4.2 BIOLOGICAL RESOURCES

4.2.1 INTRODUCTION

This section identifies existing biological resources at the project site and its vicinity and analyzes the potential for the proposed Highland Estates project to affect those resources. Information presented in the discussion and subsequent analysis was drawn from site visits, databases, the San Mateo County General Plan, and previous environmental documents prepared for the project site. No public or agency comments related to biological resources were received in response to the original and revised Notice of Preparation issued for this environmental impact report (EIR). In response to the draft EIR circulated in December 2008, commenters requested additional analysis of project compliance with Development Review Criteria of the Resource Management (RM) District, additional descriptions of proposed tree removals and potential California red-legged frog habitat, and modification to the mitigation for impacts to purple needlegrass.

4.2.2 METHODS

4.2.2.1 Database Review

The latest version of the California Natural Diversity Data Base (CNDDB) was reviewed for the project quadrangle (i.e., San Mateo) and a 5-mile radius around the project site. In addition, the California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Plants was reviewed for the project quadrangle. The intent of the database review was to identify special-status plant and wildlife species that have been documented in the project area to assist in determining if these species might be present on or adjacent to the project site.

4.2.2.2 Literature Review

To assist in evaluating the biological resources known to occur or potentially occurring on the project site, a literature review was conducted. The biological resources reports prepared for the project site that were reviewed are listed below, and the reports in their entirety are included in **Appendix 4.2**. Where appropriate, the findings of these reports have been incorporated into this biological resources chapter.

- *Biotic Resources Assessment*, Bunker Hill Estates Property, San Mateo County, California, prepared by The Habitat Restoration Group. April 1989.
- *Highland Estates Residential Development Environmental Impact Report*, Section 3.2.3. Vegetation and Wildlife, prepared by EIP. 1998.

- *Highlands Estates Residential Development Project Biological Resources Report*, prepared by Thomas Reid Associates. June 2003.
- *Biological Assessment* for lots #1–8 within the Highland Estates, San Mateo County, California, prepared by Thomas Reid Associates. March 2006.
- *Special-Status Plant Survey Report*, Ticonderoga Project, San Mateo County, California, prepared by Vollmar Consulting. April 2007.

4.2.2.3 Field Surveys

The biological field investigations that were conducted on the project site are summarized below.

Reconnaissance-Level Surveys: Pacific Biology conducted reconnaissance-level field visits on April 20, 2007, and September 17 and 26, 2008. The objective of the field visits was to assess the current condition of the biological resources present on the site and to confirm the description and mapped location of biological resources, as described in existing biological documentation. Reconnaissance-level field surveys that generally described the biological resources present on the site were previously conducted by The Habitat Restoration Group in February and March of 1989, and by Thomas Reid Associates on May 19, 2003, and March 1, 2006.

Rare Plant Surveys: On April 20, 2007, Vollmar Consulting conducted a survey for rare plant species on lots 1–8. The focus of the survey was to search for rare plant species identifiable at the time of the survey and to evaluate the potential occurrence of other special-status plant species based on the presence/absence of suitable habitat and known ranges. The survey was floristic in nature and included identifying all plant species to the level necessary to determine if the plants were special-status. The Habitat Restoration Group (February and March 1989) and Thomas Reid Associates (May 19, 2003, and March 1, 2006) also conducted surveys for rare plants and floristic inventories as part of their fieldwork.

4.2.3 ENVIRONMENTAL SETTING

4.2.3.1 Regional Location

The project site is located in the San Francisco Bay Area, which is characterized by a Mediterranean climate with moderately warm, dry summers and mild, wet winters. The project site is within the Highlands neighborhood in an unincorporated area of San Mateo County, and is west of the San Mateo City limit. Highway 92 and Interstate 280 (I-280) are located south and west of the project site, respectively. The Lower and Upper Crystal Springs Reservoirs are also west of the project site. The project site is bordered by Bunker Hill Drive to the north and northeast, Polhemus Road to the southeast,

Ticonderoga Drive and Cobblehill Place to the south, and Lexington Avenue and Yorktown Road to the west and northwest.

4.2.3.2 Surrounding Land Uses

The project site is located in a suburban area that is surrounded by roads and single-family residences. However, relatively large expanses of undeveloped lands occur in nearby areas. To the west of the project site (south of Lexington Avenue and north of I-280), there is a relatively large grassland area. This area contains pockets of serpentine soils, which are associated with a variety of rare plant and wildlife species. The Crystal Springs Reservoir is located to the south of I-280, west of the project site. This area contains grassland, woodland, and aquatic habitats. A large open space area also occurs south of the project site, to the south of Highway 92.

4.2.3.3 Project Site

As discussed in **Section 3.0, Project Description**, the project site consists of two parcels of land, totaling approximately 99 acres of undeveloped land. The proposed project includes the development of 11 single-family home lots (totaling 4.54 acres) and maintaining the remaining 92.46 acres as open space.[1] As shown in **Figure 3.0-4, Proposed Site Plan,** lots 1 through 4 would be located along Bunker Hill Drive, along the northern boundary of the site, and lots 5 through 8 would be located along Ticonderoga Drive, along the southern boundary of the site. Lots 9 and 10 would be located at the end of Cobblehill Place in the southern portion of the project site and lot 11 would be located at the end of Cowpens Way in the southwesterly portion of the project site. As the 11 lots proposed for development occur in four separate locations, the biological characteristics of lots 1 through 4, lots 5 through 8, lots 9 through 10, and lot 11, as well as the area to be maintained as open space, are discussed separately below.

Lots 1 through 4

These lots are located along Bunker Hill Road, along the northern boundary of the project site. The majority of the site contains coast live oak woodland, but a small grassland area also occurs. The oak woodland is dominated by coast live oak (*Quercus agrifolia*), but California bay (*Umbellularia californica*), toyon (*Heteromeles arbutifolia*), California buckeye (*Aesculus californica*), and madrone (*Arbutus menziesii*) also occur. The understory is dominated by poison oak (*Toxicodendron diversilobum*) and various non-native grasses such as Italian ryegrass (*Lolium multiflorum*) and dogtail grass (*Cynosurus echinatus*). Douglas iris (*Iris douglasiana*) and bedstraw (*Galium aparine, G. murale*) are also fairly common

1 Although 94.54 acres of the project site are not proposed for development, the net area of the remaining parcel less California Water tank sites is 92.46 acres.

components of the understory. A small grassland area is located in the northeastern portion of this development area. The grassland is dominated by various non-native annual grasses, including Italian ryegrass, dogtail grass, ripgut brome (*Bromus diandrus*), and other non-native herbaceous vegetation such as storksbill (*Erodium botrys*), Italian thistle (*Carduus pycnocephalus*), cut-leaved geranium (*Geranium dissectum*), vetch (*Vicia sativa* ssp. *sativa*), and English plantain (*Plantago lanceolata*). A small stand (approximately 10 feet by 10 feet) of the native grass species purple needlegrass (*Nassella pulchra*) occurs in the central portion of the grassland area.

Lots 5 through 8

Lots 5 through 8 are located along Ticonderoga Drive, along the southern boundary of the site. Coast live oak woodland occurs on the eastern portion of this development area. Similar to lots 1 through 4, the woodland in this area is dominated by coast live oak trees and also contains California bay and toyon. The understory contains a dense growth of poison oak, as well as monkey flower (*Mimulus aurantiacus*), gooseberry (*Ribes menziesii*), ceanothus (*Ceanothus thyrsiflorus*), and California manroot (*Marah fabaceus*). The western portion of the area contains a matrix of non-native grasses and other non-native herbaceous vegetation, iceplant (*Carpobrotus edulis*), coyote brush (*Baccharis pilularis*), and pockets of the native grass purple needlegrass. More specifically, the non-native grass wild oats (*Avena barbata*) and ripgut brome are abundant within the non-wooded portions of the site, with the non-native species bristly ox-tongue (*Picris echioides*), teasel (*Dipsacus fullonum*), and pampass grass (*Cortaderia selloana*) also occurring. Coyote brush, a native shrub often found in disturbed areas, is found throughout much of the grassland area. Iceplant has invaded large portions of the grassland area and appears to be expanding its on-site distribution based on observations from 2007 and 2008. Stands of the purple needlegrass are also present and generally occur in the southeastern portion of the site, between the oak woodland and the areas invaded by iceplant.

Lots 9 and 10

Lots 9 and 10 are located at the end of Cobblehill Place in the southern portion of the project site. The majority of this development area contains coyote brush/poison oak scrub, which is characterized by a dense growth of coyote brush and poison oak, as well as other shrubby vegetation such as toyon and Himilayan blackberry (*Rubus discolor*). Coast live oak, bay trees, and pines occur in scattered locations, and California manroot provides a dense ground cover in more open portions of the site. Portions of the site show signs of disturbance including discarded metal sheeting and trash. The area bordering the road is generally more open and contains non-native grasses and weedy vegetation. A small area (approximately 7 feet by 4 feet) bordering the road, receives surface runoff from the upslope road and

gutter. This small area contains wetland-associated vegetation such as rabbitsfoot grass (*Polypogon monspeliensis*), sedges (*Cyperus* sp.), and juncus (*Juncus* sp.).

Lot 11

Lot 11 is located at the end of Cowpens Way in the southwesterly portion of the project site. The northern portion of this area is characterized by oak woodland dominated by coast live oak trees. The understory contains a high density of poison oak and California manroot, and ivy provides dense ground cover in more open portions of the understory. Other portions of the site contain coyote brush/poison oak scrub. The invasive plant species fennel (*Foeniculum vulgare*) and bamboo (which has spread from a neighboring garden), as well as non-native grasses and weedy species, occur in the western portion site. A creek (assumed to be a tributary to Polhemus Creek) occurs immediately to the northeast of the site, which supports a dense growth of willow (*Salix* sp.) scrub. Based on an assessment conducted by Land Watch Incorporated (2008), the creek and associated willows are located entirely outside of the land disturbance area of the proposed project.

Open Space

The open space portion of the site contains a matrix of coast live oak woodland, coyote brush/poison oak scrub, northern sage scrub, willow scrub, pockets of non-native annual grassland, and an area of serpentine grassland (located in the central portion of the open space on a slope west of the water tanks).

Common Wildlife

The project site is surrounded by roads and suburban development and may function as a discrete unit of habitat for many terrestrial wildlife species. The matrix of habitats present provides habitat for numerous wildlife species. The coast live oak woodlands support a diverse wildlife community given the structural diversity of the canopy and dense understory vegetation. Numerous bird species occur, including American robin (*Turdus migratorius*), western scrub jay (*Aphelocoma californica*), Steller's jay (*Cyanocitta stelleri*), chestnut-backed chickadee (*Poecile rufescens*), fox sparrow (*Passerella iliaca*), spotted towhee (*Pipilo maculates*), Hutton's vireo (*Vireo huttoni*), varied thrush (*Ixoreus naevius*), wrentit (*Chamaea fasciata*), and numerous other bird species. The willow scrub also provides foraging habitat for many species of migrant songbirds, as well as breeding habitat for resident and nesting species. Mammal species that are likely present on the project site include California black-tailed deer (*Odocoileus hemionus*), raccoon (*Procyon lotor*), opossum (*Didelphis virginiana*), striped skunk (*Mephitis mephitis*), and coyote (*Canis latrans*). Amphibians likely occurring within the oak woodlands, as well as willow scrub, include California slender salamander (*Batrachoseps attenuatus*), arboreal salamander (*Aneides lugubris*), and pacific tree frog (*Hyla regilla*). Reptile species likely to occur within the habitats present include western fence lizard

(*Sceloporus occidentalis*) and southern alligator lizard (*Elgaria multicarinata*). The oak woodlands provide potential nesting habitat for common raptors such as red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), and great horned owl (*Bubo virginianus*). The grassland areas on the project site are relatively small and fragmented and provide limited foraging value for most raptor species.

Special-Status Wildlife Species

For the purposes of this EIR, special-status wildlife species are defined as those that are state or federally listed as Threatened or Endangered, proposed for listing as Threatened or Endangered, designated as state or federal candidates for listing, a federal Bird of Conservation Concern, a state Species of Special Concern, a state Fully Protected Animal, or that may otherwise be considered "rare" under Section 15380 of the CEQA Guidelines.

Based on a review of the CNDDB and the project biologist's knowledge of the project region, 13 special-status wildlife species (including mammal, amphibian, reptile, and bird species) are known to occur within five miles of the project site. These species are identified in **Table 4.2-1, Special-Status Wildlife Species Documented in the Project Area**, along with their regulatory status, habitat requirements, and an evaluation of their potential to occur on the site.

Table 4.2-1
Special-Status Wildlife Species Documented in the Project Area

Common and Scientific Name	Status		Habitat Requirements	Potential Occurrence On or Near Lots 1–11
	Federal	State		
Invertebrates				
Edgewood blind harvestman *Calicina minor*	--	*	Occupies locations under boulders or logs in serpentine areas. Known to occur at Edgewood County Park and near a spring on County Road 14 north of Crystal Springs Dam.	Not Expected: serpentine areas are not present on or near the lots proposed for development.

Common and Scientific Name	Status		Habitat Requirements	Potential Occurrence On or Near Lots 1–11
	Federal	State		
Bay checkerspot butterfly *Euphydryas editha bayensis*	FT	--	Serpentine bunchgrass grassland, larvae feed on Plantago erecta	Not Expected: suitable habitat not present on or near the lots proposed for development. A serpentine grassland has been identified in the central portion of the open space area (southwest of the water tanks) and the CNDDB contains a record of Bay checkerspot butterfly from this location. However, this area would not be affected by the proposed project.
Amphibians and Reptiles				
Western pond turtle *Actinemys marmorata*	--	CSC	Aquatic habitats including ponds, streams, and irrigation ditches. Requires basking sites such as partially submerged logs, vegetation mats, or open mud banks. Also requires suitable upland egg laying sites.	Not Expected: suitable aquatic and upland habitat is not present on or near the lots proposed for development. The portion of the creek near lot 11 has a dense shrub canopy, contains shallow flowing water, and is not suitable for pond turtles.
California tiger salamander *Ambystoma californiense*	FT	CSC	Breed in ponds and vernal pools; occupies small mammal burrows in surrounding grassland habitats during most of the year.	Not Expected: suitable aquatic and upland habitat is not present on or near the lots proposed for development or the greater project site.

Common and Scientific Name	Status		Habitat Requirements	Potential Occurrence On or Near Lots 1–11
	Federal	State		
California red-legged frog *Rana draytonii*	FT	CSC	Lowlands and foothills in or near long lasting sources of deep water.	Potential: the species is known from the project area and has been documented approximately 0.8 mile from the project site (CNDDB); however, this occurrence is separated from the project site by I-280. As the creek near lot 11 has a dense shrub canopy and contains shallow flowing water, it does not provide suitable breeding habitat for the species. However, should the species occur in an undocumented location accessible to the project site, there is potential that the species could occur in the creek zone during dispersal or while seeking summer refuge habitat.
San Francisco giant garter snake *Thamnophis sirtalis tetrataenia*	FE	SE	Occurs in freshwater ponds, ditches, streams and marshes; typically associated with emergent vegetation used for cover and foraging.	Not Expected: suitable habitat is not present. As the creek near lot 11 has a dense shrub canopy, contains shallow flowing water, lacks emergent vegetation, does not contain large pools, and flows through steep terrain, it does not provide suitable habitat for the species.
Birds				
Cooper's hawk (nesting) *Accipiter cooperi*	--	CSC	Nests in riparian growths of deciduous trees and live oak woodlands. Also occasionally nests in parks and urban areas.	Potential: the trees on the project site provide potential nesting habitat.
Burrowing owl (burrow sites) *Athene cunicularia*	BCC	CSC	Forages and nests in grasslands and open scrub with small mammal burrows.	Not Expected: suitable nesting and wintering habitat is not present on or near the lots proposed for development or the greater project site. Grassland habitats present are too small to support the species and lack ground squirrel burrows.

Common and Scientific Name	Status		Habitat Requirements	Potential Occurrence On or Near Lots 1–11
	Federal	State		
Northern harrier (nesting) *Circus cyaneus*	--	CSC	Inhabits coastal salt and freshwater marshes. Nests and forages in grasslands, from salt grass in desert sink to mountain cienagas. Nests on ground in shrubby vegetation, usually at marsh edge. Nests are large mounds of sticks in wet areas.	Not Expected: suitable nesting habitat and foraging habitat is not present on or near the lots proposed for development.
Yellow warbler (nesting) *Dendroica petechia brewsteri*	--	CSC	Found in densely vegetated riparian areas.	Potential: the willow scrub habitat bordering lot 11 provides suitable nesting habitat for this species.
White-tailed kite (nesting) *Elanus leucurus*	--	CFP	Usually nests in large bushes or trees, often in isolated stand, surrounded by open foraging habitat.	Not Expected: large expanses of open foraging habitat are not present on the project site; species generally nests within or adjacent to foraging habitat.
Mammals				
Pallid bat (roosting) *Antrozous pallidus*	--	CSC	Roosts include rock outcrops, mines, caves, hollow trees, buildings and bridges. Often associated with oak woodlands.	Potential: trees within the lots proposed for development provide potential roost habitat.
San Francisco dusky-footed woodrat (breeding) *Neotoma fuscipes annectens*	--	CSC	Highly arboreal and associated with evergreen or live oaks and other thick-leaved trees and shrubs.	Observed: nests of this species have been observed on lot 8 and lots 1– 4; nests have not specifically been found, but are presumed to occur within the other lots proposed for development.

STATUS KEY:

Federal
FE: Federally Endangered
FT: Federally Threatened
BCC: Bird of Conservation Concern

State
CE: California Endangered
CSC: California Species of Concern
**: California Special Animal*

As discussed above, one special-status wildlife species, San Francisco dusky-footed woodrat, has been observed on the project site. As also indicated by **Table 4.2-1**, based on the presence of suitable habitat and known occurrence within five miles of the project site, the following special-status wildlife species also have the potential to occur on the lots proposed for development: Cooper's hawk, yellow warbler, California red-legged frog, and pallid bat. These special-status species that either were observed or were determined to potentially occur based by habitat are further discussed in **Subsection 4.2.5, Impacts and Mitigation Measures**.

As indicated in **Table 4.2-1**, the following special-status species are presumed absent from the lots proposed for development given the absence of suitable habitat or very marginal habitat conditions: Edgewood blind harvestman, Bay checkerspot butterfly, western pond turtle, California tiger salamander, San Francisco giant garter snake, burrowing owl, northern harrier, and white-tailed kite. As these species are not expected to reside on or significantly utilize the project site, they are not further discussed in this document.

Special-Status Plant Species

For the purposes of this analysis, special- status plants are defined as those species that are state or federally listed as Rare, Threatened or Endangered; federal candidates for listing; proposed for state or federal listing; or included on Lists 1, 2, 3, or 4 of the CNPS Inventory of Rare and Endangered Plants of California (CNPS Inventory).

Based on a review of the CNDDB and CNPS On-Line Inventory and knowledge of the project area, 17 special-status plant species were identified that are known to occur in the area. These species are listed in **Table 4.2-2, Special-Status Plant Species Documented in the Project Area**, along with their regulatory status, habitat requirements, and an evaluation of their potential to occur on the site.

As indicated in **Table 4.2-2**, no special-status plant species are expected to occur on or bordering lots 1-11. This conclusion is based on the negative results of focused surveys for special-status plants that were conducted on lots 1–4 and lots 5-8 by Vollmar Consulting on April 20, 2007, and by Thomas Reid Associates on March 1, 2006 and May 19, 2003. Regarding lots 9–11, this conclusion is based on the following factors: (1) these lots are located along the outer margins of woodlands and scrub habitats and are in a disturbed condition, as evidenced by the plant species present and accumulation of trash (see **Subsection 4.2.3.3, Project Site**); (2) most locally occurring special-status plant species are associated with serpentine or volcanic soils, which do not occur on or near these lots; and (3) shrubs, such as western leatherwood and bush-mallow, were not found during site surveys and would have been readily observable if present.

Western leatherwood occurs in the portion of the project site to be maintained as open space. The Habitat Restoration Group identified occurrences of western leatherwood in locations to the north of the currently proposed lots 9 and 10. These occurrences are separated from lots 9 and 10 by steep slopes that are densely vegetated with poison oak and coyote brush.

Table 4.2-2
Special-Status Plant Species Documented in the Project Area

Common and Scientific Name	Status			Habitat Requirements	Life Form and Flowering Period	Potential Occurrence On or Near Lots 1–11
	Federal	State	CNPS			
San Mateo thorn-mint *Acanthomintha duttonii*	FE	SE	1B.1	Grasslands and chaparral on serpentine soils. Known from only two extant occurrences and one introduced occurrence.	Annual herb April-June	***Not Expected:*** suitable habitat not present given the absence of serpentine soils.
Franciscan onion *Allium peninsulare* var. *franciscanum*	--	--	1B.2	Cismontane woodland and grasslands on clay, volcanic, often serpentine soils.	Perennial herb (bulbiferous) May-June	***Not Expected:*** suitable habitat not present given the absence of volcanic or serpentine soils.
Bent-flowered fiddleneck *Amsinckia lunaris*	--	--	1B.2	Grasslands, woodlands, coastal bluff scrub.	Annual herb March-June	***Not Expected:*** not observed on lots 1-8 during appropriately timed surveys; lots 9-10 are in a disturbed condition and provide very marginal habitat.
San Francisco Bay spineflower *Chorizanthe cuspidata* var. *cuspidata*	--	--	1B.2	Sandy soils within coastal bluff scrub, coastal dunes, coastal prairie, and coastal scrub.	Annual herb April-July	***Not Expected:*** suitable habitat not present given the absence of sandy soils and associated plant communities.
Crystal Springs fountain thistle *Cirsium fontinale* var. *fontinale*	FE	SE	1B.2	Seeps with serpentine soils in grasslands, woodlands, and chaparral. Known from only five occurrences in the vicinity of the Crystal Springs Reservoir, San Mateo County.	Perennial herb May-October	***Not Expected:*** suitable habitat not present given the absence of serpentine soils.

Common and Scientific Name	Status			Habitat Requirements	Life Form and Flowering Period	Potential Occurrence On or Near Lots 1–11
	Federal	State	CNPS			
San Francisco collinsia *Collinsia multicolor*	--	--	1B.2	Closed-cone coniferous forest and coastal scrub, often on serpentine soils.	Annual herb March-May	***Not Expected:*** associated plant communities and serpentine soils not present. Not observed on lots 1–8 during appropriately timed surveys; lots 9 and 10 are in a disturbed condition and provide very marginal habitat.
Point Reyes bird's-beak *Cordylanthus maritimus* ssp. *palustris*	--	--	1B.2	Marshes and swamps	Annual herb June-October	***Not Expected:*** suitable habitat not present.
Western leathwerwood *Dirca occidentalis*	--	--	1B.2	Shaded woodland and forest.	Deciduous shrub January-March	***Not Expected:*** not observed on lots 1–11 during focused searches; species would have been observed if present. Species known to occur in open space, away from proposed development areas.
Hillsborough chocolate lily *Fritillaria biflora* var. *ineziana*	--	--	1B.1	Woodlands and grasslands on serpentine soils.	Perennial herb (bulbiferous) March-April	***Not Expected:*** suitable habitat not present given the absence of serpentine soils.
Fragrant fritillary *Fritillaria liliacea*	--	--	1B.2	Cismontane woodland, coastal prairie, coastal scrub, valley and foothill grassland/often on serpentine soils.	Perennial herb (bulbiferous) February–April	***Not Expected:*** Not observed on lots 1–8 during appropriately timed surveys; lots 9 and 10 are in a disturbed condition and provide very marginal habitat. All lots proposed for development lack clay or serpentine soils typically associated with this species.

Common and Scientific Name	Status			Habitat Requirements	Life Form and Flowering Period	Potential Occurrence On or Near Lots 1–11
	Federal	State	CNPS			
Short-leaved evax *Hesperevax sparsiflora* var. *brevifolia*	--	--	2.2	Coastal bluff scrub and coastal dunes.	Annual herb March-June	***Not Expected:*** associated plant communities not present. Not observed on lots 1–8 during appropriately timed surveys; lots 9 and 10 are in a disturbed condition and do not provide suitable habitat.
Marin western flax *Hesperolinon congestum*	FT	ST	1B.1	Grasslands and chaparral on serpentine soils.	Annual herb April-July	***Not Expected:*** suitable habitat not present given the absence of serpentine soils.
Crystal Springs lessingia *Lessingia arachnoidea*	--	--	1B.2	Grasslands, scrub, and woodlands on serpentine soils.	Annual herb July-October	***Not Expected:*** suitable habitat not present given the absence of serpentine soils.
Arcuate bush-mallow *Malacothamnus arcuatus*	--	--	1B.2	Chaparral and cismontane woodland.	Evergreen shrub April-September	***Not Expected:*** not observed on lots 1–11 during surveys; species would have been observable if present.
Davidson's bush-mallow *Malacothamnus davidsonii*	--	--	1B.2	Chaparral, cismontane woodland, coastal scrub, riparian woodland.	Evergreen shrub June-January	***Not Expected:*** not observed on lots 1–11 during surveys; species would have been observed if present.
Hall's bush-mallow *Malacothamnus hallii*	--	--	1B.2	Chaparral and coastal scrub.	Evergreen shrub May-September	***Not Expected:*** not observed on lots 1–11 during surveys; species would have been observable if present.
White-rayed pentachaeta *Pentachaeta bellidiflora*	FE	SE	1B.1	Cismontane woodland and grasslands, serpentine soils. Known from only one extended occurrence.	Annual herb March-May	***Not Expected:*** suitable habitat not present given the absence of serpentine soils and disturbed condition of sites.

STATUS KEY:
Federal:
FE = Federal Endangered
FT = Federal Threatened
State
SE = State Endangered
ST = State Threatened

CNPS
List 1A = Plants presumed extinct in California
List 1B = Plants Rare, Threatened, or Endangered in California and elsewhere
List 2 = Plants Rare, Threatened, or Endangered in California, but more common elsewhere
1 = seriously Endangered in California
2 = fairly Endangered in California
3 = not very Endangered in California

Sensitive Plant Communities

The California Department of Fish and Game (CDFG) Wildlife and Habitat Data Analysis Branch has developed a List of California Terrestrial Natural Communities.[2] The most recent version of this list (September 2003) is derived from the CNDDB and is intended to supersede all other lists developed from the CNDDB. It is based on the detailed classification put forth in *A Manual of California Vegetation*.[3] It is also structured to be compatible with previous CNDDB lists (e.g., Holland 1986). The primary purpose of the CNDDB classification is to assist in the characterization of the rarity of various vegetation types. For the purposes of this analysis, plant communities denoted on the list as "high priority for inventory in CNDDB" in the September 2003 version are considered to be "sensitive."

Purple needlegrass grassland is denoted on the list as "high priority for inventory in CNDDB" and thus is considered a sensitive plant community. While there is no statewide definition of a native grassland, it is generally accepted that a native grassland contains a minimum of 10-20 percent cover of native grasses. As previously discussed, isolated areas with a high percent cover (greater than 50 percent) of purple needlegrass are present on portions of lots 1 and 8. The stand of purple needlegrass on lot 1 is small (approximately 10 feet by 10 feet) and is surrounded by non-native grass species. The stand of purple needlegrass on lot 8 is approximately 0.03 acre in~~s~~ size and is located in the southeastern portion of the site, between the oak woodland and areas invaded by iceplant.

The area of willow scrub bordering lot 11 is also considered to be a sensitive plant community. Additionally, areas of serpentine grassland (which is considered a sensitive plant community) have been identified and mapped in the central portion of the open space, on a slope west of the water tanks; these areas are not proposed for development.

Jurisdictional Resources

Wetlands, creeks, streams, and permanent and intermittent drainages are subject to the jurisdiction of the US Army Corps of Engineers (USACE) under Section 404 of the Federal Clean Water Act. The CDFG also generally has jurisdiction over these resources, together with other aquatic features that provide an existing fish and wildlife resource pursuant to Sections 1602-1603 of the California Fish and Game Code. The CDFG asserts jurisdiction to the outer edge of vegetation associated with a riparian corridor.

No creeks, wetlands, riparian areas, or other resources potentially under the jurisdiction of the USACE and/or CDFG are present on lots 1–11. As previously discussed, on lot 9 there is a small area

2 CDFG, 2003.

3 Sawyer and Keeler-Wolf, 1995.

(approximately 7 feet by 4 feet) that receives surface runoff from the upslope road and gutter. Although this small area contains wetland-associated vegetation (e.g., rabbitsfoot grass, sedges, juncus), it is not expected to be jurisdictional as its water source is from road and irrigation runoff and it is isolated and not near or adjacent to a Waters of US.

As also previously discussed, a creek that supports a dense growth of willow scrub and is assumed to be a tributary to Polhemus Creek is present immediately to the northeast of lot 11. The creek is expected to fall under the jurisdiction of the USACE under Section 404 of the Clean Water Act. The willows associated with the creek are riparian vegetation and are expected to be under the jurisdiction of the CDFG and potentially the USACE. Based on an assessment conducted by Land Watch Incorporated (2008), the creek and associated willows are located entirely outside of the land disturbance area of the proposed project.

Wildlife Movement Corridors

Wildlife corridors are described as pathways or habitat linkages that connect discrete areas of natural open space otherwise separated or fragmented by topography, changes in vegetation, and other natural or human induced factors such as urbanization. The fragmentation of natural habitat creates isolated "islands" of vegetation that may not provide sufficient area or resources to accommodate sustainable populations for a number of species and thus, adversely affecting both genetic and species diversity. Corridors often partially or largely mitigate the adverse effects of fragmentation by (1) allowing animals to move between remaining habitats to replenish depleted populations and increase the gene pool available; (2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk that catastrophic events (such as fire or disease) will result in population or species extinction; and (3) serving as travel paths for individual animals moving throughout their home range in search of food, water, mates, and other needs, or for dispersing juveniles in search of new home ranges.

The project site is surrounded by roads and suburban development, which limits its function as a wildlife movement corridor. Given the extent of surrounding residential development, the open space portion of the project site may function as a discrete unit of habitat for many terrestrial wildlife species. However, a small potential wildlife movement corridor occurs between the open space on the project site and the Crystal Springs watershed via a small area of undeveloped land on the northern portion of the project site that connects to undeveloped lands to the northwest. Additionally, given the extent of undeveloped lands on the project site, avian species likely use the site as stopover habitat during migrations.

Protected Trees

The Significant Tree Ordinance of San Mateo County defines a "Significant Tree" as any live woody plant rising above the ground with a single stem or trunk of a circumference of 38 inches or more measured at 4.5 feet 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.

However, as described in Section 12,020.1 of the Ordinance, properties within the ~~Resource Management (~~RM~~)~~ D~~d~~istrict (including portions of the project site) are exempt from the ordinance. Within the RM district, the removal of living trees with trunk circumference of more than 55 inches measured 4.5 feet above the average surface of the ground is prohibited, except as may be required for development permitted under this Ordinance, or permitted under the timber harvesting ordinance, or for reason of actual or potential danger to life or property.[4]

A tree survey was conducted by the Habitat Restoration Group in 1989-1990 on portions of the project site, including most of the lots currently proposed for development. This survey identified numerous trees with a trunk circumference exceeding 55 inches (17.5 inches diameter at breast height) that are protected within the RM D~~d~~istrict. These trees primarily consist of coast live oak, but also include bay and pine. An updated tree survey was conducted by LandWatch Incorporated (2008) to determine the current number, species and size of protected trees present within the lots proposed for development. **Table 4.2-3**, below, identifies the trees protected by Section 12,020.1 of the Significant Tree Ordinance that are currently present within the lots proposed for development.

Table 4.2-3
RM District: Protected Trees Present in Development Area

Location (Lot #)	Tree Species	DBH*	No. of Trees
1	Coast live oak	20″	1
2	Coast live oak	19″	1
~~3~~	~~Coast live oak[5]~~	~~12″~~	~~1~~
~~3~~	~~Coast live oak[6]~~	~~16.5″~~	~~1~~
3	Coast live oak	18″	1

[4] A trunk circumference of 55 inches is equivalent to a diameter of approximately 17.5 inches.

~~[5] All mature trees were surveyed by Land Watch, Incorporated in 2008. However, only trees with a circumference of 17.5 inches or greater would be protected by the significant tree ordinance in the RM District.~~

~~[6] Ibid.~~

Location (Lot #)	Tree Species	DBH*	No. of Trees
3	Coast live oak	19.5″	1
3	Coast live oak	32″	1
~~3~~11	Coast live oak	19.2″	1
~~3~~11	Coast live oak	20″	1
			Total: ~~9~~7

Note:
** DBH = diameter at breast height*

4.2.4 REGULATORY CONSIDERATIONS

4.2.4.1 Federal Regulations

Federal Endangered Species Act

Under the Federal Endangered Species Act (FESA), the Secretary of the Interior and the Secretary of Commerce have joint authority to list a species as threatened or endangered (16 United States Code [USC] 1533[c]). Pursuant to the requirements of the FESA, an agency reviewing a proposed project within its jurisdiction must determine whether any federally listed or proposed species may be present in the project region, and whether the proposed project would result in a "take" of such species. The "take" provision of the FESA applies to actions that would result in injury, death, or harassment of a single member of a species protected under the Act. In addition, the agency is required to determine whether the project is likely to jeopardize the continued existence of any species proposed to be listed under the FESA, or result in the destruction or adverse modification of critical habitat for such species (16 USC 1536[3][4]). If it is determined that a project may result in the "take" of a federally-listed species, a permit from the USFWS would be required under Section 7 or Section 10 of the Federal Endangered Species Act. Section 7 applies if there is a federal nexus (e.g., the project is on federal land, the lead agency is a federal entity, a permit is required from a federal agency, or federal funds are being used). Section 10 applies if there is no federal nexus.

Clean Water Act

The Federal Water Pollution Control Act of 1972, often referred to as the Clean Water Act, is the nation's primary law for regulating discharges of pollutants into waters of the United States. The objective of the Clean Water Act is to restore and maintain the chemical, physical, and biological integrity of the nation's waters. The regulations adopted pursuant to the Act deal extensively with the permitting of actions in waters of the United States, including wetlands. The Act's statutory sections and implementing regulations provide more specific protection for riparian and wetland habitats than any other federal law.

The US Environmental Protection Agency (US EPA) has primary authority under the Clean Water Act to set standards for water quality and for effluents, but the USACE has primary responsibility for permitting the discharge of dredge or fill materials into streams, rivers, and wetlands.

Migratory Bird Treaty Act

The Federal Migratory Bird Treaty Act (16 USC, Section 703, Supplement I, 1989) prohibits killing, possessing, or trading in migratory birds, except in accordance with regulations prescribed by the Secretary of the Interior. The Act encompasses whole birds, parts of birds, and bird nests and eggs.

4.2.4.2 State Regulations

California Native Plant Protection Act

State listing of plant species began in 1977 with the passage of the California Native Plant Protection Act (NPPA), which directed the CDFG to carry out the legislature's intent to "preserve, protect, and enhance endangered plants in this state." The NPPA gave the California Fish and Game Commission the power to designate native plants as endangered or rare and to require permits for collecting, transporting, or selling such plants. The CESA expanded upon the original NPPA and enhanced legal protection for plants. The CESA established threatened and endangered species categories, and grandfathered all rare animals—but not rare plants—into the Act as threatened species. Thus, there are three listing categories for plants in California: rare, threatened, and endangered.

California Fish and Game Code

The California Fish and Game Code provides a variety of protections for species that are not federally or state-listed as threatened, endangered, or of special concern.

- Section 3503 protects all breeding native bird species in California by prohibiting the take, possession, or needless destruction of nests and eggs of any bird, with the exception of non-native English sparrows and European starlings (Section 3801).
- Section 3503.5 protects all birds of prey (in the orders Falconiformes and Strigiformes) by prohibiting the take, possession, or killing of raptors and owls, their nests, and their eggs.
- Section 3513 of the code prohibits the take or possession of migratory nongame birds as designated in the Migratory Bird Treaty Act or any parts of such birds except in accordance with regulations prescribed by the Secretary of the Interior.
- Section 3800 of the code prohibits the taking of nongame birds, which are defined as birds occurring naturally in California that are not game birds or fully protected species.

- Section 3511 (birds), Section 5050 (reptiles and amphibians), and Section 4700 (mammals) designate certain wildlife species as fully protected in California.

The California Fish and Game Code, Sections 1602-1603, gives the CDFG jurisdiction over water courses with a defined channel, together with other aquatic features that provide an existing fish and wildlife resource. The CDFG asserts jurisdiction to the outer edge of vegetation associated with a riparian corridor. A Streambed Alteration is required from the CDFG should a project disturb or alter a resource protected by Sections 1602-1603 of the California Fish and Game Code.

4.2.4.3 Local Policies and Regulations

San Mateo County General Plan

The County of San Mateo General Plan includes the following policies related to biological resources in the Highland Estates project area.

1.1 *Conserve, Enhance, Protect, Maintain and Manage Vegetative, Water, Fish and Wildlife Resources.* Promote the conservation, enhancement, protection, maintenance and managed use of the County's Vegetative, Water, Fish and Wildlife Resources.

1.2 *Protect Sensitive Habitats*. Protect sensitive habitats from reduction in size or degradation of the conditions necessary for their maintenance.

1.3 *Protection and Productive Use of Economically Valuable Vegetative, Water, Fish and Wildlife Resources*. Protect the availability and encourage the productive use of the County's economically valuable vegetative, water, fish and wildlife resources in a manner, which minimizes adverse environmental impacts.

1.4 *Access to Vegetative, Water, Fish and Wildlife Resources*. Protect and promote existing rights of public access to vegetative, water, fish and wildlife resources for purposes of study and recreation consistent with the need to protect public rights, rights of private property owners and protection and preservation of such resources.

San Mateo County Zoning Regulations

The San Mateo County Zoning Regulations, adopted in 1999, were designed by the County to help guide the physical development of land and future growth within the County. Environmental criteria for the RM District ~~is~~are contained in Chapter 20A, "Development Review Criteria." The purpose of this chapter is to simplify and improve the procedure by which developments are reviewed, by containing all of the required criteria and reviews in a single procedure, incorporating the zoning review, subdivision review and environmental impact review procedures in one chapter. The following criteria are relevant to the analysis of biological resource impacts:

SECTION 6324.1. Environmental Quality Criteria

(a) All developments should be designed and located to conserve energy resources, and thereby reduce the impacts of energy consumption on air, land, water, and living resources. Such efforts might include the clustering or location of development to reduce paving, grading, runoff, and driving times, and structural designs which maximize use of solar energy and reduce use of electricity and fossil fuels.

(e) Pesticides and other chemicals used should be of the types and amounts that will have no significant or persistent adverse effects upon the environment.

(f) Use and discharge of chemical agents, particularly including pesticides and heavy metals, which concentrate in the food chain and interrupt or destroy the primary biological network or threaten the survival of endangered species shall be prohibited.

(i) No use or development shall have a significant adverse environmental impact upon primary wildlife or marine resources. Development shall clearly demonstrate a high degree of compatibility with, and minimal adverse impact on, wildlife habitat areas.

SECTION 6324.2. Site Design Criteria

(i) Wherever possible, vegetation removed during construction shall be replaced. Vegetation for the stabilization of graded areas or for replacement of existing vegetation shall be selected and located to be compatible with surrounding vegetation, and should recognize climatic, soil and ecological characteristics of the region.

(j) Removal of living trees with trunk circumference of more than 55 inches measured 4-1/2 feet above the average surface of the ground is prohibited, except as may be required for development permitted under this Ordinance, or permitted under the timber harvesting ordinance, or for reason of actual or potential danger to life or property.

(k) With the exception of trails and paths, and related appurtenances, no structural development shall be permitted where such development will adversely affect a perennial stream and associated riparian habitat.

Significant Tree Ordinance of San Mateo County

The Significant Tree Ordinance of San Mateo County defines a "Significant Tree" as 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 4.5 feet 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. A permit is required for the removal of such a tree. As described in Section 12,020.1 of the Ordinance, properties within the RM District (including portions of the project site) are exempt from the ordinance. Within the RM District, the removal of living trees with trunk circumference of more than 55 inches measured 4.5 feet above the average surface of the ground is

prohibited, except as may be required for development permitted under this Ordinance, or permitted under the timber harvesting ordinance, or for reason of actual or potential danger to life or property.

Heritage Tree Ordinance of San Mateo County

According to the County's Heritage Tree Ordinance, a "Heritage Tree" is any tree or grove of trees designated by resolution of the Board of Supervisors or any of the following trees, healthy and generally free from disease, with trunk diameter equal to or greater than the sizes listed: Bigleaf Maple of more than 36 inches in diameter west of Skyline Boulevard or 28 inches east of Skyline Boulevard; Madrone with a single stem or multiple stems touching each other 4.5 feet above ground of more than 48 inches in diameter or clumps visibly connected above ground with a basal area greater than 20 square feet measured 4.5 feet above average ground level; Golden Chinquapin of more than 20 inches in diameter; all Santa Cruz Cypress trees; Oregon Ash of more than 12 inches in diameter; Tan Oak of more than 48 inches in diameter; Douglas Fir of more than 60 inches in diameter east of Skyline Boulevard and north of Highway 92; Coast Live Oak of more than 48 inches in diameter; Canyon Live Oak of more than 40 inches in diameter; all Oregon White Oak trees; Black Oak of more than 32 inches in diameter; Interior Live Oak of more than 40 inches in diameter; Valley Oak of more than 48 inches in diameter; Blue Oak of more than 30 inches in diameter; California Bay or Laurel with a single stem or multiple stems touching each other 4.5 feet above ground of more than 48 inches in diameter, or clumps visibly connected above ground with a basal area of 20 square feet measured 4.5 feet above average ground level; California Nutmeg of more than 30 inches in diameter; Redwood of more than 84 inches in diameter west of Skyline Boulevard or 72 inches in diameter east of Skyline Boulevard. A permit would be required to remove, destroy, or trim any of the trees described above.

4.2.5 CONSISTENCY WITH APPLICABLE REGULATIONS

CEQA requires an analysis of consistency with plans and policies as part of the environmental setting (*State CEQA Guidelines* Section 15125). The General Plan Guidelines published by the State Office of Planning and Research define consistency as follows: "An action, program, or project is consistent with the General Plan if, considering all its aspects, it will further the objectives and policies of the General Plan and not obstruct their attainment." Therefore, the standard for analysis used in the EIR is based on general agreement with the policy language and furtherance of the policy intent (as determined by a review of the policy context). The project does not have to be in exact agreement with a policy for a project to be consistent with it.

4.2.5.1 County of San Mateo General Plan and Zoning Regulations

As proposed and mitigated, the project complies with Environmental Quality Criteria and Site Design Criteria of the RM District zoning regulations. The project will cluster development and reduce overall land disturbance, removal of vegetation, and total area covered by paving by reducing required minimum setbacks through a proposed RM Zoning Text Amendment. With the implementation of **Mitigation Measures BIO-1** through **BIO-11**, significant adverse environmental impact on primary wildlife or marine resources would be reduced to a level that is less than significant. The removal of living trees with trunk circumference of more than 55 inches (17.5" diameter) measured 4-1/2 feet above the average surface of the ground is prohibited, except as may be required for development permitted under the RM District regulations, or permitted under the timber harvesting ordinance, or for reason of actual or potential danger to life or property. The Project Applicant proposes to remove seven trees that meet or exceed the size threshold. The trees to be removed are located within the proposed building footprints and are included in the RM permit application. Therefore, the project would be considered to be consistent with applicable General Plan policies and zoning regulations.

4.2.5~~5~~6 IMPACTS AND MITIGATION MEASURES

4.2.5~~5~~6.1 Significance Criteria

According to the San Mateo County Initial Study Checklist and Appendix G of the *State CEQA Guidelines*, a project would normally have a significant environmental impact if it would:

- Affect federal or state listed rare or endangered species of plant life in the project area, or have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service;
- Involve cutting of heritage or significant trees as defined in the County Heritage Tree Ordinance and Significant Tree Ordinance, or conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;
- Be adjacent to or include a habitat food source, water source, nesting place or breeding place for a federal or state listed rare or endangered wildlife species, or have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service;
- Significantly affect fish, wildlife, reptiles, or plant life;
- Be located inside or within 200 feet of a marine or wildlife reserve;
- Infringe on any sensitive habitats;

- Involve clearing land that is 5,000 sq. ft. or greater (1,000 sq. ft. within a County Scenic Corridor) in size, that has slopes greater than 20 percent, or that is in a sensitive habitat or buffer zone;

- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native nursery sites; or

- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

4.2.~~5~~6.2 Issues Not Discussed Further

The Initial Study found that the project would result in less than significant impacts related to two standards; specifically that the development would not "be located inside or within 200 feet of a marine or wildlife preserve" and would not "conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan." Therefore, these issues are not discussed further in this section.

4.2.~~5~~6.3 Project Impacts

Impact BIO-1: The proposed project would not have a substantial adverse effect on special-status plant species. (*Less than Significant*)

As previously discussed, no special-status plant species are expected to occur on or bordering lots 1–11. This conclusion is based on the negative results of focused surveys for special-status plants that were conducted on lots 1–4 and lots 5–8 by Vollmar Consulting on April 20, 2007, and by Thomas Reid Associates on March 1, 2006 and May 19, 2003. Regarding lots 9–11, this conclusion is based on the following factors: (1) these lots are located along the outer margins of woodlands and scrub habitats and are in a disturbed condition, as evidenced by the plant species present and accumulation of trash (see **Subsection 4.2.3.3, Project Site** above); (2) most locally occurring special-status plant species are associated with serpentine or volcanic soils, which do not occur on or near these lots; and (3) shrubs, such as western leatherwood and bush-mallow, were not found during site surveys and would have been readily observed if present. Additionally, the occurrences of western leatherwood (in the open space area to be maintained) are separated from lots 9 and 10 by steep slopes that are densely vegetated with poison oak and coyote brush. Implementation and maintenance of fuel breaks up to 100 feet around the exterior of the homes (as described in **Subsection 4.4.2.4, Hazards and Hazardous Materials Impacts**) would not

affect special-status plant species as they are not expected to occur on or near the project site (refer to **Table 4.2-2**). Therefore, potential impacts to special-status plant species would be less than significant.

Mitigation Measure: No mitigation measures required.

Impact BIO-2: **The proposed project would result in a substantial adverse effect on special-status wildlife species. (*Potentially Significant; Less than Significant with Mitigation*)**

As previously discussed, one special-status wildlife species, the San Francisco dusky-footed woodrat, has been observed on the project site. Also, based on the presence of suitable habitat and known occurrence in the project area, Cooper's hawk, yellow warbler, California red-legged frog, and pallid bat have the potential to occur on site. Potential impacts to these special-status wildlife species are discussed below.

San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), ***California Species of Special Concern.*** The dusky–footed woodrat (*N. fuscipes*) is fairly common and widespread throughout the Coast Range and the northern interior of California. The subspecies, the San Francisco dusky-footed woodrat, is believed to be restricted to the San Francisco Bay area, although very little information is available and genetic testing has not determined whether it is actually a distinct subspecies.[7] Dusky-footed woodrats are highly arboreal.[8] Evergreen or live oaks and other thick-leaved trees and shrubs are important habitat components for this species.[9] Woodrats build nests (i.e., stickhouses), which are often the result of work by several generations of woodrats, by piling up sticks, rocks, and other available material. This woodrat is semi-colonial and often lives with others in the same area.[10] The breeding period for the dusky-footed woodrat is generally spring, but potentially extends through July.

Woodrat nests have been observed in the oak woodland portions of lots 1–4 and lot 8. Thomas Reid Associates (2006) identified 10 woodrat nests in the lower (southern section) of lots 1–4 and approximately 70 woodrat nests in the eastern portion of lot 8 (of which most are not within areas that would be developed). Given the presence of suitable habitat, woodrat nests are presumed to occur on lots 9–11. Additionally, numerous woodrat nests are expected to occur within the 92.46 acres of open space to be maintained. In the absence of avoidance measures, woodrat nests within the disturbance boundaries would be lost during project implementation. Therefore, impacts to the San Francisco dusky-footed woodrat would be considered significant.

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7 USFWS Mossman, 2000, pers. com.

8 Kelly, 1990.

9 Kelly 1990, Williams et al. 1992.

10 Knopf, 1989.

Cooper's hawk *(Accipiter cooperii),* ***California Species of Special Concern.*** Breeding pairs generally select nest sites within dense stands of live oak woodland, riparian habitats, or other wooded areas. Nesting also occasionally occurs in sparsely wooded areas, including suburban areas and parks. The oak woodlands and scattered trees on lots 1–11 provide suitable nesting habitat for this species. While the proposed project would result in the loss of some potential nesting habitat for this species, given the extent of similar habitat to be maintained in the open space area, the loss of nesting habitat would not be substantial. However, should an active nest be present within or near the lots proposed for development, the removal of trees could result in the direct loss of an active nest of this special-status bird species. Additionally, any unusually loud noise levels generated by project-related construction activities have the potential to disturb nesting occurring near the construction zone and to result in the abandonment of an active nest of this bird species. Therefore, the loss of an active Cooper's hawk nest is considered a potentially significant impact.

Yellow warbler (*Dendroica petechia brewsteri*), ***California Species of Special Concern***. This species nests in dense riparian habitats dominated by willows, alders, or cottonwoods. While suitable nesting habitat for this species is not present within the boundaries of the lots proposed for development, the area of willow scrub habitat adjacent to lot 11 provides suitable nesting habitat for this species. Any unusually loud noise levels generated by project-related construction activities have the potential to disturb nesting by the species near the project site and to result in the abandonment of an active nest of this bird species. Therefore, the loss of an active yellow warbler nest is considered a potentially significant impact.

Pallid bat (*Antrozous pallidus*), ***California Species of Special Concern***. The oak woodlands on the project site provide suitable roosting habitat for pallid bat. Focused surveys for roosting bats have not been conducted and it is unknown if this species is present. Should this bat species occur on the lots proposed for development, the proposed removal of trees could result in the loss of an active maternity roost. Depending on the number and extent of maternity roosts that may be removed or disturbed, impacts to pallid bats would be potentially significant.

California red-legged frog (*Rana draytonii*)**,** ***Federally Threatened, California Species of Special Concern.*** Breeding by the species occurs in streams, deep pools, backwaters within streams and creeks, ponds, marshes, sag ponds, dune ponds, lagoons, and stock ponds. The species can occur in ephemeral ponds or permanent streams and ponds; however, populations probably cannot persist in ephemeral streams.[11] Breeding adults are often associated with deep (greater than 2 feet [0.7 meter]) still or slow moving water and dense, shrubby riparian or emergent vegetation,[12] but frogs have been observed in shallow sections

11 Jennings and Hayes, 1985.

12 Hayes and Jennings, 1988.

of streams and ponds that are devoid of vegetative cover. Habitats with the highest densities of frogs are deep-water ponds with dense stands of overhanging willows and a fringe of cattails between the willow roots and overhanging willow limbs.[13]

Based on the CNDDB, California red-legged frogs have been documented approximately 0.8 mile from the project site at a location separated from the project site by I-280. According to the biological resources report prepared by Thomas Reid Associates in June 2003 (included in **Appendix 4.2**), the project area provides suitable habitat for California red-legged frog in the form of intermittent drainages, with small pools and shrub, tree, and herbaceous cover, and emergent wetlands near Ticonderoga Drive and Polhemus Road. The portion of the project site with suitable habitat would remain open space under the proposed project. Although a creek is present near lot 11, t~~T~~he creek ~~near lot 11~~ is very densely vegetated with willow shrubs, contains shallow flowing water, and is located on a relatively steep slope. Given these characteristics, the portion of the creek near lot 11 does not provide suitable breeding habitat for the species. However, should the species occur in an undocumented location accessible to the project site, there is some potential that the species could occur in the portion of the creek zone near lot 11 during dispersal or while seeking summer refuge habitat. In the event that individual red-legged frogs are present in the creek zone and disperse onto lot 11, construction activities could result in the loss or harm of individual California red-legged frogs. Therefore, impacts to California red-legged frog are considered potentially significant.

Mitigation measures to address these significant and potentially significant impacts are presented below. Implementation of these mitigation measures would reduce the impacts to a less-than-significant level.

Mitigation Measure BIO-2a: No earlier than 30 days prior to the commencement of construction activities, a survey shall be conducted to determine if active woodrat nests (stickhouses) with young are present within the disturbance zone or within 100 feet of the disturbance zone. If active woodrat nests (stickhouses) with young are identified, a fence shall be erected around the nest site adequate to provide the woodrat sufficient foraging habitat at the discretion of a qualified biologist and based on consultation with the CDFG. At the discretion of the monitoring biologist, clearing and construction within the fenced area would be postponed or halted until young have left the nest. The biologist shall serve as a construction monitor during those periods when disturbance activities will occur near active nest areas to ensure that no inadvertent impacts on these nests will occur.

If woodrats are observed within the disturbance footprint outside of the breeding period, individuals shall be relocated to a suitable location within the open space by a qualified biologist in possession of a

13 Jennings 1988; Rathbun *et al*. 1993.

scientific collecting permit. This will be accomplished by dismantling woodrat nests (outside of the breeding period), to allow individuals to relocate to suitable habitat within the adjacent open space.

Mitigation Measure BIO-2b: No earlier than two weeks prior to commencement of construction activities that would occur during the nesting/breeding season of native bird species potentially nesting/roosting on the site (typically February through August in the project region), a survey for nesting birds shall be conducted by a qualified biologist experienced with the nesting behavior of bird species of the region. The intent of the survey would be to determine if active nests of special-status bird species or other species protected by the Migratory Bird Treaty Act and/or the California Fish and Game Code are present in the construction zone or within 500 feet of the construction zone. The surveys shall be timed such that the last survey is concluded no more than two weeks prior to initiation of construction or tree removal work. If ground disturbance activities are delayed, then an additional pre-construction survey shall be conducted such that no more than two weeks will have elapsed between the last survey and the commencement of ground disturbance activities.

If active nests are found in areas that could be directly affected or subject to prolonged construction-related noise, a no-disturbance buffer zone shall be created around active nests during the breeding season or until a qualified biologist determines that all young have fledged. The size of the buffer zones and types of construction activities restricted within them will be determined through consultation with the CDFG, taking into account factors such as the following:

- Noise and human disturbance levels at the construction site at the time of the survey and the noise and disturbance expected during the construction activity;
- Distance and amount of vegetation or other screening between the construction site and the nest; and
- Sensitivity of individual nesting species and behaviors of the nesting birds.

Limits of construction to avoid an active nest shall be established in the field with flagging, fencing, or other appropriate barriers, and construction personnel shall be instructed on the sensitivity of nest areas. A qualified biologist shall serve as a construction monitor during those periods when construction activities would occur near active nest areas of special-status bird species and all birds covered by the Migratory Bird Act to ensure that no impacts on these nests occur.

Mitigation Measure BIO-2c: Prior to the commencement of construction activities during the breeding season of native bat species in California (generally occurs from April 1 through August 31), a focused survey shall be conducted by a qualified bat biologist to determine if active maternity roosts of special-status bats are present within any of the trees proposed for removal. Should an active maternity roost of a special-status bat species be identified, the roost shall not be disturbed until the roost is vacated and

juveniles have fledged, as determined by the biologist. Once all young have fledged, then the tree may be removed. Species-appropriate replacement roosting habitat (e.g., bat boxes) shall be provided should the project require the removal of a tree actively used as a maternity roost. The replacement roosting habitat shall be subject to the approval of the CDFG.

Mitigation Measure BIO-2d: Immediately preceding initial ground disturbance activities on lot 11, a preconstruction clearance survey shall be conducted by a qualified biologist for California red-legged frogs. The survey shall be conducted to determine whether individual California red-legged frogs are present within the disturbance boundary. Should a California red-legged frog be observed during the clearance survey, all construction activities on lot 11 shall be immediately halted and the USFWS shall be immediately contacted. Under no circumstances shall a California red-legged frog be collected or relocated, unless USFWS personnel or their agents implement the measure. Construction-related activities may ~~resume~~ begin once the frog has naturally left the lot or has been relocated by a permitted biologist (authorized by the USFWS).

Additionally, see **Mitigation Measure BIO-5a** (see page 4.2-26), which requires temporary fencing to be placed along the outer boundary of the willows associated with the creek. This fencing shall also be designed and placed to prevent California red-legged frog from exiting the creek zone and entering lot 11.

Impact BIO-3: The implementation of the proposed project would result in the loss of protected trees. (*Potentially Significant; Less than Significant with Mitigation*)

The proposed project would result in the loss of protected trees within the RM D~~d~~istrict. As previously discussed and shown in **Table 4.2-3**, there are ~~nine~~ seven coast live oak trees within the development area that are protected in the RM D~~d~~istrict under Section 12,020.3 of the San Mateo County Significant Tree Ordinance. These trees, which range in diameter at breast height from ~~17.5~~18 to ~~20~~ 32 inches, would be removed. These trees, as well as other unprotected trees proposed for removal, occur within the outer margins of oak woodlands or within small grassland areas. Consequently, the removal of trees would not fragment the woodland habitat in the open space area. Additionally, given the large acreage of oak woodland in the open space, and the extent of oak woodlands in the project area, the proposed removal of trees would not substantially reduce oak woodland habitat in the project area. However, given the biological value of oak trees, and that ~~nine~~seven of the trees to be removed are protected by the Significant Tree Ordinance of San Mateo County (Section 12,020.3), the project-related loss of protected trees would be considered a significant impact. **Mitigation Measure BIO-3** would reduce the impact on protected trees to a less-than-significant level.

Mitigation Measure BIO-3: As required by the County for the removal of trees within the RM District, tree replacement shall occur at a minimum 1:1 ratio for all protected trees removed with a circumference of or exceeding 55 inches (17.5 inches diameter at breast height). The replacement of indigenous trees shall be in kind (i.e., live oaks removed shall be replaced by live oaks) and exotic trees to be removed shall be replaced with an appropriate species on the tree list maintained by the County of San Mateo Planning Department. Replacement trees shall also be maintained for a minimum of 2 years, but up to 5 years (as determined by the County of San Mateo Planning Department).

To facilitate the successful replacement of trees, a tree replacement plan shall be prepared and shall meet the following standards:

- Where possible, the plan shall identify suitable areas for tree replacement to occur such that the existing native woodlands in the open space are enhanced and/or expanded.
- The plan shall specify, at a minimum, the following:
  - The location of planting sites;
  - Site preparation and planting procedures;
  - A schedule and action plan to maintain and monitor the tree replacement sites;
  - A list of criteria and performance standards by which to measure success of the tree replacement; and
  - Contingency measures in the event that tree replacement efforts are not successful.

The plan shall also require measures to protect oak and other native trees occurring outside, but within 100 feet, of the grading/disturbance area. These measures may include protective fencing, prohibiting construction/grading activities within the drip-line of trees to be preserved, or other appropriate measures approved by the County.

Impact BIO-4: The proposed project would not significantly affect common fish, wildlife, reptiles, or plant life. (*Less than Significant*)

Construction and grading activities associated with the proposed project would directly disturb common wildlife species on the lots proposed for development. In particular, species of low mobility (e.g., small mammals and reptiles) could be adversely affected during site preparation and construction. Most of the species present in areas to be disturbed are expected to be those that are tolerant of, and adapted to, disturbed conditions and that occur in areas bordering residential development. Because of the common nature and low number of wildlife species that would be displaced or lost as a direct result of

construction activities, it is not expected that construction-related activities would cause a regional population of any common wildlife species to drop below self-sustaining levels. Additionally, the habitats to be developed under the proposed project are common in the project area, are generally in a disturbed condition, and border existing single-family homes. Because of the common nature and abundance of similar habitats in bordering areas, the project-related reduction in habitat is not expected to cause a wildlife population to drop below a self-sustaining level. Therefore, impacts to common wildlife species from construction-related activities would be less than significant. Please see Impact BIO-1 and Impact BIO-2, above, for discussions of potential impacts to special-status plant and wildlife species.

Mitigation Measure: No mitigation measures required.

Impact BIO-5: **The proposed project could have a substantial adverse effect on willow scrub habitat (a riparian and sensitive plant community) bordering lot 11. (*Potentially Significant; Less than Significant with Mitigation*)**

As previously discussed, a creek occurs immediately to the northeast of lot 11, which supports a dense growth of willow scrub (a riparian and sensitive plant community). The creek and associated willow scrub are located entirely outside of the boundaries of lot 11. While the proposed project does not include the removal of any willows, given the proximity of willows to the project's disturbance boundary, there is potential that willows could be inadvertently disturbed during construction activities. Additionally, while existing homes already occur near the willow scrub habitat, it is possible that the development of lot 11 could increase nighttime light levels in the creek zone. Nighttime lighting can disturb resting and foraging behavior and can potentially alter breeding cycles and nesting behavior. If uncontrolled, such light where proximal to the riparian habitat could adversely impact the composition and behavior of the animal species that occur in the area, including special-status bird species. Further, if uncontrolled, erosion and sedimentation resulting from the development of lot 11 could enter the creek zone and adversely affect its habitat value. Given all of the above, the proposed project could result in the disturbance of willows from the outer margins of the riparian zone, increased nighttime lighting into the nearby riparian zone, and sedimentation and erosion into the creek zone. Therefore, these indirect impacts to the willow scrub habitat near lot 11 are considered potentially significant.

Mitigation Measure BIO-5a: Prior to the commencement of construction activities on lot 11, the outer edge of the willow scrub habitat (facing lot 11) shall be delineated by a qualified biologist. Temporary fencing shall be installed that clearly identifies the outer edge of the willow habitat and that identifies the willow scrub as an "Environmentally Sensitive Area." Signs shall be installed indicating that the fenced

area is "restricted" and that all construction activities, personnel, and operational disturbances are prohibited.

Mitigation Measure BIO-5b: Prior to the issuance of a grading permit, the Project Applicant shall develop an erosion control plan. The plan shall include measures such as silt fencing to prevent project-related erosion and sedimentation from adversely affecting the creek zone and other habitats on and near lots 1–11. The erosion control plan shall be subject to approval by the County of San Mateo Planning Department.

Mitigation Measure BIO-5c: Prior to the issuance of a grading permit, the Project Applicant shall develop a lighting plan. The lighting plan shall require that all lighting be directed and shielded as to minimize light spillage into nearby willow scrub habitat, as well as adjacent oak woodland habitats. The lighting plan shall be subject to approval by the County of San Mateo Planning Department.

Impact BIO-6: **The implementation of the proposed project would result in the loss of stands of purple needlegrass, which is a sensitive plant community. (*Potentially Significant; Less than Significant with Mitigation*)**

As previously discussed, isolated areas with a high percent cover (greater than 50 percent) of purple needlegrass are present on portions of lots 1 and 8. The stand of purple needlegrass on lot 1 is small (approximately 10 feet by 10 feet) and is surrounded by non-native grass species. The stand of purple needlegrass on lot 8 is approximately 0.03 acre in size and is located in the southeastern portion of the site, between the oak woodland and areas invaded by iceplant. While pockets of native grasses (such as the small area on lot 1) often occur within non-native grasslands, the stand of purple needlegrass on lot 8 is notable as it is relatively large and has a high percent cover of needlegrass. However, the biological function and value of this stand of native grasses is compromised by the fact that the majority of lots 5–8 were disturbed by grading activities that occurred in the 1950s when the Highlands subdivision was built, that the stand of native grasses is generally bordered by disturbed habitats dominated by non-native plant species (excluding the nearby oak woodland), and that iceplant borders portions of the stand of native grasses and may be encroaching. Nonetheless, the loss of this stand of purple needlegrass would be considered a potentially significant impact. **Mitigation Measure BIO-6** would reduce this impact to a less-than-significant level.

Mitigation Measure BIO-6: Prior to the commencement of construction on lot 8, the occurrence of purple needlegrass shall be mapped, including all stands on the lot with 20 percent or greater cover of native grasses and having a diameter greater than 10 feet. The area of purple needlegrass to be lost due to development of the lot shall then be calculated.

As part of the proposed project, approximately 92 acres of open space would be maintained as open space under a conservation easement. This open space contains a serpentine grassland (on the slope west of the water tanks) that is dominated by native grasses (including purple needlegrass) and other native plant species. These native grasses, including purple needlegrass, would be permanently protected by the conservation easement. In addition, non-native plant areas adjacent to the serpentine grassland shall be restored to support native grasses ~~A deed restriction (or other conservation mechanism approved by the County of San Mateo) shall be placed~~ over an area ~~portion of the serpentine grassland that is~~ twice the acreage (2:1) of the stands of purple needlegrass to be lost on lot 8~~; future development of this portion of the serpentine grassland shall be prohibited~~.

Impact BIO-7: Increased human presence would not adversely affect native habitats in the open space area. (*Less than Significant*)

The open space area on the project site provides habitat for a variety of wildlife species, but is currently subject to disturbances associated with existing surrounding single-family homes. Related disturbances may include unauthorized entry into sensitive habitats, which could result in increased noise disturbances to wildlife; the harassment and/or capture of slower moving species, including reptiles and amphibians; and an increase in the amount of refuse and pollutants in the area; compaction of soils; and trampling of ground-dwelling flora and fauna. Additionally, dogs and cats associated with the existing development likely enter the open space and disturb wildlife. However, the steep slopes, dense vegetation, and abundant poison oak would likely limit the extent of human and pet related disturbances to the open space area.

There are currently 135 homes bordering the open space area and the proposed project would result in the construction of eleven additional homes. The number of people and associated pets living in areas bordering the open space would increase by a small increment. However, related adverse effects to the open space are not expected to be substantial for the following reasons: (1) the extent of development currently bordering the open space and associated disturbances; and (2) the natural deterrents to entry into the open space, such as steep slopes, dense vegetation, and abundant poison oak. Therefore, the proposed project's contribution to an existing adverse situation would be less than significant.

Mitigation Measure: No mitigation measures required.

Impact BIO-8: The proposed project would include clearing land that has slopes greater than 20 percent. (*Potentially Significant; Less than Significant with Mitigation*)

Slopes on the lots proposed for development range from 0–50 percent. If uncontrolled, construction-related activities on steep slopes could result in erosion and potentially sedimentation into nearby

drainages. Erosion and sedimentation could adversely affect the biological value of nearby creeks and other habitats by filling pools (in drainages), the loss of soil, creating conditions favorable to non-native plant species, and other factors. Therefore, impacts from construction activities on steep slopes are considered potentially significant.

Mitigation Measure: Mitigation Measure BIO-5b, above, would be implemented to control erosion and sedimentation associated with the development of lot 11 and would be subject to the approval of the County of San Mateo County. No additional mitigation measures are required.

Impact BIO-9: The implementation of the proposed project could have a substantial adverse effect on a federally protected wetland. (*Potentially Significant; Less than Significant with Mitigation*)

As previously discussed, there is a small area (approximately 7 feet by 4 feet) on lot 9 that receives surface runoff from the upslope road and gutter. Although this small area contains wetland-associated vegetation (e.g., rabbitsfoot grass, sedges, juncus), it is not expected to be a federally protected wetland as its water source is from road and irrigation runoff and it is isolated and not near or adjacent to a Waters of the U.S. The creek occurring immediately to the northeast of lot 11, which supports a dense growth of willow scrub, is expected to fall under the jurisdiction of the USACE under Section 404 of the Clean Water Act, and the associated willows are expected to be under the jurisdiction of the CDFG and potentially the USACE. Based on an assessment conducted by Land Watch Incorporated (2008), the creek and associated willows are located entirely outside of the proposed land disturbance area. While the proposed project does not include the fill of a federally protected wetland, given the proximity of the creek zone to the project's disturbance boundary, there is potential that jurisdictional areas (i.e., the creek and willows) could be inadvertently disturbed during construction activities. Therefore, indirect impacts to jurisdictional wetlands/waters are potentially significant.

Mitigation Measure: **Mitigation Measure BIO-5a**, above, would be implemented to prevent inadvertent construction-related impacts to the creek and willows near lot 11. Additionally, **Mitigation Measure BIO-5b**, above, would be implemented to control erosion and sedimentation associated with the development of lot 11. No additional mitigation measures required.

Impact BIO-10: The proposed project would not interfere substantially with the movement of wildlife. (*Less than Significant*)

The project site is currently surrounded by roads and suburban development, which limit its function as a wildlife movement corridor. While a small potential wildlife movement corridor occurs between the open space on the project site and the Crystal Springs watershed via a small area of undeveloped land on

the northern portion of the project site, the proposed project does not include development in this area. Therefore, given the extent of existing development surrounding the open space, and that the proposed project would not restrict the remaining potential movement corridor, the project's impact on wildlife movement would be less than significant.

Mitigation Measure: No mitigation measures required.

4.2.6~~5~~.4 Cumulative Impacts

Impact BIO-11: **The implementation of the proposed project would not substantially contribute towards the loss of sensitive biological resources in the project area. (*Less t~~T~~han Significant*)**

Cumulative development includes past, present, and reasonably foreseeable development that could affect the same biological resources as the proposed project in such a way that the combined effect of all the projects is significant. As previously discussed, the proposed project includes the development of 4.54 acres and maintaining the remaining 92.46 acres as open space. The areas to be developed border existing homes and are subject to related disturbances, and are located on the outer margin of the open space area.

The list of projects in **Table 4.0-1** includes projects involving various land uses, including single- and multi-family residential, commercial, retail, office, library, police station, campus master plan, and infrastructure improvements, that are approved, proposed, or currently under construction in the County of San Mateo and the City of San Mateo. The majority of these projects are proposed in urbanized areas or are infill projects, both of which lack biological resources similar to those present on the project site. Significant impacts to biological resources are not expected to occur with these types of projects because the amount and quality of biological resources at or near the sites is low.

Although a few reasonably foreseeable projects in undeveloped areas of San Mateo County may have a significant impact on similar biological resources such as special-status species, sensitive plant communities, and protected trees, these projects would be required to implement mitigation measures similar to those for the proposed project which would reduce impacts to a less than significant level.

While several special-status bird species (i.e., Cooper's hawk, yellow warbler) could nest in areas affected by the proposed project, abundant and less disturbed habitat would be maintained in the open space. Additionally, the proposed project would not result in the loss of special-status plant species, and with the implementation of the measures included in this EIR, would not result in the loss of special-status wildlife species. Given the above, the proposed project would not substantially contribute towards the cumulative loss of sensitive biological resources and the project's impact would be less than significant.

Mitigation Measure: No mitigation measures required.