuosa*	SSC	Marshy, brushy vegetation in or near water or wet meadow/ scrub habitat. Requires thick continuous cover for foraging. Nests in willow, tall grasses, scrub and tule patches.	**Moderate potential**. Potential nesting and foraging habitat present on site.
Western snowy plover *Charadrius alexandrinus nivosus*	FT, SSC	Sandy beaches, salt pond levees, and alkali lake shores. Requires sandy, gravelly soils for nesting.	**No potential.** No suitable nesting or foraging habitat present.
AMPHIBIANS AND REPTILES			
California giant salamander *Dicamptodon ensatus*	SSC	Occurs in wet coastal forests in or near clear, cold permanent and semi-permanent streams and seepages.	**No potential**. No suitable aquatic breeding or foraging habitat present.
California red-legged frog *Rana draytonii*	FT, SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation.	**Low potential**. No suitable breeding habitat nearby, but could occur on site during upland migratory movements.
California tiger salamander *Ambystoma californiense*	FT, CT, WL	Seasonal wetlands in grassland and oak-savannah. Requires underground refuges for cover and vernal pools or other seasonal water sources for breeding.	**No potential.** No suitable habitat present.

Species Name	Status	Habitat[1]	Potential to Occur Onsite
Foothill yellow-legged frog *Rana boylii*	SSC	Partly shaded, shallow streams and riffles with a rocky substrate in a variety of habitats.	**No potential.** Suitable habitat not present**.**
Santa Cruz black salamander *Aneides niger*	SSC	Mixed deciduous and coniferous woodlands and coastal grasslands in San Mateo, Santa Cruz, and Santa Clara counties.	**No potential**. No suitable nesting or foraging habitat present.
San Francisco garter snake *Thamnophis sirtalis tetrataenia*	FE, CE, FP	Near freshwater marshes, ponds, and slow moving streams. Prefers dense cover and water depths of at least one foot. Also found in upland habitats adjacent to water sources. Prefers south or west facing slopes with open habitats with occasional shrubs for cover.	**Low potential.** Lack of suitable aquatic foraging habitat. Some potential for species to utilize site when traveling between breeding/ foraging habitats.
Western pond turtle *Emys marmorata*	SSC	Ponds, creeks in woodland, grassland. Species requires deep water ponds, streams, or marshes with sunny, emergent basking sites and sunny upland habitat for nesting.	**No potential.** No suitable habitat present.
FISH			
Steelhead- central California coast DPS *Oncorhynchus mykiss irideus*	FT	Well oxygenated, moderate to fast flowing streams with woody debris, deep pools, riffles, and gravels.	**No potential.** No suitable habitat present. Creek on site is intermittent with no defined channel and no flow under most conditions.
Tidewater goby *Eucyclogobius newberryi*	FE, SSC	Shallow marine areas, lagoons and adjacent streams	**No potential**. No suitable habitat present.
INVERTEBRATES			
Bay checkerspot butterfly *Euphydryas editha bayensis*	FT	Restricted to native grasslands on outcrops of serpentine soil in the vicinity of San Francisco Bay.	**No potential.** No suitable habitat present on site.

Species Name	Status	Habitat[1]	Potential to Occur Onsite
Bumblebee scarab beetle *Lichnanthe ursina*	G2, S2	Coastal sand dunes from Sonoma county south to San Mateo county. Usually stays close to sand surface.	**No potential**. No suitable habitat present.
Edgewood blind harvestman *Calicina minor*	G1, S1	Open grassland in areas of serpentine bedrock, found on the underside of serpentine rocks near permanent springs.	**No potential.** No suitable habitat present on site
Edgewood Park micro-blind harvestman *Microcina edgewoodensis*	G1, S1	Open grasslands with serpentine rocks, adjacent to scrub oaks.	**No potential**. No suitable habitat present on site
Mimic tryonia (=California brackishwater snail) *Tryonia imitator*	G2G3, S2S3	Coastal lagoons, estuaries and salt marshes.	**No potential**. No suitable habitat present on site
Mission blue butterfly *Plebejus icarioides missionensis*	FE	Occurs in grasslands within the coastal fogbelt in southern Marin, San Francisco, and San Mateo counties; requires one or all three of its larvae foodplants (*Lupinus albifrons, L. formosus, and L. variicolor*).	**No potential**. No suitable habitat present on site
Monarch Butterfly *Danaus plexippus*	G5, S3	Roosts located in wind protected tree groves (eucalyptus, Monterey pine, Monterey cypress) with nectar sources and water nearby.	**Low potential.** Although a Monterey cypress exists on the property, a single tree is too small to provide roosting habitat for this species.
Myrtle's silverspot *Spyeria zerene myrtleae*	FE	Coastal habitats with *Viola adunca.* Restricted to foggy dunes and hills of the Point Reyes peninsula.	**No potential**. No suitable habitat present on site.
Obscure bumble bee *Bombus caliginosus*	G4, S1S2	Coastal areas from Santa Barbara county to north to Washington state. Grassy coastal prairies and meadows. Nectar and pollen plants include: *Ceanothus, Cirsium, Clarkia, Keckiella, Lathyrus, Lotus, Lupinus, Rhododendron, Rubus, Trifolium,* and *Vaccinium*	**Low potential.** Minimal host plants present on site. Limited nest sites present.

Species Name	Status	Habitat[1]	Potential to Occur Onsite
Ricksecker's water scavenger beetle *Hydrochara rickseckeri*	G1G2, S1S2	Aquatic habitats, weedy shallow open water, and slow moving stream habitats.	**No potential.** No aquatic habitat present.
San Bruno elfin butterfly *Callophrys mossii bayensis*	FE	Coastal mountains with grassy ground cover, mainly near San Bruno mountain. Host plant is *Sedum spathulifolium*.	**No potential.** Host plant not present, no suitable habitat present.
San Francisco fork-tailed damselfly *Ischnura gemina*	G2, S2	Freshwater marshes and creeks with emergent and floating aquatic vegetation.	**No potential.** No suitable habitat present on site
Western bumble bee *Bombus occidentalis*	G2G3, S1	Open grassy areas, urban parks and gardens, chaparral and shrub areas, and mountain meadows. Nests underground. Once common and widespread, species has declined precipitously from central CA to southern B.C., perhaps from disease.	**Low potential.** Suitable habitat is present for foraging only.
PLANTS			
Anderson's manzanita *Arctostaphylos andersonii*	CNPS 1B.2	Broadleaved upland forest Chaparral North coast coniferous forest Elevation: 60 - 760 meters Blooming period: Nov-May	**No Potential**. No suitable habitat present on site. Not observed during site visit.
Arcuate bush-mallow *Malacothamnus arcuatus*	CNPS 1B.2	Chaparral, Cismontane woodland. Elevation: 15 - 355 meters.	**No Potential**. No suitable habitat present on site. Not observed during site visit.
Bent- flowered fiddleneck *Amsinckia lunaris*	CNPS 1B.2	Coastal bluff scrub, Cismontane woodland, Valley and foothill grassland. Elevation: 3 - 500 meters. Blooming period: Mar. – June.	**No Potential.** Not observed on site during survey.
Blasdale's bent grass *Agrostis blasdalei*	CNPS 1B.2	Coastal bluff scrub Coastal dunes Coastal prairie Elevation: 0 - 150 meters Blooming period: May-July	**No Potential**. No suitable habitat on site. Not observed on site during survey.
Chaparral ragwort *Senecio aphanactis*	CNPS 2B.2	Chaparral Cismontane woodland Coastal scrub Elevation: 15 - 800 meters Blooming period: Jan-Apr(May)	**No Potential.** No suitable habitat present on site.

Species Name	Status	Habitat[1]	Potential to Occur Onsite
Choris popcornflower *Plagiobothrys chorisianus* var. *chorisianus*	CNPS 1B.2	Chaparral, Coastal prairie, Coastal scrub, mesic. Elevation: 15 - 160 meters. Blooming period: Mar. –June	**No Potential**. No suitable habitat on site**.**
Coastal marsh milk-vetch *Astragalus pycnostachyus* var. *pycnostachyus*	CNPS 1B.2	Moist dunes, marshes, streamsides, Wetland. Elevation: 0 - 30 meters. Blooming period: Apr.-Oct.	**No Potential**. No suitable habitat on site.
Coastal triquetrella moss *Triquetrella californica*	CNPS 1B.2	Coastal bluff scrub, Coastal scrub, Valley and foothill grassland, rocky slopes. Elevation: 10- 100 meters.	**No Potential**. No suitable habitat on site.
Coast yellow leptosiphon *Leptosiphon croceus*	CNPS 1B.1	Coastal bluff scrub, Coastal prairie. Elevation: 10 - 150 meters. Blooming period: Apr.-May.	**No Potential**. No suitable habitat on site
Crystal Springs fountain thistle *Cirsium fontinale var. fontinale*	FE, CE, CNPS 1B.2	Chaparral, Cismontane woodland, Meadow & seep Ultramafic, Valley & foothill grassland, Wetland. Blooming period: (April) May-October	**No Potential**. No suitable habitat on site
Crystal Springs lessingia *Lessingia arachnoidea*	CNPS 1B.2	Cismontane woodland, Coastal scrub, Valley and foothill grassland, Strong affinity to serpentine soil. Elevation: 60 - 200 meters. Blooming period: July- Oct.	**No Potential**. No suitable habitat present on site.
Fragrant fritillary *Fritillaria liliacea*	CNPS 1B.2	Coastal scrub, Cismontane woodland, Coastal prairie, Valley and foothill grassland, clay or serpentine. Elevation: 3 - 410 meters. Blooming period: Feb.-Apr.	**No Potential.** No suitable habitat on site
Franciscan onion *Allium peninsulare var. franciscanum*	CNPS 1B.2	Cismontane woodland, Valley and foothill grassland. Clay soils, often on serpentine. Dry hillsides. Elevation: 100-300 m. Blooming: period: May-June.	**No Potential**. No suitable habitat on site.
Franciscan thistle *Cirsium andrewsii*	CNPS 1B.2	Coastal scrub, Broadleafed upland forest, Coastal bluff scrub, Coastal prairie Ultramafic. Elevation: 0 - 150 meters. Blooming period: Mar. - July.	**No Potential**. No suitable habitat on site.

Species Name	Status	Habitat[1]	Potential to Occur Onsite
Hickman's cinquefoil *Potentilla hickmanii*	FE, CE, CNPS 1B.1	Open habitats within closed-cone coniferous forest, Coastal bluff scrub, Freshwater marsh, Marsh and swamp, Meadow and seep, Wetland. Elevation: 10 - 149 meters. Blooming period: Apr.-Aug.	**No Potential**. No suitable open habitat on site.
Hillsborough chocolate lily *Fritillaria biflora* var. *ineziana*	CNPS 1B.1	Cismontane woodland, Ultramafic, Valley foothill grassland. Blooming period: Mar. – Apr.	**No Potential**. No suitable habitat on site.
Kellogg's horkelia *Horkelia cuneata ssp. sericea*	CNPS 1B.1	Closed-cone coniferous forest Chaparral, Coastal dunes Coastal scrub /sandy or gravelly, openings. Blooming period: Apr. – Sept.	**No Potential**. No suitable habitat on site.
Kings Mountain manzanita *Arctostaphylos regismontana*	CNPS 1B.2	Broadleaved upland forest, Chaparral, North coast coniferous forest. Elevation: 305 - 730 meters.	**No Potential**. No suitable habitat on site. Not observed on site during survey.
Marin western flax *Hesperolinon congestum*	FT, CT, CNPS 1B.1	In serpentine barrens and in serpentine grassland and chaparral. Elevation: 5 - 370 meters. Blooming period: Apr.-July.	**No Potential**. No suitable habitat present.
Marsh microseris *Microseris paludosa*	FSC, CNPS 1B.2	Moist open woods or grassland; Closed-cone coniferous forest, Cismontane woodland, Coastal scrub, Valley and foothill grassland. Elevation: 5 - 300 meters Blooming period: April- June.	**No Potential**. No suitable habitat present.
Methuselah's beard lichen *Usnea longissima*	CNPS 4.2	Tree branches; usually on old growth hardwoods and conifers Elevation: 50 - 1460 meters	**No Potential.** No suitable habitat observed during the site visit.
Minute pocket moss *Fissidens pauperculus*	CNPS 1B.2	North Coast coniferous forest (damp coastal soil) Elevation: 10 - 1024 meters	**No Potential**. No suitable habitat on site.
Montara manzanita *Arctostaphylos montaraensis*	CNPS 1B.2	Chaparral, Coastal scrub, Elevation: 150 - 500 meters.	**No Potential**. No suitable habitat on site. Not observed on site during survey.

Species Name	Status	Habitat[1]	Potential to Occur Onsite
Oregon polemonium *Polemonium carneum*	CNPS 2.2	Coastal prairie, Coastal scrub, Lower montane coniferous forest. Elevation: 0 - 1830 meters. Blooming period: Apr. – Sept.	**No Potential**. No suitable habitat present.
Ornduff's meadowfoam *Limnanthes douglasii ssp. ornduffii*	CNPS 1B.1	Agricultural fields. Meadows and seeps Elevation: 10 - 20 meters Blooming period: Nov-May	**No Potential**. No suitable habitat present.
Pappose tarplant *Centromadia parryi* ssp. *parryi*	CNPS 1B.2	Chaparral, Coastal prairie, Marsh and swamp, Meadow and seep, Valley and foothill grassland (vernally mesic), often alkaline substrates. Elevation: 2 - 420 meters. Blooming period: May- Nov.	**No Potential**. No suitable habitat present.
Perennial goldfields *Lasthenia californica ssp. macrantha*	CNPS 1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub. Elevation: 5 - 520 meters. Blooming period: Jan.- Nov.	**No Potential**. No suitable habitat present.
Point Reyes horkelia *Horkelia marinensis*	CNPS 1B.2	Sandy Coastal dunes, Coastal prairie, Coastal scrub Elevation: 5 - 755 meters Blooming period: May-Sept	**No Potential**. No suitable habitat present.
Point Reyes salty bird's-beak *Chloropyron maritimum ssp. palustre*	CNPS 1B.2	Marsh and swamp, Salt marsh, Elevation: 0 - 10 meters. Blooming period: June- Oct.	**No Potential**. No suitable habitat on site.
Rose leptosiphon *Leptosiphon rosaceus*	CNPS 1B.1	Coastal bluff scrub. Elevation: 0 - 100 meters. Blooming period: Apr.-July.	**No Potential**. No suitable habitat present.
Round-leaved filaree *California macrophylla*	CNPS 1B.1	Cismontane woodland, Valley and foothill grassland/clay Elevation: 15 - 1200 meters. Blooming period: Mar. -May	**No Potential.** No suitable habitat present.
Saline clover *Trifolium hydrophilum*	CNPS 1B.2	Marshes and swamps Valley and foothill grassland (mesic, alkaline), Vernal pools Elevation: 0 - 300 meters Blooming period: Apr-Jun	**No potential.** No suitable habitat observed during the site visit.
San Francisco Bay spineflower *Chorizanthe cuspidata var. cuspidata*	CNPS 1B.2	Coastal bluff scrub, Coastal dunes, Coastal prairie, Coastal scrub, open sandy soils. Elevation: 3 - 215 meters. Blooming period: Apr. - July.	**No Potential**. No suitable soils present on site.

Species Name	Status	Habitat[1]	Potential to Occur Onsite
San Francisco campion *Silene verecunda ssp. verecunda*	CNPS 1B.2	Chaparral, Coastal bluff scrub, Coastal prairie, Coastal scrub, Valley and foothill grassland, Often on mudstone or shale, Sandy soils, Ultramafic. Elevation: 30 - 645 meters. Blooming period: Mar. - Aug.	**No Potential**. No suitable soils present on site.
San Francisco collinsia *Collinsia multicolor*	CNPS 1B.2	Closed cone coniferous forest, Coastal scrub, Elevation: 30 - 250 meters. Blooming period: Mar.-May	**No Potential**. No suitable habitat present.
San Francisco gumplant *Grindelia hirsutula* var. *maritima*	CNPS 3.2	Coastal bluff, coastal scrub, grasslands. Elevation: 15 - 400 meters. Blooming period: June- Sept.	**No Potential**. Not observed on site during survey.
San Francisco's owls'-clover *Triphysaria floribunda*	CNPS 1B.2	Coastal prairie, Coastal scrub Valley and foothill grassland, often on serpentine. Elevation: 10 - 160 meters. Blooming period: Apr.-June	**No Potential**. No suitable soils present on site.
San Mateo thorn-mint *Acanthomintha duttonii*	FE, CE, CNPS 1B.1	Chaparral, Serpentinite, Valley and foothill grasslands. Elevation: 50 - 300 meters. Blooming period: Apr.-June.	**No Potential**. No suitable habitat on site.
San Mateo woolly sunflower *Eriophyllum latilobum*	FE, CE, CNPS 1B.1	Cismontane woodland, Ultramafic, Elevation: 45 - 150 meters. Blooming period: May- June.	**No Potential**. No suitable habitat on site.
Short-leaved evax *Hesperevax sparsiflora* var. *brevifolia*	CNPS 1B.2	Coastal bluff scrub, Coastal dunes, Sandy soils. Elevation: 0 - 215 meters. Blooming period: Mar.-June.	**No Potential**. No suitable habitat on site
Western leatherwood *Dirca occidentalis*	CNPS 1B.2	Moist ravines, riparian thickets on slopes, Broad leafed upland forest, Closed-cone coniferous forest, Chaparral, Cismontane woodland, North Coast coniferous forest. Elevation: 25 - 425 meters.	**No Potential**. Not observed on site during survey.

Species Name	Status	Habitat[1]	Potential to Occur Onsite
White-rayed pentachaeta *Pentachaeta bellidiflora*	FE, CE, CNPS 1B.1	Ultramafic grassland. Open dry rocky slopes and grassy areas. Often on soils derived from serpentine bedrock. Elevation: 35 - 620 meters. Blooming period: Mar-May	**No Potential**. No suitable habitat present on site.
Woodland woollythreads *Monolopia gracilens*	CNPS 1B.2	Broadleaved upland forest (openings), Chaparral, Cismontane woodland, North coast coniferous forest (openings), Ultramafic, Valley and foothill grassland, Elevation: 100 - 1200 meters. Blooming period: Mar.-July	**No Potential**. No suitable habitat present on site.

TABLE 1: KEY
(FE) Endangered = Federally listed as Endangered.
(FT) Threatened = Federal list, likely to become endangered in the foreseeable future.
(FP) Proposed = Species or Critical Habitat proposed for official Federal listing.
(FC) Candidate = Federal candidate to become a Proposed species.
(FSC) Federal Species of Concern = May be endangered or threatened, but not enough biological information to list.
(CE, CT, CR) State Listed = Listed as endangered, threatened or rare by California.
(CSC) California Species of Concern = CDFW concern for population trends.
(CFP) California Fully Protected = Fish and Wildlife Code prohibits take of individuals
(CNPS 1B) = California Native Plant Society: rare or endangered in CA or elsewhere.
0.1: Seriously endangered in California
0.2: Fairly endangered in California
(CNPS 2) = California Native Plant Society: rare or endangered in CA but more common elsewhere.
(CNPS 3) = California Native Plant Society: more information is needed to determine degree of sensitivity.
(CNPS 4) = California Native Plant Society: plant of limited distribution.
CNPS Threat Ranks
0.1 = Seriously threatened in California
0.2 = Fairly threatened in California
0.3 = Not very threatened in California
(Sensitive) = CA Dept. of Forestry classification; deserves special consideration during timber harvest operations.
(WBWG:M) = Western Bat Working Group: Medium Priority
(WBWG:H) = Western Bat Working Group: High Priority
(WL) Watch List California Department of Fish and Wildlife
(D) = Delisted from Federal List. Status to be monitored for 5 years.

NatureServe Conservation Status Rankings
(G1) = Globally Critically Imperiled. At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.
(G2) = Globally Imperiled. At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.
(G3) = Globally Vulnerable. At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.
(S1) = State Critically Imperiled. At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.
(S2) = State Imperiled. At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.
(S3) = State Vulnerable. At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.