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Biological Resources

This section evaluates the potential effects of implementation of the proposed Campus Master Plan on biological resources on and adjacent the campus as well as the project's contribution to cumulative impacts on biological resources in the region. Biological resources include all flora, fauna, and associated habitats (including wetlands) that could be affected by project implementation.

Public comments related to biological resources were received in response to the Notice of Preparation. The comments received are summarized below.

- Commenters expressed concerns about potential impacts of the proposed project on wildlife and special-status species on campus and in the adjacent Lake Merced area.
- Commenters raised concerns about the effect of directing campus storm water runoff to Lake Merced on wildlife habitat and the potential effect of the increased presence of people on wildlife in the Lake Merced area as a result of the new bridge underpass proposed in the Campus Master Plan.
- One commenter requested that the EIR include an evaluation of the cumulative impact of 20 years of construction activities on the campus on biological resources.
- One commenter asked that local environmental groups and the Lake Merced Task Force be contacted for information regarding the habitat in the project area.

To the extent that these issues involve a significant effect on the environment based on CEQA standards of significance, these issues are addressed in this section.

4.3.1 Environmental Setting

4.3.1.1 Study Area

The study area for direct impacts on biological resources includes the SF State campus. The term “campus” refers to the campus planning area for the proposed Campus Master Plan that includes the 134-acre main campus and an additional 10 acres of adjacent property owned primarily by the SF State Foundation (see [Figure 3-1](#), *Campus Master Plan Boundary*). See Chapter 3, *Project Description*, for further description of the 144-acre project area. Areas downgradient of the campus where biological resources could potentially be directly or indirectly affected by proposed development (i.e., Lake Merced) are also described.

4.3.1.2 Regional Setting

The SF State campus is located in the Sunset region of the highly developed City and County of San Francisco. The Sunset region is composed primarily of high and low-density residential areas interspersed with retail locations. The campus is bordered to the east by 19th Avenue (State Route 1), a major 6-lane roadway that serves as the north-south connector between Interstate 280 and Highway 101. Residential development is the predominant land use surrounding the campus to the north, east, and

south, although the Stonestown shopping center and Lowell High School are also located north of the campus. Lake Merced and its associated open spaces, including Harding Park, public and private golf courses, Fort Funston, and the San Francisco Zoo are located immediately west of the campus.

Significant open space exists around Lake Merced, the largest freshwater lake and wetland habitat in San Francisco. Lake Merced is part of the former western sand dunes of the San Francisco marine shore. At one time, Lake Merced was part of an estuary that was open to the Pacific Ocean and subject to tidal action, until a sand bar formed a barrier between the lake and ocean. The northeastern arm of Lake Merced once occupied the lower portion of the SF State campus.

The SF State campus sits within San Francisco's fog belt. Ocean fog and associated low clouds are a prominent feature of the campus, particularly during the summer months. Cool, damp westerly winds and fog can persist for extended periods of time, particularly from May through August.

4.3.1.3 Campus Setting

The SF State campus consists mostly of a built environment (i.e., buildings, roads, and other improvements), as well as improved open spaces and outdoor recreational facilities. A description of the built environment is provided in Chapter 3, *Project Description*. This section provides a general description of the setting related to the open spaces on campus.

The campus landscape includes a variety of open spaces, from lawn areas and playfields to dense forest and sheltered courtyards. Open spaces are defined by building forms and tree masses. The campus has five very large open spaces—the Quad and four playing fields, three of which sit within the valley that is the former northeastern arm of Lake Merced. The campus landscaping is dominated by mature stands of Monterey cypress (*Cupressus macrocarpa*), Monterey pine (*Pinus radiata*), and eucalyptus (*Eucalyptus spp.*). Several of these small groves located in and around the Quad formerly stood amid agricultural fields and constitute the only surviving pre-campus vegetation. These original Monterey cypress and Monterey pine groves have dictated the location and footprint of many of the buildings in the campus core. Along Holloway Avenue, London plane trees (*Platanus acerifolia*) and Canary Island pine (*Pinus canariensis*) also exist. Figure 3-4 illustrates the location of existing trees and vegetation on the campus.

The campus landscape is extremely well maintained, with many colorful planted courtyards. A variety of flowering shrubs, hedges, and perennials can be found throughout the campus. The mature tree groves, expansive lawns, and planting beds give the campus a park-like quality, unexpected in this densely developed area of the city.

4.3.1.4 Regulatory Setting

The following provides an overview of the regulations relevant to biological resources.

Federal Laws and Regulations

Federal Endangered Species Act. Section 9 of the federal Endangered Species Act (ESA) prohibits the “take” of federally listed threatened and endangered species. “Take” is defined as any action that would harass, harm, pursue, hunt, shoot, wound, kill, injure, trap, capture, or collect any listed species. “Harm” includes significant habitat modification that could result in injury or death to a species.

Federal projects, federally funded projects, or projects requiring a federal permit must comply with the ESA through a consultation with the U.S. Fish and Wildlife Service (USFWS) or the National Oceanic and Atmospheric Administration-National Marine Fisheries Service (NOAA-Fisheries) under Section 7 of ESA, or both. If a proposed nonfederal project may result in take of a federal listed species, and there is no nexus with any federal agency, an Incidental Take Permit under Section 10(a)(1)(B) of the ESA is required.

Clean Water Act (Section 404). Areas meeting the regulatory definition of *waters of the United States* are subject to the jurisdiction of the U.S. Army Corps of Engineers (ACOE) under provisions of Section 404 of the Clean Water Act (1972) (CWA) and Section 10 of the Rivers and Harbors Act (1899). Waters thus regulated are termed “jurisdictional waters.” Impacts to jurisdictional waters, including wetlands (a special category of waters of the United States), require a permit from ACOE and typically require mitigation. Impacts to wetlands often require compensation in kind to ensure no net loss of extent and function of wetlands.

Migratory Bird Treaty Act. The federal Migratory Bird Treaty Act (16 USC §703, Supp. I, 1989) prohibits killing, possessing, or trading in migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, bird nests, and eggs. Disturbance during the breeding season that could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment could be a violation of the Migratory Bird Treaty Act.

State Laws and Regulations

California Endangered Species Act. Section 2080 of the California Endangered Species Act (CESA) prohibits the “take” of state-listed threatened and endangered species. The CESA defines take as any action or attempt to hunt, pursue, catch, capture, or kill any listed species. If a proposed project may result in “take” of a listed species, a permit pursuant to Section 2080 of CESA is required from the California Department of Fish and Game (CDFG).

California Fish and Game Code Sections Pertaining to Fully Protected Species. In the 1960s, before CESA was enacted, the California Legislature identified species for specific protection under the California Fish and Game Code. Fully protected species are described in Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish) of the California Fish and Game Code. These *fully protected* species may not be taken or possessed at any time, and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research, and relocation of the bird species for the protection of livestock.

California Fish and Game Code Section Pertaining to Bird Nests and Birds of Prey. Bird nests are protected in California under Section 3503 of the California Fish and Game Code (CDFG 2003). Section 3503 states that 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.” Disturbance that causes nest abandonment and/or loss of reproductive effort is considered take by CDFG. CDFG may issue permits authorizing take. Section 3503.5 of the Code specifies that “It is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.”

California Fish and Game Code Section Pertaining to Streams. Activities that result in the diversion or obstruction of the natural flow of a stream, substantially change its bed, channel or bank, or utilize any materials (including vegetation) from the streambed, require that the project applicant enter into a Streambed Alteration Agreement with CDFG pursuant to Section 1602 of the California Fish and Game Code (CDFG 2003). The definition of streams includes “intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams, and watercourses with subsurface flows.”

Porter-Cologne Water Quality Control Act. Areas meeting the regulatory definition of *waters of the state* are subject to the jurisdiction of the California Regional Water Quality Control Board. *Waters of the state* means any surface water or groundwater, including saline waters, within the boundaries of the state [California Water Code, Chapter 2, 13050(e)]. Any person discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state, other than into a community sewer system, must file a report of waste discharge with the appropriate regional board [California Water Code, Article 4, 13260(a)(1)]. The San Francisco Bay Regional Water Quality Control Board administers this act in the City and County of San Francisco.

4.3.1.5 Habitat Types

SF State Campus. As the campus constitutes a built environment, the habitat type on campus is limited to Urban Landscaping/Developed as defined by the Wildlife Habitat Relationship System (WHR). The WHR is operated and maintained by the California Department of Fish and Game in cooperation with the California Interagency Wildlife Task Group. Its aim is to provide information to wildlife managers on the likely occurrence of wildlife species in different habitats. The WHR defines habitats based on the composition and structure of the dominant vegetation of any given area and provides generalized information pertaining to wildlife value and use of these habitat types.

The Urban Landscaping/Developed Habitat consists of buildings, open areas covered in lawn, or other planted areas covered with ornamental flowers, shrubs and trees. The entire vegetated portion of the campus is regularly maintained by campus landscaping staff. The only non-irrigated portion of the campus is the eucalyptus tree zone. The campus, with its abundance of mature trees, provides marginal wildlife habitat values (food and cover) for wildlife. As a result, there is no foraging habitat for raptors but potential nesting habitat in the canopies of the mature trees. In addition, there are no sensitive habitats or wetlands on the campus, and no special-status species are known to occupy the campus. The potential for occurrences of special-status species, however, is further evaluated below.

Lake Merced and Other Surrounding Areas. Lake Merced is designated a Significant Natural Resource Area (Natural Area), according to the Significant Natural Resource Areas Management Plan (San Francisco Recreation and Parks Department, 2006). Natural Areas include remnant fragments of the Franciscan landscape, a unique ecosystem that developed in the wildlands that once extended from San Bruno Mountain to the Golden Gate Headlands. Lake Merced is the largest of the 31 Natural Areas that are scattered mostly throughout the central and southern portions of the City. These areas are preserved and protected by the Natural Areas Program (NAP) of the San Francisco Recreation and Park Department.

Lake Merced is the largest freshwater lake, which contains the largest expanse of wetland habitat in the City. Moreover, as it is the largest freshwater coastal lake and wetland system between the Point Reyes Peninsula in northern Marin County and Pescadero Marsh in southern San Mateo County, it provides valuable refuge for thousands of migratory birds. Lake Merced is composed of four lakes, including: North Lake, South Lake, East Lake, and Impound Lake (see [Figure 4.3-1, Lake Merced Sensitive Species and Important Bird Habitat](#)). East Lake is the portion of Lake Merced that is in proximity to the valley portion of the SF State campus. Historically, this portion of the campus was a steep canyon cut by a seasonal stream that flowed into East Lake.

According to the Significant Natural Resource Areas Management Plan, the Natural Area of Lake Merced includes approximately 396 acres that generally include the lake and the bordering wetland and upslope vegetation. Open water comprises 245 acres (62 percent) and vegetated land comprises 148 acres (38 percent). The vegetation habitats at Lake Merced are classified as forests (29 percent), wetlands (29 percent), scrub (13 percent), and mosaic series (3 percent). Approximately 58 percent of this vegetation is dominated by native species. Most (76 percent) of this native-dominated vegetation is bulrush marsh and willow scrub, which are important habitats for wildlife (San Francisco Recreation and Parks Department, 2006). Of the vegetation types located in the East Lake area, the following are considered to be sensitive habitats: wetlands (including bulrush marsh, cattail marsh, giant vetch marsh, rush meadow, and swamp knotweed marsh), purple needlegrass prairie, and the *Salix lucida* portion of the willow scrub community (see [Figure 4.3-2, East Lake Vegetation](#)).

Lake Merced is also an important recreational resource, providing for boating, fishing, golfing, jogging, bicycling, etc. The San Francisco Public Utilities Commission also uses the lake as an emergency water supply resource.

The residential neighborhoods surrounding the campus to the north, east, and south are almost completely developed with residential and commercial uses, and do not support any natural habitat.

4.3.1.6 Special-Status Species

For the purposes of this EIR, special-status species include those taxa that are: (1) listed as threatened or endangered under either the California or Federal Endangered Species Acts; (2) candidates for either state or federal listing; (3) species afforded protection under the Fish and Game Code of California; (4) federal and CDFG “Species of Special Concern”; (5) CDFG “Species of Special Concern highest and second priority lists; (6) and California Native Plant Society (CNPS) List 1-3 plants. Additionally, other plant and wildlife species that are considered to be sensitive by the Significant Natural Resource Areas Management Plan are also considered below (San Francisco Recreation and Parks Department, 2006).

The California Natural Diversity Data Base (CNDDB), the CNPS electronic database, and the official USFWS species list were reviewed to determine the occurrence or potential occurrence of special-status plant or wildlife species, and natural communities of special concern on or within an approximate 10-mile radius of the campus. A search range of an approximate 10-mile radius was used to identify potential special-status species issues because it encompasses a sufficient distance to accommodate for regional habitat diversity and to overcome the limitations of the CNDDB. The CNDDB is based on actual recorded occurrences and does not constitute an exhaustive inventory of every resource.

Table 4.3-1 includes a list of these special-status plant and wildlife species, per the six criteria identified above, with both scientific and common names, legal status, description of habitat preference, and the recorded or potential occurrence in the plan area. Many of the special-status species are not expected to occur on the campus or have a low potential for occurrence because the habitat elements they require either were never present or are no longer found on the managed and modified lands associated with the campus.

A number of species, however, occur or may occur in the adjacent Lake Merced area. Unless indicated otherwise, information about special-status or sensitive species occurrences in the Lake Merced Area is based on the Significant Natural Resource Areas Management Plan recently completed by the San Francisco Recreation and Parks Department in February 2006. This document assesses the current status of special-status and sensitive species occurrences in the Lake Merced Natural Area.

Special-Status and Sensitive Plants

SF State Campus. Suitable habitat does not occur within the campus for any of the special-status plant species, as they prefer sandy soils and coastal environments. As previously noted, the campus has been landscaped and does not have appropriate habitat. In August 2006, a site survey was conducted on the entirety of the campus by a qualified botanist. No special-status plants or their habitats were observed or are expected to occur on the campus.

Lake Merced. Two special-status plant species, San Francisco spineflower (*Chorizanthe cuspidata* var. *cuspidata*) and dune gilia (*Gilia capitata* ssp. *chamissonis*) currently occur in the adjacent Lake Merced area (San Francisco Recreation and Parks Department, 2006). Known locations of these species are identified in [Figure 4.3-1, Lake Merced Sensitive Species and Important Bird Habitat](#). San Francisco spineflower was recently discovered during restoration activities near Impound Lake. Iceplant removal activities, which disturbed the soils and increased light on the soil surface, appear to have triggered germination of the native spineflower seed bank. This species was last reported from Lake Merced in 1956. A very small population of dune gilia can be found within the restoration area in the northern corner of the Impound Lake basin. While these species do not appear to occur in East Lake near the campus, the native seed bank for these species could still persist, as evidenced by the recent discovery of spineflower at Impound Lake, noted above.

The Significant Natural Resource Areas Management Plan identifies 10 additional plant species in the Lake Merced area as sensitive.¹ These species include San Francisco wallflower (*Erysimum franciscanum*), canyon live oak (*Quercus chrysolepis*), California pipe vine (*Aristolochia californica*), Vancouver's ryegrass (*Leymus xvancouverensis*), dune tansy (*Tanacetum camphoratum*), coastal black gooseberry (*Ribes divaricatum*), wild cucumber (*Marah oreganus*), beach paintbrush (*Castilleja wightii*), thimbleberry (*Rubus parviflorus*), and western goldenrod (*Euthamia occidentalis*). Of the sensitive plant species listed above, only four are known to occur in East Lake, canyon live oak, thimbleberry, wild cucumber, and beach paintbrush. Additionally, there are a number of other special-status or sensitive

¹ The Significant Natural Resource Areas Management Plan identifies additional plant species as sensitive because they are considered to be locally significant by the California Native Plant Society or because they are on the CNPS List 4.

plant species that were formerly recorded at Lake Merced but appear to no longer exist.² Nevertheless, areas around Lake Merced could harbor a seed bank for these species and they could potentially appear in the future depending on conditions (EDAW and Talavera & Richardson, 2004a).

Special-Status and Sensitive Wildlife

SF State Campus. In general, no suitable native habitat for any special-status species found in the general vicinity is present within the campus. Most require either fresh or saltwater habitat, or access to it, which are not present on campus. Others require native vegetation, also unavailable on the SF State campus. However, the landscaped habitat including groves of mature trees identified on campus, have the potential to provide suitable nesting and/or foraging habitat for the nesting, migrating, or wintering special-status birds-of-prey listed in Table 4.3-1. The special-status bird species most likely to occur is Cooper's hawk (*Accipiter cooperii*). Its preferred nesting habitat is woodland habitat with open or interrupted structures. More common species may also occur, such as the white-tailed kite (*Elanus leucurus*), red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), and American kestrel (*Falco sparverius*). Because no nests or nesting birds were observed during the August 2006 survey of the campus by the biologist, the campus is considered to have a low potential to support breeding birds.

Lake Merced. There are a number of special-status wildlife species that presently occur, or recently occurred in the adjacent Lake Merced area (San Francisco Recreation and Parks Department, 2006). These species are further described below and known locations are identified in [Figure 4.3-1, Lake Merced Sensitive Species and Important Bird Habitat](#).

Special-Status Birds. Double-crested cormorants (*Phalacrocorax auritus*) have nested in eucalyptus groves on the western side of South Lake and on the northwest edge of North Lake since at least 1997. Recently, cormorants were also observed nesting on the north shore of East Lake in the eucalyptus grove below the Mesa. Great blue herons are also known to nest in these eucalyptus groves. Bank swallows (*Riparia riparia*) currently nest at Fort Funston and forage over the lake. The common yellowthroat (*Geothlypis trichas*), has been observed feeding young and singing at several locations throughout the Lake Merced area. They are believed to nest in the tule marsh vegetation around the edges of the lakes (San Francisco Recreation and Parks Department, 2006). As indicated above, other sensitive bird species are known to breed at the lake.

California Red-Legged Frog. Historically, California red-legged frog (*Rana aurora draytonii*), has been documented in the Lake Merced area (San Francisco Recreation and Parks Department, 2006). The CNDDDB contains seven records of California red-legged frogs for the City of San Francisco, but only one record from Lake Merced. This record is based on two literature references between 1966 and 1972 and a single pre-1966 specimen. Anecdotal reports indicate that red-legged frogs were common at Lake Merced in the 1950s and often were observed through the 1970s. California red-legged frog was observed on the eastern shore of Impound Lake on March 2000 by a biologist from San Francisco State University.

² The special-status plant species that were formerly recorded at Lake Merced but appear to no longer exist, include San Francisco lessingia (*Lessingia germanorum*), Kellogg's horkelia (*Horkelia cuneata* ssp. *sericea*), San Francisco owl's clover (*Triphysaria floribunda*), San Francisco gumplant (*Grindelia hirsutula* var. *maritime*), compact cobwebby thistle (*Cirsium occidentale* var. *compactum*), and beach layia (*Layia carnosa*).

No red-legged frogs were observed during protocol surveys conducted in the spring of 2000 to assess the status of red-legged frogs within Lake Merced, but adult bullfrogs were observed in each of the lakes (San Francisco Recreation and Parks Department, 2006). According to the Significant Natural Resource Areas Management Plan, several factors suggest that the population of red-legged frogs has been locally extirpated from Impound Lake, including: (1) lack of observations of any red-legged frogs during ongoing vegetation management work by the Natural Areas staff within the Impound Lake sub-basin, (2) the presence of bullfrogs noted during field surveys, which would prey on red-legged frog eggs, juveniles, and small adults, and (3) the recent presence of the largemouth bass (*Micropterus salmoides*) in Impound Lake, which would also prey on any amphibians. At this point, it is assumed that the California red-legged frog is no longer present in Impound Lake or at other locations within the Lake Merced Natural Area (San Francisco Recreation and Parks Department, 2006). The Natural Resources Baseline Study prepared for the Lake Merced Initiative to Raise and Maintain Lake Level and Improve Water Quality also concluded that there is no evidence that a remnant red-legged frog population has persisted at Lake Merced (EDAW and Talavera & Richardson, 2004a). Therefore, this species is not considered further in this EIR.

Western Pond Turtle. Western pond turtle (*Clemmys marmorata*) inhabits ponds, marshes, rivers, streams, and irrigation ditches. The turtles need basking sites such as partially submerged logs or rocks, and suitable upland habitat, such as sandy banks or grassy open fields. Western pond turtles were observed in East Lake in 2000. The size and breeding status of this population is unknown, but there appears to be sufficient upland habitat and numbers of individuals to be a viable population (San Francisco Recreation and Parks Department, 2006).

4.3.1.7 Wildlife Movement

The SF State campus is not located within a movement corridor for wildlife. Likewise, as there are no native wildlife nursery sites on the campus. Therefore, wildlife movement and wildlife nursery sites are not considered further in this EIR.

4.3.1.8 Applicable Habitat Conservation Plans

The campus does not fall within the boundaries of nor is it adjacent to an area with an adopted HCP or NCCP. However, as noted above, a Significant Natural Resource Areas Management Plan is in place for the adjacent Lake Merced Natural Area, which is owned by the San Francisco Public Utilities Commission (SFPUC). The San Francisco Recreation and Parks Department, under a memorandum of understanding with the SFPUC, manages the recreation and natural resources at Lake Merced. The Significant Natural Resource Areas Management Plan provides general recommendations for all 31 Natural Areas, as well as site-specific recommendations necessary for the management of individual areas, such as Lake Merced.

The general and site-specific recommendations that apply to Lake Merced address the control of invasive plants, management of sensitive plant species and vegetation series, enhancement of habitat for wildlife, enhancement and protection of nesting bird habitat, maintenance of suitable aquatic and terrestrial habitat for Western pond turtle, and control of erosion and public use. The Significant Natural Resource Areas Management Plan indicates that recommendations for the protection of the aquatic resources at Lake

Merced are pending completion of a long-term plan by the SFPUC for raising lake levels through additions of supplemental water. This plan is due to be completed by 2007; however, an Interim Lake Level Management Plan is in effect until 2007 (EDAW and Talavera & Richardson, 2004b).

4.3.2 Impacts and Mitigation Measures

4.3.2.1 Standards of Significance

The following standards of significance are based on Appendix G of the CEQA Guidelines. For purposes of this EIR, the project would have a significant impact with regard to biological resources if it would:

- Result in a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species (as defined above) in local or regional plans, policies, or regulations, or by the CDFG or USFWS
- Result in a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFG or USFWS
- Result in a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA or state protected wetlands as defined by the Porter-Cologne 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 wildlife nursery sites
- Conflict with any local applicable policies protecting biological resources
- Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other applicable HCP

All of the items above are addressed in the impact assessment below with the exception of the CEQA checklist questions related to wildlife movement and conflicts with local applicable policies. The only plan that is applicable to the campus is the proposed Campus Master Plan, which is the subject of this EIR, therefore, local policies are not considered further below. Additionally, wildlife movement issues are not considered in the impact assessment, as no such resources are located on the campus (see Section 4.1.1.7 above).

4.3.2.2 Analytical Method

Potential impacts to biological resources in the study area are evaluated based on a review of the available literature regarding the status and known distribution of the special-status species or their habitat within the project area and surrounding areas. A qualified biologist conducted a survey of the entire study area and no special-status species were found. Sources used in the impact analysis include the following:

- USFWS List of Endangered and Threatened Species that May Occur in or be affected by Projects in the Selected Quads Listed Below (Hunters Point, Montara Mountain, Oakland West, Point Bonita, San Francisco North, San Francisco South, San Mateo), July 28, 2006.
- The California Department of Fish and Game's Natural Diversity Database (CNDDDB) query results for the U.S. Geological Survey's 7.5-minute quadrangles of Hunters Point, Montara Mountain, Oakland West, Point Bonita, San Francisco North, San Francisco South, San Mateo (2006).
- The California Native Plant Society's Electronic Inventory (2006).

Once all data sources were reviewed, a final list of special-status species with moderate or greater potential to occur in the vicinity of the project area was compiled, and each of the species was evaluated for presence or absence on the site. In addition, the presence of suitable habitat characteristics was evaluated. These species are presented in Table 4.3-1; species with no or low potential to occur are also presented for information purposes. For the impact analysis presented in this section, species would be adversely affected if the development envisioned under the proposed Campus Master Plan would directly or indirectly affect the species or their habitat.

Impacts are evaluated in terms of permanent impacts such as those that would result from the removal of habitat to build a new facility and in terms of temporary impacts such as those that would result from construction and demolition activities and would affect biological resources only temporarily. The significance of the impact is evaluated based upon the standards of significance outlined above. Mitigation measures are identified and designed to reduce any significant impacts.

4.3.2.3 Campus Master Plan Impacts and Mitigation Measures

Impact BIO-1: Construction of the proposed bridge underpass, creek inlet, and path connection, and the discharge of storm water into Lake Merced could potentially affect wetlands and other sensitive habitats, as well as special-status plant and wildlife species in the adjacent Lake Merced.

Significance: Potentially significant

Mitigation BIO-1A: The new path connection and the new seasonal creek inlet in the East Lake area shall be located in consultation with the San Francisco Public Utilities Commission. The new path connection shall be sited to minimize loss of wetland and other sensitive habitats (including bulrush marsh and willow scrub areas along the lake edge) to the extent feasible, and the path will also be sited to avoid bringing people into sensitive bird habitat.

Mitigation BIO-1B: All wetland or other sensitive habitat in Lake Merced disturbed/removed during the construction of the bridge underpass, path connection and/or seasonal creek inlet shall be replaced and restored in accordance with all regulatory permit requirements. Prior to any work that could disturb jurisdictional or other wetland habitat, appropriate permits shall be obtained as required from ACOE and/or

RWQCB. Consultation with these agencies shall govern how the disturbance of wetlands will be mitigated, including the location and extent of wetland restoration and creation.

Mitigation BIO-1C: At the time that the path connection and/or seasonal creek inlet in the East Lake area are proposed, a clearance-level plant survey shall be performed for these projects to determine the presence or absence of special-status or sensitive plant species. If such species are found and will be either directly or indirectly affected by proposed construction an appropriate replacement and/or mitigation plan shall be developed and implemented in consultation with the California Department of Fish and Game and/or the U.S. Fish and Wildlife Service, as appropriate. Such a replacement and/or mitigation plan would include, but would not necessarily be limited to:

- Replacement of removed vegetation at a defined replacement ratio and/or restoration of existing habitat via new plantings, removal of exotic species, etc.
- Monitoring and maintenance of any newly planted areas for a specified time period
- Specification of success criteria
- Specification of reporting requirements

Residual Significance: Less than significant

The proposed Campus Master Plan includes the construction of replacement and new facilities on the campus in areas that are already developed or disturbed. The proposed Campus Master Plan also provides for the development of a new stormwater management system on the campus that would discharge into the East Lake portion of Lake Merced. As described in Chapter 3, *Project Description*, instead of being directed to the City's combined sewer system, as is currently the case, some of the stormwater runoff from development zones of the campus would flow through a four-tiered drainage system consisting of: (1) rain gardens and/or bio-swales close to buildings and hardscape areas, (2) small, shallow vegetated open channels to convey stormwater from rain gardens and bio-swales, (3) broad detention/filtration zones located within the valley that would receive runoff from the small open channels, and (4) a larger vegetated open channel running through the valley, simulating the old creek that once flowed through this area into Lake Merced. Ultimately, any runoff that does not infiltrate in these features would be discharged via a new seasonal creek inlet to the East Lake portion of Lake Merced. The new creek inlet would be provided via a new underpass/bridge at Lake Merced Boulevard. A new path connection would also be provided with the new underpass/bridge and would most likely be aligned with and/or connected to the preferred trail alternate and overlook identified in the Trail Feasibility Study Lake Merced (MPA Design, 2006), if deemed appropriate by the San Francisco Public Utilities Commission (SFPUC). All of these improvements would require subsequent project-specific environmental review and approvals by a number of different agencies. However, because the planned

creek and path are an element of the proposed Campus Master Plan, the programmatic impacts of these improvements are evaluated below.

Impact on Wetlands and Other Sensitive Habitats

SF State Campus

As indicated in the *Environmental Setting* section, there are no sensitive habitats or wetlands present on the SF State campus. Therefore development on campus under the proposed Campus Master Plan would not result in any impacts on wetlands or other sensitive habitats.

Lake Merced

The construction of the proposed underpass/bridge at Lake Merced Boulevard, and the creek inlet and path connection in the East Lake portion of Lake Merced could result in permanent and/or construction-related disturbance of wetlands or other sensitive habitats, as further described below.

If not properly sited, the proposed path connection into the East Lake area could result in the permanent removal of wetland or other sensitive habitat around the margin of the lake, a potentially significant impact. Bulrush marsh and willow scrub exist along the eastern edge of the lake (see [Figure 4.3-2, East Lake Vegetation](#)). The implementation of Mitigation BIO-1A will ensure that the new path connection will be sited, in consultation with the SFPUC, to avoid wetlands or other sensitive habitats, to the extent possible. If habitat were removed in order to construct the path, it will be replaced in accordance with Mitigation BIO-1B. With implementation of these mitigation measures, the impact related to the siting of the proposed path would be reduced to a less-than-significant level.

The construction of the new underpass/bridge at the Lake Merced Boulevard and the new creek inlet and path connections could potentially affect wetlands or other sensitive habitats temporarily during construction, as construction-related activities and associated disturbance could potentially affect these habitats. The construction of the new seasonal creek inlet to East Lake would likely remove/disturb some wetland and other sensitive habitats around the margin of the lake. However, the loss of wetland vegetation would only be temporary as a result of grading required to create the creek bed and it is anticipated that the wetland vegetation would reestablish once the construction of the creek inlet is complete. The construction of the new underpass/bridge could potentially result in disturbance to wetland or other sensitive habitats if grading and other construction activities on the Lake Merced Boulevard roadway embankment extend into these habitats.

As the design and construction plans for these project components are not yet known, it is difficult to further define the extent of temporary disturbance that could occur. The extent of removal of wetlands and other sensitive habitats shall be determined on a project-specific basis when these project elements are proposed. In addition, the extent and quality of wetlands may change over time, so impacts and mitigation must be assessed close to the time that the impacts will occur. However, the implementation of Mitigation BIO-1B will ensure that any disturbed habitat will be replaced and restored through the appropriate consultation and permitting by responsible agencies. It should also be noted that the proposed Campus Master Plan storm water management and landscaping plans would result in the creation of new wetland-type habitat along the creek that will run through the valley portion of the campus. The new creek will consist of a riparian corridor, including plants typical of coastal creeks in the area with a predominance of willow in low areas and hardwoods as the banks of the creek begin to rise. The

connection of the new creek to the East Lake portion of Lake Merced will connect this riparian corridor to the lake habitats, which will increase overall habitat diversity in the area.

Impact on Special-Status Plant Species

SF State Campus

As indicated in the *Environmental Setting* section, there are no special-status plant species or their habitat present on the SF State campus. Therefore development on campus under the proposed Campus Master Plan would not result in any impacts on special-status plant species.

Lake Merced

As indicated in the *Environmental Setting*, special-status and sensitive plant species exist in the Lake Merced area, including the East Lake. Of the sensitive plant species listed in the *Environmental Setting*, only four are known to occur in East Lake, canyon live oak, thimbleberry, wild cucumber, and beach paintbrush. While none of these species are currently known to exist in proximity to the eastern edge of East Lake where the proposed new creek inlet and path connection would be located, it is possible that the seed bank for such species still exists in this area. Therefore, any of the special-status or sensitive species has the potential to appear in the future in proximity to these development sites depending upon conditions. Direct or indirect impacts to these species would be considered significant impacts. However, such impacts could be reduced to a less-than-significant level with the implementation of Mitigation BIO-1D above, which would ensure that special-status or sensitive species are appropriately identified and compensated for, in consultation with the appropriate regulatory agency.

Impact on Special-Status Wildlife Species

SF State Campus

As indicated in the *Environmental Setting* section, there are no special-status wildlife species or their habitat present on the SF State campus. Therefore development on campus under the proposed Campus Master Plan would not result in any impacts on special-status wildlife species. (See Impact BIO-2 for a discussion of special-status birds on campus.)

Lake Merced

According to the Significant Natural Resource Areas Management Plan, recent lake level declines are a result of alterations to the Lake Merced Watershed such that less water flows to the lake. The decline in lake levels has raised concern about the continued support of vegetation and wildlife communities at Lake Merced that depend on a reliable water supply (San Francisco Recreation and Parks Department, 2006). The Interim Lake Level Management Plan for Lake Merced (EDAW and Talavera & Richardson, 2004) provides for maintaining lake water levels through 2007 between a fall low of 3 feet and a spring high of 5 feet City Datum, through additions of supplemental water. After 2007, the water levels would be slowly raised up to the long-term lake level range, to be established by the SFPUC, based on monitoring data collected during the interim period 2005 to 2007. Providing for infiltration of storm water into the Lake Merced groundwater basin and directing excess storm water runoff to Lake Merced via a new creek connection would be beneficial for special-status wildlife species that are present in the Lake Merced area, as it would contribute to rising water levels in the lake.

However, if not properly managed and controlled, urban runoff from the campus could potentially contain contaminants and nutrients that could contribute to water quality degradation in the lake, which could adversely affect aquatic wildlife species, including Western pond turtle. The proposed storm water management system provides for a tiered system of bioswales, small and large vegetated channels, and broad detention/filtration zones, all of which would provide for filtration of sediments and pollutants. The evaluation of water quality provided in Impact HYDRO-1 (see Section 4.7, *Hydrology and Water Quality*) indicates that the proposed tiered system would adequately address urban pollutants, but may have limited effectiveness in handling nutrients that may be present in storm water runoff. However, with the implementation of Mitigation HYDRO-1, the proposed storm water management system would not result in substantial adverse changes in water quality that could significantly affect special-status aquatic species in the adjacent Lake Merced. The impact would therefore be less than significant with the implementation of this mitigation measure. (See Impact BIO-2 below for a discussion of special-status bird species in the Lake Merced area.)

Impact BIO-2: Development under the proposed Campus Master Plan could potentially result in the loss or abandonment of active nests of special-status birds.

Significance: Potentially significant

Mitigation BIO-2A: If project construction is scheduled during the typical avian nesting season (March 1 to August 31), each work site (including access routes) and the areas within 150 feet of the work site shall be surveyed by a qualified biologist for the presence of migratory and/or special-status nesting birds. Surveys shall be conducted at each work site within two weeks prior to the commencement of ground disturbing activities. Work sites include tree-removal areas and/or any construction site on campus or within or immediately adjacent to the Lake Merced Natural Area (i.e., the bridge replacement site, the path connector site, and the creek inlet site).

If nesting birds were found to be present, a 150-foot buffer zone shall be established around the perimeter of the nest substrate (tree, shrub, herb, etc.) and clearly marked with “environmentally sensitive area” fencing. Construction or any related activities shall not be conducted within those areas until all observed nesting activities are completed. A qualified biologist shall determine nesting status. Pre-construction surveys will not be required if project construction is scheduled outside the typical avian nesting season (September 1-February 28).

Mitigation BIO-2B: Appropriate signage and other design features (e.g., fencing) will be installed as deemed appropriate by the San Francisco Public Utilities Commission, to keep people on the connector path and to discourage the creation of ad-hoc trails. This signage will explain the potential for people to disturb birds nesting in the marsh vegetation around the edges of the lake, if they stray from the path.

Residual Significance: Less than significant

As indicated in the *Environmental Setting* section above, there are no known occurrences of special-status wildlife species on the SF State campus. Additionally, a reconnaissance-level survey of the site found no evidence of bird nests or nesting activities. However, there is low potential that the landscaped habitat on campus provides suitable nesting habitat for special-status birds-of-prey and therefore such nesting may be occurring on the site, or may occur in the future. Additionally, Lake Merced does provide habitat for a number of special-status and sensitive bird species. As shown in [Figure 4.3-1, Lake Merced Sensitive Species and Important Bird Habitat](#), the bulrush marsh and willow scrub along the lake edge are identified as important bird habitat due to its value for nesting. Direct and indirect impacts to nesting habitat on-campus and in the adjacent Lake Merced area are described further below.

Direct Impacts to Nesting Habitat

SF State Campus

Existing mature trees on campus would be retained to the extent possible under Mitigation AES-1A through -1D; however, there are isolated locations where individual trees or tree groupings would need to be removed to allow for proposed new development. Therefore, tree removal could affect potentially suitable nesting raptor habitat on campus. The loss of individual trees or tree groupings that may provide suitable nesting raptor habitat is considered a less-than-significant impact because of the abundance of higher quality nesting habitat in the adjacent Lake Merced area and elsewhere in the region. Moreover, if nesting is occurring on campus it is likely that it is only occasional given that there were no signs of nesting observed during the survey.

Lake Merced

There could potentially be a temporary loss of nesting habitat for special-status birds in the Lake Merced area associated with the construction of the new seasonal creek inlet. As indicated in Impact BIO-1, bulrush marsh and willow scrub would likely be removed as a result of that project, which is identified in [Figure 4.3-3](#) as important bird habitat. However, Mitigation BIO-1B would ensure that this removal is avoided to the extent possible, that all disturbed areas would be restored, and any removal would be compensated for appropriately, in consultation with the applicable regulatory agencies. Therefore, the direct loss of nesting habitat for special-status birds in the Lake Merced would be reduced to a less-than-significant level with the implementation of this mitigation.

Indirect Impacts to Nesting Habitat

SF State Campus/Lake Merced

Under the proposed Campus Master Plan, depending on project funding, demolition of existing structures and construction of new buildings and other structures would occur almost continuously over the 13-year plan period. Construction activities would result in construction noise and activity on the campus for up to 24 months in duration for each major building project. If construction activities under the proposed Campus Master Plan were to occur during the nesting season (March 1 through August 31), noise from construction activities could result in the loss or abandonment of active nests of special-status bird species, which would be a potentially significant impact. This impact could result from construction on the campus, or within immediate proximity to Lake Merced (e.g., the construction of a new underpass/bridge at the Lake Merced Boulevard crossing of the new creek). The increased noise and

activity at the specific construction site potentially could affect birds that may be nesting in trees nearby and/or in wetland vegetation in the case of Lake Merced, and therefore could interfere with breeding success. Under the Migratory Bird Treaty Act of 1918 (16 United States Code 703–711), all migratory birds are protected. The act requires that bird nests and nest trees be protected from human disturbance. Mitigation BIO-2A will be incorporated into and implemented in conjunction with every campus construction project that is within 150 feet of mature trees and/or wetland vegetation in the case of Lake Merced. Implementation of the mitigation measure will reduce this potentially significant impact related to construction activities to a less-than-significant level.

Lake Merced

As noted above, the proposed Campus Master Plan calls for the construction of a new bridge and pedestrian underpass along Lake Merced, associated with the construction of the new creek into Lake Merced from the campus. The new pedestrian underpass would likely connect to an existing pedestrian path located on the north side of the East Lake. The new underpass and pedestrian path would provide a new direct access point into the Lake Merced area from the SF State campus and from locations further east and southeast, which would likely bring more people into the East Lake area.

The increase in people in this area could potentially disturb special-status and sensitive birds during nesting and breeding period, if the path is not sensitively designed in conjunction with the San Francisco Recreation and Park Department and San Francisco Public Utilities Commission, the agencies in charge of managing Lake Merced. However, with the implementation of Mitigation BIO-1A, the new pedestrian connection would not be sited in the bulrush marsh or willow scrub vegetation around the eastern edge of East Lake, which are the two most important habitats for nesting birds and other wildlife (San Francisco Recreation and Park Department, 2006). Additionally, Mitigation BIO-2B will require that appropriate signage and other design features are installed as deemed appropriate by the San Francisco Public Utilities Commission, to keep people on the connector path. These measures will ensure that disturbance to nesting birds will be minimized from the new path connection and associated additional people in this area. Therefore, with the above mitigation measures, the implementation of the proposed Campus Master Plan connector path into East Lake would not result in substantial adverse indirect impacts to nesting special-status and sensitive bird species in the adjacent Lake Merced due to the increased presence of people.

Furthermore, it should be noted that Lake Merced is managed not only for its natural resources, but also for its value as a recreational resource to boaters, fisherman, pedestrians, bicyclists, etc. The provision of a pedestrian connection from the SF State campus is consistent with the goal of improving public access in Lake Merced on designated trails (San Francisco Recreation and Park Department, 2006).

Overall, with the implementation of identified mitigation measures, the proposed Campus Master Plan would result in less-than-significant impacts on nesting birds.

Impact BIO-3: Development under the proposed Campus Master Plan would not conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other applicable HCP.

Significance: Less than significant

Mitigation BIO-3: Mitigation not required

Residual Significance: Less than significant

As indicated in the *Environmental Setting* section, the campus does not fall within the boundaries of an adopted HCP or NCCP, nor is it adjacent to any properties that have such an adopted plan. Therefore, there is no potential that the implementation of the proposed Campus Master Plan would result in conflicts with an adopted HCP or NCCP.

A Significant Natural Resource Areas Management Plan (San Francisco Recreation and Parks Department 2006) is in place for the adjacent Lake Merced Natural Area. The implementation of the new storm water management system and the new path connection into the East Lake area under the proposed Campus Master Plan would not conflict with or otherwise impede the implementation of the general and site-specific recommendations that apply to Lake Merced (see Section 4.1.1.7 above), with the implementation of the mitigation measures identified in this section. These general and site-specific measures address the control of invasive plants, management of sensitive plant species and vegetation series, enhancement of habitat for wildlife, enhancement and protection of nesting bird habitat, maintenance of suitable aquatic and terrestrial habitat for Western pond turtle, and control of erosion and public use. Moreover, it should be noted that the improvements in the East Lake area that are identified in the proposed Campus Master Plan (i.e., the new creek inlet and the new connector path) could only be sited and constructed in conjunction with the appropriate approvals from the SFPUC and other regulatory agencies. Therefore, it is expected that these proposed project elements would not conflict with the ultimate management goals of the Significant Natural Resource Areas Management Plan for the adjacent Lake Merced Natural Area. Therefore, the impact is less than significant.

4.3.2.4 Cumulative Impacts and Mitigation Measures

Impact BIO-4: Campus development under the proposed Campus Master Plan, in conjunction with other reasonably foreseeable development in the project vicinity, would not result in a substantial adverse cumulative impact on sensitive natural communities or special-status plant and wildlife species.

Significance: Less than significant

Mitigation BIO-4: Mitigation not required

Residual Significance: Less than significant

Potential impacts to sensitive natural communities and special-status species are described above (see Impacts BIO-1 through BIO-2). Where these impacts are considered potentially significant, mitigation is proposed above to reduce the impacts to a less-than-significant level (see Mitigations BIO-1 and BIO-2).

Lands designated for development in the *San Francisco General Plan* and *Planning Code* in the vicinity of the campus are already mostly developed. Therefore, the majority of future development in the area is expected to consist of redevelopment of existing already developed properties, such as is currently proposed at 77 Cambon Drive, located south of the campus. Other redevelopment projects include the

redevelopment and expansion of the YMCA on Eucalyptus and the redevelopment associated with the Balboa Park Station Area Plan located along Geneva, Ocean, and San Jose Avenues. A very limited amount of new development on undeveloped parcels may also occur in the vicinity of campus, such as is proposed at 800 Brotherhood Way, also located south of the campus. None of these projects would result in impacts to wetlands or other sensitive natural communities. Therefore, the effect of these projects on such communities would not accumulate with the proposed project.

Any or all of these other reasonably foreseeable cumulative projects, however, could potentially impact nesting birds, if such nesting is taking place in on-site trees at the time of project construction. Standard pre-construction surveys for nesting birds, such as that identified in Mitigation BIO-2A, would also be required by the City and County of San Francisco if potential nesting could be occurring in on-site trees on or in proximity to proposed construction sites. As for the proposed Campus Master Plan, such surveys would ensure that nesting birds are not disturbed as a result of construction activities.

In conclusion, neither development on campus, nor reasonably foreseeable future development within the southwestern portion of San Francisco, would result in a significant cumulative impact associated with adverse effects to sensitive natural communities and/or special-status species. Therefore, the potential cumulative biological resources impact would be less than significant.

4.3.3 References

- California Department of Fish and Game. 2006. California Natural Diversity Data Base (CNDDB) Rarefind.
- California Native Plant Society. 2006. Inventory of Rare and Endangered Plants (online edition, v7-06d 10-03-06, available at <http://www.cnps.org/inventory>).
- EDAW and Talavera & Richardson. 2004a. *Lake Merced Initiative to Raise and Maintain Lake Level and Improve Water Quality, Task 2 Technical Memorandum: Natural Resources Baseline Study*. Prepared for the San Francisco Public Utilities Commission. March.
- EDAW and Talavera & Richardson. 2004b. *Lake Merced Initiative to Raise and Maintain Lake Level and Improve Water Quality, Interim Lake Level Management Plan*. Prepared for the San Francisco Public Utilities Commission. December.
- Hickman, J.C. 1993. *The Jepson Manual: Higher Plants of California*. University of California Press.
- Holland, R.F. 1986. *Preliminary Description of the Terrestrial Natural Communities of California*. California Department of Fish & Game.
- MPA Deisgn. 2006. Draft Lake Merced Trail and Circulation Plan. September.
- San Francisco Recreation and Parks Department, *Significant Natural Resource Areas Management Plan, Final Draft*, February 2006.
- San Francisco State University Campus Master Plan website, <http://www.sfsu.com/masterplan.org/>
- Stebbins, R.C. 1985. A field guide to western reptiles and amphibians. Houghton Mifflin Co., Boston, MA.

**Table 4.3-1
Potential Special-Status Species within the Project Area³**

Scientific Name COMMON NAME	Federal ¹	State ²	CNPS ³	Preferred Habitat*	Potential to occur on the Project area (Likely to occur, Potential to occur, Not likely to occur, No potential to occur)
<i>Mammals</i>					
Arcotocephalus townsendi GUADALUPE FUR SEAL	T	T, FP	N/A	Coastal waters, islands, isolated, rocky haul-outs.	There are no documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Balaenoptera borealis SEI WHALE	E	None	N/A	Temperate open seas, nearshore and offshore, from Gulf of Alaska to Baja California.	There are no documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Balaenoptera musculus BLUE WHALE	E	None	N/A	Open waters, occasional inshore waters.	There are no documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Balaenoptera physalus FINBACK (=FIN) WHALE	E	None	N/A	Open waters, occasional inshore waters.	There are no documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Enhydra lutris nereis SOUTHERN SEA OTTER	T	FP	N/A	This species occurs in nearshore marine environments from about Ano Nuevo, San Mateo County to Point Sal., Santa Barbara County. Needs canopies of giant kelp and bull kelp for rafting and feeding. Prefers rocky substrates with abundant invertebrates.	There is one documented occurrence of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Eubalaena glacialis RIGHT WHALE	E	None	N/A	Isolated shoreline and rocky islands from San Mateo County north.	There are no documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.

³ For the purposes of this EIR, special-status species include taxa with a moderate or greater potential to occur on the campus including those: (1) listed as threatened or endangered under either the California or Federal Endangered Species Acts (2) candidates for either state or federal listing; (3) species afforded protection under the Fish and Game Code of California; (4) federal and CDFG "Species of Special Concern"; (5) CDFG "Species of Special Concern highest and second priority lists; (6) and California Native Plant Society (CNPS) List 1-3 plants.

**Table 4.3-1
Potential Special-Status Species within the Project Area³**

Scientific Name COMMON NAME	Federal¹	State²	CNPS³	Preferred Habitat*	Potential to occur on the Project area (Likely to occur, Potential to occur, Not likely to occur, No potential to occur)
Eumetopias jubatus STELLAR SEA-LION	T, CH	None	N/A	Range along the Northern Pacific Rim from Northern Japan to California, but most are found in the Gulf of Alaska and Aleutian Islands. When in the water, Steller Sea Lions usually occupy surface and midwater coastal regions within 45km of shore. Breed and give birth in rookeries. Rookeries include rock shelves, ledges, or slopes and boulder, cobble, gravel, or sand beaches. Take refuge in haulouts. Both haulouts and rookeries are usually located on relatively remote islands where access by predators is limited.	The project area is not located with an area designated as critical habitat for this species. No potential to occur. Habitat not present.
Nyctinomops macrotis BIG FREE-TAILED BAT	None	SSC	N/A	Need high cliffs or rocky outcrops for roosting sites. Feeds principally on large moths. Listed as Medium Priority in California by the Western Bat Working Group.	There are two documented occurrences of this species within the project vicinity (CDFG 2006). Low potential to occur.
Physeter catodon (=macrocephalus) SPERM WHALE	E	None	N/A	Open waters, typically far from land.	There are no documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Reithrodontomys raviventris SALT MARSH HARVEST MOUSE	E	E, FP	N/A	Occurs only in the saline emergent wetlands of San Francisco Bay and its tributaries. Primary habitat is pickleweed. Builds loosely organized nests, not burrows. Requires higher areas for flood escape.	There are two documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Scapanus latimanus parvus ALAMEDA ISLAND MOLE	None	SSC	N/A	Only known from Alameda Island. Found in a variety of habitats, especially annual and perennial grasslands. Prefers moist, friable soils. Avoids flooded soils.	No potential to occur. There are seven documented occurrences of this species within the project vicinity (CDFG 2006). Five of the occurrences are in the San Francisco South quadrangle, but all are on Alameda Island. No potential to occur. Habitat not present.

**Table 4.3-1
Potential Special-Status Species within the Project Area³**

Scientific Name COMMON NAME	Federal ¹	State ²	CNPS ³	Preferred Habitat*	Potential to occur on the Project area (Likely to occur, Potential to occur, Not likely to occur, No potential to occur)
Taxidea taxus AMERICAN BADGER	None	SSC	N/A	Survive in low numbers in peripheral parts of the valley and adjacent lowlands to the west in eastern Monterey, San Benito and San Luis Obispo counties. In the coastal areas from Mendocino county south they have been drastically reduced in numbers. Extirpated from many areas in southern California. Principal requirements: sufficient food, friable soils, and relatively open, uncultivated ground. Grasslands, savannas, and mountain meadows near timberline are preferred. Prey primarily on burrowing rodents such as gophers, ground squirrels, marmots, and kangaroo rats. Estimated density of one badger/square mile.	There are four documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Zapus trinotatus orarius POINT REYES JUMPING MOUSE	None	SSC	N/A	Occurs primarily in bunch grass marshes on the uplands of Point Reyes. Also present in coastal scrub, grassland, and meadows. Eats mainly grass seeds with some insects and fruit taken. Builds grassy nests on ground under vegetation. Burrows in winter.	There are two documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
<i>Birds</i>					
Accipiter cooperii COOPER'S HAWK	None	SSC	N/A	Nests in woodland habitat; chiefly in open, interrupted or marginal type. Nest sites occur mainly in riparian growths of deciduous trees, as in canyon bottoms or river flood plains. Nest sites also in live oaks.	There is one documented occurrence of this species within the project vicinity (CDFG 2006). No habitat found in the study area. Low potential to occur.
Brachyramphus marmoratus MARBLED MURRELET	T, CH	E	N/A	Habitat is mature Douglas fir and redwood forest within 56km (35mi) of the coast.	The project area is not located with an area designated as critical habitat for this species. No potential to occur. Habitat not present.
Charadrius alexandrinus nivosus WESTERN SNOWY PLOVER	T	SSC	N/A	Federal listing only applies to the Pacific coast population. This species occurs on sandy beaches, salt pond levees and shores of large alkali lakes. Need sandy, gravelly or friable soils for nesting.	There are two documented occurrences of this species within the project vicinity (CDFG 2006). Low potential to occur.

**Table 4.3-1
Potential Special-Status Species within the Project Area³**

Scientific Name COMMON NAME	Federal¹	State²	CNPS³	Preferred Habitat*	Potential to occur on the Project area (Likely to occur, Potential to occur, Not likely to occur, No potential to occur)
Cicus cyaneus NORTHERN HARRIER	None	SSC	N/A	Nests in coastal salt and fresh water arch. Nests and forages in grasslands, from salt grass in desert sink to mountain cienagas. Nests on ground in shrubbery vegetation, usually at marsh edge. Nests are built of a large mound of sticks in wet areas.	There is one documented occurrence of this species within the project vicinity (CDFG 2006). Low potential to occur.
Diomedea albatrus SHORT-TAILED ALBATROSS	E	None	N/A	Open waters of the Pacific ocean.	There are no documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Geothlypis trichas sinuosa SALTMARSH COMMON YELLOWTHROAT	None	SSC	N/A	Resident of the San Francisco Bay Region. Occurs in fresh and salt-water marshes. Requires thick, continuous cover down to water surface for foraging. For nesting, requires tall grass, tule patches, and willows.	There are seven documented occurrences of this species within the project vicinity (CDFG 2006). Two of the occurrences are in the San Francisco South quadrangle. No habitat found in the study area. Low potential to occur.
Haliaeetus leucocephalus BALD EAGLE	T, PD	E, FP	N/A	The breeding range is mainly in mountainous habitats near reservoirs, lakes and rivers, mainly in the northern two-thirds of the State, in the Central Coast Range, and on Santa Catalina Island. Large nests are normally built in the upper canopy of large trees, usually conifers. The birds are opportunistic foragers, usually feeding on fish or waterfowl, but they also prey on other small animals and eat carrion. The bald eagles home ranges varies from 1,700 to 10,000 acres.	There are no documented occurrences of this species within the project vicinity (CDFG 2006). Low potential to occur.
Laterallus jamaicensis coturniculus CALIFORNIA BLACK RAIL	None	T, FP	N/A	Mainly inhabits salt marshes bordering larger bays. Occurs in tidal salt marsh heavily grown to pickleweed and also in freshwater and brackish marshes, all at low elevation.	There are five documented occurrences of this species within the project vicinity (CDFG 2006). One of the occurrences is in the San Francisco South quadrangle. Low potential to occur.
Melospiza melodia pusillula ALAMEDA SONG SPARROW	None	SSC	N/A	Resident of salt marshes bordering south arm of San Francisco Bay. Inhabits <i>Salicornia</i> marshes. Nests low in <i>Grindelia</i> bushes (high enough to escape high tides) and in <i>Salicornia</i> .	There are eleven documented occurrences of this species within the project vicinity (CDFG 2006). Two of the occurrences are in the San Francisco South quadrangle. Low potential to occur.

**Table 4.3-1
Potential Special-Status Species within the Project Area³**

Scientific Name COMMON NAME	Federal ¹	State ²	CNPS ³	Preferred Habitat*	Potential to occur on the Project area (Likely to occur, Potential to occur, Not likely to occur, No potential to occur)
<i>Pelecanus occidentalis californicus</i> CALIFORNIA BROWN PELICAN	E	E, FP	N/A	Nests on coastal islands lacking ground predators; roost on piers, buoys, and other structures on water bodies near the coast.	There are no documented occurrences of this species within the project vicinity (CDFG 2006). Low potential to occur.
<i>Phalacrocorax auritus</i> DOUBLE-CRESTED COMMORANT	None	SSC	N/A	Coastal cliffs, offshore islands, and inland along lake margins; nests on ground or in tall trees.	There are four documented occurrences of this species within the project vicinity (CDFG 2006). Two of the occurrences are in the San Francisco quadrangle. Low potential to occur.
<i>Rallus longirostris obsoletus</i> CALIFORNIA CLAPPER RAIL	E	E, FP	N/A	Occurs in salt-water and brackish marshes traversed by tidal sloughs in the vicinity of San Francisco Bay. Associated with abundant growths of pickleweed, but feeds away from cover on invertebrates from mud-bottomed sloughs.	There are six documented occurrences of this species within the project vicinity (CDFG 2006). One of the occurrences is in the San Francisco South quadrangle. No habitat found in the study area. Low potential to occur.
<i>Riparia riparia</i> BANK SWALLOW	None	T	N/A	This species occurs in lowland river valleys with alluvial valleys. They require a riparian system and alluvial soil but don't need riparian vegetation. Prefer tall vertical banks 1 to 2 meters, but banks 0.5 to 10 meters tall have been used. Have been recorded using sand and gravel quarries, sawdust piles, dredge spoils - but most (95%) use natural habitat.	There are three documented occurrences of this species within the project vicinity (CDFG 2006). All occurrences are in the San Francisco South quadrangle. Low potential to occur.
<i>Sterna antillarum (=albifrons) browni</i> CALIFORNIA LEAST TERN	E	E, FP	N/A	Nests in colonies. Nests along the coast from San Francisco Bay south to northern Baja California. Nests on sparsely vegetated, flat substrates such as sand beaches, alkali flats, land fills, or paved areas.	There is one documented occurrence of this species within the project vicinity (CDFG 2006). Low potential to occur.
<i>Amphibians</i>					
<i>Ambystoma californiense</i> CALIFORNIA TIGER SALAMANDER	T	SSC	N/A	This species occurs in annual grasslands and grassy understory of valley-foothill hardwood habitats, need underground refuges during dry season, need vernal pools or other seasonal water sources for breeding. The known elevation range of this species extends from 3 m to 1,054 m.	There is one documented occurrence of this species within the project vicinity (CDFG 2006). Low potential to occur.

**Table 4.3-1
Potential Special-Status Species within the Project Area³**

Scientific Name COMMON NAME	Federal¹	State²	CNPS³	Preferred Habitat*	Potential to occur on the Project area (Likely to occur, Potential to occur, Not likely to occur, No potential to occur)
Rana aurora draytonii CALIFORNIA RED-LEGGED FROG	T, CH, PCH	SSC	N/A	Habitat of California red-legged frogs is characterized by dense, shrubby riparian vegetation associated with deep (0.7 m), still or slow-moving water. The shrubby riparian vegetation that structurally seems to be most suitable for California red-legged frogs is that provided by Salix lasiolepis; Typha sp. and bulrushes also provide suitable habitat. Although California red-legged frogs can occur in ephemeral or permanent streams or ponds, populations probably cannot be maintained in ephemeral streams in which 0 surface water disappears. Water should have a salinity of 4.5 ph to ensure the survival of embryonic stages. Juvenile frogs seem to favor open, shallow aquatic habitats with dense submergents. Breeds in pools with emergent vegetation; typically absent in pools where predatory fish are present; require adequate hibernacula such as small mammal burrows and moist leaf litter.	There are twenty-eight documented occurrences of this species within the project vicinity (CDFG 2006). Five of the occurrences are in the San Francisco South quadrangle. The project area is not located with an area designated as critical habitat for this species. No habitat found in the study area. No potential to occur. Habitat not present.
<i>Reptiles</i>					
Caretta caretta LOGGERHEAD TURTLE	T	None	N/A	Open ocean, seldom California coast.	There are no documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Chelonia mydas (incl. agassizi) GREEN TURTLE	T	None	N/A	Warm-water bays and lagoons.	There are no documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Clemmys (=Emys) marmorata marmorata WESTERN POND TURTLE	None	SSC	N/A	Inhabit ponds, marshes, rivers, streams, irrigation ditches, need basking sites such as partially submerged logs or rocks, and suitable upland habit (sandy banks or grassy open fields) for egg laying. Require some slack- or slow-water aquatic habitat. Need dry nests. Nests also are typically located on a slope that is unshaded. The nesting site can be up to 402 m from the aquatic site, but the majority of nests located to date are within 200 m. However, at localities with less gradient, soil moisture gradients and soil type may cause nesting sites to be located at a significantly greater distance than where the majority are located. Slope of the nest sites range up to 60 degrees, but most nests are on slopes < 25 degrees.	There are four documented occurrences of this species within the project vicinity (CDFG 2006). Two of the occurrences are in the San Francisco South quadrangle. No potential to occur. Habitat not present.

**Table 4.3-1
Potential Special-Status Species within the Project Area³**

Scientific Name COMMON NAME	Federal ¹	State ²	CNPS ³	Preferred Habitat*	Potential to occur on the Project area (Likely to occur, Potential to occur, Not likely to occur, No potential to occur)
Clemmys (=Emys) marmorata marmorata NORTHWESTERN POND TURTLE	None	SSC	N/A	Associated with permanent or nearly permanent water in a wide variety of habitats. Requires basking sites. Nest sites may be found up to 0.5 km from water.	There is one documented occurrence of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Dermochelys coriacea LEATHERBACK TURTLE	E	None	N/A	Open ocean, California coast, bays and estuaries.	There are no documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Lepidochelys olivacea OLIVE (=PACIFIC) RIDLEY SEA TURTLE	T	None	N/A	Bay and lagoons, seldom in California.	There are no documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Masticophis lateralis euryxanthus ALAMEDA WHIPSNAKE (=STRIPED RACER)	T	T	N/A	Occurs in chaparral and other scrubland habitats.	There are no documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Thamnophis sirtalis tetraenaia SAN FRANCISCO GARTER SNAKE	E	E, FP	N/A	Occurs in the vicinity of freshwater marshes, ponds, and slow moving streams in San Mateo County and extreme northern Santa Cruz County. Prefers dense cover and water depths of at least one foot. Upland area near water is very important for this species.	There are eleven documented occurrences of this species within the project vicinity (CDFG 2006). Two of the occurrences are in the San Francisco South quadrangle. No habitat found in the study area. No potential to occur. Habitat not present.
<i>Fish</i>					
Eucyclogobius newberryi TIDEWATER GOBY	E	SSC	N/A	This species occurs in brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches. They need fairly still but not stagnant water and high oxygen levels.	There are four documented occurrences of this species within the project vicinity (CDFG 2006). One of the occurrences is in the San Francisco South quadrangle No potential to occur. Habitat not present.

**Table 4.3-1
Potential Special-Status Species within the Project Area³**

Scientific Name COMMON NAME	Federal¹	State²	CNPS³	Preferred Habitat*	Potential to occur on the Project area (Likely to occur, Potential to occur, Not likely to occur, No potential to occur)
Hypomesus transpacificus DELTA SMELT	T	T	N/A	Occur in the low-mid reaches of San Joaquin-Sacramento Delta. Found in brackish water with very low salinity.	There are no documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Oncorhynchus kisutch COHO SALMON	E, CH	E	N/A	Federal Listing = pops between Punta Gorda and San Lorenzo River; State Listing = pops south of Punta Gorda. Require beds of loose, silt-free, coarse gravel for spawning. Also need cover, cool water, and sufficient dissolved oxygen.	There is one documented occurrence of this species within the project vicinity (CDFG 2006). The project area is not located within an area designated as critical habitat for this species. No potential to occur. Habitat not present.
Oncorhynchus mykiss CENTRAL VALLEY STEELHEAD	T, CH	None	N/A	Occur in the Pacific Ocean and spawn in coastal streams and rivers, over gravel beds.	There are no documented occurrences of this species within the project vicinity (CDFG 2006). The project site is not located within an area designated as critical habitat for this species. No potential to occur. Habitat not present.
Oncorhynchus mykiss (irideus) CENTRAL CALIFORNIA COASTAL STEELHEAD	T,CH	None	N/A	Occur from Russian River, south to Soquel Cr. And to, but not including Pajaro River. Also San Francisco and San Pablo Bay Basins.	The project site is not located within an area designated as critical habitat for this species. There are four documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Oncorhynchus tshawytscha CALIFORNIA COASTAL CHINOOK SALMON	T	None	N/A	Pacific Ocean, spawn in coastal streams and rivers, over gravel beds.	There are no documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Oncorhynchus tshawytscha CENTRAL VALLEY FALL/LATE FALL-RUN CHINOOK SALMON	C, PCH	None	N/A	This species is found in the Pacific Ocean and spawn in large, permanent coastal streams and rivers, over gravel beds. Sacramento late-fall run Chinook are found mainly in the Sacramento River, and most spawning and rearing of juveniles takes place in the reach between Red Bluff and Redding. However, up to approximately 15-30% of the total late-fall run can spawn downstream of Red Bluff when water quality is good.	There are no documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.

**Table 4.3-1
Potential Special-Status Species within the Project Area³**

Scientific Name COMMON NAME	Federal ¹	State ²	CNPS ³	Preferred Habitat*	Potential to occur on the Project area (Likely to occur, Potential to occur, Not likely to occur, No potential to occur)
Oncorhynchus tshawytscha CENTRAL VALLEY SPRING-RUN CHINOOK SALMON	T	T	N/A	This species is found in the Pacific Ocean and spawn in large, permanent coastal streams and rivers, over gravel beds. Spring-run Chinook salmon are primarily found in four tributaries of the Sacramento River: Butte, Big Chico, Deer, and Mill creeks. Spring-run Chinook salmon enter the Sacramento river between February and June. They move upstream and enter tributary streams from February through July, peaking in May-June. These fish migrate into the headwaters, hold in pools until they spawn, starting as early as mid-August and ending in mid-October, peaking in September. The juvenile life history is more variable. Some fish emerge starting in early November continuing through the following April. These juveniles emigrate from the tributaries as fry from mid-November through June. Some fish remain in the stream until the following October and emigrate as "yearlings", usually with the onset of storms starting in October through the following March, peaking in November-December.	There are no documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Oncorhynchus tshawytscha WINTER-RUN CHINOOK SALMON	E, CH	E	N/A	This species is found in the Pacific Ocean and spawn in large, permanent coastal streams and rivers, over gravel beds. They return to the upper Sacramento River in the winter but delay spawning until the spring and summer. Juveniles spend five to nine months in the river and Sacramento-San Joaquin Estuary before entering the ocean.	The project area is not located with an area designated as critical habitat for this species. No potential to occur. Habitat not present.
<i>Invertebrates</i>					
Euphydryas editha bayensis BAY CHECKERSPOT BUTTERFLY	T, CH	None	N/A	This species is restricted to native grasslands and outcrops of serpentine soil in the vicinity of San Francisco Bay. It's primary host plant is Plantago erecta. Secondary host plants are Orthocarpus densiflorus and O. purpurascens.	There are six documented occurrences of this species within the project vicinity (CDFG 2006). Three of the occurrences are in the San Francisco quadrangle. The project area is not located with an area designated as critical habitat for this species. Low potential to occur.
Haliotes sorenseni WHITE ABALONE	E	None	N/A	Found in marine subtidal rocky habitats only.	No potential to occur. Habitat not present.

**Table 4.3-1
Potential Special-Status Species within the Project Area³**

Scientific Name COMMON NAME	Federal¹	State²	CNPS³	Preferred Habitat*	Potential to occur on the Project area (Likely to occur, Potential to occur, Not likely to occur, No potential to occur)
Icaricia (=Plebejus) icarioides missionensis MISSION BLUE BUTTERFLY	E	None	N/A	Inhabits grasslands of the San Francisco Peninsula. Has three larval host plants: <i>Lupinus albifrons</i> , <i>L. varicolor</i> , and <i>L. formosus</i> , of which <i>L. albifrons</i> is favored.	There are fifteen documented occurrences of this species within the project vicinity (CDFG 2006). Thirteen of the occurrences are in the South San Francisco quadrangle. Low potential to occur.
Incisalia (=Callophrys) mossii bayensis SAN BRUNO ELFIN BUTTERFLY	E	None	N/A	Occurs in coastal, mountainous area with grassy ground cover, mainly in the vicinity of San Bruno mountain, San Mateo County. Colonies are located on steep, north-facing slopes within the fog belt. Larval host plant is <i>Sedum spathulifolium</i> .	There are five documented occurrences of this species within the project vicinity (CDFG 2006). Three of the occurrences are in the South San Francisco quadrangle. No habitat found in the study area. Low potential to occur.
Speyeria callippe callippe CALLIPPE SILVERSPOT BUTTERFLY	E	None	N/A	Restricted to the northern coastal scrub of the San Francisco Peninsula. Host plant is <i>Viola pedunculata</i> . Most adults found on east facing slopes. Males congregate on hilltops in search of females.	There are six documented occurrences of this species within the project vicinity (CDFG 2006). Five of the occurrences are in the South San Francisco quadrangle. Low potential to occur.
Speyeria zerene myrtleae MYRTLE'S SILVERSPOT BUTTERFLY	E	None	N/A	Restricted to foggy, coastal dunes/hills of the Point Reyes Peninsula. Extirpated from coastal San Mateo County. Larval floodplant thought to be <i>Viola adunca</i> .	There are two documented occurrences of this species within the project vicinity (CDFG 2006). No habitat found in the study area. Low potential to occur.
<i>Plants</i>					
Acanthomintha duttonii SAN MATEO THORN- MINT	E	E	1B.1	This annual herb occurs is found in open areas in chaparral, valley and foothill grassland, and coastal scrub. Extant populations only known from very uncommon serpentinite vertisol clays. This species blooms from April to June at elevations between 50 and 300 meters.	There are two documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Allium peninsulare var. franciscanum FRANCISCAN ONION	None	None	1B.2	This bulbiferous herb occurs in cismontane woodland and valley and foothill grassland. Inhabits clay soils, often on serpentine and dry hillsides. Elevation: 100-300 meters. Blooms from May to June.	There are five documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.

**Table 4.3-1
Potential Special-Status Species within the Project Area³**

Scientific Name COMMON NAME	Federal¹	State²	CNPS³	Preferred Habitat*	Potential to occur on the Project area (Likely to occur, Potential to occur, Not likely to occur, No potential to occur)
Amsinckia lunaris BENT-FLOWERED FIDDLENECK	None	None	1B.2	This annual herb occurs in cismontane woodland and valley and foothill grassland habitat. Elevation: 3-500 meters. Blooms from March to June	There are three documented occurrences of this species within the project vicinity (CDFG 2006). One of the occurrences is in the South San Francisco quadrangle. No potential to occur. Habitat not present.
Arctostaphylos andersonii SANTA CRUZ MANZANITA	None	None	1B.2	This evergreen shrub occurs in broadleaved upland forest, chaparral, and at openings and edges of North Coast coniferous forests. It blooms from November to April at elevations between 60 and 730 meters.	There are no documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Arctostaphylos hookeri ssp. franciscana FRANCISCAN MANZANITA	None	None	1A	This evergreen herb occurs in serpentine outcrops in chaparral. Elevation: 60-300 meters. It blooms from February to April.	There are three documented occurrences of this species within the project vicinity (CDFG 2006). One of the occurrences is in the South San Francisco quadrangle. No potential to occur. Habitat not present.
Arctostaphylos hookeri ssp. ravenii PRESIDIO MANZANITA	E	E	1B.1	This evergreen shrub occurs in chaparral, coastal prairie, and serpentine outcrops of coastal scrub. Prefers open, rocky serpentine slopes, 20-215 meters. It blooms from February to March.	There are seven documented occurrences of this species within the project vicinity (CDFG 2006). One of the occurrences is in the South San Francisco quadrangle. No potential to occur. Habitat not present.
Arctostaphylos imbricata SAN BRUNO MOUNTAIN MANZANITA	None	E	1B.1	This evergreen shrub occurs in chaparral and coastal scrub. Mostly known from a few sandstone outcrops in chaparral. Elevation: 275-370 meters. It blooms from February to May. All five occurrences of this plant are within the boundaries of the San Bruno Mountain.	No potential to occur. There are three documented occurrences of this species within the project vicinity (CDFG 2006). All occurrences are in the South San Francisco quadrangle. All occurrences located at San Bruno Mountain. No potential to occur. Habitat not present.
Arctostaphylos montaraensis MONTARA MANZANITA	None	None	1B.2	This evergreen shrub occurs in slopes and ridges in chaparral and coastal scrub habitat. Elevation: 150-500 meters. It blooms from January to March.	There are four documented occurrences of this species within the project vicinity (CDFG 2006). One of the occurrences is in the South San Francisco quadrangle. No potential to occur. Habitat not present.

**Table 4.3-1
Potential Special-Status Species within the Project Area³**

Scientific Name COMMON NAME	Federal¹	State²	CNPS³	Preferred Habitat*	Potential to occur on the Project area (Likely to occur, Potential to occur, Not likely to occur, No potential to occur)
Arctostaphylos regismontana KINGS MOUNTAIN MANZANITA	None	None	1B.2	This evergreen shrub occurs in broadleaved upland forest, chaparral and in north coast coniferous forest on granitic or sandstone outcrops. Elevation: 305-730 meters. It blooms from January to April.	There is one documented occurrence of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Arenaria paludicola MARSH SANDWORT	E	E	1B.1	This stoloniferous herb occurs in bogs and fens and freshwater swamps and marshes. It blooms from May to August at elevations from 3 to 170 meters.	There is one documented occurrence of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Astragalus pycnostachyus var. pycnostachyus COASTAL MARSH MILK-VETCH	None	None	1B.2	This perennial herb occurs in mesic sites in coastal dunes or along streams or coastal salt marshes. Elevation: 0-30 meters. It blooms from April to October.	There are two documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Astragalus tener var. tener ALKALI MILK-VETCH	None	None	1B.2	This annual herb occurs in valley and foothill grasslands and alkaline vernal pools. This species blooms between March and June and occurs at elevations between 1 and 60 meters. Known only from six extant occurrences.	There are three documented occurrences of this species within the project vicinity (CDFG 2006). One of the occurrences is in the San Francisco South quadrangle. No potential to occur. Habitat not present.
Atriplex joaquiniana SAN JOAQUIN SPEARSCALE	None	None	1B.2	This annual herb occurs in chenopod scrub, meadows and seeps, playas, and alkaline valley and foothill grassland. This species blooms between April and October and occurs at elevations between 1 and 846 meters.	There is one documented occurrence of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Centromadia parryi ssp. parryi PAPPOSE TARPLANT	None	None	1B.2	This annual herb occurs in coastal prairie, meadows and seeps, coastal salt marsh, and valley and foothill grassland. Inhabits vernal mesic, often alkaline sites at elevations between 2 and 420 meters. It blooms from May to November.	There is one documented occurrence of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Chorizanthe cuspidate var. cuspidate SAN FRANCISCO BAY SPINEFLOWER	None	None	1B.2	This annual herb occurs in coastal bluff scrub, coastal dunes, coastal prairie, and coastal scrub. Inhabits sandy soil on terraces and slopes at elevations between 5 and 550 meters. Closely related to C. pungens. It blooms from April to July (rarely August).	There are fifteen documented occurrences of this species within the project vicinity (CDFG 2006). Seven of the occurrences are in the South San Francisco quadrangle. No potential to occur. Habitat not present.

**Table 4.3-1
Potential Special-Status Species within the Project Area³**

Scientific Name COMMON NAME	Federal¹	State²	CNPS³	Preferred Habitat*	Potential to occur on the Project area (Likely to occur, Potential to occur, Not likely to occur, No potential to occur)
Chorizanthe robusta var. robusta ROBUST SPINEFLOWER	E	None	1B.1	This annual herb occurs in coastal dunes and coastal scrub on sandy terraces and bluffs or in loose sand, and in openings of cismontane woodland. Elevation: 3-300 meters. It blooms from April to September.	There are three documented occurrences of this species within the project vicinity (CDFG 2006). Two of the occurrences are in the San Francisco South quadrangle. No potential to occur. Habitat not present.
Chorizanthe valida SONOMA SPINEFLOWER	E	E	1B.1	This annual herb occurs in coastal prairie at elevations between 10 and 305 meters. It blooms from June to August.	There are no documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
<i>Cirsium andrewsii</i> FRANCISCAN THISTLE	None	None	1B.2	This perennial herb occurs in coastal bluff scrub, broadleaved upland forest, and coastal scrub. Occurs sometimes in serpentine seeps. Elevation: 0-150 meters. It blooms from March to July.	There are twelve documented occurrences of this species within the project vicinity (CDFG 2006). One of the occurrences is in the San Francisco South quadrangle. No potential to occur. Habitat not present.
<i>Cirsium fontinale</i> var. fontinale FOUNTAIN THISTLE	E	E	1B.1	This perennial herb occurs in valley and foothill grassland and chaparral. Prefers serpentine seeps and grassland. Elevation: 90-180 meters. It blooms from June to October.	There are three documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
<i>Cirsium occidentale</i> var. compactum COMPACT COBWEBBY THISTLE	None	None	1B.2	This perennial herb occurs in chaparral, coastal dunes, coastal prairie, and coastal scrub. Located on dunes and on clay in chaparral and also in grassland. Elevation: 5-155 meters. It blooms from April to June.	There is one documented occurrence of this species within the project vicinity (CDFG 2006). This occurrence is in the San Francisco South quadrangle. No potential to occur. Habitat not present.
<i>Clarkia franciscana</i> PRESIDIO CLARKIA	E	E	1B.1	This annual herb occurs in coastal scrub and valley and foothill grassland. Prefers serpentine outcrops in grassland or scrub. Elevation: 20-335 meters. It blooms from May to July.	There are three documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
<i>Collinsia corymbosa</i> ROUND-HEADED CHINESE HOUSES	None	None	1B.2	This annual herb occurs in coastal dunes and coastal prairie at elevations between 0-30 meters. It blooms from April to June.	There is one documented occurrence of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.

**Table 4.3-1
Potential Special-Status Species within the Project Area³**

Scientific Name COMMON NAME	Federal ¹	State ²	CNPS ³	Preferred Habitat*	Potential to occur on the Project area (Likely to occur, Potential to occur, Not likely to occur, No potential to occur)
<i>Collinsia multicolor</i> SAN FRANCISCO COLLINSIA	None	None	1B.2	This annual herb occurs in closed-cone coniferous forest and coastal scrub. Occurs on decomposed shale (mudstone) mixed with Humus. Elevation: 30-250 meters. It blooms from March to May.	There are twelve documented occurrences of this species within the project vicinity (CDFG 2006). Seven of the occurrences are in the San Francisco South quadrangle. No potential to occur. Habitat not present.
<i>Cordylanthus maritimus</i> ssp. <i>palustris</i> POINT REYES BIRD'S- BEAK	None	None	1B.2	This hemiparasitic annual herb occurs in coastal salt marsh, usually with <i>Salicornia</i> , <i>Distichlis</i> , <i>Jaumea</i> , <i>Spartina</i> , etc. Elevation: 0-15 meters. It blooms from June to October.	There are four documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
<i>Dirca occidentalis</i> WESTERN LEATHERWOOD	None	None	1B.2	This deciduous shrub occurs in broadleaved upland forest, chaparral, closed-cone coniferous forest, cismontane woodland, north coast coniferous forest, riparian forest and wetland. Located on brushy slopes, mesic sites. Found mostly in mixed evergreen and foothill woodland communities. Elevation: 30-550 meters. It blooms from January to March (rarely to April).	There are five documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
<i>Equisetum palustre</i> MARSH HORSETAIL	None	None	3	This rhizomatous herb occurs in marshes and swamps at elevations from 45 to 1000 meters. Blooming period is unknown.	There are no documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
<i>Eriogonum luteolum</i> var. <i>caninum</i> TIBURON BUCKWHEAT	None	None	3.2	This annual herb occurs in chaparral, coastal prairie, and serpentine valley and foothill grassland. It blooms from June to September at elevations between 10 to 500 meters.	There are no documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
<i>Eriophyllum latilobum</i> SAN MATEO WOOLLY SUNFLOWER	E	E	1B.1	This annual herb occurs in cismontane woodland, often on roadcuts. Found on and off of serpentine. Elevation: 45-150 meters. It blooms from May to June.	There are two documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
<i>Erodium macrophyllum</i> ROUND-LEAVED FILAREE	None	None	2.1	This annual herb occurs in clay soils in cismontane woodland and valley and foothill grassland. Elevation: 15-1200 meters. It blooms from March to May.	There are two documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.

**Table 4.3-1
Potential Special-Status Species within the Project Area³**

Scientific Name COMMON NAME	Federal¹	State²	CNPS³	Preferred Habitat*	Potential to occur on the Project area (Likely to occur, Potential to occur, Not likely to occur, No potential to occur)
Fritillaria biflora var. ineziana HILLSBOROUGH CHOCOLATE LILY	None	None	1B.1	This bulbiferous herb occurs in cismontane woodland and foothill grassland, probably on serpentine (most recent site is serpentine grassland). Elevation: 90-160 meters. It blooms from March to April.	There are two documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Fritillaria liliacea FRAGRANT FRITILLARY	None	None	1B.2	This bulbiferous herb occurs in coastal scrub, valley and foothill grassland (often serpentine), and coastal prairie. It blooms from February to April at elevations between 3 and 410 meters.	There are six documented occurrences of this species within the project vicinity (CDFG 2006). One of the occurrences is in the San Francisco South quadrangle. No potential to occur. Habitat not present.
Gilia capitata ssp. chamissonis DUNE GILIA	None	None	1B.1	This annual herb occurs in coastal dunes and coastal scrub at elevations between 2 and 200 meters. It blooms from April to July.	There are eight documented occurrences of this species within the project vicinity (CDFG 2006). Three of the occurrences are in the San Francisco South quadrangle. No potential to occur. Habitat not present.
Gilia millefoliata DARK-EYED GILIA	None	None	1B.2	This annual herb occurs in coastal dunes at elevations from 2 to 30 meters. It blooms from April to July.	There is one documented occurrence of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Grindelia hirsutula var. maritima SAN FRANCISCO GUMPLANT	None	None	1B.2	This perennial herb occurs in coastal scrub, coastal bluff scrub, and valley and foothill grassland on sandy or serpentine slopes and sea bluffs. Elevation: 15-400 meters. It blooms from June to September.	There are fifteen documented occurrences of this species within the project vicinity (CDFG 2006). Eight of the occurrences are in the San Francisco South quadrangle. No potential to occur. Habitat not present.
Helianthella castanea DIABLO HELIANTHELLA	None	None	1B.2	This perennial herb occurs in broadleaved upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, and valley and foothill grassland. Usually found in chaparral/oak woodland interface in rocky, azonal soils, often in partial shade. Elevation: 25-1300 meters. Blooms from March to June.	There are three documented occurrences of this species within the project vicinity (CDFG 2006). All three occurrences are in the San Francisco South quadrangle. No potential to occur. Habitat not present.
Hesperevax sparsiflora var. brevifolia SHORT-LEAVED EVAX	None	None	2.2	This annual herb occurs in coastal bluff scrub and coastal dunes on sandy bluffs and flats. Elevation: 0-215 meters. It blooms from March to June.	There is one documented occurrence of this species within the project vicinity (CDFG 2006). This occurrence is in the San Francisco South quadrangle. No potential to occur. Habitat not present.

**Table 4.3-1
Potential Special-Status Species within the Project Area³**

Scientific Name COMMON NAME	Federal¹	State²	CNPS³	Preferred Habitat*	Potential to occur on the Project area (Likely to occur, Potential to occur, Not likely to occur, No potential to occur)
Hesperolinon congestum MARIN WESTERN FLAX	T	T	1B.1	This annual herb occurs in chaparral and valley and foothill grassland. Occurs in serpentine barrens and in serpentine grassland and chaparral at elevations between 5 and 370 meters. It blooms from April to July.	There are nine documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Holocarpha macradenia SANTA CRUZ TARPLANT	T	E	1B.1	This annual herb occurs in coastal prairie and valley and foothill grassland. Occurs in light, sandy soils or sandy clay, often with non-natives. Elevation: 10-260 meters. It blooms from June to October.	There are two documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
<i>Horkelia cuneata ssp. sericea</i> KELLOGG'S HORKELIA	None	None	1B.1	This perennial herb occurs in closed-cone coniferous forest, coastal scrub, and chaparral. Located on old dunes, coastal sandhills, and openings. Elevation: 10-200 meters. It blooms from April to September.	There are six documented occurrences of this species within the project vicinity (CDFG 2006). Three of the occurrences are in the San Francisco South quadrangle. No potential to occur. Habitat not present.
Horkelia marinensis POINT REYES HORKELIA	None	None	1B.2	This perennial herb occurs in coastal dunes, coastal prairie, and sandy coastal scrub. It blooms from May to September at elevations between 5 and 350 meters.	There are no documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Layia carnosa BEACH LAYIA	E	E	1B.1	This annual herb occurs in coastal dunes on sparsely vegetated semi-stabilized dunes, usually behind foredunes. Elevation: 0-75 meters. Hugely reduced in range along California's north coast dunes. It blooms from March to July.	There is one documented occurrence of this species within the project vicinity (CDFG 2006). This occurrence is in the San Francisco South quadrangle, among other quads. No potential to occur. Habitat not present.
Leptosiphon croceus COAST YELLOW LEPTOSIPHON	None	None	1B.1	This annual herb occurs in coastal bluff scrub and coastal prairie at elevations between 10 and 150 meters. It blooms from April to May.	There are two documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Leptosiphon rosaceus ROSE LEPTOSIPHON	None	None	1B.1	This annual herb occurs in coastal bluff scrub at elevations between 0 and 100 meters. It blooms from April to July.	There are four documented occurrences of this species within the project vicinity (CDFG 2006). One occurrence is in the San Francisco South quadrangle. No potential to occur. Habitat not present.

**Table 4.3-1
Potential Special-Status Species within the Project Area³**

Scientific Name COMMON NAME	Federal¹	State²	CNPS³	Preferred Habitat*	Potential to occur on the Project area (Likely to occur, Potential to occur, Not likely to occur, No potential to occur)
Leptosiphon arachnoidea CRYSTAL SPRINGS LESSINGIA	None	None	1B.2	This annual herb occurs in coastal sage scrub, valley and foothill grassland, and cismontane woodland. Found on grassy slopes on serpentine and sometimes on roadsides. Elevation: 60-200 meters. It blooms from July to October.	There are six documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Lessingia germanorum SAN FRANCISCO LESSINGIA	E	E	1B.1	This annual herb occurs in coastal scrub in remnant dunes and in open sandy soils relatively free of competing plants. Elevation: 20-125 meters. It blooms from August (rarely June) to November.	There are seven documented occurrences of this species within the project vicinity (CDFG 2006). Two of the occurrences are in the San Francisco South quadrangle. No potential to occur. Habitat not present.
Lessingia hololeuca WOOLLY-HEADED LESSINGIA	None	None	3	This annual herb occurs in broadleaved upland forest, coastal scrub, lower montane coniferous forest, clay and serpentinite valley and foothill grassland. It blooms from June to October at elevations from 15 to 305 meters.	There are no documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Lilium maritimum COAST LILY	None	None	1B.1	This bulbiferous herb occurs in closed-cone coniferous forest, coastal prairie, coastal scrub, freshwater marshes and swamps, and North Coast coniferous forest. It blooms from May to August at elevations from 5 to 335 meters. It blooms from May to August.	There are no documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Lupinus eximius SAN MATEO TREE LUPINE	None	None	3.2	This evergreen shrub occurs in chaparral and coastal scrub. It blooms from April to July from 90 to 550 meters.	There are no documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Malacothamnus aboriginum INDIAN VALLEY BUSH MALLOW	None	None	1B.2	This deciduous shrub occurs in cismontane woodland and chaparral on granitic outcrops and sandy bare soil; often in disturbed soils. Elevation: 150-1700 meters. It blooms from April to October. Appears in abundance after fires.	There is one documented occurrence of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Malacothamnus arcuatus ARCUATE BUSH MALLOW	None	None	1B.2	This evergreen shrub occurs in chaparral in gravelly alluvium and in cismontane forests. Elevation: 15-355 meters. It blooms from April to September.	There are three documented occurrences of this species within the project vicinity (CDFG 2006). One of the occurrences is in the San Francisco South quadrangle. No potential to occur. Habitat not present.
Malacothamnus davidsonii DAVIDSON'S BUSH MALLOW	None	None	1B.2	This deciduous shrub occurs in coastal scrub, riparian woodland, cismontane woodland and chaparral. Located in sandy washes. Elevation: 180-855 meters. It blooms from June to January.	There are two documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.

**Table 4.3-1
Potential Special-Status Species within the Project Area³**

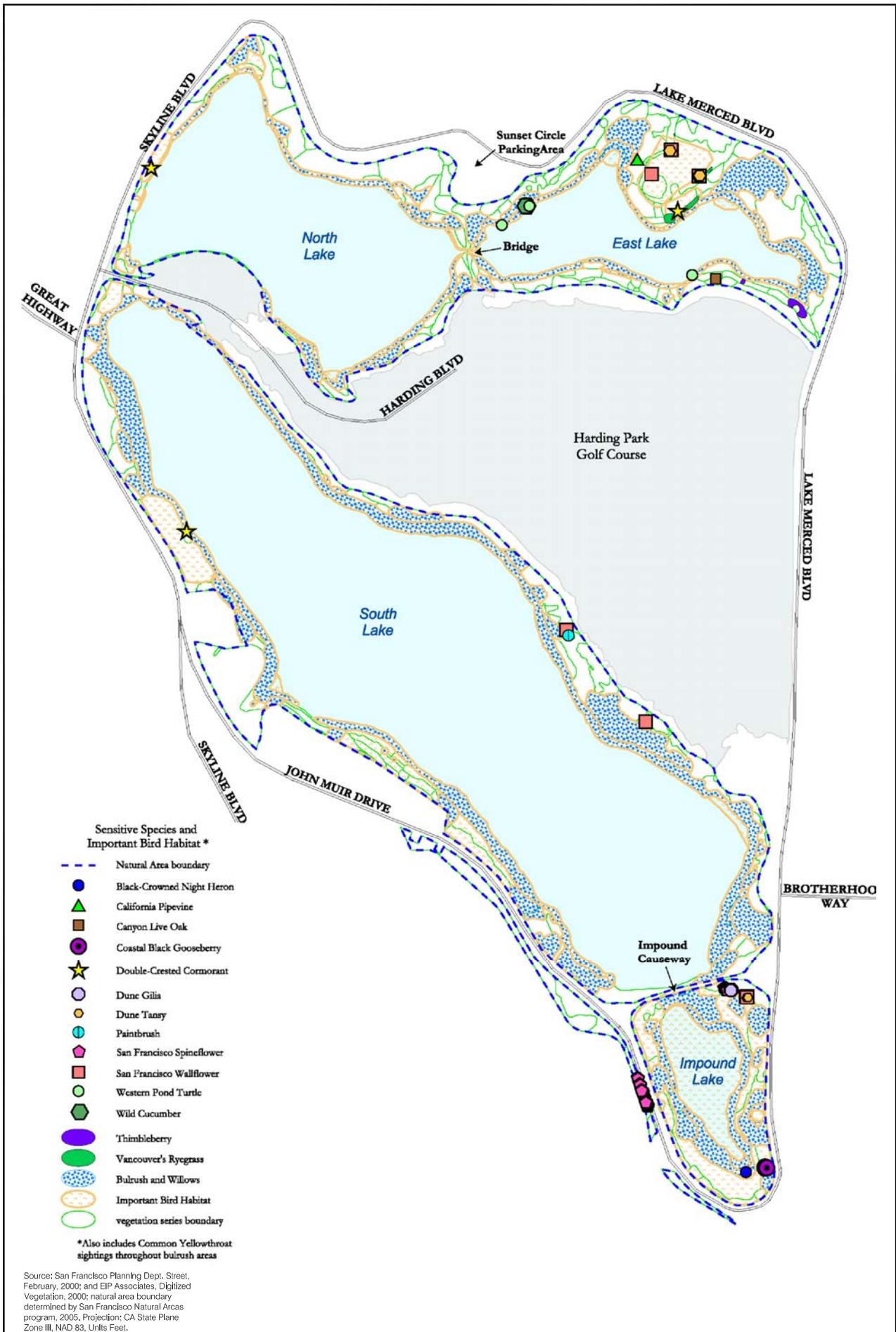
Scientific Name COMMON NAME	Federal¹	State²	CNPS³	Preferred Habitat*	Potential to occur on the Project area (Likely to occur, Potential to occur, Not likely to occur, No potential to occur)
Malacothamnus hallii HALL'S BUSH MALLOW	None	None	1B.2	This evergreen shrub occurs in chaparral at elevations between 10 and 760 meters. Some populations occur on serpentine. It blooms from May to September.	There are two documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Micropus amphibolus MT. DIABLO COTTONWEED	None	None	3.2	This annual herb occurs in broadleaved upland forest, chaparral, cismontane woodland, rocky valley and foothill grassland. It blooms from March to May at elevations between 45 and 825 meters.	There are no documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Microseris paludosa MARSH MICROSERIS	None	None	1B.2	This perennial herb occurs in closed-cone coniferous forest, cismontane woodland, coastal scrub, and valley and foothill grassland. Elevation: 5-300 meters. It blooms from April to June (rarely July).	There is one documented occurrence of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Pentachaeta bellidiflora WHITE-RAYED PENTACHAETA	E	E	1B.1	This annual herb occurs in valley and foothill grassland in open dry slopes and grass area. Often on soils derived from serpentine bedrock. Elevation: 35-620 meters. It blooms from March to May.	There are three documented occurrences of this species within the project vicinity (CDFG 2006). One of the occurrences is in the San Francisco quadrangle. No potential to occur. Habitat not present.
Plagiobothrys chorisianus var. chorisianus CHORIS'S POPCORN- FLOWER	None	None	1B.2	This annual herb occurs in chaparral, mesic coastal scrub, and coastal prairie. Elevation: 15-160 meters. It blooms from March to June.	There are two documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Plagiobothrys diffusus SAN FRANCISCO POPCORN-FLOWER	None	E	1B.1	This annual herb occurs in valley and foothill grassland and coastal prairie. Historically occurs from grassy slopes with marine influence. Elevation: 60-485 meters. It blooms from March to June.	There is one documented occurrence of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Plagiobothrys glaber HAIRLESS POPCORN- FLOWER	None	None	1A	This annual herb occurs in alkaline meadows and seeps and coastal salt marshes and swamps. Elevation: 5-180 meters. Blooms from March to May. Last confirmed siting in 1954. Possibly relocated near Antioch, but identification is uncertain. All collections since 1930's located in the Hollister area; plant should also be looked for there. Possibly a variety of <i>P. stipitatus</i> .	There is one documented occurrence of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.

**Table 4.3-1
Potential Special-Status Species within the Project Area³**

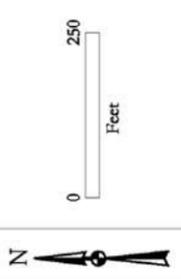
Scientific Name COMMON NAME	Federal¹	State²	CNPS³	Preferred Habitat*	Potential to occur on the Project area (Likely to occur, Potential to occur, Not likely to occur, No potential to occur)
Potentilla hickmanii HICKMAN'S CINQUEFOIL	E	E	1B.1	This perennial herb occurs in coastal bluff scrub, closed-cone coniferous forest, vernal mesic meadows and seeps, marshes and swamps. Prefers freshwater marshes and small streams in open or forested areas along the coast. Elevation: 5-135 meters. It blooms from April to August.	There are three documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Sanicula maritima ADOBE SANICLE	None	Rare	1B.1	This perennial herb occurs in meadows and seeps, valley and foothill grassland, chaparral, coastal, and prairie habitats. Found in moist clay or ultramafic soils at elevations between 30 to 240 meters. It blooms from February to May.	There are two documented occurrences of this species within the project vicinity (CDFG 2006). One of the occurrences is in the San Francisco South quadrangle. No potential to occur. Habitat not present.
Silene verecunda ssp. verecunda SAN FRANCISCO CAMPION	None	None	1B.2	This perennial herb occurs on coastal scrub, valley and foothill grassland, coastal bluff scrub, chaparral, and coastal prairie. Often located on mudstone or shale; one site on serpentine. Elevation: 30-645 meters. It blooms from March to June (rarely August).	There are four documented occurrences of this species within the project vicinity (CDFG 2006). Two of the occurrences are in the San Francisco South quadrangle. No potential to occur. Habitat not present.
Stebbinsoseris decipiens SANTA CRUZ MICROSERIS	None	None	1B.2	This annual herb occurs in broadleaved upland forest, closed-cone coniferous forest, chaparral, coastal prairie, and coastal scrub. Inhabits open areas in loose or disturbed soil usually derived from sandstone, shale or serpentine on seaward slopes. Elevation: 10-500 meters. It blooms from April to May.	There is one documented occurrence of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Suaeda californica CALIFORNIA SEABLITE	E	None	1B.1	This evergreen shrub occurs in marshes and swamps, specifically at the margins of coastal salt marshes. Elevation: 0-15 meters. It blooms from July to October.	There is one documented occurrence of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Trifolium depauperatum var. hydrophilum SALINE CLOVER	None	None	1B.2	This annual herb occurs in mesic and alkaline sites in marshes and swamps, valley and foothill grassland, and vernal pools. Elevation: 0-300 meters. It blooms from April to June.	There are two documented occurrences of this species within the project vicinity (CDFG 2006). No potential to occur. Habitat not present.
Triphysaria floribunda SAN FRANCISCO OWL'S CLOVER	None	None	1B.2	This annual herb occurs in coastal prairie and valley and foothill grassland on serpentine and nonserpentine substrate (such as Point Reyes). Elevation: 10-160 meters. It blooms from April to June.	There are seven documented occurrences of this species within the project vicinity (CDFG 2006). Five of the occurrences are in the San Francisco South quadrangle. No potential to occur. Habitat not present.

**Table 4.3-1
Potential Special-Status Species within the Project Area³**

Scientific Name COMMON NAME	Federal¹	State²	CNPS³	Preferred Habitat*	Potential to occur on the Project area (Likely to occur, Potential to occur, Not likely to occur, No potential to occur)
Triquetrella californica COASTAL TRIQUETRELLA	None	None	1B.2	This moss occurs in coastal bluff scrub and coastal scrub. Found growing on soil. Elevation: 10-100 meters.	There are two documented occurrences of this species within the project vicinity (CDFG 2006). One of the occurrences is in the San Francisco South quadrangle. No potential to occur. Habitat not present.



Source: San Francisco Planning Dept., Streets, February, 2000; and EIP Associates, Digitized Vegetation, 2000/natural area boundary determined by San Francisco Natural Areas Program, 2005. Projection: CA State Plane Zone III, NAD 83, Units: Feet.



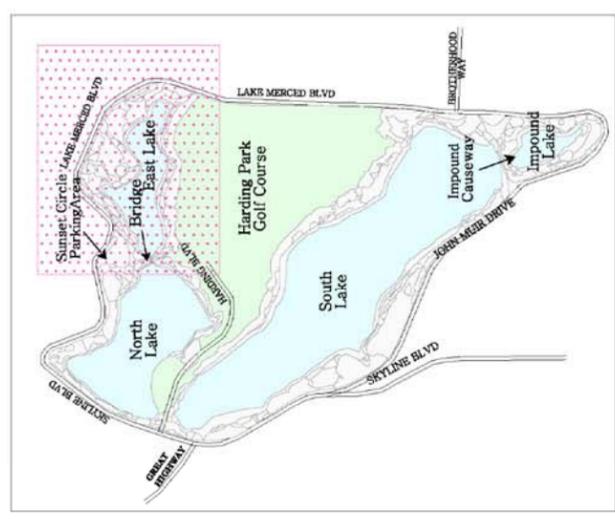
Vegetation Subformation and Series

Annual Grassland	Native Forest
AB ripgut bromo grassland	TC coast live oak forest
AW wild oat grassland	Non-native Forest
Central Coast Riparian Scrub	EA acacia forest
RW willow scrub	EB blue gum forest
Central Dune Scrub	EC cypress forest
DY yellow bush lupine scrub	EC eucalyptus forest
Mosaic	EM mixed exotic forest
MA bee plants/ca blackberry	EP pine forest
MB bee plants/coyote brush mosaic	EQ plume acacia forest
MO iceplant/coffeeberry mosaic	ES prunus forest
MQ giant vetch/ca blackberry	

Non-native Scrub	Non-native Forest
IF french broom scrub	EA acacia forest
IH himalayan blackberry scrub	EB blue gum forest
Northern Franciscan Coastal Scrub	EC cypress forest
FA ca sagebrush scrub	EC eucalyptus forest
FB ca blackberry scrub	EM mixed exotic forest
FC coyote brush scrub	EP pine forest
FL canyon live oak scrub	EQ plume acacia forest
FP poison oak scrub	ES prunus forest
FW twinberry scrub	
FZ lizard-tail scrub	

Other	Wetland
OB bare ground	WB bulrush marsh
OD developed	WC cattail marsh
Open water	WK swamp knotweed marsh
Other Herb	WR rush meadow
HB bee plant	WV giant vetch marsh
HC herbaceous	
HE mixed exotic herbaceous	
HH poison hemlock	
HI iceplant	
HN herbaceous nasturtium	
HP pampas grass	

Perennial Grassland
PP purple needlegrass prairie
PS wildrye prairie



SF State Campus
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URS

SAN FRANCISCO STATE UNIVERSITY CAMPUS MASTER PLAN

EAST LAKE VEGETATION

NOT TO SCALE
Figure
4.3-2
October 2006

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