

## **Appendix B: Biological Site and Impact Assessment**

**BIOLOGICAL SITE AND IMPACT ASSESSMENT  
GYPSY HILL ROAD  
APN (016-421-080)  
PACIFICA, SAN MATEO COUNTY**

**RECEIVED**

Prepared for:  
David Wilcox  
320 Bayshore Blvd.  
San Francisco, CA 94124

MAR 31 2008

~~OFFICE OF THE COUNTY CLERK~~

Prepared by:  
TRA Environmental Sciences, Inc.  
545 Middlefield Road, Suite 200  
Menlo Park, CA 94025  
(650) 327-0429

January 2008

## SUMMARY

The subject property consists of one parcel totaling approximately 3.8 acres located at APN 016-421-080 along Gypsy Hill Road in Pacifica, San Mateo County (Figure 1). Gypsy Hill Road is located west of Sharp Park Road and runs parallel and just north of the northern boundary of the City of San Francisco's Sharp Park. The property is currently undeveloped, and consists of a fairly steep south-facing slope with native coastal scrub vegetation, Monterey pine and eucalyptus trees, and some patches of non-native grassland. Several single-family homes are present on similarly large parcels along Gypsy Hill Road. Although not adjacent to the site, open space in the vicinity includes Milagra Ridge to the north, Sweeney Ridge to the southeast, and Sharp Park to the south. Other large properties in the vicinity include Skyline College to the east on the far side of Sharp Park Road and the Sharp Park Golf Course to the west. The property falls under the jurisdiction of the City of Pacifica and is subject to several environmental regulations.

The proposed project for the site is a single-family home on the northwestern corner of the property, adjacent to Gypsy Hill Road. The proposed building envelope is 6,300 square feet (3.8 % of the property). Approximately 2,300 linear feet of Gypsy Hill Road beginning at Sharp Park Road and ending at the project site will be paved to improve access and decrease dust.

No special-status animal or plant species were detected on the property during the site visit on June 27, 2007. Due to the high number of non-native plants dominating the landscape, the likelihood for rare plants to occur is very low. Additionally, the site visit was conducted when a number of rare plants with potential to occur onsite would have been in bloom, thus increasing the likelihood of detection. Seven special-status animal species were determined to have some potential to occur onsite. These are the California red-legged frog, San Francisco garter snake, monarch butterfly, San Francisco dusky-footed woodrat, saltmarsh common yellowthroat, Mission blue butterfly, and fringed myotis bat.

Recommendations to avoid and minimize project-related impacts to biological resources include:

- Protection of California red-legged frog and San Francisco garter snake during construction activities
- Protection of monarch butterflies during the winter roosting season
- Protection of San Francisco dusky-footed woodrat houses
- Avoidance and protection of Mission Blue butterfly and their habitat
- Protection of nesting birds during the breeding season
- Protection and/or replacement of City of Pacifica Heritage Trees
- Implementation of erosion control methods and measures to avoid stormwater pollution
- Preservation of property's function as a movement corridor for wildlife

**TABLE OF CONTENTS**

**I. INTRODUCTION..... 1**

**II. SETTING..... 1**

    A. PROJECT LOCATION ..... 1

    B. PROPOSED PROJECT ..... 1

**III. METHODS ..... 4**

**IV. RESULTS..... 4**

    A. HABITAT TYPES..... 4

    B. WILDLIFE..... 5

    C. WILDLIFE MOVEMENT CORRIDORS..... 5

    D. SPECIAL-STATUS SPECIES..... 6

**V. REGULATORY CONSIDERATIONS ..... 15**

    A. FEDERAL AND STATE ENDANGERED SPECIES ACTS ..... 15

    B. SPECIES OF SPECIAL CONCERN ..... 15

    C. STATE FULLY PROTECTED SPECIES..... 16

    D. NESTING BIRDS..... 16

    E. CALIFORNIA NATIVE PLANT SOCIETY AND CEQA ..... 17

    F. POTENTIALLY SIGNIFICANT IMPACTS UNDER CEQA ..... 17

    G. REGULATED WATERS ..... 17

    H. STORMWATER CONTROL REQUIREMENTS..... 17

    I. CITY OF PACIFICA HERITAGE TREE ORDINANCE ..... 18

**VI. RECOMMENDATIONS ..... 18**

    A. LISTED OR SIGNIFICANT WILDLIFE ..... 20

    B. PROTECTION OF NESTING BIRDS ..... 22

    C. TREE REMOVAL ..... 22

    D. EROSION CONTROL AND STORMWATER POLLUTION MEASURES ..... 22

    E. MAINTENANCE OF WILDLIFE CORRIDORS ..... 23

**VII. REFERENCES..... 24**

**LIST OF FIGURES**

Figure 1. Regional Location Map ..... 2

Figure 2. Aerial Photo of Property and Vegetation Communities..... 3

Figure 3. Location of silver lupine along Gypsy Hill Road..... 14

**LIST OF TABLES**

Table 1. Special-status species considered for their potential to occur onsite ..... 6

Table 2. Mitigation measures suggested for project construction activities..... 19

**APPENDICES**

Appendix A. Representative Photos of the Site..... A-1

Appendix B. Species Observed Onsite ..... B-1

Appendix C. Qualifications ..... C-1

## I. INTRODUCTION

This report investigates biological resources and assesses the impact of development at APN 016-421-080 and paving of a portion of Gypsy Hill Road in Pacifica, San Mateo County. The investigation includes special-status plant and animal species' potential for occurrence, and the property's habitat functions, including as a wildlife corridor. Recommendations with respect to minimizing impacts to biological resources and requirements of regulatory agency are also provided. The project falls under the jurisdiction of the City of Pacifica and is subject to several environmental regulations (see section V below for a full discussion).

## II. SETTING

### A. Project Location

The subject property is approximately 3.8 acres and located at APN 016-421-080 along Gypsy Hill Road in Pacifica, San Mateo County (Figures 1 and 2). It is currently undeveloped. Gypsy Hill Road is located west of Sharp Park Road and runs parallel and just north of the northern boundary of the City of San Francisco's Sharp Park. The property consists of a fairly steep south-facing slope with native coastal scrub vegetation, Monterey pine and eucalyptus trees, and some patches of non-native grassland. The property's lowest elevation, at approximately 225 feet msl (mean sea level), is situated in the southwest corner of the property within a wet scrubby swale. From the southern boundary, the property steadily climbs to the north until it meets Gypsy Hill Road, which lies along the ridge of the hill at an elevation of approximately 370 feet msl. A relatively flat area is present in the northeast corner of the property. Two dry drainages run from Gypsy Hill Road downslope across the property to a larger drainage swale just outside the southern boundary that runs from east to west. The drainage swale near the southern boundary drains water from the southern half of Gypsy Hill.

Although the property is situated in a relatively undeveloped pocket of Pacifica, it is situated between two Pacifica neighborhoods. These are the Sharp Park neighborhood west of Gypsy Hill and near the Pacific Ocean and Skyline College/Pacific Heights area to the east of the property. Both neighborhoods are primarily residential. Open space in the vicinity includes Milagra Ridge to the north, Sweeney Ridge to the southeast, and Sharp Park to the south. Milagra Ridge and Sweeny Ridge are part of the Golden Gate National Recreation Area. Immediate surrounding land uses include undeveloped residential parcels and two single-family homes, one to the east and one to the west. The Pacific Ocean lies approximately 0.7 miles west.

### B. Proposed Project

The project proposes to construct a single-family home on the northwestern corner of the property, adjacent to Gypsy Hill Road. The building envelope including the house, driveway, walkways, and decks is 6,300 square feet (3.8 % of the property). The site will be accessed using Gypsy Hill Road. As currently proposed, the project would remove two to three eucalyptus trees and two small Monterey pine trees (approximately 8 inches in diameter). Additionally, approximately 2,300 linear feet of Gypsy Hill Road beginning at Sharp Park Road and ending at the subject property will be paved to improve access and decrease dust.

Figure 1. Regional Location Map

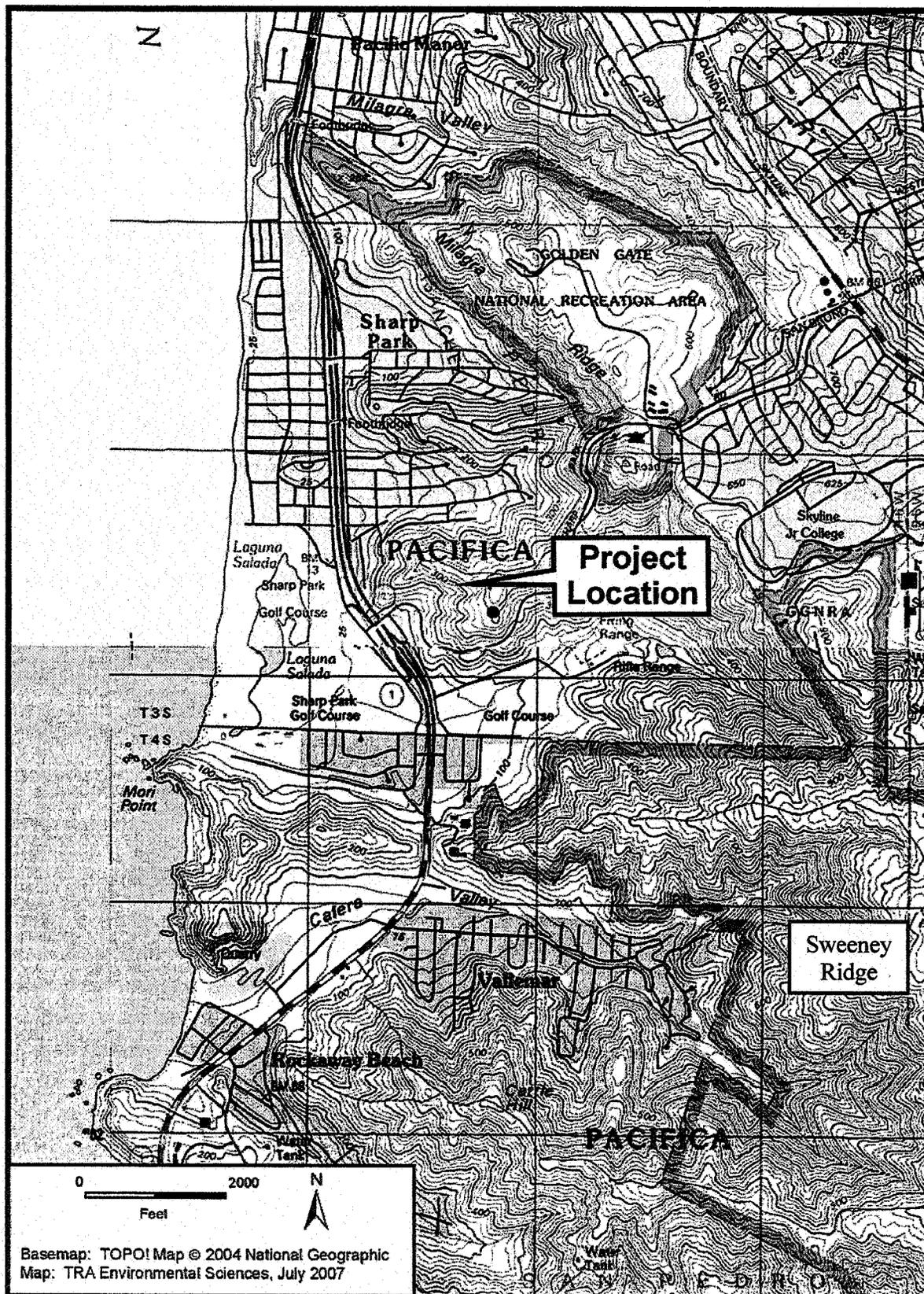
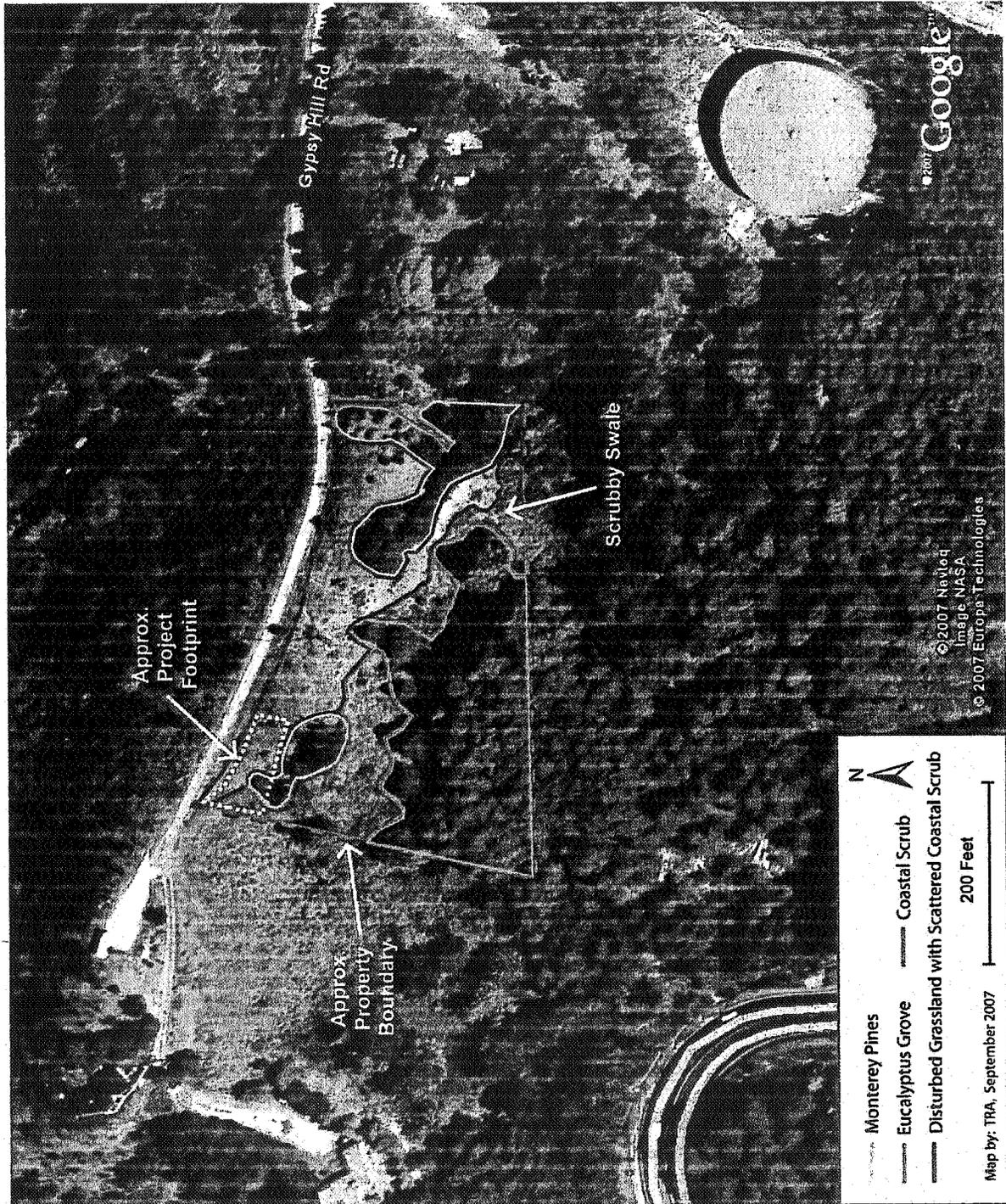


Figure 2. Aerial Photo of property and vegetation communities.



### III. METHODS

The property was surveyed for biological resources by TRA biologists Terese Kastner and Patrick Kobernus on June 27, 2007 from approximately 9:30 AM to 11:30 AM to document vegetation, habitat types and function, and wildlife found or suspected to occur on site (See Appendix C for Qualifications). The entire property and a 20-foot buffer on both sides of Gypsy Hill Road between the property and Sharp Park Road was inspected for biological resources and potential impacts that could result from property development and paving of Gypsy Hill Road. In order to increase the likelihood of detection, the site visit was conducted when a number of rare plants known to occur in the general vicinity would have been in bloom. All wildlife and plant species observed were noted.

In addition to the site surveys, the California Natural Diversity Database (CNDDDB) and California Native Plant Society (CNPS) On-line Inventory were searched to determine special-status species occurrences within 5 miles of the project site. Special-status species are plants or animals that are listed by the state and/or federal government as endangered, threatened, protected, or of special concern because of declining populations or habitats.

### IV. RESULTS

Results of findings on habitat types, wildlife and special-status species potentially present on site are presented below. Representative photos of the project site are provided in Appendix A. All species observed on site are listed in Appendix B.

#### A. Habitat Types

The property consists of northern coastal scrub vegetation, a eucalyptus grove, and non-native grassland. In addition, Monterey pine (*Pinus radiata*) trees that appeared to have been planted are found throughout the property (Figure 2). Habitats found within the project footprint include roughly 4,700 square feet of grassland, roughly 800 square feet of Monterey pine trees, and roughly 800 square feet of coastal scrub. Vegetation along Gypsy Hill Road consists of non-native grassland species, coastal scrub species, and some planted Monterey pines. One small patch of less than 40 silver lupine (*Lupinus albifrons*) plants was found along the road.

Northern coastal scrub vegetation on the property covers much of the area between the eucalyptus forest and the grassland. Dominant native shrub species onsite include coyote brush (*Baccharis pilularis*), sticky monkey flower (*Mimulus aurantiacus*), and California sagebrush (*Artemisia californica*). The dense scrub within the swale on the southeastern portion of the property contains native species such as coffee berry (*Rhamnus californica*), poison oak (*Toxicodendron diversilobum*), red elderberry (*Sambucus racemosa*), and California blackberry (*Rubus ursinus*). Common herbaceous species occurring within the grassland include field mustard (*Brassica rapa*), wild radish (*Raphanus sativus*), wild oat (*Avena sp.*), fennel (*Foeniculum vulgare*), bristly ox-tongue (*Picris echioides*), and English plantain (*Plantago lanceolata*), among others. A dense eucalyptus (*Eucalyptus globulus*) forest dominates the southwestern and south central portion of the property. These trees vary in size and age. A full list of plant species observed during the site visit is provided in Appendix B.

One soil type, Barnabe-Candlestick complex, is found throughout the entire property (NRCS 2006). No serpentine or sandy soils are present on the property.

There are no water resources such as ponds or creeks present on the property. Three constructed ponds are found to the east of the property and range from 0.4 mile to 1.0 mile away. Laguna Salada, located within the Sharp Park Golf Course, is approximately 0.5 mile west of the site. Calera Creek is located approximately 0.9 mile south of the property.

## B. Wildlife

Wildlife habitat values are based on the availability of surface water, food plants, and prey associations. While some wildlife species are restricted to specific vegetation communities, others range across communities. Many common wildlife species are expected to occur among the various plant communities throughout the property, including the project footprint and surrounding lands. The project site and open space to the north and south provide valuable wildlife resources due to the diversity of habitats present (scrub, grassland and forest). Wildlife observed onsite included various birds, such as Anna's hummingbird (*Calypte anna*), Bewick's wren (*Thryomanes bewickii*), chestnut-backed chickadee (*Poecile rufescens*), and American goldfinch (*Carduelis tristis*), and reptiles including northern alligator lizard (*Elegaria coerulea*). A full list of wildlife species observed during the site visit is provided in Appendix B.

The northern coastal scrub habitat provides wildlife food plants and cover for a variety of species. Species that utilize coastal scrub habitat include spotted towhee (*Pipilo maculatus*), wrentit (*Chamaea fasciata*), California thrasher (*Toxostoma redivivum*), Anna's hummingbird (*Calypte anna*), white-crowned sparrow (*Zonotrichia leucophrys*), western scrub jay (*Aphelocoma californica*), California kingsnake (*Lampropeltis getula californiae*), ring-necked snake (*Diadophis punctatus amabilis*), western fence lizard (*Sceloporus occidentalis*), California mouse (*Peromyscus californicus*) and black-tailed jackrabbit (*Lepus californicus*) among others.

The grassland on site provides open habitat for a variety of species that forage within grasslands including seed eating birds such as house finch (*Carpodacus mexicanus*) and western meadowlark (*Sturnella neglecta*); burrowing rodents such as California meadow vole (*Microtus californica*) and Botta's pocket gopher (*Thomomys bottae*). Predators found throughout all habitats within the study area including the grassland are red-tailed hawk (*Buteo jamaicensis*), barn owl (*Tyto alba*), great horned owl (*Bulbo virginianus*), American kestrel (*Falco sparverius*), bobcat (*Lynx rufus*), coyote (*Canis latrans*), gopher snake (*Pituophis melanoleucus*), and racer (*Coluber constrictor*) among others.

Although the Monterey pine trees and eucalyptus forest are not native to the area, they provide habitat for a species such as alligator lizard (*Elegaria coerulea*), western fence lizard (*Sceloporus occidentalis*), striped skunk (*Mephitis mephitis*), ruby crowned kinglet (*Regulus calendula*), yellow-rumped warbler (*Dendroica coronata*), Pacific slope flycatcher (*Empidonax difficilis*), and common raven (*Corvus corax*), among others.

## C. Wildlife Movement Corridors

Wildlife movement includes migration (*i.e.*, usually one way per season), inter-population movement (*i.e.*, long-term genetic flow) and small travel pathways (*i.e.*, daily movement corridors within an animal's territory). While small travel pathways usually facilitate movement for daily home range activities, such as foraging or escape from predators, they also provide connection between outlying populations and the main corridor, permitting an increase in gene flow among populations. These linkages among habitats can extend for miles 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.

The subject property is situated on Gypsy Hill, which is between open space on Milagra Ridge and open space on Sweeney Ridge. Both Milagra Ridge and Sweeney Ridge are owned and operated by the Golden Gate National Recreation Area. However, Gypsy Hill is not directly adjacent to these open space lands, a portion of Sharp Park Golf Course and some sparsely developed parcels lie between Gypsy Hill and Sweeney Ridge. A strip of undeveloped land between Sharp Park Road and the Sharp Park Residential area links Gypsy Hill to Milagra Ridge.

Wildlife traveling from Milagra Ridge to Sweeney Ridge, or vice versa, would likely pass through at least a portion of land on Gypsy Hill. Therefore, the subject property could potentially be used as a travel corridor for wildlife. Any wildlife traveling through the subject property will not be affected by the proposed project because the majority of the property will not be developed and no placement of fences is proposed. A corridor of habitat will still be available on the subject property and will not hinder Gypsy Hill's connection to Milagra Ridge and Sweeney Ridge.

**D. Special-Status Species**

Special-status plant species include those listed as Endangered, Threatened, Rare, or as Candidates for listing by the U.S. Fish and Wildlife Service (USFWS; 2006b and c), the California Department of Fish and Game (CDFG; 2006a and b), and the CNPS (2006). Special-status animal species include those listed as Endangered, Threatened, Rare, or as Candidates for listing by the USFWS (2006a and c) and/or CDFG (2006c).

Special-status species that were considered for their potential to occur onsite are listed in Table 1. This list was compiled from a review of CNDDDB occurrences within 5 miles of the site, CNPS online inventory for the Montara Mountain and South San Francisco USGS quadrangles, other relevant publications, and the preparers' knowledge of the area and local species. Species whose habitat requirements are clearly not met on site were eliminated from further consideration.

**Table 1. Special-status plant and animal species that were considered for their potential to occur onsite or along Gypsy Hill Road from Sharp Park Road to the subject property.**

Species Name	Status	Habitat	Potential to Occur Onsite
WILDLIFE			
San Bruno elfin butterfly ( <i>Callophrys mossii bayensis</i> )	FE	Coastal mountainous areas with grassy ground cover, mainly in the vicinity of San Bruno Mountain, San Mateo County	None. No host plants present.
Monarch butterfly ( <i>Danaus plexippus</i> )	CEQA G5S3	Winter roosts in wind-protected tree groves up to 0.5 miles from coast,	Low potential. Trees onsite may provide potential roosting

Species Name	Status	Habitat	Potential to Occur Onsite
		typically eucalyptus, Monterey pine, Monterey Cypress, with nectar and water sources nearby	habitat.
San Francisco garter snake ( <i>Thamnophis sirtalis tetrataenia</i> ),	FE, SE, SP	Vicinity of freshwater marshes, ponds, and slow moving streams. Prefers dense cover and water depths of at least one foot. Upland areas near water are important.	Low potential. Habitat onsite may provide a dispersal/travel corridor. Closest occurrence 0.4 miles west.
Myrtle's silverspot ( <i>Speyeria zerene myrtilae</i> )	FE	Restricted to areas adjacent to the coast with suitable nectar plants and patches of its host plant, <i>Viola adunca</i> .	None. Not found in San Mateo County since the 1970's.
Saltmarsh Common Yellowthroat ( <i>Geothlypis trichas sinuosa</i> )	CSC	Fresh and saltwater marshes. Requires thick, continuous cover down to water surface for foraging, tall grasses and willows for nesting	Low potential. Some suitable habitat present within dense scrub in swale.
Alameda song sparrow ( <i>Melospiza melodia pusillula</i> )	CSC	Inhabits Salicornia marshes, nest low in Grindelia bushes (high enough to escape high tides) and in Salicornia	None. No suitable habitat present.
Mission blue butterfly ( <i>Icarioides missionensis</i> )	FE	Grassland and coastal scrub with larval food plant ( <i>Lupinus albifrons</i> , <i>L. variicolor</i> , <i>L. formosus</i> )	Low potential. Less than 20 host plants present along Gypsy Hill Road. Populations known within 0.2 miles of site.
California red-legged frog ( <i>Rana aurora draytonii</i> )	FT, CSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation.	Low potential. Habitat onsite may provide a dispersal/travel corridor. Occurs within 0.4 miles of the property.
American badger ( <i>Taxidea taxus</i> )	CSC	Most abundant in drier open stages of shrub, forest, and herbaceous habitats, with friable soils.	None. No recent records for area. Burrows not present onsite.
San Francisco Dusky-footed woodrat ( <i>Neotoma fuscipes annectens</i> )	CSC	Deciduous and mixed woodlands, scrub	High potential. Inactive house found onsite.
Callippe silverspot butterfly ( <i>Speyeria callippe callippe</i> )	FE	Northern coastal scrub of San Francisco peninsula with hostplant, <i>Viola pedunculata</i> , males congregate on hilltops in search of females	None. Habitat not present. Nearest known population 4.0 miles away.
Pallid bat ( <i>Antrozous pallidus</i> )	CSC	Open dry habitats with rocky areas for roosting in grasslands and oak woodlands	No potential. Historic record only, habitat not present.

Species Name	Status	Habitat	Potential to Occur Onsite
Fringed myotis ( <i>Myotis thysanodes</i> )	CEQA G4G5, S4	Undisturbed areas with large redwoods or with chaparral with rocks. Roosts in buildings, crevices, or caves.	Low potential. Found within 2.3 miles at Sweeney Ridge in 2005. No roosting habitat present onsite or along Gypsy Hill road.
Bay checkerspot butterfly ( <i>Euphydryas editha bayensis</i> )	FT	Restricted to native grasslands on outcrops of serpentine soil in the vicinity of San Francisco Bay.	None. No serpentine soils present onsite.
PLANTS			
Serpentine-based plants: arcuate bush mallow ( <i>Malacothamnus arcuatus</i> ), Crystal Springs lessingia ( <i>Lessingia arachnoidea</i> ), Franciscan onion ( <i>Allium peninsulare</i> var. <i>franciscanum</i> ), Franciscan thistle ( <i>Cirsium andrewsii</i> ), Hall's bush mallow ( <i>Malacothamnus hallii</i> ), San Francisco owl's clover ( <i>Triphysaria floribunda</i> ), San Francisco gumplant ( <i>Grindelia hirsutula</i> var. <i>maritima</i> ), white-rayed pentachaeta ( <i>Pentachaeta bellidiflora</i> )	Various, from CNPS 1B to FE	Serpentine or ultramafic soils mostly in grassland habitats, chaparral, sometimes foothill woodland, open coniferous forest	None. No serpentine soils present onsite.
Bent flowered fiddleneck ( <i>Amsinckia lunaris</i> )	CNPS 1B	Cismontane woodland, valley and foothill grassland. Blooms March – June.	None. Not observed during field visit.
Choris's popcorn-flower ( <i>Plagiobothrys chorisianus</i> var. <i>chorisianus</i> )	CNPS 1B	Mesic areas within chaparral, coastal prairie, or coastal scrub. Blooms March – June.	None. Habitat not present onsite.
Coast yellow leptosiphon ( <i>Leptosiphon croceus</i> )	CNPS 1B	Coastal bluffs and prairies	None. Site is 0.7 miles inland from coast. Suitable habitat not present onsite.
Davidson's bush mallow ( <i>Malacothamnus davidsonii</i> )	CNPS 1B	Sandy washes within coastal scrub, riparian woodland, or chaparral between 180-855m	None. Suitable habitat not present onsite.
Hickman's cinquefoil ( <i>Potentilla hickmanii</i> )	FE, SE, CNPS 1B	Open pine forests in marshy areas, coastal: bluff, prairie and grassy meadows; vernal mesic	None. Habitat not present onsite.
Indian Valley bush mallow ( <i>Malacothamnus aboriginum</i> )	CNPS 1B	Granitic outcrops and sandy bare soils in cismontane woodlands and chaparral.	None. Historic record only. Suitable habitat not present onsite.
Kellogg's horkelia ( <i>Horkelia cuneata</i> ssp. <i>sericea</i> )	CNPS 1B	Openings within closed-cone coniferous forest, chaparral, or coastal scrub with sandy	None. Sandy soils not present onsite. .

Species Name	Status	Habitat	Potential to Occur Onsite
		soils. Blooms April – September.	
Kings Mountain manzanita ( <i>Arctostaphylos regismontana</i> )	CNPS 1B	Granite or sandstone outcrops in chaparral, coniferous and evergreen forests	None. No manzanita documented onsite.
Montara manzanita ( <i>Arctostaphylos montaraensis</i> )	CNPS 1B	Chaparral, coastal scrub. Blooms January – March.	None. No manzanita documented onsite.
Pappose tarplant ( <i>Centromadia parryi</i> ssp. <i>parryi</i> )	CNPS 1B	Coastal prairie, Meadows and seeps, Marshes and swamps, Valley and foothill grassland (vernally mesic) / often alkaline	None. Habitat not present onsite.
Robust spineflower ( <i>Chorizanthe robusta</i> var. <i>robusta</i> )	FE, CNPS 1B	Cismontane woodland, coastal dunes, or coastal scrub with sandy or gravelly soils. Blooms April – September.	None. Sandy soils not present onsite.
Rose leptosiphon ( <i>Leptosiphon rosaceus</i> )	CNPS 1B	Coastal bluff scrub. Blooms April – July.	None. Suitable habitat not present onsite.
San Francisco Bay spineflower ( <i>Chorizanthe cuspidata</i> var. <i>cuspidata</i> )	CNPS 1B	Coastal bluff scrub, coastal dunes, or coastal prairie with sandy soils. Blooms April – July.	None. Sandy soils not present onsite.
San Francisco campion ( <i>Silene verecunda</i> ssp. <i>verecunda</i> )	CNPS 1B	Sandy areas within coastal bluff scrub, chaparral, coastal prairie, coastal scrub, or valley and foothill grassland. Blooms March – June.	None. Sandy soils not present onsite.
San Francisco collinsia ( <i>Collinsia multicolor</i> )	CNPS 1B	Moist shady woodland, associated with California buckeye, honeysuckle, ferns, coast live oak, poison oak	None. Habitat not present onsite.
Western leatherwood ( <i>Dirca occidentalis</i> )	CNPS 1B	Cool, moist slopes in foothill woodland and riparian habitat.	None. Habitat not present onsite.
San Francisco lessingia ( <i>Lessingia germanorum</i> )	FE, CNPS 1B	Restricted to sandy soils of remnant dunes and coastal scrub. Blooms August to November.	None. Sandy soils not present onsite.
San Bruno Mountain manzanita ( <i>Arctostaphylos imbricata</i> )	FE, CNPS 1B	Chaparral, rocky slopes	None. No manzanita documented onsite.

**Table 1 Notes:** FE – Federal endangered; FT – Federal threatened; SE – State endangered; ST – State threatened; SP – State Fully Protected; CSC – California species of special concern; CNPS 1B – Rare, threatened or endangered in California and elsewhere; G5S3 – Global (G5) = Demonstrably secure; commonly found throughout its historic range; and State (S3) = Restricted range, rare: about 21-80 EO's, or 3,000 – 10,000 individuals, or 10,000 – 50,000 acres of occupied habitat; S4 - Apparently secure within California; but factors exist to cause some concern; i.e. there is some threat, or somewhat narrow habitat. Habitat descriptions based on CNDDDB 2007 and Corelli 1995.

No special-status animal or plant species were detected on the property during the site visit on June 27<sup>th</sup>. Due to the high number of non-native plants dominating the landscape, the likelihood for rare plants to occur is very low. Additionally, the site visit was conducted when a number of

plants listed in Table 1 would have been in bloom, thus increasing the likelihood of detection. Seven special-status animal species were determined to have some potential to occur onsite. These are the California red-legged frog, San Francisco garter snake, monarch butterfly, San Francisco dusky-footed woodrat, saltmarsh common yellowthroat, Mission blue butterfly, and fringed myotis bat. These are discussed in detail below.

**California Red-legged Frog (*Rana aurora draytonii*; Federally Threatened and California Species of Special Concern)**

The California red-legged frog occurs in grassland, riparian woodland, oak woodland, and coniferous forest but requires quiet freshwater pools, slow-flowing streams, and freshwater marshes with heavily vegetated shores for breeding. These frogs typically stay near the shore hidden in vegetation rather than in open water. Red-legged frogs frequently occupy seasonal bodies of water, and in some areas these habitats may be critical for persistence. It is speculated that CRLF may lie dormant during dry periods of the year or during drought. CRLF are thought to disperse widely during autumn, winter, and spring rains. Juveniles use the wet periods to expand outward from their pond of origin and adults may move between aquatic areas. Frogs disperse through many types of upland vegetation and use a broader range of habitats outside of the breeding season. They are documented to cover distances from 0.25 miles to more than 2.0 miles without apparent regard to topography, vegetation type, or riparian corridors (Bulger 1998).

A review of the California Natural Diversity Database identified eleven California red-legged frog observations within 5 miles of the proposed project site. The closest recorded observation of CRLF to the project site is from Sharp Park near Laguna Salada, approximately 0.4 miles from the project site. Because CRLF have been documented so close to the project site and because dispersing juvenile CRLF could potentially travel through the Gypsy Hill area to reach open space to the north or south, measures should be taken to avoid any potential impacts to CRLF that may occur due to construction activities.

**San Francisco Garter Snake (*Thamnophis sirtalis tetrataenia*; State and Federally Endangered and State Fully-protected)**

San Francisco garter snake (SFGS) are secretive residents of wetlands, grasslands near ponds, marshes and sloughs, and are likely to retreat into water when disturbed. They are usually found around ponds and marshes that support large populations of tree frogs (*Hyla regilla*), red-legged frogs and/or bullfrogs (*Rana catesbeiana*). SFGS are also known to disperse through a variety of vegetation types to reach breeding pond locations and they may spend some time in upland areas, especially during the autumn and winter.

There are no ponds, marshes, or riparian areas located on or adjacent to the project area that could support the SFGS. However, Laguna Salada, approximately 0.4 miles from the project site, supports a known population of SFGS and three constructed ponds to the east of the property provide potential habitat for this species. Additionally, the site does contain upland habitat and there is a low potential for SFGS to use the site. Precautionary measures implemented for CRLF will also avoid impacts to SFGS.

**Monarch Butterfly (*Danaus plexippus*; Special Consideration under CEQA, G5S3)**

Monarch butterfly 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, Monterey pine, Monterey Cypress, with nectar and water sources nearby. Along the California coast, monarch butterflies typically roost between October and February.

No monarch butterfly roost colonies have been documented near the property. A comprehensive inventory on monarch butterfly winter roosting locations was completed in the 1980's to be used and reported as baseline data in the CNDDDB. This inventory monitored any coastal areas with potential habitat or known historical roosting sites. Additional monitoring has occurred in areas that coastal residents reported sightings of monarchs. Currently, monarch surveys are conducted annually in areas of known monarch roosting sites. (Monroe, pers comm.)

The property is located on Gypsy Hill, a sparsely developed area in the City of Pacifica. The property contains a dense eucalyptus grove on a southern exposed slope that provides typical winter roost habitat (protection from the cold and predominately westerly winds). The eucalyptus trees could also provide a nectar source. Although there is no water source immediately available onsite there are several water sources within 0.4 miles of the site, which roosting monarchs could travel to on warm winter days. Additionally, the scrubby swale near the southern boundary of the property may hold small pools of water for short periods of time after winter storm events. At the time this report was drafted, two to three eucalyptus trees, two dead Monterey pine trees, and two small Monterey pine trees were planned for removal. Therefore, if trees are to be removed during the winter while monarchs are roosting, a survey is recommended as a precautionary measure to avoid any impacts.

**Saltmarsh Common Yellowthroat (*Geothlypis trichas sinuosa*; California Species of Special Concern)**

A small insectivorous warbler, this California Species of Concern is a sedentary (non-migratory) subspecies of the Common Yellowthroat and has undergone a severe decline in its population over the past 100 years due to habitat loss and alteration (Guzy and Ritchison 1999; Goals Project 2000). Although not directly dependent on water, salt marsh common yellowthroats require the dense growth associated with wet situations and the associated high densities of insects (Foster 1977). Optimal habitats are moist, dense woody swamps, salty, brackish, and freshwater marshes, coastal swales, and disturbed grasslands bordering waterlogged habitats in the San Francisco Bay (Foster 1977; Goals Project 2000). The common yellowthroat also occupies the borders between these habitats. Breeding typically lasts from mid-March and second clutches extend the breeding season into August. Nests are well concealed and are primarily found on or near the ground in grasses, low herbaceous vegetation, cattails, tules, and bushes up to approximately five feet above the ground (Stewart 1953). It is thought that yellowthroats that winter in *Salicornia* marshes breed in nearby brackish marshes (Foster 1977; Goals Project 2000). Foster (1977) found populations to be critically low in the South bay and Peninsula regions and greatly reduced from historic abundance throughout the breeding range.

The CNDDDB documents two records of salt marsh common yellowthroat within a 5-mile radius of the project site. These records are for observations in Sharp Park and near San Andreas Lake which is east of Sweeney Ridge. Although this species may forage and/or nest on the property, particularly within the densely vegetated swale, it is unlikely that individuals would nest within the project footprint because grassland is not their preferred nesting habitat. However, as a

precautionary measure, a nesting bird survey should be completed prior to construction activities to avoid impacting a nesting saltmarsh common yellowthroat.

**San Francisco Dusky-footed Woodrat (*Neotoma fuscipes annectens*; California Species of Special Concern)**

San Francisco Dusky-footed woodrat (*Neotoma fuscipes annectens*) is one of eleven subspecies of the dusky-footed woodrat that live throughout California and the arid west. The species is a California Species of Special Concern. The range of the San Francisco dusky-footed woodrat includes the coastal belt of San Francisco as far north as the Golden Gate, as far east as Walnut Creek in Contra Costa County and Niles Canyon in Alameda County and south at least until the campus of UC Santa Cruz (Hooper 1944). Although the dusky-footed woodrat is generally considered common throughout its range, their complex social structure makes them sensitive to disturbance (Santa Cruz Mountains Bioregional Council (SCMBC, 2004).

The woodrat, a nocturnal mammal, occurs in a variety of brushy and wooded areas that provide cover from aerial and ground predators. Suitable woodrat habitat in San Mateo County includes coastal scrub, riparian scrub, and forested habitats. They are typically not found within open habitats such as grassland, but would traverse through such habitat for mating or range expansion even at the expense of temporary vulnerability to predators. Kelly (1990) reports a male woodrat traveling 30 meters (100 feet) across a meadow with little cover to reach estrous females for mating.

One San Francisco dusky-footed woodrat house was found on the project site but did not appear to be active. The woodrat house is located at the base of a eucalyptus tree down slope of the project footprint. Because much of the scrub onsite was too dense to walk through, it is likely that more woodrat houses are present on the property and were not found during the site visit. Therefore, to avoid impacting this species, pre-construction surveys for woodrat houses should be completed within and just outside the project footprint prior to construction activities. Measures should also be implemented to protect the existing woodrat house from impacts during project construction.

**Mission Blue Butterfly (*Icaricia icarioides missionensis*; Federally Endangered)**

The Mission blue butterfly (*Icaricia icarioides missionensis*) is a federally listed endangered species. The Mission blue requires three larval host plants, silver lupine (*Lupinus albifrons* var. *collinus*), summer lupine (*Lupinus formosus* var. *formosus*) and varied-color lupine (*Lupinus variicolor*). Presence of one or more species of host plants is necessary for Mission blue survival, however presence of host plants does not indicate presence of the butterfly. Host plant density, availability of nectar plants, microclimate and distance to existing Mission blue populations are determining factors in whether Mission blues are present at a given location (TRA, 1982).

Mission blue habitat consists of grasslands, rocky outcrops, disturbed roadcuts and landslide areas with abundant host plants and nectar plants. Typical host plant patches range from twenty to thirty large plants to several hundred plants. Mission blues use a variety of nectar plants including non-native thistles such as Italian thistle (*Carduus pycnocephalus*), and native herbs such as California phacelia (*Phacelia californica*), coastal buckwheat (*Eriogonum latifolium*), California horkelia (*Horkelia californica*) and golden aster (*Heterotheca bollanderi*), among

others. Areas such as roadcuts can often provide important wind-protected habitat for the species. Without control methods and/or disturbance, invasive plant species and coastal scrub succession would eliminate Mission blue habitat.

On average, Mission blues begin adult flight in March, are most abundant in April and May, and observations begin to drop off by late May or early June. Early flying Mission blues typically fly between March and May and are associated with silver lupine, whereas late flying Mission blues are associated with summer lupine. Both silver lupine and summer lupine are commonly used by the Mission blue butterfly within the range of the species, while varied-color lupine is used less commonly. Varied-color lupine is typically used by Mission blue when in association with either silver lupine and/or summer lupine, though large patches of varied-color lupine can also support Mission blue butterflies.

Female mission blues lay their eggs on their host plant lupines throughout the adult flight period. Larvae hatch in 4 to 10 days and feed on the mesophyll layer within the leaves of the lupines. After about 3 weeks the larvae begin diapause, typically within the leaf litter at the base of the host plant. The following spring, the larvae emerge and begin feeding again for approximately 1 month before pupating. Pupation lasts approximately 3 weeks until the pupae transform into the adult form.

One species of lupine (silver lupine) was observed along Gypsy Hill Road. Less than 40 silver lupine plants were found growing on the south road cut of Gypsy Hill Road, approximately 0.1 miles from Gypsy Hill Road's intersection with Sharp Park Road (Figure 3). A variety of nectar sources were observed in the area surrounding the silver lupine including California horkelia, coastal buckwheat, beach strawberry (*Fragaria chiloensis*), golden aster, and several species of thistles. No lupines were found in the proposed house location, elsewhere on the property, or any other locations along Gypsy Hill Road.

Mission blues are known to move up to approximately 0.25 mile between habitat patches (TRA, 1982), however it is likely that greater distances can be covered by the species if there are no significant barriers such as urbanization or forest between habitat patches. The closest known colony of Mission blue butterflies is located approximately 0.25 mile east of Gypsy Hill Road on Sweeney Ridge near Skyline Community College. This location is shown as "Closest Lupine Population to Project Site" in Figure 3. Mission blue populations are also known from Milagra Ridge, approximately 0.5 mile to the north, and near the intersection of Skyline Boulevard and Sharp Park Road, approximately 0.9 mile to the northeast.

Due to the known population of Mission blues within 0.25 mile of the silver lupine occurrence and a lack of significant barriers, it is possible for Mission blues to travel to and use the lupine plants along Gypsy Hill Road. Therefore, to protect Mission blues, all lupine plants along Gypsy Hill Road should be avoided during project construction. Measures such as placement of safety fencing should be implemented to protect lupine plants from being crushed by heavy equipment.

Figure 3. Location of silver lupine along Gypsy Hill Road and closest known lupine/Mission blue butterfly population to surveyed area.



**Fringed Myotis (*Myotis thysanodes*; Special Consideration under CEQA, G4G5, S4)**

Fringed myotis is a bat species typically found in woodlands at moderate elevations in the mountains. Roost sites include caves, rock crevices, old buildings, and mine tunnels which are used by colonies of up to several hundred individuals. They are highly migratory arriving at their breeding grounds in late spring and not dispersing until October. The fringed myotis forages late in the evening by capturing beetles while flying close to the vegetative canopy or along small cliff faces.

One juvenile fringed myotis was reported to the CNDDDB in 2005. It was detected under a power line corridor in a eucalyptus and pine forest with dense understory between Crystal Springs Reservoir and Skyline Boulevard, approximately 2.4 miles southeast of the project site. If present in the vicinity of the project, fringed myotis may forage over the project site. However, project activities will not impact roosting habitat for this species because it is known to roost in caves, rock crevices, and old buildings and these are not present onsite. Therefore, only a small amount of potential foraging habitat will be lost due to project implementation.

**V. REGULATORY CONSIDERATIONS****Federal and State Regulations****A. 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 the California Environmental Quality Act (CEQA) afford protection to species of concern included on State-maintained lists. The California Department of Fish and Game (CDFG) 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." 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).

The California red-legged frog, San Francisco garter snake, and Mission Blue butterfly, subject to the federal ESA, have low potential to occur onsite. Impacts to these species during project construction could result in a violation of the ESA.

**B. Species of Special Concern**

The California Department of Fish and Game 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 Game is a trustee agency and is solicited for its comments during the CEQA process.

Three Species of Special Concern, the California red-legged frog, San Francisco dusky-footed woodrat and saltmarsh common yellowthroat, have some potential to occur onsite. Impacts to these species during project construction could be considered significant under CEQA.

### **C. State Fully Protected Species**

Species listed as Fully Protected by the state of California were initially designated in order to provide additional protection to those animals that were rare or faced possible extinction. Subsequently, many Fully Protected species have been listed under state and/or federal endangered species acts. The only exceptions are golden eagle, white-tailed kite, trumpeter swan, northern elephant seal, and ring-tailed cat. Fish and Game Code states that Fully Protected species "...may not be taken or possessed at any time and no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to take any fully protected" species. Code amendments occurring in 2003 authorized take for necessary scientific research or for recovery activities for state-listed species.

State Fully Protected species that may occur within the study area include the San Francisco garter snake. Impacts to this species during project construction would result in a violation of the Fish and Game Code.

### **D. Nesting Birds**

Nesting birds, including raptors, are protected by the California Department of Fish and Game 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 CDFG typically recommends pre-construction surveys for nesting birds that could potentially be directly (actual removal of trees/vegetation) or indirectly (noise disturbance) impacted by construction-related activities. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "taking" by the CDFG.

The subject property supports trees such as eucalyptus and Monterey pine that provide nesting habitat for birds. Some of the mature eucalyptus trees on the property have thick branches with dense canopies that appear strong enough to support a raptor nest. However, the Monterey pines are unlikely to support nesting raptors because they are all relatively young trees no taller than 35 feet and have small canopies with small diameter branches. Nesting passerines, if present, would most likely be found within some of the denser shrub areas in the southeast corner of the property containing coyote bush, poison oak and California blackberry. Loss of eggs or chicks due to project construction would result in a violation of Fish and Game Code 3503.

### **E. 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 these governments.

The property and areas along Gypsy Hill Road do not contain suitable habitat for any rare plant species.

### **F. Potentially Significant Impacts Under CEQA**

Some species that are otherwise not protected by the ESA or CESA and do not have a special CDFG or Fish and Game Code designation (e.g., fully protected) may still, under CEQA, be determined to be significantly impacted by a project. For example, if a project were to destroy or disturb a roosting site for either a bat maternity colony or a wintering monarch butterfly colony it could significantly impact the local and/or regional population of either species. Although loss of an individual bat or monarch butterfly would likely be considered an insignificant impact, loss of a roost site where multiple individuals are present may be considered significant. This is because roost sites may be limited in availability and often have very specific habitat and/or microclimate conditions. When a roost site is lost, individuals may not be able to find an alternate roost in sufficient time for protection from the elements before expiring. However unless a roost site has already been studied and the local population of the subject species is well known, the significance of the loss cannot be readily evaluated. In order to avoid a potential finding of significant impact to roosting bats or monarchs, all potential habitats should be seasonally avoided or field surveys should be completed to determine presence/absence.

Monarch butterflies have potential to use eucalyptus trees onsite as a winter roost. Disturbance of a monarch winter roost site due to project implementation may be determined to be a significant impact under CEQA.

### **G. Regulated Waters**

Impacts to stream channels (bed and bank) are specifically addressed by the CDFG Code §§1600 *et seq.* and may fall under the jurisdiction of the Clean Water Act §404 permit process and the Porter-Cologne Water Quality Control Act. The U.S. Army Corp of Engineers (USACE) enforces permit provisions of the Clean Water Act regulating dredge and fill operation. The Regional Water Quality Control Board (RWQCB) enforces permit provisions of the Porter-Cologne Water Quality Control Act. The USACE also exerts jurisdiction over "waters of the U.S." which include territorial seas, tidal waters, and non-tidal waters in addition to wetlands and drainages that support wetland vegetation, exhibit ponding or scouring, show obvious signs of channeling, or have discernible banks and high water marks.

No Regulated waters are present on the subject property.

### **H. Stormwater Control Requirements**

In urbanized areas, stormwater runoff is the largest source of pollution to waters in creeks, ponds and lakes. Pollution caused by stormwater runoff can be controlled through obtaining and

complying with a municipal stormwater permit from the National Pollutant Discharge Elimination System (NPDES). Controls set forth in the permit offer an opportunity for development and redevelopment projects to reduce impacts to water quality.

Because the project is less than 1.0 acre it would not be required to obtain an NPDES permit to control stormwater runoff. However, due to the project's proximity to CRLF and SFGS breeding pond at Laguna Salada, several construction related Best Management Practices (BMPs) should be incorporated into the construction process that will minimize impacts to water quality. BMPs for this project would be determined by the approving agency, the City of Pacifica.

### Local Regulations

#### **I. City of Pacifica Heritage Tree Ordinance**

The City of Pacifica defines a heritage tree as any tree, exclusive of eucalyptus, which has a trunk with a circumference of fifty (50) inches or more, approximately 16 inches in diameter or more, when measured two feet above the natural grade. In addition, the City Council may designate any tree or grove of trees of special historical, environmental, or aesthetic value as a Heritage Tree. Removal, substantial trimming and new construction within the drip-line of a Heritage Tree require review and approval by the City. Because of their value to the City of Pacifica, Heritage Trees may not be removed, destroyed or damaged beyond repair without a Heritage Tree Permit. Further, in some circumstances, a Tree Protection Plan prepared by a qualified arborist, horticulturist, or landscape architect may be required prior to project approval.

Because the City of Pacifica Heritage Tree Ordinance specifically states that all eucalyptus trees are excluded from any protection, up to 19 eucalyptus trees can be removed from the subject property without obtaining a permit from the City of Pacifica. If more than 19 eucalyptus trees need to be removed from the site, then the proposed project would be considered a logging project and would require permitting and consultation with the City of Pacifica (Farbstein, pers comm.). As currently proposed, the project would remove two to three eucalyptus trees, two small Monterey pine trees (approximately 8 inches in diameter), and small Monterey cypress (approximately 13.5 inches in diameter) and therefore would not require special permitting from the City of Pacifica.

### **VI. RECOMMENDATIONS**

Table 2 contains a list of suggested mitigation measures to avoid and/or minimize biological impacts due to implementation of the proposed project. Each mitigation measure is discussed in more detail after the table.

**Table 2. Mitigation Measures Suggested for Project Construction Activities**

MITIGATION MEASURE	Effect
<p><b>Mitigation Measure 1.</b> To avoid impacts to CRLF/SFGS during construction activities the following measures shall be completed: 1) on-site CRLF/SFGS training (including CRLF/SFGS education and reporting requirements) for construction personnel by an USFWS-approved CRLF/SFGS biologist and 2) preconstruction survey for CRLF/SFGS within 48 hours prior to construction. If any CRLF/SFGS are found, work shall not start until USFWS has been contacted and has given their approval for work to continue, and 3) USFWS-approved CRLF biologist must be available on-call to visit site in the event a CRLF is found.</p>	<p>CRLF and SFGS will not be impacted as a result of project construction activities.</p>
<p><b>Mitigation Measure 2.</b> If trees are to be removed for the proposed project during the monarch winter roosting season (October to February of any given year), a preconstruction survey for winter roosting monarchs shall be completed. If a roosting colony is detected, trees should not be removed until the winter roosting season has concluded (i.e. no more monarchs have been observed in the general area or using the trees).</p>	<p>Winter roosting monarchs, if present, will not be impacted as a result of construction activities.</p>
<p><b>Mitigation Measure 3.</b> To avoid impacts to San Francisco dusky-footed woodrat a preconstruction survey to search for woodrat houses should be completed within one week of the start of project activities.</p>	<p>Any San Francisco dusky-footed woodrat houses detected on site would be mitigated for based on consultations with the CDFG.</p>
<p><b>Mitigation Measure 4.</b> To avoid impacts to Mission blue butterflies and/or their habitat the proposed alignment for paving Gypsy Hill Road has been modified to completely avoid all lupine plants. A qualified biologist should assist construction crews in placing safety fencing around all lupine plants adjacent to Gypsy Hill Road prior to the onset of construction activities to prevent lupine plants from being crushed by heavy equipment.</p>	<p>Mission blue butterflies and their habitat will not be impacted due to project implementation.</p>

MITIGATION MEASURE	Effect
<p><b>Mitigation Measure 5.</b> To avoid or minimize impacts to nesting birds, all tree trimming and ground disturbing activities should be scheduled to take place outside of the breeding season (February 15 to August 31). However, if construction is unavoidable during the breeding season, a qualified biologist should conduct a survey for nesting birds. If active nests are not present, project activities can take place as scheduled. However, if active nests are detected, CDFG should be contacted on how to proceed. Typically, a buffer will be established around the nest. CDFG usually accepts a 50-foot radius buffer around passerine and non-passerine nests, and up to a 250-foot radius for raptors.</p>	<p>Nesting birds, if present, would be protected from disturbance during construction activities and the project would be in compliance with CDFG Code 3503.</p>
<p><b>Mitigation Measure 6.</b> An application for a Heritage Tree Permit shall be submitted to the City of Pacifica if 1) any trees, other than eucalyptus, slated for removal have a trunk with a circumference of fifty (50) inches or more, approximately 16 inches in diameter or more, when measured two feet above the natural grade, 2) any Heritage Tree will be substantially trimmed or construction will occur within a Heritage Tree drip-line, or 3) more than 19 eucalyptus trees will be removed due to the project.</p>	<p>Any trees considered protected by the City of Pacifica will be protected during construction and any impacts will be mitigated. The project would be in compliance with the Heritage Tree Ordinance.</p>
<p><b>Mitigation Measure 7.</b> Erosion control methods and measures to avoid stormwater pollution should be used to control sediment and minimize potential water quality impacts.</p>	<p>Watershed would be protected from storm water pollution and increased runoff.</p>
<p><b>Mitigation Measure 8.</b> In order to preserve the property's function as a movement corridor for wildlife, it is recommended that fences are either not erected, or if fences are needed, that wildlife-friendly fences be used.</p>	<p>A wildlife corridor between Milagra Ridge and Sweeney Ridge is maintained.</p>

**A. Listed or Significant Wildlife**

**California Red-legged Frog and San Francisco Garter Snake**

The project site may provide dispersal habitat for CRLF and/or SFGS due to the project site's proximity to several ponds within 0.4 miles and Laguna Salada within 0.5 miles. Therefore, the following measures are recommended to avoid impacts to CRLF/SFGS:

- On-site CRLF/SFGS training (including CRLF/SFGS education and reporting requirements) for construction personnel by an USFWS-approved CRLF/SFGS biologist.
- Preconstruction survey for CRLF/SFGS within 48 hours of construction. If any CRLF/SFGS are found, work shall not start until USFWS has been contacted and has given their approval for work to continue.
- USFWS-approved CRLF/SFGS biologist must be available on-call to visit site in the event a CRLF/SFGS is found.

### **Monarch Butterfly**

If the project plans to remove any trees during the monarch butterfly winter roosting season, (October – February of any given year) the site should be surveyed by a qualified biologist to ensure that a roosting colony is not present. Since timing of monarch migration on the coastside varies year to year, the survey should be conducted at a time to coincide with monarch roosting activity on the coast side for that particular year. Information on monarch roosting activity should be verified with local experts prior to conducting the survey.

If a roosting colony is not detected, tree removal may commence and no further surveys are warranted. However, if a roosting colony is detected, trees should not be removed until the winter roosting season has concluded (i.e. no more monarchs have been observed in the general area or using the trees). If trees have already been removed prior to the onset of the winter roosting season, no surveys are warranted.

### **San Francisco Dusky-footed Woodrat**

Because one San Francisco dusky-footed woodrat house was observed within the study area during the site visit, there is potential for a new house to be built prior to the onset of construction activities. To avoid impacts to this species, a preconstruction survey should be completed within one week of the start of project activities. A qualified biologist should perform one daytime survey for woodrat houses within the project footprint. If during this survey no woodrat houses are detected, the project can proceed as scheduled. If during this survey a woodrat house is detected, one of the following avoidance/minimization measures should be implemented. These measures are listed in order of priority, meaning the first measure is the preferred measure to be implemented as it provides the least amount of impact to the woodrat. If the first measure cannot be implemented due to extenuating site conditions, the second should be implemented.

- 1) The project footprint should be adjusted to avoid the woodrat house(s) by at least 5 feet. Safety and silt fencing should be erected around all houses within the project footprint to avoid impacts during construction.
- 2) If the project footprint must go directly through or within 5 feet of a house, CDFG should be consulted with one of the two following options:
  - a) If the house appears inactive (e.g. no scat or fresh leaves and twigs), approval will be sought from CDFG to dismantle the house and replace the lost resource by

building an artificial house. One artificial house should be built for every one existing inactive house.

- b) If the house appears active, approval will be sought from CDFG to 1) trap the occupant(s) of the house, 2) dismantle the house, 3) construct a new artificial house with the materials from the dismantled house, and 4) release the occupant into the new artificial house. The new house should be placed no more than 20 feet from its original location and as far from the project footprint as necessary to be protected from construction activities. If the house is to be moved downslope of the project footprint, extra precautions should be taken, such as a plywood barrier, to stop falling/sliding materials from impacting the new house. Houses should only be moved in the early morning during the non-breeding season (October through February). If trapping has occurred for three consecutive nights and no woodrats have been captured, the house should be dismantled and a new house constructed.

### **Mission Blue Butterfly**

To avoid impacts to Mission blue butterflies and/or their habitat the proposed alignment for paving Gypsy Hill Road has been modified to avoid all lupine plants. A qualified biologist should assist construction crews in placing safety fencing around all lupine plants adjacent to Gypsy Hill Road prior to the onset of construction activities to prevent lupine plants from being crushed by heavy equipment.

### **B. Protection of Nesting Birds**

Activities that may impact nesting birds include tree and vegetation removal and noise produced by grading or construction activity. To avoid or minimize impacts to nesting birds, all tree and vegetation removal and trimming as well as ground disturbing activities should be scheduled to take place outside of the breeding season (February 15 to August 31). However, if construction is unavoidable during the breeding season, a qualified biologist should conduct a survey for nesting birds no more than three days prior to the removal or trimming of any tree and prior to the start of ground disturbing activities. If active nests are not present, project activities can take place as scheduled. However, if active nests are detected, CDFG should be contacted on how to proceed. Typically, a buffer will be established around the nest. CDFG usually accepts a 50-foot radius buffer around passerine and non-passerine nests, and up to a 250-foot radius for raptors.

### **C. Tree Removal**

An application for a Heritage Tree Permit shall be submitted to the City of Pacifica if 1) any trees, other than eucalyptus, slated for removal have a trunk with a circumference of fifty (50) inches or more, approximately 16 inches in diameter or more, when measured two feet above the natural grade, 2) any Heritage Tree will be substantially trimmed or construction will occur within a Heritage Tree drip-line, or 3) more than 19 eucalyptus trees will be removed due to the project. Tree removal and/or trimming should not commence until a Heritage Tree Permit has been issued.

### **D. Erosion Control and Stormwater Pollution Measures**

BMPs found in the Bay Area Stormwater Management Agencies Association's "Blueprint for a Clean Bay" including erosion control methods and measures for the avoidance of stormwater pollution should be used as appropriate for all earth disturbance to protect water quality at Laguna Salada, control sediment and minimize potential water quality impacts. Erosion should be prevented on slopes by using erosion control material (such as silt fences and straw bale barriers) according to manufacturer's specifications. Where appropriate, native plants species should be used for long-term erosion control.

#### **E. Maintenance of Wildlife Corridors**

In order to preserve the property's function as a movement corridor for wildlife, it is recommended that fences are either not erected, or if fences are needed, that wildlife-friendly fences be used. Wildlife-friendly fences allow wild animals to move through an area without harm and with minimal impediment. Generally, these fences are not more than 40 inches high and at least 16 inches off the ground. The top of the fence is constructed from a wooden rail, mesh or chain link instead of wire, while smooth (not barbed) wire is used for the lower sections of the fence. Information on wildlife-friendly fences is available on the internet, such as the following site: [http://sonomaopenspace.org/resources/docs/website\\_fence.pdf](http://sonomaopenspace.org/resources/docs/website_fence.pdf).

## VII. REFERENCES

- Bay Area Stormwater Management Agencies Association. 2004. Blueprint for a Clean Bay: Best Management Practices to Prevent Stormwater Pollution from Construction-Related Activities. Found on the web at [www.flowstobay.org](http://www.flowstobay.org).
- Bulger, J. 1998. Wet season dispersal and habitat use by juvenile California red-legged frogs (*Rana auroara draytonii*) in forest and rangeland habitats of the Santa Cruz Mountains. Research proposal.
- California Department of Fish and Game (CDFG). 2006a. *State and Federally Listed Endangered, Threatened, and Rare Plants of California*. Natural Heritage Division, Natural Diversity Data Base. January.
- California Department of Fish and Game, Natural Diversity Database (CDFG). 2006b. *Special Vascular Plants, Bryophytes, and Lichens List*. Quarterly publication, Mimeo. 97pp. January.
- California Department of Fish and Game (CDFG). 2006c. *State and Federally Listed Endangered and Threatened Animals of California*. Natural Heritage Division, Natural Diversity Data Base. January.
- California Department of Fish and Game (CDFG). 2003. *List of Terrestrial Natural Communities recognized by the California Natural Diversity Database*. Natural Diversity Database, Wildlife and Habitat Data Analysis Branch. September.
- California Invasive Plant Council (CalIPPC). 2005. Cal-IPC Invasive Plant Inventory. Available at [http://www.cal-ipc.org/list\\_revision/completed\\_pafs.html](http://www.cal-ipc.org/list_revision/completed_pafs.html).
- California Native Plant Society (CNPS). 2006. *Electronic Inventory of Rare and Endangered Vascular Plants of California*. Sacramento, California. Viewed June 21, 2007 at: <http://cnps.web.aplus.net/cgi-bin/inv/inventory.cgi>
- California Natural Diversity Database (CNDDDB). 2005. California Department of Fish and Game. December.
- Corelli, T. and Z. Chandick. 1995. *The Rare and Endangered Plants of San Mateo and Santa Clara County*. Half Moon Bay. CA. Monocot Press.
- Jennings, M.R. and M.P. Hayes. 1985. *Pre-1900 Overharvest of California red-legged frogs (Rana aurora draytonii): The inducement for bullfrog (Rana catesbeiana) introduction*. *Herpetologica* 41(1):94-103.
- Natural Resources Conservation Service (NRCS). 2006. National Cooperative Soil Survey. Viewed on June 29, 2007 at <http://websoilsurvey.nrcs.usda.gov/app/>
- U.S. Fish and Wildlife Service (USFWS). 2004. *Federal Register: Endangered and Threatened Wildlife and Plants; Proposed Designation of Critical Habitat for the California Red-legged Frog (Rana aurora draytonii)*; Proposed Rule. 50 CFR. Part 17. Vol. 69. No. 71: pp. 19620 – 19642.
- U.S. Fish and Wildlife Service (USFWS). 2006a. *USFWS Threatened and Endangered Species System (TESS), Vertebrates and Invertebrates*. Viewed on June 29, 2007 at: [http://ecos.fws.gov/tess\\_public/SpeciesReport.do?dsource=animals](http://ecos.fws.gov/tess_public/SpeciesReport.do?dsource=animals)
- U.S. Fish and Wildlife Service (USFWS). 2006b. *USFWS Threatened and Endangered Species System (TESS), Plants*. Viewed on June 29, 2007 at: [http://ecos.fws.gov/tess\\_public/SpeciesReport.do?dsource=plants](http://ecos.fws.gov/tess_public/SpeciesReport.do?dsource=plants)

### Personal Communications

- David Wilcox, phone conversation and email communications, June and July 2007.
- Kathrine Farbstein, City of Pacifica Planner, phone conversation, October 2006.
- Mia Monroe, The Xerces Society for Invertebrate Conservation, March 22, 2005.

**Appendix A. Representative Photos of the Project Site, Taken June 28, 2007**



**Photo 1. Project footprint in coastal scrub and Monterey pine habitat on the left side of photo. Two dead Monterey pine trees in right center of photo to be removed. View is looking east.**



**Photo 2. View of northern coastal scrub habitat on property. View looking south. Sharp Park Road visible in upper left corner of photo.**



**Photo 3. View of east side of property to be left intact. Monterey pines are seen on the left and right side of photo and vegetation in the center of photo is grassland with scattered coastal scrub plants.**

## Appendix B. Species Observed Onsite, June 27, 2007

Species Name	Observed on Property	Observed adjacent to Gypsy Hill Road
<b>WILDLIFE</b>		
Anna's hummingbird ( <i>Calypte anna</i> )	X	
Bewick's wren ( <i>Thryomanes bewickii</i> )	X	
Chestnut-backed chickadee ( <i>Poecile rufescens</i> )	X	X
Western scrub jay ( <i>Aphelocoma californica</i> )	X	X
Mourning dove ( <i>Zenaida macroura</i> )	X	
Red-tailed hawk ( <i>Buteo jamaicensis</i> )		X
Common raven ( <i>Corvus corax</i> )	X	X
Wrentit ( <i>Chamaea fasciata</i> )	X	X
American robin ( <i>Turdus migratorius</i> )	X	
Orange-crowned warbler ( <i>Vermivora celata</i> )	X	X
Spotted towhee ( <i>Pipilo maculatus</i> )	X	X
California towhee ( <i>Pipilo crissalis</i> )	X	X
Dark-eyed junco ( <i>Junco hyemalis</i> )	X	X
Allen's hummingbird ( <i>Selasphorus sasin</i> )	X	
Purple finch ( <i>Carpodacus purpureus</i> )	X	X
American goldfinch ( <i>Carduelis tristis</i> )	X	X
White-crowned sparrow ( <i>Zonotrichia leucophrys</i> )	X	X
Hutton's vireo ( <i>Vireo huttoni</i> )		X
Pacific-slope flycatcher ( <i>Empidonax difficilis</i> )		X
Northern alligator lizard ( <i>Elgaria coerulea</i> )	X	
Acmon blue ( <i>Plebejus acmon</i> )	X	
Anise swallowtail ( <i>Papilio zelicaon</i> )	X	
San Francisco dusky-footed woodrat ( <i>Neotoma fuscipes annectens</i> ) house	X	
<b>PLANTS</b>		
Acacia ( <i>Acacia</i> spp.)*		X
Barley ( <i>Hordeum</i> spp.)*		X
Beach strawberry ( <i>Fragaria chiloensis</i> )		X
Blue wildrye ( <i>Elymus glaucus</i> )		X
Blue-eyed grass ( <i>Sisyrinchium bellum</i> )		X
Bristly ox-tongue ( <i>Picris echioides</i> )*	X	X
Brome fescue ( <i>Vulpia bormoides</i> )*	X	
Bull thistle ( <i>Cirsium vulgare</i> )*	X	X
California beeplant ( <i>Scrophularia californica</i> )	X	
California blackberry ( <i>Rubus ursinus</i> )	X	
California poppy ( <i>Escholzia californica</i> )	X	X
California sagebrush ( <i>Artemisia californica</i> )	X	X
Climbing morning glory ( <i>Calystegia purpurata</i> )	X	
Coast buckwheat ( <i>Eriogonum latifolium</i> )	X	
Coast redwood ( <i>Sequoia sempervirens</i> )	X	

Species Name	Observed on Property	Observed adjacent to Gypsy Hill Road
Coastal onion ( <i>Allium dichlamydeum</i> )		X
Coffee berry ( <i>Rhamnus californica</i> )	X	
Common rush ( <i>Juncus patens</i> )	X	X
Common yarrow ( <i>Achillea millefolium</i> )	X	X
Cotoneaster ( <i>Cotoneaster franchetii</i> )*	X	X
Cow parsnip ( <i>Heracleum lanatum</i> )		X
Coyote brush ( <i>Baccharis pilularis</i> )	X	X
Curly dock ( <i>Rumex crispus</i> )*		X
Cutleaf geranium ( <i>Geranium dissectum</i> )*		X
English plantain ( <i>Plantago lanceolata</i> )*		X
Eucalyptus ( <i>Eucalyptus globulus</i> )*	X	X
Farewell to spring ( <i>Clarkia amoena</i> )		X
Fennel ( <i>Foeniculum vulgare</i> )*	X	X
Field bindweed ( <i>Convolvulus arvensis</i> )*		X
Field mustard ( <i>Brassica rapa</i> )*	X	X
Foxtail ( <i>Bromus madritensis</i> )*	X	
French broom ( <i>Genista monspessulana</i> )*	X	X
Golden aster ( <i>Aster chilensis</i> )	X	X
Hairy Cat's-ear ( <i>Hypochoeris radicata</i> )*	X	
Hairy gumplant ( <i>Gindelia hirsutula</i> var. <i>hirsutula</i> )	X	
Hairy honeysuckle ( <i>Lonicera hispidula</i> )	X	
Hairy nightshade ( <i>Solanum physalifolium</i> )	X	
Horkelia ( <i>Horkelia</i> spp.)	X	X
Ice plant ( <i>Drosanthemum floribundum</i> )*		X
Iceplant ( <i>Carpobrotus edulis</i> )*	X	X
Indian paintbrush ( <i>Castilleja affinis</i> )	X	X
Italian thistle ( <i>Carduus pycnocephalus</i> )*	X	
Italian wild rye ( <i>Lolium multiflorum</i> )*		X
Ithural's spear ( <i>Triteleia laxa</i> )	X	
Lizard tail ( <i>Eriophyllum staechadifolium</i> )	X	X
Monterey cypress ( <i>Cupressus macrocarpa</i> )*	X	X
Monterey pine ( <i>Pinus radiata</i> )*	X	X
Narrow leafed mule's ear ( <i>Wyethia angustifolia</i> )	X	X
Orchard grass ( <i>Dactylis glomerata</i> )		X
Oregon grape ( <i>Berberis pinnata</i> )	X	
Pacific pea ( <i>Lathyrus vestitus</i> )		X
Pampas grass ( <i>Cortaderia jubata</i> )*	X	X
Pineapple weed ( <i>Chamomilla</i> spp.)		X
Poison oak ( <i>Toxicodendron diversilobum</i> )	X	X
Purple cudweed ( <i>Gnaphalium canescens</i> )	X	
Purple needlegrass ( <i>Nussella pulchra</i> )	X	
Queen Anne's lace ( <i>Daucus carota</i> )*		X
Rabbit's foot grass ( <i>Polypogon monspeliensis</i> )*		X

Species Name	Observed on Property	Observed adjacent to Gypsy Hill Road
Radish ( <i>Raphanus sativus</i> )*	X	X
Red elderberry ( <i>Sambucus racemosa</i> )	X	
Salsify ( <i>Tragopogon porrifolius</i> )*		X
Scarlet pimpernel ( <i>Anagallis arvensis</i> )*	X	
Scotch broom ( <i>Cytisus scoparius</i> )*	X	
Seafoam ( <i>Holodiscus discolor</i> )		X
Sheep sorrel ( <i>Rumex acetosella</i> )*	X	X
Silver lupine ( <i>Lupinus albus</i> )		X
Skunk weed ( <i>Navarretia squarrosa</i> )		X
Snakeroot ( <i>Sanicula crassicaulis</i> )	X	
Sneezeweed ( <i>Helenium</i> spp.)	X	
Soap-plant ( <i>Chlorogalum pomeridianum</i> )	X	
Soft brome ( <i>Bromus hordeaceus</i> )*		X
Sourclover ( <i>Melilotus indica</i> )*		X
Sow thistle ( <i>Sonchus asper</i> )*		X
Spring vetch ( <i>Vicia sativa</i> )*		X
Sticky cinquefoil ( <i>Potentilla glandulosa</i> )	X	
Sticky monkey flower ( <i>Mimulus aurantiacus</i> )	X	
Tarweed ( <i>Madia</i> sp.)		X
Tufted hair grass ( <i>Deschampsia</i> spp.)		X
Wild cucumber ( <i>Marah horridus</i> )	X	
Wild oat ( <i>Avena</i> sp.)*	X	X
Willow herb ( <i>Epilobium ciliatum</i> )	X	X
Yellow star thistle ( <i>Centaurea solstitialis</i> )*	X	
Yerba-buena ( <i>Satureja douglasii</i> )	X	

\* non-native species

## **Appendix C. Qualifications**

### **Patrick Kobernus (Senior Biologist)**

Mr. Kobernus has a Master's degree in Ecology, from California State University, Hayward, and has been an Associate with Thomas Reid Associates (TRA) since 1995. He is familiar with the status and range of many state and federally protected wildlife species, and with biological data sources such as the California Natural Diversity Database (CNDDB).

As a staff biologist for TRA, Mr. Kobernus has conducted over 100 endangered species surveys, biological impact assessments, and wetland delineations for clients in the San Francisco Bay Area. He has conducted biological surveys in San Mateo, Alameda, Contra Costa, Marin, Santa Cruz, Monterey, Santa Clara, and San Benito Counties. He has particular expertise in conducting biological assessments in freshwater aquatic, riparian, coastal prairie, and coastal scrub habitats in San Francisco Bay Area watersheds. He has conducted endangered species surveys and/or wetland delineations for several clients including Santa Clara Valley Water District, San Mateo County Parks and Recreation, Kaufman and Broad, and Cal-Trans. He has conducted focused surveys for the Mission blue butterfly, Callippe silverspot butterfly, and the San Bruno elfin butterfly in San Mateo County for over 10 years, and has conducted USFWS protocol surveys for the federally Threatened California red-legged frog in Santa Clara, San Mateo, and San Benito Counties. Mr. Kobernus often works closely with developers, public utilities, government agencies, and individual homeowners in modifying projects to avoid or minimize biological impacts to sensitive species and the environment.

Mr. Kobernus has conducted biological assessments and/or habitat surveys for steelhead, California red-legged frog, California tiger salamander, Mission blue butterfly, Callippe silverspot butterfly, San Bruno elfin butterfly, Smith's blue butterfly, bay checkerspot butterfly, monarch butterfly, burrowing owl, northern spotted owl and several rare plant species, including serpentine endemic species.

Mr. Kobernus has a diverse biological background with a focus in both aquatic and upland habitats. As a graduate student at Cal State University Hayward, he conducted his Master's research on assessing urbanization impacts to steelhead and other fishes in San Lorenzo Creek. As a graduate student and as a biologist with TRA, he has evaluated impacts within urban environments to each life stage of steelhead (spawning, rearing, and migration), and is knowledgeable in the techniques for evaluating the components of steelhead habitat (stream gravels, macroinvertebrate food resources, instream and canopy cover, stream flow conditions and water quality parameters). He is also experienced in steelhead survey techniques such as downstream migrant trapping, electrofishing and snorkeling surveys.

Mr. Kobernus is a trained wetland delineator in the US Army Corps of Engineers Wetland Delineation methodology (Wetland Training Institute, March, 2001). He has also received specialty training in Applied Hydric Soils (WTI, May 2003). He has assisted clients in preparing California Department of Fish and Game 1600 Streambed Alteration Agreements, and with permit applications for the US Army Corps of Engineers and for the California Regional Water Quality Control Board.

He also assisted with a study on heavy metal accumulation within urban creeks (Vegetated Channels Study, 1992), and performed a study testing the toxicity of stormwater on

macroinvertebrates and fish (DUST Marsh toxicity study, 1993) for Alameda County Water Resources Department. As a wildlife biologist for Gualala Redwoods in 1996 (Gualala, CA) he conducted surveys for northern spotted owls and conducted independent research on carnivores using riparian habitat. Mr. Kobernus developed and directed a program that provided hands-on experience to kids in stream ecology from 1996-1997 (San Lorenzo Creek Wildlife Hikes).

As a project manager for TRA, Mr. Kobernus has managed the implementation of the San Bruno Mountain Habitat Conservation Plan since 1995. He has over a decade of experience in monitoring and managing grassland and coastal scrub ecosystems. He supervised biological monitoring crews on the Mountain from 1995-2005, and has also overseen the rare plant mapping, exotics control, grazing, controlled burning, and replanting projects on the Mountain. He has conducted several presentations for local governments and academic groups on the technicalities of the San Bruno Mountain HCP, and the ongoing management programs.

**Educational Background**

M.S. Ecology, California State University, Hayward, CA 1998

B.A. English, Sonoma State University, Rohnert Park, CA 1987

### **Terese Kastner (Biologist)**

Ms. Kastner joined TRA in 2005, and brings a diverse background and understanding of biological principles and practices to the firm. She has conducted inventories for avian, mammalian, and herpetofauna species, as well as planning and completing on the ground restoration work. She has supervised exotic plant removal crews and monitored their activities for permit compliance. Additionally, she has collected, recorded, analyzed and reported all data associated with this survey work.

Ms. Kastner launched her career as a biologist in 1995 when she spent a summer conducting Northern spotted owl and marbled murrelet protocol surveys for the Olympic National Forest. In the following ten years, Ms. Kastner has received training and gained experience with many listed botanical and wildlife species throughout the state of California. Special status species Ms. Kastner has worked closely with include least Bell's vireo, southwestern willow flycatcher, burrowing owl, Santa Ana River wooley-star, San Bernardino kangaroo rat, and Mojave River vole. She has reviewed and commented on many CEQA documents such as Initial Studies and EIR's, as well as writing parts of environmental documents (Mitigation Plan, Biological Assessment) for various resource agencies.

From 2001 through 2004, Ms. Kastner participated in a watershed wide program dedicated to improving the overall health of the ecosystem. The program worked not only to remove exotic species, but also to manage and recover endangered species. As part of the exotics removal program, Ms. Kastner initiated a Brown-headed cowbird trapping program which included obtaining federal, state and county permits; recruiting, training, and scheduling volunteers; collecting all field data and writing year-end reports. Along with the cowbird program, Ms. Kastner monitored the nests of the least Bell's vireo to prevent nest parasitism. Additional inventories that she completed for the watershed program include a winter bird-population study, general night drive surveys, and installing and monitoring a number of herpetofauna arrays. She also participated in the Santa Ana Sucker Conservation Program. This program allowed many groups, who needed to perform maintenance and operations within sucker habitat, to collaborate with resource agencies for the recovery of the fish.

At her previous job with San Bernardino County, Ms. Kastner worked on several large projects. Wildfires in November 2003 caused the San Bernardino County Flood Control District to anticipate high sediment movement from the San Bernardino Mountains. In order to protect the public from massive flooding, the county had to obtain an emergency permit to complete extra maintenance requirements. Ms. Kastner acted as a member of a team, working closely with the Army Corps of Engineers and US Fish and Wildlife Service, to complete a Biological Assessment of necessary maintenance activities. Once the permit was granted, Ms. Kastner was responsible for tracking, recording and reporting all county emergency operations to California Department of Fish and Game, California Regional Water Quality Control Board, Army Corps of Engineers, and US Fish and Wildlife Service. Ms. Kastner also participated in a project to construct a new flood control basin. This project included conducting presence/absence trapping for the San Bernardino kangaroo rat on over 400 acres of land, monitoring for California gnatcatcher presence, and writing parts of a Mitigation, Monitoring, Restoration, and Protection Plan.

### **Educational Background**

B.A., Biology and Environmental Studies, Pitzer College, 1997.

