
Biological Resources

This chapter evaluates the potential impacts of the Project on biological resources. This chapter describes existing biological resources in the Project Area and within an expanded biological resources study area (or Study Area) that includes adjacent habitat types or habitats that cross Project Area boundaries. This chapter evaluates the extent to which development of the Project may cause significant impacts to those biological resources, and identifies regulatory requirements and mitigation measures (where necessary) to reduce or avoid those potential impacts.

Setting information and analysis was prepared primarily by H.T. Harvey & Associates, including the following primary sources:

- Five separate site visits were conducted by H. T. Harvey & Associates ecologists on June 3, 2016, June 29, 2016, July 25, 2016, March 29, 2017, and May 18, 2017
- H.T. Harvey and Associates, Biological Constraints and Opportunities Report, September 2016 (**Appendix 7A**)
- H.T. Harvey and Associates, Memorandum regarding the Special-Status Plant Survey and Drainage Ditch Evaluation, July 2017 (**Appendix 7B**)

Environmental Setting

Habitats

For purposes of ensuring evaluation of potential direct, indirect and cumulative effects on biological resources, the biological resources Study Area includes an expansion of the Project Area boundary to include a portion of the San Francisco Bay. Seven habitat types were identified within the biological Study Area: developed and landscaped, tidal aquatic, upland ruderal grassland and shrubland, rocky shoreline, ornamental woodland, coastal salt marsh, and drainage ditches. **Table 7.1** provides a summary of the habitat acreages on the biological Study Area, and **Figure 7-1 and 7-2** show their distribution and extent.

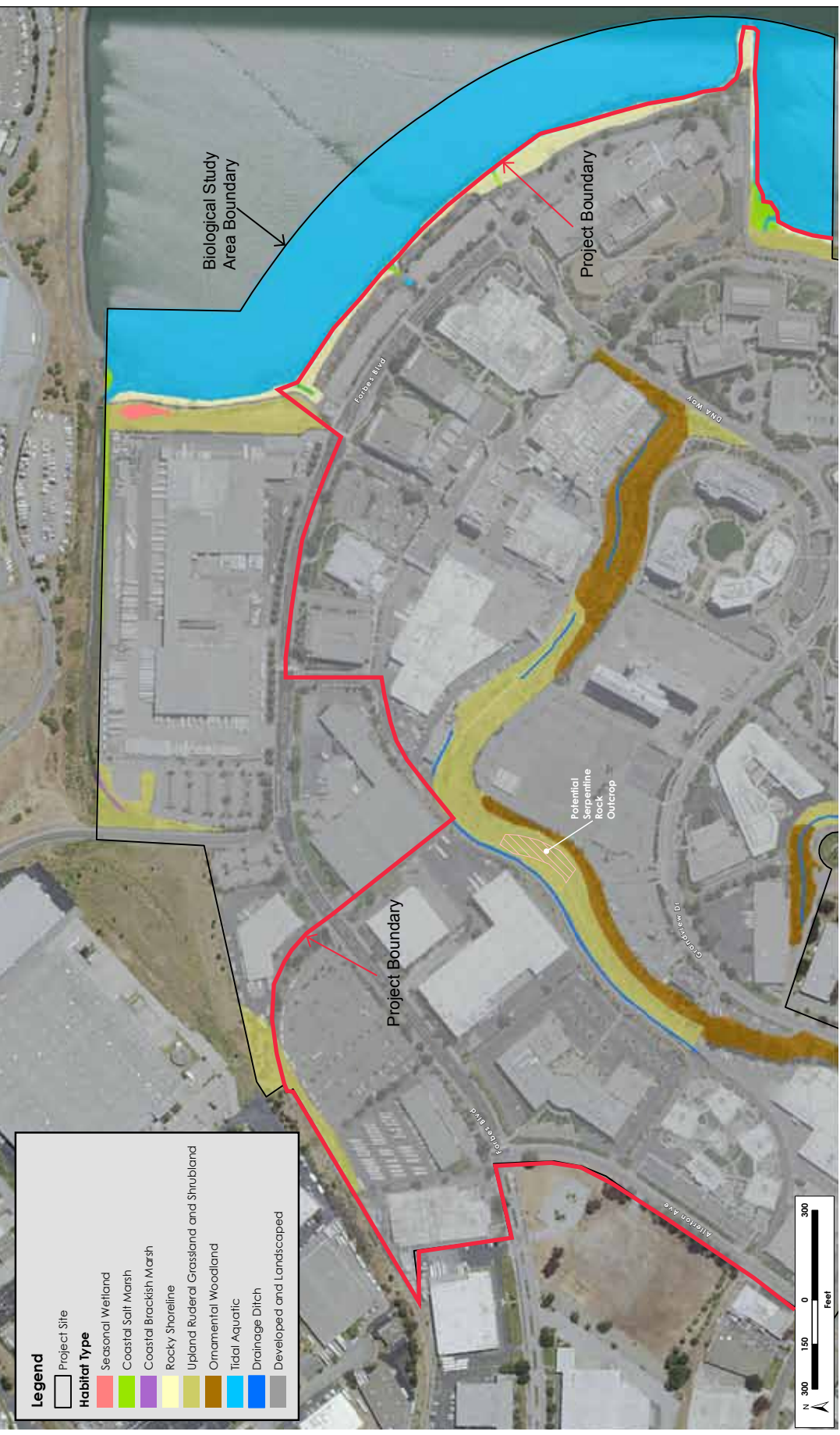


Figure 7-1
Biotic Habitats (northerly Study Area)



Source: HT Harvey Associates, 2017

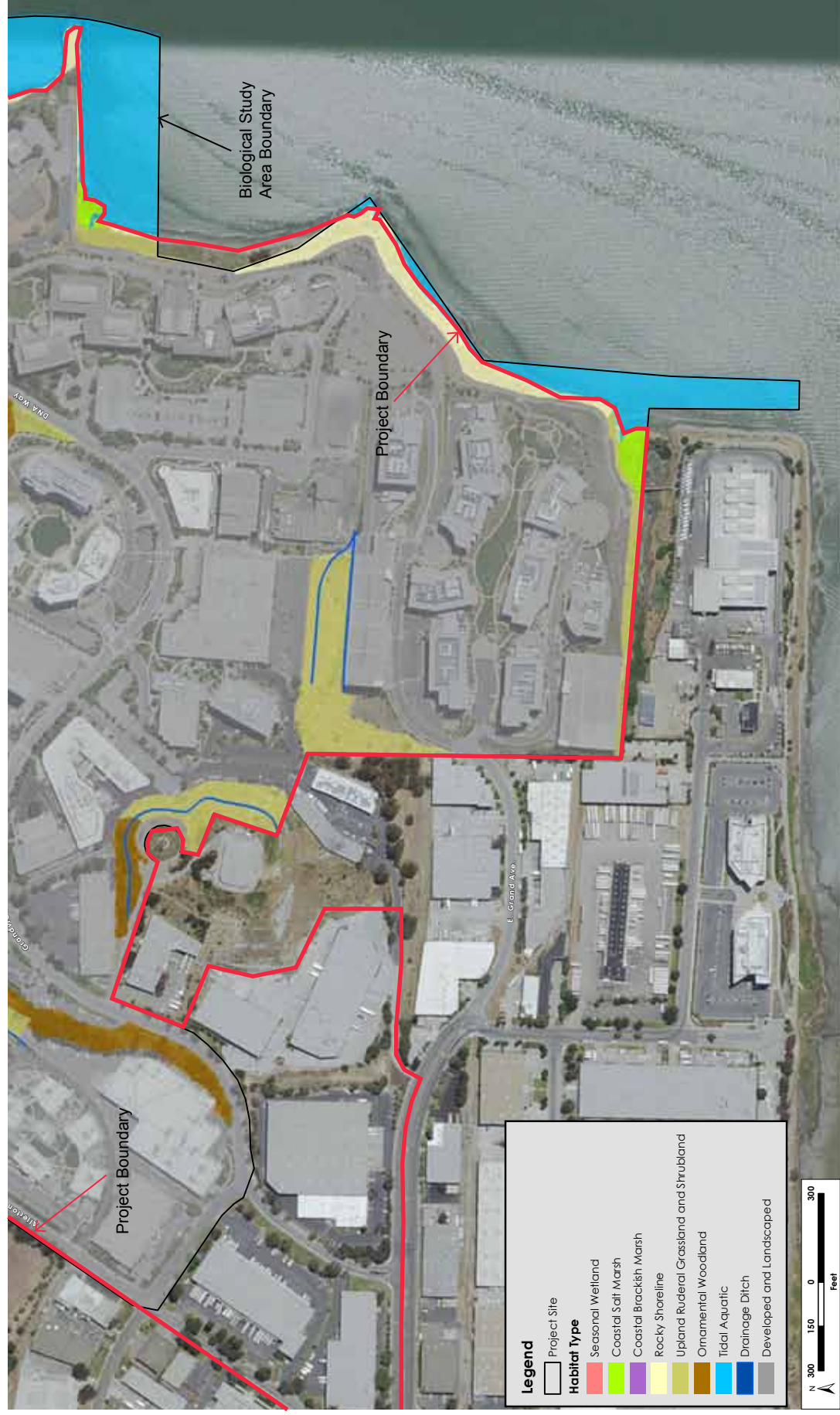


Figure 7-2
Biotic Habitats (southerly Study Area)

Table 7.1: Habitat Acreages in the Biological Study Area (acres)

Habitat	Project Area	Additional Biological Study Area	Total Study Area
Developed and landscaped	182.5	27.5	210.1
Upland ruderal grassland and shrubland	11.9	1.2	13.1
Ornamental woodland	5.7	-	5.7
Rocky shoreline	6.8	0.3	7.1
Coastal salt marsh	0.7	0.1	0.8
Seasonal wetlands	-	0.1	0.1
Coastal brackish marsh	-	0.1	0.1
Drainage ditches	0.3	-	0.3
Tidal aquatic	-	20.3	20.3
Totals:	207.9	49.6	257.5

* Values are subject to rounding

Source: HT Harvey & Associates, 2017

The nine habitat types, including the vegetation and wildlife they support, are discussed below.

Developed and Landscaped

Vegetation

The Study Area is dominated by developed and landscaped habitat, which includes paved roads, buildings, parking lots, paved and gravel trails, ornamental and landscaped areas (typically irrigated with a mulch base), and irrigated turf. The habitat suitability for rare or native vegetation in these areas is very low to absent. Most of the developed and landscaped habitat is under an altered hydrologic regime, being either dewatered by hardscape or irrigated to support landscape plants. The developed and landscaped habitat areas appear to be continually maintained or otherwise are permanently impacted by hardscape and buildings.

Common ornamentals planted in the landscaped areas along the shoreline include black sage (*Salvia mellifera*), big saltbush (*Atriplex lentiformis*), common woolly sunflower (*Eriophyllum lanatum*), and Perez's sea lavender (*Limonium perezii*). Sydney golden wattle (*Acacia longifolia*), ceanothus cultivars (*Ceanothus* spp.), ornamental bunchgrasses, irises (*Iris* spp.), and strawberry madrone (*Arbutus unedo*) are scattered throughout the interior. There are few naturally occurring plants in the Project Area. These plants include nonnative annual grasses, smooth cat's ear (*Hypochaeris glabra*), bristly ox-tongue (*Helminthotheca echioides*), and yellow sorrel (*Oxalis corniculata*).

Wildlife

Developed habitats such as those in the Study Area primarily support common, urban-adapted wildlife species, and overall wildlife abundance and diversity are low. Due to the uniform nature of most landscaping and regular disturbances from maintenance and human use, landscaped habitats in the Project Area are used sparingly by most wildlife species. Dense shrub and tree landscape components may offer sufficient cover for nesting birds and mammals, and wildlife using adjacent habitats occasionally exploits foraging opportunities offered by the limited landscaped habitats in the Study Area.

Common species using the developed and landscaped habitat include the common raven (*Corvus corax*), Anna's hummingbird (*Calypte anna*), red-shouldered hawk (*Buteo lineatus*), northern mockingbird (*Mimus polyglottos*), black phoebe (*Sayornis nigricans*), California towhee (*Melospiza crissalis*), house finch (*Haemorhous mexicanus*), American goldfinch (*Spinus tristis*), lesser goldfinch (*Spinus psaltria*), and bushtit (*Psaltirparus minimus*). In the winter, the white-crowned sparrow (*Zonotrichia leucophrys*) and golden-crowned sparrow (*Zonotrichia atricapilla*) are typical. Bats (e.g., Mexican free-tailed bat [*Tadarida brasiliensis*]), could roost in small numbers in structures that offer crevices or cavities for shelter. Small, non-native mammals such as house mice (*Mus musculus*) and eastern gray squirrels (*Sciurus carolinensis*) are expected to forage in shrubs and trees in the landscaped portions of the Project Area, and invasive Norway rats (*Rattus norvegicus*) likely make use of landscaped areas as well as inhabiting storage areas and garbage facilities, at least in small numbers. Urban-adapted native mammals such as raccoons (*Procyon lotor*) and striped skunks (*Mephitis mephitis*) occasionally occur here as well.

Cabbage whites (*Pieris rapae*), painted ladies (*Vanessa cardui*), and other common butterflies, as well as honeybees (*Apis mellifera*) and other common invertebrate species use flowering landscape plants for foraging. Areas landscaped with ornamental species, such as woolly sunflower or sea lavender can provide suitable nectar sources for a diversity of common butterflies and insects. However, these relatively small areas are isolated from other suitable habitats by dense urban development, and they lack the diverse assemblage of native and nectar-producing species typically needed to support populations of sensitive native pollinating insects.

Upland Ruderal Grassland and Shrubland

Vegetation

Upland ruderal grassland and shrubland is found in those disturbed areas of the Study Area that are not maintained as ornamental landscaping and do not support large trees. Dominant plants include fennel (*Foeniculum vulgare*), pampas grass (*Cortaderia* sp.), nonnative annual grasses—such as wild oats (*Avena* sp.), ripgut brome (*Bromus diandrus*), and mouse barley (*Hordeum murinum*)—and weedy forbs such as wild radish (*Raphanus sativa*), bristly ox-tongue, and bird's-foot trefoil (*Lotus corniculatus*). Occasional coyote brush (*Baccharis pilularis*) and toyon (*Heteromeles arbutifolia*) shrubs provide sparse to medium cover.

The suitability of these upland ruderal grasslands and shrublands to support special-status plants is generally very low. However, one location near the center of the Project Area and along the steeper hillside between the Upper Campus and West Campus appears to be underlain by native soil and bedrock and supports a higher density and diversity of native forbs, including blue-eyed grass (*Sisyrinchium bellum*), Douglas' silverpuffs (*Microseris douglasii*), and Monterey centaury (*Zeltnera muehlenbergii*).¹

Wildlife

The ruderal grasslands in the Study Area are relatively small, and generally occur in long linear patches either along steep hillslopes or in small patches on undeveloped portions of the site. These patches of habitat are separated from the more expansive annual grasslands in the surrounding region by extensive urbanization. Human disturbance of this habitat is frequent, as office buildings, laboratories and other commercial facilities are located immediately adjacent. The San Francisco Bay Trail runs through or adjacent to ruderal grassland habitats near the shoreline.

Animal species occurring in this habitat type within the Study Area are common species habituated to regular human presence, including the red-tailed hawk (*Buteo jamaicensis*), common raven, northern mockingbird, black phoebe and California towhee. During winter, white-crowned sparrows and golden-crowned sparrows

¹ This area appears to be a potential serpentine rock outcrop.

also use this habitat. The scattered trees and shrubs in or adjacent to the ruderal grasslands provide perches and foraging opportunities for common species which might not otherwise occur in ruderal grasslands, such as the red-shouldered hawk, Anna's hummingbird, bushtit, and house finch. Other common species include the western fence lizard (*Sceloporus occidentalis*), western terrestrial garter snake (*Thamnophis sirtalis*), house mouse (*Mus musculus*), California vole (*Microtus californicus*), valley pocket gopher (*Thomomys bottae*), deer mouse (*Peromyscus maniculatus*), striped skunk and raccoon.

Species typically associated with extensive, contiguous grasslands, such as the western meadowlark (*Sturnella neglecta*), white-tailed kite (*Elanus leucurus*), and grasshopper sparrow (*Ammodramus savannarum*), are not expected to occur in the Project Area.

Ornamental Woodland

Vegetation

Ornamental woodland is found in limited naturalized portions of the Study Area where mostly non-native trees and some native trees and shrubs dominate the vegetation. Characteristic species include beach pine (*Pinus contorta*), Monterey cypress (*Hesperocyparis macrocarpa*), Sydney golden wattle (*Acacia longifolia*), eucalyptus (*Eucalyptus* spp.), coast live oak (*Quercus agrifolia*), toyon and coyote brush. The herbaceous layer of this habitat type is characterized by the same species as those found in upland ruderal grassland and shrubland.

Wildlife

Ornamental trees and shrubs provide habitat for moderate numbers of common, urban-adapted wildlife species. Several species of resident and breeding birds nest and forage in this habitat, including house finches, bushtits, Anna's hummingbirds, American robins (*Turdus migratorius*), mourning doves (*Zenaida macroura*), and American crows (*Corvus brachyrhynchos*). Red-tailed hawks and red-shouldered hawks, which have adapted well to urbanization in the San Francisco Bay region, also may occur in the Project Area, although no raptor nests were observed, and these species are expected to occur only as occasional foragers.

Migratory birds and wintering species may also use the ornamental woodland habitat in the Study Area. Migrant songbirds such as the Wilson's warbler (*Cardellina pusilla*), orange-crowned warbler (*Oreothlypis celata*), western tanager (*Piranga ludoviciana*), Pacific-slope flycatcher (*Empidonax difficilis*) and warbling vireo (*Vireo gilvus*) forage during spring and fall migration. Several other species, including the ruby-crowned kinglet (*Regulus calendula*), yellow-rumped warbler (*Setophaga coronata*), white-crowned sparrow and golden-crowned sparrow may occur in this habitat as both migrants and winter residents.

Urban-adapted mammals may occasionally reside in ornamental woodlands in the Study Area, including raccoon, striped skunk, and the nonnative Virginia opossum (*Didelphis virginiana*). Western fence lizards occur where debris piles, rocks, or other refugia are present.

Rocky Shoreline

Vegetation

The rocky shoreline habitat type includes rocky shoreline areas that are above the high tide line. The eastern edge of the Study Area along the San Francisco Bay is characterized by an armored rock slope composed of large rock riprap on a relatively steep slope ranging from 10 to 60 feet wide. Vegetation varies from sparse to dense, and is dominated by non-native annual grasses, sea fig (*Carpobrotus* spp.), fennel, and pampas grass, with occasional coyote brush, black sage, and several species of buckwheat (*Eriogonum* spp.).

Flatter, rocky beaches that lack vegetation and are characterized by smaller rocks and a more gradual slope are also present in a few patches along the shoreline, within and adjacent to the armored rock areas. The

rocky beaches and portions of the armored rock slopes are above the high tide line and the intertidal zone, but are influenced to some degree by the adjacent tidal aquatic habitats, such as during storm events or extreme high tides. Rocky beaches support very little vegetation due to the mostly unconsolidated rock substrate, high drainage and continuous rock movement. Some sparse vegetation that exists in the rocky beach habitat includes sea fig and beach bur-sage (*Ambrosia chamissonis*). The rocky shoreline in the Study Area is variably bordered on the landside by coastal salt marsh, upland ruderal grassland and shrubland, and developed and landscaped habitats, and on the Bay side by tidal aquatic and salt marsh habitats. The habitat suitability for rare plants in these areas is very low.

Wildlife

Riprap is largely not vegetated and thus provides habitat for few wildlife species. California ground squirrels (*Otospermophilus beecheyi*), raccoons, striped skunks and other small mammals may find refugia in spaces between or beneath the rocks, and small birds may occasionally use riprap as cover. Overall wildlife use of the rocky shoreline is low. No areas providing high quality nesting habitat for waterbirds was observed along the shoreline during reconnaissance surveys.

Coastal Brackish Marsh

Vegetation

Coastal brackish marsh is located at the western end of a tidally influenced drainage along the northern edge of the Study Area (not within the Project Site). Vegetation in the western portion of this channel is dominated by alkali bulrush (*Bolboschoenus maritimus*) in the center of the channel and fennel, pampas grass, and nonnative annual grasses on the banks.

Coastal Salt Marsh

Vegetation

Coastal salt marsh is found in several small patches on the eastern edge of the Study Area along the Bay shoreline, within two large tidally influenced channels, and within several small channels associated with stormwater outfalls. These areas are in the intertidal zone, strongly influenced by the daily rising and falling tides within the Bay, and are vegetated. Coastal salt marshes in the Study Area are dominated by a mix of native and non-native species, including pickleweed (*Salicornia pacifica*), salt grass (*Distichlis spicata*), marsh jaumea (*Jaumea carnosa*), marsh gumplant (*Grindelia stricta* var. *angustifolia*), Algerian sea lavender (*Limonium ramosissimum*), alkali Russian thistle (*Salsola soda*), and fat-hen (*Atriplex prostrata*). The habitat suitability for rare plants to occur in this habitat is low due to the fragmented and disturbed nature of the small areas of marsh.

Wildlife

Brackish and salt marsh habitats form important ecological communities in the Bay where they are sufficiently extensive. Such habitats support wildlife species uniquely adapted to a saline environment and frequent changes in water levels, as well as common species that are adapted to a wide range of conditions. However, the marsh habitats in the Study Area are too limited in extent and too isolated from other large expanses of tidal marsh. Thus, they do not provide high-quality habitat or support some of the rarer species associated with tidal salt marsh in San Francisco Bay such as California black rails (*Laterallus jamaicensis coturniculus*), salt marsh harvest mice (*Reithrodontomys raviventris*), or salt marsh wandering shrews (*Sorex vagrans halicoetes*).

Mudflats associated with Bay salt marsh habitats in the Study Area provide shelter for burrowing invertebrates and rich foraging habitats for a variety of wildlife species. Mallards (*Anas platyrhynchos*), a great blue heron (*Ardea herodias*), green heron (*Butorides virescens*), and snowy egrets (*Egretta thula*) were

observed foraging in the salt marsh habitats along the northern, eastern, and southern edges of the Study Area. Common bird species that use adjacent annual grassland, ornamental, or landscaped habitats (e.g., house finches, American goldfinches and California towhee) may occasionally forage in the higher portions of these marshes. Small numbers of Alameda song sparrows (*Melospiza melodia pusillula*) may also be found in this habitat type in the Study Area. California gulls, western gulls, black-necked stilts (*Himantopus mexicanus*), and whimbrels (*Numenius phaeopus*) frequently use marsh habitats in the vicinity to forage. Mammals such as Norway rats, striped skunks and raccoons may forage in the salt marshes.

Seasonal Wetland

Vegetation

One seasonal wetland is located in the northeastern corner of the Study Area, at the north end of an undeveloped patch of ruderal grassland and shrubland. This seasonal wetland is **not within the Project Site**. Dominant plants in this seasonal wetland are tall flatsedge (*Cyperus eragrostis*) and salt grass. Other vegetation in the seasonal wetland includes nonnative species such as cutleaf plantain (*Plantago coronopus*), brass buttons (*Cotula coronopifolia*), perennial ryegrass (*Festuca perennis*), bird's-foot trefoil and rabbit's foot grass (*Polypogon monspeliensis*).

Wildlife

Throughout most of the year, the small seasonal wetland habitat in the Study Area supports habitat for a range of wildlife species similar to that described above for upland ruderal grassland and shrubland. These species may include common birds like the black phoebe, California towhee, house finch and American goldfinch, and small mammals like the house mouse, deer mouse and California vole. However, during the winter months when the seasonal wetland is full of water, this feature also provides a small amount of suitable aquatic habitat for common amphibians and reptiles, and foraging habitat for wading bird species. Seasonal wetland habitats in the Study Area support a suite of small crustaceans and semiaquatic insects, such as seed shrimp (*Order Ostracoda*), copepods (*Order Copepoda*), and diving beetles (*Order Coleoptera, Family Dytiscidae*), which in turn provide an important source of prey for amphibians and wading birds. Shorebirds may forage on such invertebrates, although due to the small size of this wetland and disturbance by human activity along the Bay Trail, this wetland likely supports low abundance and diversity of wetland-associated wildlife.

Drainage Ditches

Vegetation

Several concrete-lined drainage ditches are located in the inland portion of the Project Area, within or adjacent to ruderal grassland and ornamental woodland habitats. Whether these drainage ditches are determined to be wetlands is based on the US Army Corps of Engineers' *Wetlands Delineation Manual* (Environmental Laboratory 1987), an approach that relies on identification of three parameters: hydrophytic vegetation, hydric soils, and wetland hydrology indicators. Areas typically not considered jurisdictional waters include non-tidal drainage and irrigation ditches excavated in uplands. The on-site drainage ditches have been excavated in uplands for conveying stormwater runoff from the hillslopes and developed areas to the underground stormwater system, which eventually drains to the San Francisco Bay. They support little to no vegetation, are not suitable for rare or native vegetation, and therefore unlikely to be determined as jurisdictional waters (see further discussion under Sensitive Natural Communities, Habitats and Vegetation Alliances, below).

Wildlife

The drainage ditches in the Project Area generally do not provide suitable habitat for common or special-status wildlife species. Common reptiles (e.g., western fence lizard, common garter snake) often use exposed concrete areas for basking. Common bird and mammal species that occur in the adjacent habitats may occasionally cross through or move along the drainage ditches.

Tidal Aquatic

Vegetation

Tidal aquatic habitat is found along the Bay shoreline on the eastern edge of the Study Area. These habitat areas are in the intertidal zone, and are influenced by the daily rising and falling tides within the Bay. The tidal aquatic habitat in the biological Study Area supports very little vegetation, with the exception of algae. It includes areas that are permanently flooded with tidal waters (open water habitat) as well as portions of the levee slopes below the high tide line that are periodically or even regularly exposed except under high tide conditions.

Wildlife

The San Francisco Bay supports a variety of animal species, including special-status species such as Central California Coast steelhead (*Oncorhynchus mykiss*) and green sturgeon (*Acipenser medirostris*). Benthic (i.e., bottom dwelling) invertebrates present in open water and intertidal habitats near the Study Area include the native Olympia oyster (*Ostreola conchaphila*). Populations of native oysters within the Bay are relatively low as compared with historical conditions.² Suitable habitat, which consists of solid surfaces to which the larvae can easily attach, is distributed in patches along the rocky shoreline habitat of the Project Area. Native oysters have been documented to occur approximately 0.25 mile north of the site, on the breakwaters of the Oyster Point marina.³ No evidence of large oyster beds was observed. No oyster beds are known to occur along the shoreline of the Study Area, and this species is likely to occur only sparsely.

A diversity of other invertebrates provides a prey base for common fish species. In the Study Area and its vicinity, three species of pelagic fish account for the majority of fish in the Bay: northern anchovy (*Engraulis mordax*) is the dominant species, and Pacific herring (*Clupea pallasii*) and jacksmelt (*Atherinopsis californiensis*) is the second and third most common. No spawning areas for Pacific herring are known in the Study Area. Spawning areas were documented in 2015 and 2016 approximately 4.4 miles to the southeast, off Coyote Point.⁴ Other fish species that occur in shallow or open water areas of tidal aquatic habitats in the Study Area vicinity include the Pacific halibut (*Hippoglossus stenolepis*), starry flounder (*Platichthys stellatus*), and Pacific sardine (*Sardinops sagax*).

Tidal aquatic habitats in the Bay provide refuge and foraging habitat for a variety of resident and migratory birds. The San Francisco Bay-Delta is an important wintering and stopover site for the Pacific Flyway. More than 300,000 wintering waterfowl use the Bay and associated salt ponds each year. Bird guilds that use the open waters of the Bay include diving birds, which feed in deeper water on benthic invertebrates; dabblers, which feed in the upper water column of shallow subtidal areas; piscivores, which feed on fish; and opportunistic predators. Typical marine birds regularly inhabiting or found in tidal aquatic habitats in the Study Area include double-crested cormorants (*Phalacrocorax auritus*), western gulls (*Larus occidentalis*), California gulls (*L. californicus*), western grebes (*Aechmophorus occidentalis*), and California brown pelicans

² Harris, 2004

³ Zabin et al., 2010

⁴ CDFW, 2016

(*Pelecanus occidentalis californicus*). Among the diving benthivores guild, greater scaup (*A. marila*), lesser scaup (*A. affinis*), and surf scoter (*Melanitta perspicillata*) are common in Bay waters.

In general, the presence of marine mammals, including harbor seals (*Phoca vitulina*) and California sea lions (*Zalophus californianus*) in the San Francisco Bay is related to the distribution and presence of prey species and foraging habitat. Additionally, these species use various intertidal substrates where they are exposed at low to medium tide levels for resting and breeding. Harbor seals are known to use multiple haul out sites along the west shoreline of the Bay in the Study Area vicinity and regularly forage in the open water portions of the Study Area, although no substantial haul-out sites are known in the Study Area. Sea lions may only occasionally occur in the vicinity.

Special-Status Species

Special-Status Plants

The U.S. Fish and Wildlife Service, California Natural Diversity Database, and California Native Plant Society (CNPS) identify 82 special-status plant species as potentially occurring in the Project Area and vicinity (see **Appendix 7A** for a full list of these species).⁵ Special-status plant species include those plants with a current CNPS California Rare Plant Rank of 1A, 1B, 2A, and 2B, 3 and 4, and natural communities of special concern. Twenty-seven special-status plant species have been documented by the CNDDDB in the Project Area vicinity (i.e., within the nine 7.5-minute USGS quadrangles containing and surrounding the Project Area) as shown in **Figure 7-3**. Seventy-three of the 82 special-status plant species were determined by H.T. Harvey to be absent from the Project Area for one of more of the following reasons:

- a lack of specific habitat or microhabitat conditions for the species
- the species elevation range is outside the range in the Project Area
- the species is known from only a few locations near the Project Area
- the occurrence records near the Project Area are historic
- the species is known or presumed to be extirpated from the region

For these reasons, the potential presence of these species was not assessed further as part of the biological resource reconnaissance efforts for this EIR.

The remaining nine species, described below, were determined to have at least some potential to occur in the Project Area. However, all nine species have been determined absent based on the results of seasonally appropriate surveys conducted on July 25, 2016, March 29, 2017, and May 18, 2017, as shown in **Table 7.2**.

⁵ USFWS 2016, CNDDDB 2016, CNPS 2016



Source: HT Harvey 2016, CNDDDB 2016

Table 7-2: Status and Potential Occurrence of Special-Status Plant Species in the Project Area

<u>Name</u>	<u>Status</u>	<u>Habitat</u>	<u>Occurrence</u>
Franciscan onion (<i>Allium peninsulare</i> var. <i>franciscanum</i>)	1B.2	Cismontane woodland, valley and foothill grassland, on clay soil at 170 to 984 feet elevation	Determined to be Absent: Species was not observed in the Project Area during a seasonally appropriate survey in spring 2017
Bent-flowered fiddleneck (<i>Amsinckia lunaris</i>)	1B.2	Coastal bluff scrub, cismontane woodland, valley and foothill grassland at 10 to 1,640 feet elevation	Determined to be Absent: Species was not observed in the Project Area during a seasonally appropriate survey in spring 2017
Coast rockcress (<i>Arabis blepharophylla</i>)	4.3	Coastal prairie, mixed evergreen forest, and northern coastal scrub and coastal bluff scrub in rocky soils from 10 to 3,609 feet elevation	Determined to be Absent: Species was not observed in the Project Area during a seasonally appropriate survey in spring 2017
Coastal marsh milk-vetch (<i>Astragalus pycnostachyus</i> var. <i>pycnostachyus</i>)	1B.2	Mesic coastal dunes, coastal scrub, coastal salt marshes and swamps, and stream sides at 0 to 98 feet elevation	Determined to be Absent: Species was not observed in coastal salt marsh in the Project Area during seasonally appropriate surveys in summer 2016
Pappose tarplant (<i>Centromadia parryi</i> ssp. <i>parryi</i>)	1B.2	Chaparral, coastal prairie, meadows and seeps, coastal salt marshes and swamps, vernal mesic sites in valley and foothill grassland, often in alkaline soil, at 0 to 1,378 feet elevation	Determined to be Absent: Species was not observed in coastal salt marsh in the Project Area during seasonally appropriate surveys in summer 2016
Point Reyes bird's-beak (<i>Chloropyron maritimum</i> ssp. <i>palustre</i>)	1B.2	Coastal salt marshes and swamps at 0 to 33 feet elevation	Determined to be Absent: The CNDDDB has no record of this species being present in the vicinity. In addition, the species was not observed in coastal salt marsh in the Project Area during seasonally appropriate surveys in summer 2016
San Francisco wallflower (<i>Erysimum franciscanum</i>)	4.2	Chaparral, coastal dunes, coastal scrub, valley and foothill grassland, often on serpentinite or granitic soil, sometimes along roadsides; at 0 to 1,804 feet elevation	Determined to be Absent: Species was not observed in the Project Area during a seasonally appropriate survey in spring 2017
Fragrant fritillary (<i>Fritillaria liliacea</i>)	1B.2	Cismontane woodland, coastal prairie, coastal scrub, valley and foothill grassland, often on serpentinite soil, at 10 to 1,345 feet elevation	Determined to be Absent: Species was not observed in the Project Area during a seasonally appropriate survey in spring 2017

San Francisco owl's-clover (<i>Triphysaria floribunda</i>)	1B.2	Coastal prairie, coastal scrub, valley and foothill grassland, usually in serpentine soil, at 33 to 525 feet elevation	Determined to be Absent: Species was not observed in the Project Area during a seasonally appropriate survey in spring 2017
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CNPS Listing key:

- 1A = Plants presumed extirpated in California and either rare or extinct elsewhere
- 1B = Plants rare, threatened, or endangered in California and elsewhere
- 2B = Plants rare, threatened, or endangered in California, but more common elsewhere
- 3 = Plants about which more information is needed; a review list
- 4 = Plants of limited distribution; a watch list
- .1 = Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)
- .2 = Moderately threatened in California (20–80% of occurrences threatened/moderate degree and immediacy of threat)

Franciscan onion (Allium peninsulare var. franciscanum)

Franciscan onion is a perennial bulbiferous herb in the onion family (Alliaceae) that blooms from April to June. It inhabits clay, volcanic, or serpentinite substrates in cismontane woodland and valley and foothill grassland habitat at elevations from 171 to 984 feet. Franciscan onion is a California endemic that occurs, or has been known to occur, in Mendocino, Santa Clara, San Mateo and Sonoma counties. It is known from the Central Coast and the San Francisco Bay from 21 occurrences, many of which have not been observed in recent years.⁶ Several historical and current populations of the Franciscan onion occur within 10 miles to the south of the Project Area in places such as near Crystal Springs Lakes. Within its range, the Franciscan onion is threatened by development, foot traffic, non-native plants and trail maintenance.

Bent-flowered fiddleneck (Amsinckia lunaris)

Bent-flowered fiddleneck is an annual herb in the borage family (Boraginaceae) that blooms from March to June. It inhabits gravelly slopes, grasslands and openings in cismontane woodland, coastal bluff scrub, and valley and foothill grassland habitat, often on serpentine substrate, at elevations from 10 to 1,640 feet. Bent-flowered fiddleneck occurs (or has been known to occur) in Alameda, Contra Costa, Colusa, Lake, Marin, Napa, San Benito, Santa Clara, Santa Cruz, San Mateo and Yolo counties. It is known from the North and Central Coast ranges, Sacramento Valley, and Central Coast from 64 occurrences, many of which have not been observed in recent years.⁷ The nearest recent bent-flowered fiddleneck record (2008) occurs approximately 7 miles south of the Project Area near Lower Crystal Springs Reservoir.⁸ A 1963 collection was located approximately 1 to 2 miles northwest of the Project Area on San Bruno Mountain.⁹ Within its range, the bent-flowered fiddleneck is threatened by development and mining.

Coast rockcress (Arabis blepharophylla)

Coast rockcress is a California endemic that has been known to occur in Contra Costa, Lake, Monterey, Santa Cruz, San Francisco, San Mateo and Sonoma counties. It is known from 208 records in the North and Central coasts near the San Francisco and Monterey bays.¹⁰ The Coast rockcress is a perennial herb in the mustard family (Brassicaceae) that blooms from February through May. It inhabits coastal prairie, mixed evergreen forest, and northern coastal scrub and coastal bluff scrub, habitat types. In general, coast rockcress occurs on rocky substrates at elevations from 10 to 3,609 feet. Both historical and extant populations of this species have been recorded near the Project Area, and the closest, existing population is approximately 5 miles to the southwest in the hills surrounding Crystal Springs Reservoir. Within its range, the coast rockcress is possibly threatened by recreational activities, non-native plants and development.

Coastal marsh milk-vetch (Astragalus pycnostachyus var. pycnostachyus)

Coastal marsh milk vetch is a perennial herb in the pea family (Fabaceae) that blooms from April to October. It inhabits mesic coastal dune, coastal scrub, and coastal salt and streamside marsh and swamp habitat at elevations from zero to 98 feet. Coastal marsh milk vetch is a California endemic that occurs, or has been known to occur, in Humboldt, Marin, San Luis Obispo and San Mateo counties. It is known from 25 occurrences in the North and Central coasts, two of which are considered extirpated.¹¹ All historical and current documented populations of coastal marsh milk vetch occur at least 10 miles north or south of the

⁶ CNPS, 2016

⁷ CNPS, 2016

⁸ CNDDDB, 2016

⁹ Regents of the University of California, 2011; CNDDDB, 2016

¹⁰ Calflora, 2016

¹¹ CNPS, 2016

Project Area in places such as Crystal Springs Reservoir, Stinson Beach and Pillar Point. The species has never been documented from the Bay side of the San Francisco peninsula nearer than Crystal Springs Reservoir. Within its range, the coastal marsh milk vetch is possibly threatened by cattle trampling, erosion and competition.

Pappose tarplant (Centromadia parryi ssp. parryi)

Pappose tarplant is an annual herb in the sunflower family (Asteraceae) that blooms from May to November. It inhabits chaparral, coastal prairie, meadows and seeps, coastal salt marshes and swamps, and vernal mesic valley and foothill grassland habitat, often on alkaline substrate, at elevations from zero to 1,378 feet. Pappose tarplant is a California endemic that occurs, or has been known to occur, in Butte, Colusa, Glenn, Lake, Napa, San Mateo, Solano and Sonoma counties. It is known from 29 occurrences in the Inner and Outer North ranges, the Central Coast, and Sacramento Valley, many of which have not been observed in recent years.¹² The nearest records of pappose tarplant are from approximately 6 miles to the southwest of the Project Area, near Rockaway Beach, and a record from 1908 located approximately 19 miles to the southeast in East Palo Alto near the Ravenswood Open Space Preserve. The remaining historical and current populations occur at least 35 miles to the north of the Project Area, north of Suisan and San Pablo bays. Within its range, pappose tarplant is threatened by agriculture, competition, development, grazing, foot traffic, habitat disturbance and road maintenance.

Point Reyes bird's-beak (Chloropyron maritimum ssp. palustre)

Point Reyes bird's-beak is an annual herb in the broomrape family (Orobanchaceae) that blooms from June to October. It inhabits coastal salt marshes and swamps, at elevations from zero to 33 feet. Point Reyes bird's-beak occurs, or has been known to occur, in Alameda, Humboldt, Marin, Santa Clara, San Francisco, San Mateo, and Sonoma counties, and into Oregon. It is known from 68 occurrences in the North and Central coasts, 10 of which are possibly extirpated.¹³ All historical and current populations of the Point Reyes bird's-beak occur at least 9 miles from the Project Area in places such as Corte Madera Ecological Reserve and Richardson Bay. The nearest records represent populations that are likely extirpated. Within its range, the Point Reyes bird's-beak was once common, but is now significantly reduced by development. The species is also threatened by foot traffic, non-native plants, hydrological alterations and cattle grazing and trampling.

San Francisco wallflower (Erysimum franciscanum)

San Francisco wallflower is a perennial herb in the mustard family (Brassicaceae) that blooms from March to June. It inhabits chaparral, coastal dunes, coastal scrub and valley and foothill grassland habitat, often on serpentinite or granitic substrate or roadsides, at elevations from zero to 1,804 feet. San Francisco wallflower is a California endemic that occurs, or has been known to occur, in Marin, Santa Clara, Santa Cruz, San Francisco, San Mateo and Sonoma counties. It is known from 296 records in the North and Central coasts and the San Francisco Bay, many of which have not been observed in recent years.¹⁴ Both historical and current populations of San Francisco wallflower have been collected near the Project Area, with the nearest location approximately 2 miles to the west of the Project Area in the San Bruno Mountains.¹⁵ Within its range, the San Francisco wallflower is possibly threatened by recreational activities and non-native plants.

¹² CNPS, 2016

¹³ CNPS, 2016

¹⁴ Regents of the University of California, 2011

¹⁵ Calflora, 2016

Fragrant fritillary (Fritillaria liliacea)

Fragrant fritillary is a perennial bulbiferous herb in the lily family (Liliaceae) that blooms from February to April. It often inhabits serpentine substrates in cismontane woodland, coastal prairie, coastal scrub and valley and foothill grassland habitat, at elevations from 10 to 1,345 feet. Fragrant fritillary is a California endemic that occurs, or has been known to occur, in Alameda, Contra Costa, Monterey, Marin, San Benito, Santa Clara, San Francisco, San Mateo, Solano and Sonoma counties. It is known from the Sacramento Valley, Central Coast, San Francisco Bay area, and the Inner and Outer South Coast ranges from 68 occurrences, 10 of which are presumed extirpated.¹⁶ All historical and current populations of the fragrant fritillary occur at least 5 miles outside of the Project Area in places such as Edgewood Park and Lower Crystal Springs Reservoir. Within its range, the fragrant fritillary is threatened by grazing, agriculture, urbanization and non-native plants. Recreational activities and foot traffic may also present threats to the species.

San Francisco owl's-clover (Triphysaria floribunda)

San Francisco owl's-clover is an annual herb in the broomrape family (Orobanchaceae) that blooms from April to June. It inhabits coastal prairie, coastal scrub and valley and foothill grassland habitat, usually on serpentine substrate, at elevations from 33 to 525 feet. San Francisco owl's-clover is a California endemic that occurs, or has been known to occur, in Marin, San Francisco and San Mateo counties. It is known from the Central Coast and San Francisco Bay Area, from 41 occurrences, one of which is possibly extirpated, and two are known to be extirpated.¹⁷ The nearest recent record (2002) occurs approximately 10 miles to the north of the Project Area at the San Francisco Presidio.¹⁸ All other records of San Francisco owl's-clover on the San Francisco Peninsula are from the 1960s or earlier, but include a 1964 collection from the Project Area: Point San Bruno, at the eastern end of San Bruno Mountain.¹⁹ Within its range, the San Francisco owl's-clover is threatened by grazing, non-native plants, and trampling.

Subsequent Special-Status Plant Survey

Site surveys for rare plants conducted in 2016 identified an area of upland ruderal grassland and shrubland habitat (see **Figure 7-4**) that supported a higher density and diversity of native forbs than other portions of the Campus, and which, based on field observations, may be underlain with serpentine soils and bedrock. This area was determined to potentially provide habitat suitable for several special-status plant species, including Franciscan onion (*Allium peninsulare* var. *franciscanum*), bentflowered fiddleneck (*Amsinckia lunaris*), fragrant fritillary (*Fritillaria liliacea*), and San Francisco owl's-clover (*Triphysaria floribunda*). Because these four species have bloom periods during the spring and prior site surveys were conducted in the summer, seasonally appropriate surveys during the appropriate published bloom period were required to determine their presence or absence at the Project Site. H. T. Harvey & Associates plant ecologists conducted early spring surveys for fragrant fritillary on March 29, 2017 and a mid-spring special-status plant survey on May 18, 2017.

¹⁶ CNPS, 2016

¹⁷ CNPS, 2016

¹⁸ CNDDDB, 2016

¹⁹ Regents of the University of California, 2011; CNDDDB, 2016

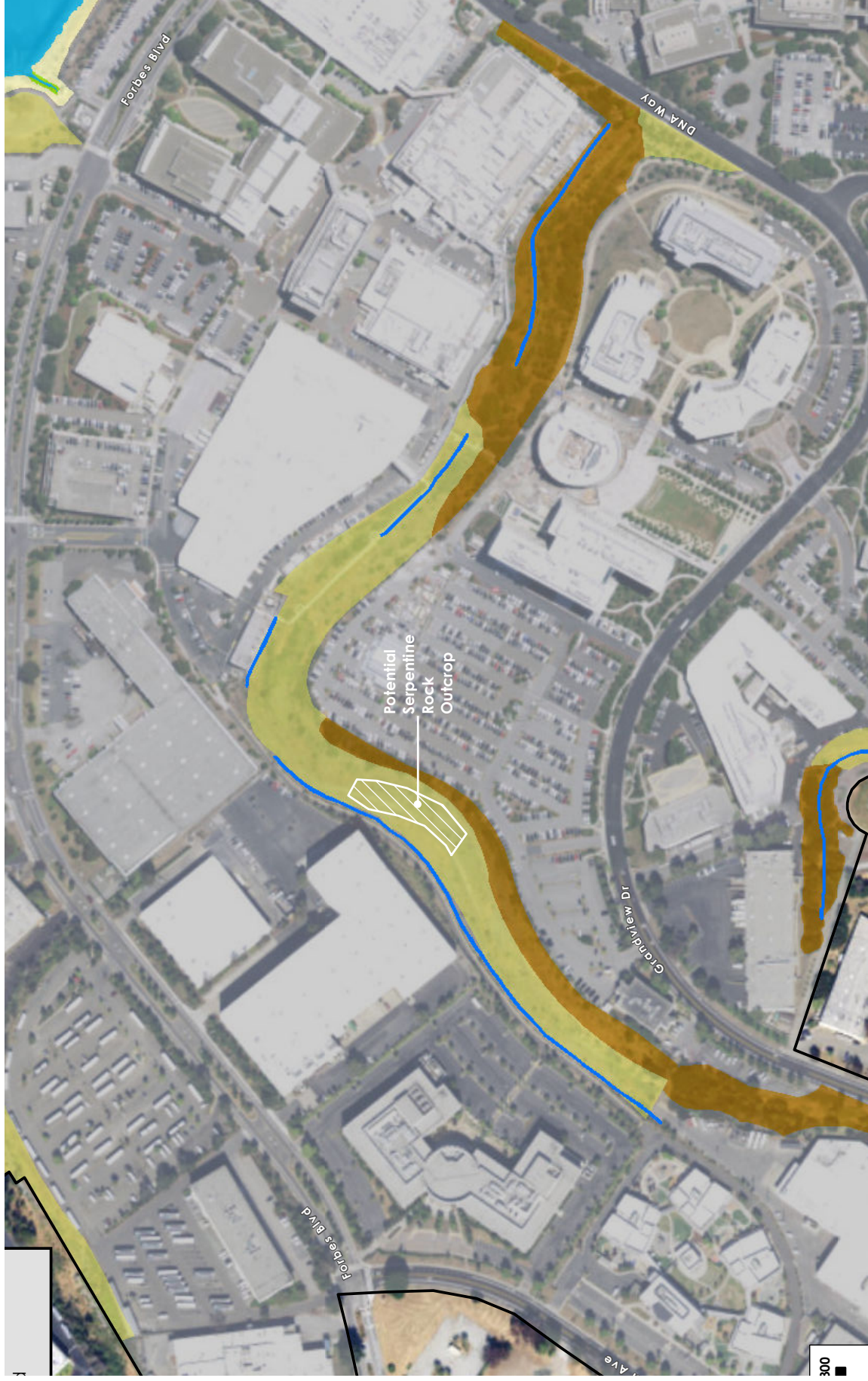


Figure 7-4
Subsequent Special Status Plant Survey Area



Source: HT Harvey & Associates, 2017

No fragrant fritillary plants were observed in the early spring survey, and fragrant fritillary was determined to be absent from the survey area. Similarly, Franciscan onion was determined to be absent from the survey area. No bent-flowered fiddleneck plants were observed in the survey area, and no plants in the same genus (i.e., *Amsinckia*) were observed anywhere in the Study Area. Thus, bent-flowered fiddleneck was determined to be absent from the survey area. Further, no San Francisco owl's clover was observed in the Study Area. Neither of the two additional potentially occurring special-status plant species (coast rockcress and San Francisco wallflower) was observed during the surveys. Therefore, special-status plants are considered absent from the survey area, and therefore from the larger biological Study Area.

Special-Status Animals

Special-status animals are animal species that are either:

- listed under the federal Endangered Species Act (ESA) as threatened, endangered, proposed threatened, proposed endangered, or a candidate species;
- listed under the California ESA as threatened, endangered, or a candidate species;
- designated by the California Department of Fish and Wildlife (CDFW) as a California species of special concern; or
- listed in the California Fish and Game Code as a fully protected species (birds at §3511, mammals at §4700, reptiles and amphibians at §5050, and fish at §5515)

CNDDDB-mapped occurrences of special-status animal species that have been documented in the Project vicinity are shown on **Figure 7-5**, and the legal status and potential for occurrence of special-status animal species known to occur or potentially occur in the general vicinity of the Study Area are provided in **Table 7-3**. Expanded descriptions are also included in **Appendix 7B** for those species that are known to occur in the Study Area; for which potentially suitable habitat occurs within or in the general vicinity; for which the site is accessible to animals from known populations; and for which resource agencies have expressed particular concern such that more expanded discussion is required. Species that are listed in Table 7-3 but not discussed in detail have no reasonable expectation of occurrence in the Study Area.

Several special-status species are present in the South Bay and on the San Francisco Peninsula, but are absent from the Study Area due to a lack of suitable habitat and/or isolation from existing populations by urbanization and associated barriers to dispersal. These species are: the Bay checkerspot butterfly (*Euphydryas editha bayensis*), Mission blue butterfly (*Icaricia icarioides missionensis*), San Bruno elfin butterfly (*Incisalia mossii bayensis*), Callippe silverspot butterfly (*Speyeria callippe callippe*), Myrtle's silverspot butterfly (*Speyeria zerene myrtleae*), Central California Coast Coho salmon (*Oncorhynchus kisutch*), tidewater goby (*Eucyclogobius newberryi*), California red-legged frog (*Rana draytonii*), San Francisco garter snake (*Thamnophis sirtalis tetrataenia*), western pond turtle (*Actinemys marmorata*), California black rail, western snowy plover (*Charadrius alexandrinus nivosus*), salt marsh harvest mouse, salt marsh wandering shrew, San Francisco dusky footed woodrat (*Neotoma fuscipes annectens*), pallid bat (*Antrozous pallidus*) and Townsend's big-eared bat (*Corynorhinus townsendii*). Although some of these species occur in the South San Francisco area (e.g., some of the rare butterflies occur on San Bruno Mountain, and the California red-legged frog and San Francisco garter snake occur near the San Francisco International Airport), suitable habitat is absent from the Project Area. Intensive development between extant occurrences and the Project Area would preclude the ability of those species to disperse to the Project Area.

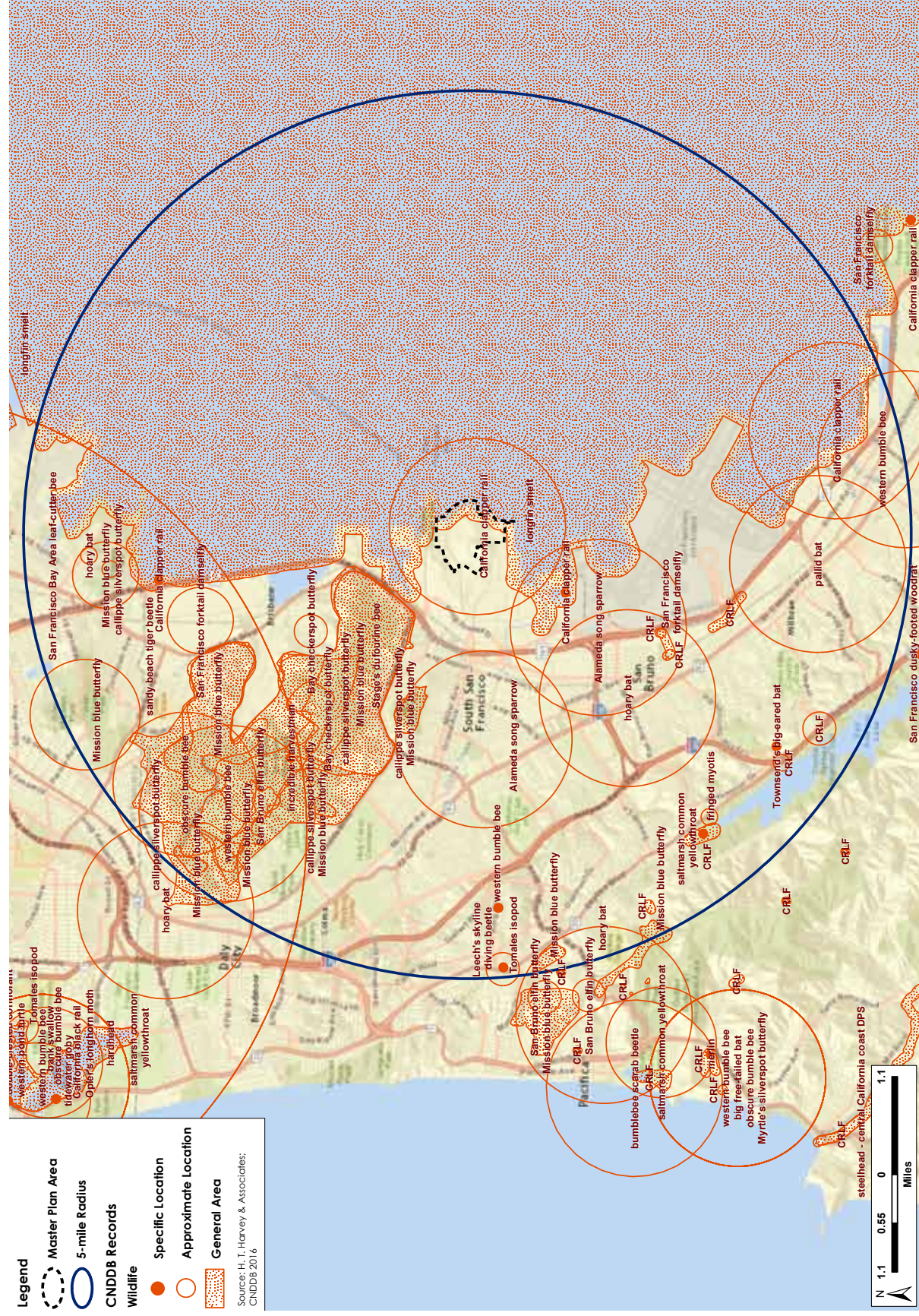


Figure 7-5
CNDDDB Animal Records

Several other special-status species may occur in the Study Area as occasional foragers, but they do not breed on or very near the site, nor do they occur regularly or in large numbers. These species include the California least tern (*Sterna antillarum browni*), yellow warbler (*Setophaga petechia*), Bryant's savannah sparrow (*Passerculus sandwichensis alaudinus*), yellow-breasted chat (*Icteria virens*), tricolored blackbird (*Agelaius tricolor*), loggerhead shrike (*Lanius ludovicianus*), northern harrier (*Circus cyaneus*), American peregrine falcon (*Falco peregrinus anatum*), and white-tailed kite.

Nine special-status animal species are known to breed or could potentially breed in the Study Area or its vicinity, to occur commonly as non-breeders in the Study Area (and thus could potentially be substantially affected by activities that occur under the Project), and/or are of particular concern to regulatory agencies. These are the Central California Coast steelhead, green sturgeon, longfin smelt, California Ridgway's rail (*Rallus obsoletus obsoletus*), burrowing owl (*Athene cunicularia*), San Francisco common yellowthroat (*Geothlypis trichas sinuosa*), Alameda song sparrow, harbor seal and sea lion.

Table 7-3: Status and Potential Occurrence of Special-Status Animal Species

<u>Name</u>	<u>Status*</u>	<u>Habitat</u>	<u>Potential for Occurrence in the Master Plan Update Area</u>
Federal or State Endangered, Rare, or Threatened Species			
Bay checkerspot butterfly (<i>Euphydryas editha bayensis</i>)	FT	Native grasslands on serpentine soils - Larval host plants are <i>Plantago erecta</i> and/or <i>Castilleja</i> sp.	Absent. No suitable native grassland or serpentine habitat is present on site. No host plants were observed during site visit in July 2016.
Mission blue butterfly (<i>Icaricia icarioides missionensis</i>)	FE	Coastal chaparral and coastal grasslands - Larval host plant are <i>Lupinus</i> spp.	Absent. No suitable chaparral or grassland habitat is present on site. No host plants were observed during site visit in July 2016.
San Bruno elfin butterfly (<i>Incisalia mossii bayensis</i>)	FE	Coastal mountains near the Bay in the fog-belt of steep, north-facing slopes - Larval food plant is <i>Sedum spathulifolium</i>	Absent. No suitable native grassland habitat is present on site. No host plants were observed during site visit in July 2016.
Callippe silverspot butterfly (<i>Speyeria callippe callippe</i>)	FE	Grasslands of the northern San Francisco Bay Region - Larval host plant is <i>Viola pedunculata</i>	Absent. No suitable native grassland habitat or suitable habitat for the larval host plant is present on site.
Myrtle's silverspot butterfly (<i>Speyeria zerene myrteleae</i>)	FE	Coastal dune and prairie habitat - Larval host plants are violets, typically <i>Viola adunca</i>	Absent. No suitable native grassland habitat or suitable habitat for the larval host plant is present on site.
Green sturgeon (Acipenser medirostris)	FT, CSSC	Spawns in large river systems such as the Sacramento River; forages in nearshore oceanic waters, bays, and estuaries - Juvenile green sturgeon prefer temperatures of 59–60.8 °F	May be Present - Spawning habitat suitable for this species is not present within the Project Area. However, this species forages in the Bay, possibly including tidal aquatic habitats in the biological Study Area, and this species may be present in the Study Area as an occasional forager. Tidal aquatic habitat within the Study Area is designated critical habitat for this species.
Longfin smelt (<i>Spirinchus thaleichthys</i>)	ST, CSSC	Spawns in fresh water tributaries in the upper end of the Bay; occurs year-round in the South Bay	May be Present - Suitable spawning habitat for this species is not present in the Project area. However, this species forages in the Bay, possibly including tidal aquatic habitats in the Study Area. Therefore, this species may be present in the Study Area as an occasional forager.
Central California Coast Coho salmon (<i>Oncorhynchus kisutch</i>)	FE, SE	Spawning in accessible coastal streams, generally in areas with complex in-stream habitat, heavy forest cover, and high quality water - Juveniles rear in these areas for two years before migrating to the ocean	Absent. This species has been extirpated from all San Mateo County streams flowing to the Bay (Leidy 2007).

Table 7-3: Status and Potential Occurrence of Special-Status Animal Species

<u>Name</u>	<u>Status*</u>	<u>Habitat</u>	<u>Potential for Occurrence in the Master Plan Update Area</u>
Central California Coast steelhead (<i>Oncorhynchus mykiss</i>)	FT	Cool streams with suitable spawning habitat and conditions allowing migration between spawning and marine habitats	May be Present - Juveniles and adult steelhead could occur in the open waters in the Study Area as they migrate to and from spawning and rearing streams in the South Bay. Populations are known to occur in tributaries to the South Bay, such as San Francisco Creek approximately 20 mi to the southeast of the Project Area. Tidal aquatic habitat within the Study Area is designated critical habitat for this species.
Tidewater goby (Eucyclogobius newberryi)	FE, CSSC	Brackish water habitats along coast, fairly still but not stagnant water and high oxygen levels	Absent. This species has been extirpated from the Bay (CNDDDB 2016).
California red-legged frog (Rana draytonii)	FT, CSSC	Streams, freshwater pools, and ponds with emergent or overhanging vegetation	Absent. No suitable aquatic habitat is present on or near the Project Area, and there is no habitat connectivity with known populations (CNDDDB 2016)
San Francisco garter snake (Thamnophis sirtalis tetrataenia)	FE, SE	Prefer densely vegetated freshwater habitats. May use upland burrows for aestivation	Absent. There is no suitable habitat in the Project Area, and there is no connectivity between the onsite wetlands (i.e., the seasonal wetland and marshes) and other freshwater wetlands in the region. Further, there are no extensive freshwater wetland habitats supporting San Francisco garter snake populations or populations of their prey-base (red-legged frogs and Sierran chorus frogs) in the Project Area vicinity, and the Project Area is isolated from the nearest known population by extensive urbanization (CNDDDB 2016)
California Ridgway's rail (<i>Rallus obsoletus obsoletus</i>)	FE, SE, SP	Salt marsh habitat dominated by pickleweed and cordgrass (<i>Spartina</i> spp.)	May be Present - The tidal salt marshes in the Study Area are extremely limited in extent and are highly disturbed. There is a low potential for individuals to forage in the tidal aquatic and coastal salt marsh habitat along the southeastern edge of the Project Area, and it is possible that a pair could breed in this marsh; however, such an occurrence would be expected only very infrequently, if at all
California black rail (Laterallus jamaicensis coturniculus)	ST, SP	Breeds in fresh, brackish, and tidal salt marsh	Absent. The tidal salt marshes in the Study Area are extremely limited in extent (too small to provide breeding habitat), and are highly disturbed, and this species is not expected to occur here
Western snowy plover (Charadrius alexandrinus nivosus)	FT, CSSC	Sandy beaches on marine and estuarine shores and salt pans in San Francisco Bay saline managed ponds	Absent. Suitable nesting and foraging habitat for this species is not present in the Study Area, and this species is not expected to occur here

Table 7-3: Status and Potential Occurrence of Special-Status Animal Species

<u>Name</u>	<u>Status*</u>	<u>Habitat</u>	<u>Potential for Occurrence in the Master Plan Update Area</u>
California least tern (<i>Sterna antillarum browni</i>)	FE, SE, SP	Nests along the coast on bare or sparsely vegetated, flat substrates - In the South Bay, nests in salt pans and on an old airport runway - Forages for fish in open waters	Absent as Breeder - This species does not currently breed anywhere on the west side of the South Bay, and no suitable breeding habitat is present in the Study Area. There is some potential for small numbers of individuals from East Bay or Suisun Bay breeding areas to forage in tidal aquatic habitat in the Study Area on occasion
Tricolored blackbird (<i>Agelaius tricolor</i>)	SC, CSSC (nesting colony)	Nests near fresh water in dense emergent vegetation	Absent. No suitable, non-tidal freshwater marshes or ponds are present in the Master Plan Update area and this species is not known to nest in the vicinity (CNDDDB 2016).
Townsend's big-eared bat (<i>Corynorhinus townsendii</i>)	CSSC, SC	Roosts in caves and mine tunnels, and occasionally in deep crevices in trees such as redwoods or in abandoned buildings, in a variety of habitats	Absent. The species has been extirpated from the flat bay/side lands of San Mateo County.
Salt marsh harvest mouse (<i>Reithrodontomys raviventris</i>)	FE, SE, SP	Salt marsh habitat dominated by common pickleweed	Absent. Tidal salt marsh habitats in the Study Area are not suitable for this species due to their isolation from other marsh habitats, limited extent and high level of human disturbance. This species has not been recently recorded on the San Francisco Peninsula north of the Foster City/San Mateo Bridge area (CNDDDB 2016)
California Species of Special Concern			
Central Valley fall-run Chinook salmon (<i>Oncorhynchus tshawytscha</i>)	CSSC	Cool rivers and large streams that reach the ocean and that have shallow, partly shaded pools, riffles, and runs	Absent as Breeder - No spawning habitat for this species is present in the Study Area, although this species could occasionally move through portions of the Bay within the Study Area during migration between oceanic habitats and spawning areas
Western pond turtle (<i>Actinemys marmorata</i>)	CSSC	Permanent or nearly permanent water in a variety of habitats	Absent. No suitable freshwater aquatic habitat is present in the Study Area. This species has not been recently recorded in the Project Area vicinity (CNDDDB 2016)
Northern harrier (<i>Circus cyaneus</i>)	CSSC (nesting)	Nests in marshes and moist fields, forages over open areas	Absent as Breeder - No suitable nesting or foraging habitat is present in the Study Area. Although individuals of this species may infrequently occur in the Study Area as occasional foragers, this species is only a species of special concern while nesting

Table 7-3: Status and Potential Occurrence of Special-Status Animal Species

<u>Name</u>	<u>Status*</u>	<u>Habitat</u>	<u>Potential for Occurrence in the Master Plan Update Area</u>
Burrowing owl (<i>Athene cunicularia</i>)	CSSC	Nests and roosts in open grasslands and ruderal habitats with suitable burrows, usually those made by California ground squirrels	Absent as Breeder - There are no records of burrowing owls in the Project Area vicinity and the closest record of occurrence is from approximately 6.5 mi to the southeast of the site, at Seal Point (CNDDDB 2016). The ruderal annual grassland habitats in the Project Area did not show any evidence of ground squirrel occupancy during the reconnaissance survey in June 2016. Occasional migrating or dispersing individuals could forage in the Project Area, and could possibly take temporary refuge in riprap along the shoreline. However, this species is not expected to breed, occur regularly or occur in numbers on the site.
Loggerhead shrike (<i>Lanius ludovicianus</i>)	CSSC (nesting)	Nests in tall shrubs and dense trees; forages in grasslands, marshes, and ruderal habitats	Absent as Breeder - This species is unlikely to occur due to the limited extent of annual grasslands and the high level of human disturbance. Breeding shrikes have been confirmed in the Project Area vicinity (Sequoia Audubon Society 2001), but records in the area are few, and the Project Area is isolated from larger patches of suitable habitat by extensive development. This species may occur in the site as an occasional nonbreeding visitor, if at all
Yellow warbler (Setophaga petechia)	CSSC (nesting)	Nests in dense riparian woodlands	Absent as Breeder - This species prefers riparian corridors with adjacent open space (rather than in heavily developed areas) and supporting an over story of mature cottonwoods (<i>Populus</i> spp.) and sycamores (<i>Platanus</i> spp.), a mid-story of box elders (<i>Acer negundo</i>) and willows (<i>Salix</i> spp.), and a substantial understory of shrubs (Bousman 2007). Migrating individuals of this species may occasionally forage in landscaped areas in the Project Area during the spring and fall; however, no suitable nesting habitat for this species is present in the Project Area and this species is only a species of special concern while nesting
San Francisco common yellowthroat (<i>Geothlypis trichas sinuosa</i>)	CSSC	Nests in herbaceous vegetation, usually in wetlands or moist floodplains	May be Present - Suitable breeding and foraging habitat is present in the Study Area along the tidal channels along the northeastern and southeastern edges of the Project Area, and individuals have been observed in the Project Area vicinity during the breeding season (CNDDDB 2016; Cornell Lab of Ornithology 2016). Up to one or two pairs of this species may breed in these marsh habitats

Table 7-3: Status and Potential Occurrence of Special-Status Animal Species

<u>Name</u>	<u>Status*</u>	<u>Habitat</u>	<u>Potential for Occurrence in the Master Plan Update Area</u>
Alameda song sparrow (<i>Melospiza melodia pusillula</i>)	CSSC	Nests in salt marsh, primarily in marsh gumplant (<i>Grindelia stricta</i>) and cordgrass along channels	May be Present - Suitable breeding and foraging habitat is present in the Study Area along the tidal channels along the northeastern and southeastern edges of the Project Area, and individuals have been observed in the Project Area vicinity during the breeding season (CNDDDB 2016; Cornell Lab of Ornithology 2016). A few pairs of this species may breed in these marsh habitats.
Bryant's savannah sparrow (<i>Passerculus sandwichensis alaudinus</i>)	CSSC	Nests in pickleweed dominant salt marsh and adjacent ruderal habitat	Absent as Breeder - The salt marsh habitats in the Study Area do not provide suitable nesting habitat for this species, primarily due to their limited extent and close proximity to development. Individuals breeding elsewhere could occur as non-breeders (e.g., during winter)
Salt marsh wandering shrew (<i>Sorex vagrans halicoetes</i>)	CSSC	Medium to high marsh with abundant driftwood and common pickleweed	Absent. The small mats of pickleweed within salt marsh habitats in the Study Area do not provide suitable habitat for this species, due to the high level of human disturbance, limited extent and isolation from other salt marsh habitats.
Pallid bat (<i>Antrozous pallidus</i>)	CSSC	Forages over many habitats; roosts in caves, rock outcrops, buildings, and hollow trees	Absent. This species has been extirpated as a breeder from urban areas close to the Bay, including the Project Area.
San Francisco dusky-footed woodrat (<i>Neotoma fuscipes annectens</i>)	CSSC	Nests in a variety of habitats including riparian areas, oak woodlands, and scrub	Absent. No suitable habitat occurs in the Project Area and the area is isolated from the nearest existing populations by extensive development. No evidence of occupancy by woodrats was observed in the Project Area during the reconnaissance survey conducted in June 2016.
<u>State Fully Protected Species</u>			
American peregrine falcon (<i>Falco peregrinus anatum</i>)	SP	Forages in many habitats; nests on cliffs and tall bridges and buildings	Absent as Breeder. Dispersing or migrating individuals may rarely move through or forage on portions of the, but no suitable nesting habitat is present.

Table 7-3: Status and Potential Occurrence of Special-Status Animal Species

<u>Name</u>	<u>Status*</u>	<u>Habitat</u>	<u>Potential for Occurrence in the Master Plan Update Area</u>
White-tailed kite (<i>Elanus leucurus</i>)	SP	Nests in tall shrubs and trees, forages in grasslands, marshes, and ruderal habitats	Absent as Breeder. The Study Area provides some low-quality foraging habitat, and individuals have been observed in the Project Area vicinity. However, no suitable nesting habitat for this species exists in the Project Area and there are no records of breeding in the vicinity (Sequoia Audubon Society 2001). Individual dispersants could potentially forage in the Project Area on occasion.
Federal Protected Marine Mammal Species			
Harbor seal (<i>Phoca vitulina</i>)	MM	Resident in the Bay and the Sacramento-San Joaquin Delta - Feeds in the deepest waters of the Bay and hauls out on offshore rocks and sandy beaches - May also use manmade structures, such as floating docks, for haul out sites	May be Present - Suitable aquatic habitat is present in the study area for feeding and dispersal, and individuals likely use tidal aquatic habitat in the study area for these purposes. No known haul-out or pupping sites are located in the Project Area. Although the rocky shore habitat in the Project Area may provide suitable haul-out sites for this species, the high level of disturbance and human presence along the San Francisco Bay Trail and shoreline greatly reduces the likelihood of this species using any part of the site except as an occasional visitor to Bay waters.
Sea lion (<i>Zalophus californianus</i>)	MM	Occurs throughout West Coast, typically within 10 mi of the shore, and breeds in Southern California - Permanent resident in San Francisco Bay and the Sacramento-San Joaquin Delta - Uses offshore rocks, sandy beaches, and floating docks, wharfs, vessels, or other man-made structures to haul out	May be Present - Suitable aquatic habitat is present in the Study Area for feeding and dispersal, and individuals likely use tidal aquatic habitat in the Study Area for these purposes. No known haul-out or pupping sites are located in the Project Area. Although the rocky shore habitat in the Project Area may provide suitable haul-out sites for this species, the high level of disturbance and human presence along the San Francisco Bay Trail and shoreline greatly reduces the likelihood of this species using any part of the site except as an occasional visitor to Bay waters.

Table 7-3: Status and Potential Occurrence of Special-Status Animal Species

<u>Name</u>	<u>Status*</u>	<u>Habitat</u>	<u>Potential for Occurrence in the Master Plan Update Area</u>
*SPECIAL-STATUS SPECIES DESIGNATIONS			
FE =	Federally listed Endangered		
FT =	Federally listed Threatened		
MM =	Protected Marine Mammal		
SE =	State listed Endangered		
ST =	State listed Threatened		
SC =	State Candidate for listing		
CSSC =	California Species of Special Concern		
SP =	State Fully Protected		

Sensitive Natural Communities, Habitats, and Vegetation Alliances

Natural communities have been considered part of the Natural Heritage Conservation triad, along with plants and animals of conservation significance, since the state inception of the Natural Heritage Program in 1979. The CDFW determines the level of rarity and imperilment of vegetation types, and tracks sensitive communities in the California Natural Diversity Database. In addition to tracking sensitive natural communities, the CDFW also ranks vegetation alliances, defined by repeating patterns of plants across a landscape that reflect climate, soil, water, disturbance, and other environmental factors.

Impacts on CDFW sensitive natural communities, vegetation alliances/associations, or any such community identified in local or regional plans, policies or regulations must be considered and evaluated under CEQA (Title 14, Division 6, Chapter 3, Appendix G of the California Code of Regulations). Furthermore, aquatic, wetland, and riparian habitats are also protected under applicable federal, state or local regulations, and are generally subject to regulation, protection or consideration by the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), CDFW and/or the USFWS.

CDFW Natural Communities of Special Concern

A query of natural communities of special concern identified no natural communities of special concern occurring within the Study Area or vicinity.²⁰ The CDFW does consider streams and riparian habitat as sensitive. Along the tidal channel at the southern end of the Study Area, the CDFW may consider areas below the top of bank as sensitive.

CDFW Sensitive Vegetation Alliances

One sensitive vegetation alliance occurs in the Study Area, based on the dominant species observed: coastal salt marsh. The coastal salt marsh habitat can be characterized by the pickleweed mat alliance. Coastal salt marsh habitat is considered sensitive statewide.²¹

Essential Fish Habitat

The National Marine Fisheries Service (NMFS) considers open water portions of tidal aquatic habitats in the Project's biological Study Area to be Essential Fish Habitat (EFH) for an assemblage of fish species that includes anchovies, sardines, rockfish, sharks, sole and flounder. Areas potentially supporting the native Olympia oyster, such as hard surfaces in the tidal aquatic and rocky shoreline habitats, are also considered Essential Fish Habitat by NMFS because oyster beds serve a number of important roles in the Bay ecosystem.

Waters of the U.S. and State

Potentially jurisdictional waters of the U.S. occur in the Study Area (see **Figures 7-6 and 7-7**). Jurisdictional waters include the tidal channel at the southern end of the site and the associated wetlands and shoreline areas (extending up to the high tide line or the upper limits of wetlands, whichever is higher). Jurisdictional wetlands include several small patches of coastal salt marsh along the eastern edge of the site and one moderately sized patch of coastal salt marsh at the southeastern corner of the Study Area. Waters of the state include all waters of the U.S.

²⁰ CNDDDB, 2016

²¹ CDFG, 2010



Figure 7-6
Potential Waters of the US, State and BCDC Jurisdiction
(northerly Project Area)

Source: HT Harvey & Associates, 2017

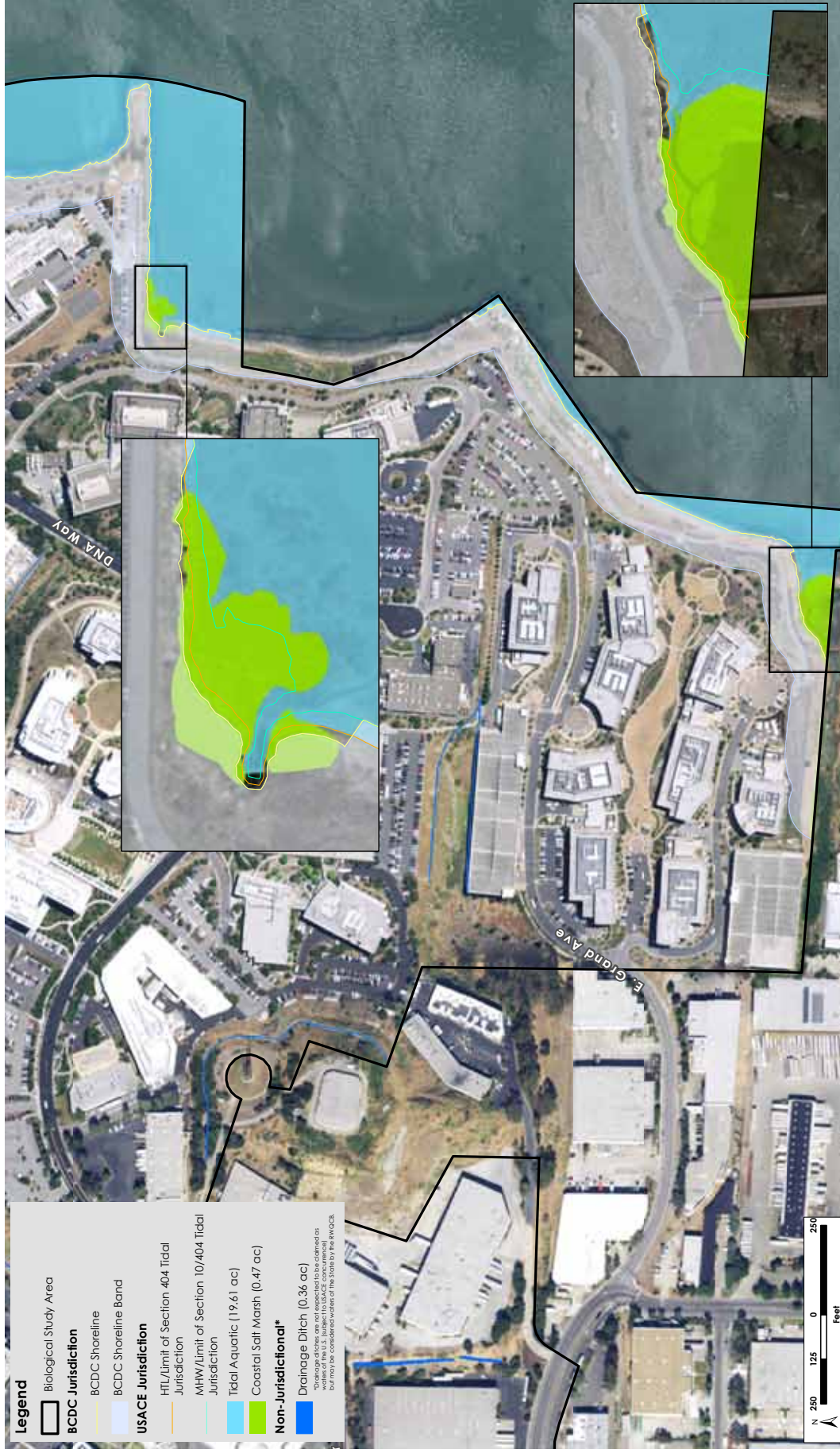


Figure 7-7
Potential Waters of the US, State and BCDC Jurisdiction
(southerly Project Area)



Source: HT Harvey & Associates, 2017

Drainage Ditches

Several concrete-lined and non-lined drainage ditches are located throughout the Project Area (see **Figure 7-8**). These ditches appear to be excavated in uplands for conveying stormwater runoff from the hillslopes and developed areas in the Project Area to the underground stormwater system, which eventually drains to the Bay. A senior wetland delineator conducted a focused assessment of three drainage ditch features in the Study Area to assess the likelihood that these ditches would be claimed or disclaimed as jurisdictional features.

- National Wetland Inventory mapping and aerial imagery of the site were reviewed.²² None of the three drainage ditches identified on the Project Area are shown in National Wetland Inventory mapping.
- Google Earth historic imagery from 1993 shows the Project Area in a relatively similar development stage as it is currently (per the March 2017 biological resource surveys). The site was developed with paved roads, buildings, and parking lots, much as exist today. Drainage ditches #1 and #2 appear to be existing in a similar configuration to the current condition. Drainage ditch #3 appears to have been constructed by years 2002 or 2003.
- Nationwide Environmental Title historic aerial imagery from as early as 1946 was also reviewed.²³ Similar to the NWI and Google Earth results, no native channels were apparent in this imagery. The imagery shows the extent of Bay fill that was placed in the vicinity. By 1968, the historic imagery shows the San Francisco Bay margin had been filled to create uplands to the north of the Project Area. According to the Daly City & Vicinity Creek and Watershed Map, Bay fill has been placed north of the drainage ditch #1 area, and it extends north for approximately 0.4 mile.²⁴
- H. T. Harvey & Associates' senior plant ecologist and wetland delineator visited the three drainage ditches shown in Figure 7-8 on March 29, 2017. During the survey, the three ditches were examined for topographic features, source inputs and alterations to site hydrology or vegetation, and recent significant disturbance.

Based on the mapping research and field surveys, the following conclusions as to the biological value and likelihood that these drainage ditches may be claimed as jurisdictional waters of the U.S. can be determined:

Drainage Ditch #1

Drainage ditch #1 is located in an area where there is no evidence of a prior native channel having been present. The ditch occurs near an area of fill that was in-place by 1968. In March 2017, drainage ditch #1 was found to be a well-maintained cement lined ditch, with source water feeding from piped in-puts conveying stormwater from nearby impervious surfaces such as paved parking lots, paved roads and walking paths with associated storm drain infrastructure. No native channel was observed in the vicinity or upstream of the source. All observed hydrologic inputs appear to arise from either a series of several pipes emanating from storm drains (i.e., two 2-4 inch PVC pipes and one 12-inch corrugated metal pipe) or a cement curb cut that focuses flows into the ditch from an adjoining paved parking lot. No earthen bed or banks occur in the feature, and it is entirely cement lined. The feature appears to be piped underground, downstream into storm drain infrastructure.

²² National Wetlands Inventory, 2017, Wetlands Mapper, U.S. Fish and Wildlife Service, accessed at <http://www.fws.gov/wetlands/Wetlands-Mapper.html> Accessed March 2017

²³ Nationwide Environmental Title Research, 2017, Historic Aerials Website, <http://www.historicaerials.com> , Accessed March 2017

²⁴ Givler, R.W., J.M. Sowers, and P. Vorster, 2006, Creek & Watershed Map of Daly City & Vicinity, Oakland Museum of California, Oakland, CA, 1:25,800 scale



Figure 7-8
On-Site Drainage Ditch Locations

Drainage Ditch #2

Drainage ditch #2 is located in areas where there is no evidence of a prior native channel having been present. Drainage ditch #2 is located on a hillslope and was found to be entirely cement lined and well maintained. The water source at the origin of the ditch #2 is identified as an approximately 2- to 4-inch pipe in-put with a faucet opening. The source of the pipe is likely from the buildings on the hilltop. Several other piped inputs were observed over the length of the ditch. The drainage ditch was excavated in uplands for the purpose of stormwater conveyance.

Drainage Ditch #3

Drainage ditch #3 is located in areas where there is no evidence of a prior native channel having been present. Drainage ditch #3 is located on a hillslope and is entirely cement lined. The water source appears to be PVC piping that is located several feet upslope of the start of the cement channel. The source piping appears to arise from developed uplands located upslope, including storm drains from the paved parking lot. A few additional piped inputs were observed along the length of the ditch, although the source was not apparent. The drainage ditch #3 appears to drain to storm drains downslope of this area.

Conclusion

The Project Area's 0.29-acres of constructed (concrete-lined and unlined) drainage ditches have been excavated in uplands to convey stormwater runoff from the surrounding developed land to the underground stormwater system. These stormwater drainage ditches likely are not jurisdictional waters of the United States or state under Section 404 or 401 of the Clean Water Act, or Section 1600 of the California Fish and Game Code, because:

- they were excavated in uplands for stormwater conveyance and treatment,
- source inputs appear to be from storm drain systems collecting runoff from developed uplands,
- they appear to drain to a constructed storm drain system,
- none of these drainage ditches replace native drainages, and
- the ditches have been well maintained since construction

It is unlikely that the USACE or CDFW would claim jurisdiction over these drainage ditches. The RWQCB would consider the drainage ditches as required parts of the Project Area's overall Stormwater Management Plan under the Statewide General Construction Permit, and therefore would require that the drainage functions of such features be replaced if they are affected.

Nonnative and Invasive Plant Species

Several nonnative plant species occur in the Project Area that are rated as highly invasive by the California Invasive Plant Council, and may have severe ecological impacts. Of these, pampas grass and fennel were the most abundant during the June 2016 site visits. In addition, several moderately invasive species, which may have substantial ecological impacts, dominate upland ruderal grassland and shrubland habitat in the Project Area. These species include wild oats, ripgut brome and mouse barley. Another moderately invasive species, alkali Russian thistle, was observed in some of the coastal salt marsh patches in the Study Area.

Regulatory Setting

Federal Regulations

Endangered Species Act

Under the federal ESA, the Secretary of the Interior and the Secretary of Commerce have joint authority to list a species as threatened or endangered (16 United States Code [USC] 1533[c]). Pursuant to the requirements of ESA, an agency reviewing a proposed project within its jurisdiction must determine whether any federally listed or proposed species may be present in the project region, and whether the proposed project would result in a “take”²⁵ of such species. In addition, the agency is required to determine whether the project is likely to jeopardize the continued existence of any species proposed to be listed under ESA, or result in the destruction or adverse modification of critical habitat proposed to be designated for such species (16 USC 1536[3][4]). The “take” prohibition of ESA applies to any action that would adversely affect a single member of an endangered or threatened species.

Listed plant species are provided less protection than listed wildlife species. Listed plant species are legally protected from take under the ESA only if they occur on federal lands or if the project requires a federal action, such as a Clean Water Act Section 404 fill permit from the USACE.

The USFWS has jurisdiction over federally listed threatened and endangered wildlife species (and some fish) under the ESA, while the NMFS has jurisdiction over federally listed marine species and anadromous fish.

No federally listed plant species are known or expected to occur in the Project Area. Federally listed animal species that could potentially occur in or immediately adjacent to the Study Area include the Central California Coast steelhead, green sturgeon and California Ridgway’s rail.

The green sturgeon and Central California Coast steelhead are not expected to breed in the Study Area, and they would occur only in waters of the Bay. There is a low probability of occurrence of the California Ridgway’s rail on or immediately adjacent to the Study Area, and (at most) a single pair may occasionally breed there.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA; 16 USC, Section 703, Supplement I, 1989) prohibits killing, possessing or trading in migratory birds, except in accordance with regulations prescribed by the Secretary of the Interior. Migratory birds protected under this law include all native birds and certain game birds (e.g., turkeys and pheasants). This act encompasses whole birds, parts of birds, and bird nests and eggs. The MBTA protects active nests from destruction and all nests of species protected by the MBTA, whether active or not, cannot be possessed. An active nest under the MBTA, as described by the Department of the Interior in its April 16, 2003 Migratory Bird Permit Memorandum, is a nest that contains eggs or young.

All native bird species occurring in the Project Area are protected by the MBTA.

Clean Water Act

The Clean Water Act is a 1977 amendment to the federal Water Pollution Control Act of 1972, which set the basic structure for regulating discharges of pollutants to waters of the United States. Although the purpose of

²⁵ “Take,” as defined in Section 9 of the federal ESA, is broadly defined to include intentional or accidental “harassment” or “harm” to wildlife. “Harass” is further defined by the USFWS as an intentional or negligent act or omission, which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns, which include, but are not limited to, breeding, feeding and sheltering. “Harm” is defined as an act, which actually kills or injures wildlife. This may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

the act is primarily to maintain water quality for both human and environmental benefits, regulations developed pursuant to this act deal extensively with permitting of actions in wetlands. The EPA has primary authority under the Clean Water Act to set standards for water quality and for effluents.

Areas meeting the regulatory definition of “waters of the U.S.” are subject to the jurisdiction of the USACE under provisions of Section 404 of the 1972 CWA. These waters may include all waters used, or potentially used, for interstate commerce, including all waters subject to the ebb and flow of the tide, all interstate waters, all other waters (intrastate lakes, rivers, streams, mudflats, sandflats, natural ponds, etc.), territorial seas, and wetlands adjacent to waters of the U.S. (33 CFR, Part 328). Wetlands on non-agricultural lands are identified using the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987) approach that relies on identification of three parameters: hydrophytic vegetation, hydric soils and wetland hydrology indicators. Areas typically not considered to be jurisdictional waters include non-tidal drainage and irrigation ditches excavated in uplands, artificially irrigated areas, artificial lakes or ponds used for irrigation or stock watering, small artificial water bodies such as swimming pools, and water-filled depressions (33 CFR, Part 328).

In freshwater systems, USACE jurisdiction extends to the ordinary high water mark. This is defined in Title 33, CFR, Part 328.3 as “the line on the shore established by the fluctuations of water and indicated by physical characteristics, such as a clear, natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation or the presence of litter and debris.” This guidance is based on the identification of the OHW mark by examining physical evidence of surface flow in the stream channel; there is no hydrologic definition of the ordinary high water mark. In tidal waters, USACE jurisdiction extends to the landward extent of vegetation associated with salt or brackish water or the high tide line. The high tide line is defined in 33 CFR Part 328.3 as “the line of intersection of the land with the water’s surface at the maximum height reached by a rising tide.” If there are wetlands adjacent to channelized features, the limits of USACE jurisdiction extend beyond the ordinary high water mark or high tide line to the outer edges of the wetlands.

Construction activities within jurisdictional waters are regulated by the USACE. The placement of fill into such waters must comply with permit requirements of the USACE. No USACE permit will be effective in the absence of Section 401 Water Quality Certification. The State Water Resources Control Board (SWRCB) is the state agency (together with the RWQCBs) charged with implementing water quality certification in California (see Section 2.2.1, “Porter-Cologne Water Quality Control Act”).

Any work within areas defined as waters of the U.S. may require a Section 404 fill discharge permit from the USACE. Waters of the U.S. include open water and intertidal habitats in the Bay, the tidal channel at the southern end of the site, associated wetlands and shoreline areas (extending up to the high tide line or the upper limits of wetlands, whichever is higher), and infrastructure on the site that drains to the Bay (such as stormwater drain outlets). The approximate limits of USACE jurisdiction under the CWA, as mapped during reconnaissance surveys and using available topographic information, are shown on Figures 7-6 and 7-7. A formal wetland delineation to determine precise boundaries of USACE jurisdiction, followed by USACE verification of the delineated boundaries, would need to be performed to determine definitively the jurisdictional boundaries.

Rivers and Harbors Act of 1899

Section 10 of the Rivers and Harbors Act prohibits the obstruction or alteration of any navigable water of the U.S., including discharge of fill and the building of any wharfs, piers, jetties, and other structures without Congressional approval or authorization by the Chief of Engineers and Secretary of the Army (33 USC 403). Under this act, the USACE must authorize any excavation or deposition of materials into such waters, or for any work that could affect the course, location, condition or capacity of such waters.

Within the Study Area, the tidal channel at the southern end of the site and associated wetlands and shoreline areas extending up to the mean high water line, are subject to USACE jurisdiction under the Rivers

and Harbors Act. Any activities affecting these areas would potentially require a Section 10 Letter of Permission.

Marine Mammal Protection Act

The Marine Mammal Protection Act (MMPA) is the principal federal legislation that guides the protection and conservation policy for marine mammal species. The MMPA delegates authority for oceanic marine mammals to the Secretary of Commerce, the parent agency of the NMFS. Under the MMPA, the NMFS regulates species of the order Cetacea (whales and dolphins) and species, other than walrus (*Odobenus rosmarus*), of the suborder Pinnipedia (seals and sea lions). Marine mammals that are already managed under international agreements are exempt as long as the agreements further the purposes of the MMPA. The MMPA prohibits, with certain exceptions, the take of marine mammals in U.S. waters and by U.S. citizens on the high seas, and the importation of marine mammals and marine mammal products into the United States.

Two species regulated by NMFS under the MMPA may occur immediately adjacent to the Project Area and within the biological Study Area's tidal aquatic habitat: harbor seal and California sea lion. These species may occasionally use tidal aquatic habitat adjacent to the Study Area for foraging or dispersal.

Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act governs all fishery management activities that occur in federal waters within the United States' 200-nautical-mile limit. The Act establishes eight Regional Fishery Management Councils responsible for the preparation of fishery management plans to achieve the optimum yield from U.S. fisheries in their regions. These councils, with assistance from the NMFS, establish Essential Fish Habitat (EFH) in fishery management plans for all managed species. Federal agencies that fund, permit or implement activities that may adversely affect Essential Fish Habitat are required to consult with the NMFS regarding potential adverse effects of their actions on Essential Fish Habitat, and respond in writing to recommendations by the NMFS.

A number of fish species regulated by NMFS according to the Coastal Pelagic, Pacific Groundfish and Pacific Coast Salmon Fisheries Management Plans occur in tidal habitats in the Bay, including areas adjacent to the Study Area. Thus, tidal habitats within and adjacent to the Study Area are considered EFH.

State Regulations

California Endangered Species Act

The California Endangered Species Act (ESA) (Fish and Game Code of California, Chapter 1.5, Sections 2050-2116) prohibits the take of any plant or animal listed or proposed for listing as rare (plants only), threatened or endangered. In accordance with California ESA, the California Department of Fish and Wildlife (CDFW) has jurisdiction over state listed species.

The CDFW regulates activities that may result in "take" of individuals listed under California ESA (i.e., "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill"). Habitat degradation or modification is not expressly included in the definition of "take" under the California Fish and Game Code. The CDFW, however, has interpreted "take" to include the "killing of a member of a species which is the proximate result of habitat modification."

Pursuant to the requirements of California ESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed endangered or threatened species could be present on the project site and determine whether the proposed project could have a potentially significant impact on such species. In addition, the CDFW encourages informal consultation on any proposed project that may affect a candidate species. Project-related impacts on species on the California ESA endangered or threatened lists would be

considered significant in this EIR. Impacts on species of concern would be considered significant under certain circumstances, discussed below.

No state listed plant species are known or reasonably expected to occur in the Project Area. State listed animal species occurring or potentially occurring in the Project's biological Study Area are the longfin smelt (*Spirinchus thaleichthys*), which may occur in Bay waters, and the California Ridgway's rail.

California Environmental Quality Act

The intent of CEQA is to maintain "high-quality ecological systems and the general welfare of the people of the state." It is the policy of the State to "prevent the elimination of fish or wildlife species due to man's activities, ensure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities and examples of the major periods of California history." CEQA forbids agencies from approving projects with significant adverse impacts when feasible alternatives or feasible mitigation measures can substantially lessen such impacts.²⁶

CEQA directs each State agency to consult with the CDFW on any project that an agency initiates and that is not statutorily or categorically exempt from CEQA. CEQA Guidelines (Section 15065a) indicate that impacts to rare, threatened or endangered plants or animals are significant. This finding of significance can be applied directly to state- and federally listed species. Impacts to other species that may generally meet these criteria, but are not officially listed, may be considered significant by the lead agency (for an EIR), depending on the applicability of other laws (e.g., MBTA) and the discretion of the agency. The CDFW interprets Lists 1A, 1B, and 2 of the California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California to consist of plants that, in a majority of cases, would qualify for listing as rare, threatened, or endangered; in addition, species on Lists 3 and 4 are often considered during CEQA impact assessments. The determination of whether an impact is significant is a function of the lead agency, absent the protection of other laws. Projects subject to CEQA review must specifically address the potential impact of the listed species and provide mitigation measures, if the impact is significant.

California Fish and Game Code

The California Fish and Game Code include regulation governing the use of, or effects on many of the state's fish, wildlife and sensitive habitats. The CDFW exerts jurisdiction over the bed and banks of rivers, lakes and streams according to provisions of Sections 1601–1603 of the Fish and Game Code. Ephemeral and intermittent streams, rivers, creeks, dry washes, sloughs, blue line streams on U.S. Geological Service maps, and watercourses with subsurface flows fall under CDFW jurisdiction. Canals, aqueducts, irrigation ditches, and other means of water conveyance may also be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife. Streams and riparian habitat are defined in Title 14, California Code of Regulations, Section 1.72, and Fish and Game Code Section 2786; respectively. Using these definitions, the lateral extent of a stream and associated riparian habitat would fall under the jurisdiction of CDFW. These areas can be measured in several ways, depending on the particular situation and the type of fish or wildlife at risk. At minimum, CDFW would claim jurisdiction over a stream's bed and bank.

Pursuant to Fish and Game Code Section 1603, the CDFW regulates any project proposed by any person that will "substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream or lake designated by the department, or use any material from the streambeds." Fish and Game Code Section 1602 requires an entity to notify CDFW of any proposed activity that may modify a river, stream or lake. If CDFW determines that proposed activities may substantially adversely affect fish and wildlife resources, a Streambed Alteration Agreement must be prepared. This permit sets reasonable

²⁶ §15092. CEQA §15091 and §15093 provide that a project might be approved in spite of residual, unmitigated significant impacts, by adoption of a statement of overriding social and economic considerations in situations where mitigations or alternatives are deemed infeasible.

conditions necessary to protect fish and wildlife, and must comply with CEQA. The applicant may then proceed with the activity in accordance with the final permit.

Certain sections of the Fish and Game Code describe regulations pertaining to certain wildlife species. For example, Fish and Game Code Sections 3503, 2513 and 3800 (and other sections and subsections) protect native birds, including their nests and eggs, from all forms of take. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered “take” by the CDFW. Raptors (i.e., eagles, falcons, hawks and owls) and their nests are specifically protected in California under Fish and Game Code Section 3503.5. Section 3503.5 states that it is “unlawful to take, possess, or destroy any birds in the order 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.” Non-game mammals are protected by Fish and Game Code Section 4150, and other sections of the Code protect other taxa.

California Native Plant Protection Act

State listing of plant species began in 1977 with the passage of the California Native Plant Protection Act, which directs the CDFW to carry out the legislature’s intent to “preserve, protect and enhance endangered plants in this state.” The Native Plant Protection Act gives the California Fish and Game Commission the power to designate native plants as endangered or rare and to require permits for collecting, transporting or selling such plants. The Native Plant Protection Act prohibits take of endangered or rare native plants, but includes some exceptions for agricultural and nursery operations; emergencies; and after properly notifying CDFW for vegetation removal from canals, roads, and other sites; changes in land use; and in certain other situations.

There are no plant species protected under the Native Plant Protection Act in the Project Area.

McAteer-Petris Act

The McAteer-Petris Act, enacted on September 17, 1965, serves as a legal provision under California state law to preserve the Bay from indiscriminate filling. The act initially established the San Francisco Bay Conservation and Development Commission (BCDC) as a temporary state agency charged with preparing a plan for the long-term use of the Bay. In August 1969, the McAteer-Petris Act was amended to make BCDC a permanent regulatory agency to incorporate the policies of the Bay Plan.²⁷ The area of BCDC jurisdiction is defined in the California Government Code Section 66610-66611 to include a 100-foot wide band along the shoreline of the Bay. BCDC will claim all sloughs (specifically, marshlands lying between mean high tide and up to 5 feet above mean sea level where marsh vegetation is present); tidelands (lands between mean high tide and mean low tide); and submerged lands (land lying below mean low tide) in the Bay region. The McAteer-Petris Act also requires that “maximum feasible public access, consistent with a project, be included as part of each project to be approved by the BCDC.”

BCDC has jurisdiction over the portion of the tidal channel in the Study Area and BCDC’s shoreline band jurisdiction extends 100 feet landward of the Bay edge.

Porter-Cologne Water Quality Control Act

The SWRCB works in coordination with the nine RWQCBs to preserve, protect, enhance and restore water quality. Each RWQCB makes decisions related to water quality for its region, and may approve, with or without conditions, or deny projects that could affect waters of the state. Their authority to regulate activities that could result in a discharge of dredged or fill material comes from the CWA and the Porter-Cologne Water Quality Control Act (Porter-Cologne).

²⁷ BCDC, 2012

Porter-Cologne broadly defines waters of the state as “any surface water or groundwater, including saline waters, within the boundaries of the state.” Because Porter-Cologne applies to any water, whereas the Clean Water Act applies only to certain waters, California’s jurisdictional reach overlaps and may exceed the boundaries of waters of the U.S. For example, Water Quality Order No. 2004-0004-DWQ states that “shallow” waters of the state include headwaters, wetlands and riparian areas. Moreover, the San Francisco Bay Region RWQCB’s Assistant Executive Director has stated that, in practice, the RWQCBs claim jurisdiction over riparian areas. Where riparian habitat is not present, such as may be the case at headwaters, jurisdiction is taken to the top of bank. The SWRCB has recently developed a Preliminary Draft Water Quality Control Policy that addresses numerous policy elements including development of a wetland definition and description of methodology to be used in defining wetlands as part of waters of the state.²⁸

Pursuant to Section 401 of the Clean Water Act, projects that are regulated by the USACE must obtain a Water Quality Certification permit from the RWQCB. This certification ensures that the proposed project will uphold the State’s water quality standards. Because California’s jurisdiction to regulate its water resources is much broader than that of the federal government, proposed impacts on waters of the state require Water Quality Certification even if the area occurs outside of USACE jurisdiction. Moreover, the RWQCB may impose mitigation requirements even if the USACE does not. Under the Porter-Cologne, the SWRCB and the nine regional boards also have the responsibility of granting Clean Water Act National Pollutant Discharge Elimination System (NPDES) permits and Waste Discharge Requirements for certain types of point source and non-point discharges to waters. These regulations limit impacts on aquatic and riparian habitats from a variety of urban sources.

Project activities that affect waters of the U.S. and waters of the state will require 401 Certification and/or a Waste Discharge Requirement from the RWQCB. In the Study Area, these include the open water and intertidal habitats in the Bay, tidal channels, associated wetlands and shoreline areas, and stormwater drain outlet structures discharging into the Bay described as likely waters of the U.S. The RWQCB may also exert jurisdiction over the drainage ditches that were excavated in uplands in inland portions of the Project Area (see Figure 7-8), and that drain to the Bay via an underground stormwater conveyance system.

The Hydrology chapter of this document provides detail pertaining to the National Pollutant Discharge Elimination System and the applicable Municipal Regional Stormwater Permit, including regulatory settings and requirements for Construction General Permits and Stormwater Management Plans pursuant to Provision C.3 requirements.

Local Regulations and Policies

SSF General Plan

Guiding policies and implementation strategies of the SSF General Plan pertaining to habitat and biological resource conservation include the following:

- Policy 7.1-G-1: Protect special status species and supporting habitats within South San Francisco, including species that are State or federally listed as Endangered, Threatened or Rare. New development projects in ecologically sensitive areas should consider impacts on valuable and sensitive natural habitats.
- Policy 7.1-G-2: Protect and, where reasonable and feasible, restore salt marshes and wetlands.
- Policy 7.1-I-1: Cooperate with State and federal agencies to ensure that development does not substantially affect special status species appearing on any State or federal list for any rare, endangered or threatened species. Require assessments of biological resources prior to approval of

²⁸ SWRCB, 2013

any development on sites with ecologically sensitive habitat [on ecologically sensitive wetlands along the bayshore and Colma Creek].

- Policy 7.1-I-3: As part of development approvals on sites that include ecologically sensitive habitat (at Sign Hill and wetlands along the bayshore and Colma Creek), require institution of an on-going program to remove and prevent the re-establishment of the invasive species and restore the native species.
- Policy 7.2-G-1: Comply with the San Francisco Bay RWQCB regulations and standards to maintain and improve the quality of both surface water and groundwater resources.
- Policy 7.2-G-2: Enhance the quality of surface water resources and prevent their contamination.
- Policy 7.2-G-3: Discourage use of insecticides, herbicides or toxic chemical substances within the city.

East of 101 Area Plan

Chapter 11 of the East of 101 Area Plan is the Conservation Element. This chapter contains policies to protect and enhance natural resources in the East of 101 Area. The primary natural resources in the East of 101 Area are wetlands and their associated plant and animal species, and slopes with native vegetation. Other natural resources such as forests soils and minerals are generally absent in the East of 101 Area due to previous industrial use of the land and the fill soils found in the area.

- Policy CON-1: Prior to construction of development projects on sensitive resource lands, the City shall require an applicant to conduct a formal wetlands delineation at the project site. The results of the wetlands delineation shall be made available to evaluate project specific impacts associated with sensitive habitats.
- Policy CON-2: The City shall require that developments comply with all applicable State and federal laws and regulations regarding protection and replacement of wetlands.
- Policy CON-3: Slopes with native vegetation in the East of 101 Area shall be preserved and enhanced. Slopes in the East of 101 Area that have natural native vegetation should be preserved as an important natural amenity and habitat for wildlife. Slopes that should be preserved include the San Bruno Point Hill, which is an important landmark in the East of 101 Area.
- Policy CON-4: The City shall take all feasible measures to preserve any sensitive plant and animal species that occur in the East of 101 Area.
- Policy CON-5: Prior to receiving approval for construction activities or other disturbances on undeveloped land in the East of 101 Area, project sponsors shall conduct environmental analyses to evaluate the site-specific status of sensitive plant and animal species.
- Policy CON-6: If sensitive plant or animal species would be unavoidably affected by a proposed project, the City shall require the project developer to implement appropriate mitigation measures.
- Policy CON-7: New development adjacent to sensitive resource areas shall be required to incorporate the following measures into project design: 1) shield lights to reduce off-site glare, 2) provide buffer areas of at least 100 feet between known sensitive resources and development areas; 3) landscape all on-site buffer areas with native vegetation to screen habitat areas from adjacent land uses; 4) restrict entry to habitat areas through devices such as fencing, landscaping or signage; and 5) ensure that runoff from development does not adversely affect the biotic values of adjacent wetlands or other habitat areas.

City of South San Francisco Tree Preservation Ordinance

City of South San Francisco Municipal Code 13.30 prohibits the removal or pruning of protected trees without a permit. Protected trees are defined as follows:

1. Any upright, single-trunked tree of a species not considered to be a heritage tree as defined in subsection (3) below or a tree listed in subsection (2) below, with a circumference of 48 inches or more when measured 54 inches above natural grade; or
2. Any upright, single-trunked tree of the following species: blue gum (*Eucalyptus globulus*), black acacia (*Acacia melanoxylon*), myoporum (*Myoporum laetum*), sweetgum (*Liquidambar styraciflua*), glossy privet (*Ligustrum lucidum*), or Lombardy poplar (*Populus nigra*) with a circumference of 75 inches or more when measured 54 inches above natural grade; or
3. Any upright, single-trunked tree considered a heritage tree species, with a circumference of 30 inches or more when measured at 54 inches above natural grade. A heritage tree means any of the following: California bay (*Umbellularia californica*), oak (*Quercus* spp.), cedar (*Cedrus* spp.), California buckeye (*Aesculus californica*), Catalina ironwood (*Lyonothamnus asplenifolium*), strawberry tree (*Arbutus* spp.), mayten (*Maytenus boaria*), or little gem dwarf southern magnolia (*Magnolia grandiflora* "Little Gem"); or
4. A tree or stand of trees so designated by the director based upon findings that it is unique and of importance to the public due to its unusual appearance, location, historical significance or other factor; or
5. A stand of trees in which the director has determined each tree is dependent upon the others for survival.

Landscaped areas in the Project Area may contain trees defined as protected by the South San Francisco Tree Preservation Ordinance. Project activities that involve removal or pruning of protected trees as defined by the Ordinance would require a permit from the City of South San Francisco.

Impacts and Mitigation Measures

Thresholds of Significance

CEQA and the State CEQA Guidelines provide guidance in evaluating impacts of projects on biological resources and determining which impacts will be significant. The Act defines "significant effect on the environment" as "a substantial adverse change in the physical conditions which exist in the area affected by the proposed project." Under State CEQA Guidelines section 15065, a project's effects on biotic resources are deemed significant where the project would:

- substantially reduce the habitat of a fish or wildlife species
- cause a fish or wildlife population to drop below self-sustaining levels
- threaten to eliminate a plant or animal community, or
- reduce the number or restrict the range of a rare or endangered plant or animal

In addition to the Section 15065 criteria that trigger mandatory findings of significance, Appendix G of the State CEQA Guidelines provides a checklist of other potential impacts to consider when analyzing the significance of project effects. Under the CEQA Guidelines, Appendix G – Environmental Checklist Form, the Project would have a significant environmental impact if it were to:

1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service
3. Have a substantial adverse effect on state or federally protected wetlands through direct removal, filling, hydrological interruption or other means
4. 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
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance
6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan

Approach to the Analysis

As described in Chapter 3, the Project Description provides one potential detailed buildout scenario that meets the goals and objectives of the Master Plan Update, and is used for quantitative analytical purposes for this EIR. This Project Description is specific enough to allow for detailed analysis in this EIR, and represents the maximum development potential that could occur pursuant to the Master Plan Update's flexible development potential. The EIR Project Description also identifies the most likely locations (i.e., Opportunity Sites) where new development or redevelopment will occur. However, the Master Plan Update is intentionally flexible and does not define precise development locations. Therefore, the following impact analysis was prepared assuming that Project-related development could occur in any portion of the Project Area, with the following exception - it is assumed that no development or redevelopment activities would occur in habitats mapped as coastal salt marsh, rocky shoreline or tidal aquatic (see prior Figures 7-1 and 7-2). Such habitats are not encompassed within the Opportunity Sites and, due to the sensitivity of these habitats and the species they support, development under the Project would not occur in these locations.

Special-Status Species

The following impact analysis describes the Project's potential adverse effects on special-status species. The analysis is organized by sub-topics and species type. Nine special-status animal species are known to breed or could potentially breed in the Study Area or its vicinity, to occur commonly as non-breeders in the Study Area (and thus could potentially be substantially affected by activities that occur under the Project), and/or are of particular concern to regulatory agencies. These species include the Central California Coast steelhead, green sturgeon and longfin smelt, California Ridgway's rail, burrowing owl, San Francisco common yellowthroat and Alameda song sparrow, and harbor seal and sea lion. Potential impacts resulting from implementation of the Project on each of these species, as well as potential impacts to sensitive natural communities, migratory birds, and impacts pertaining to invasion of non-native plant species, are also analyzed below.

Tidal Aquatic Species and Essential Fish Habitats

Bio 1: The Project could potentially have an indirect adverse effect on Central California Coast steelhead, green sturgeon, longfin smelt and their tidal aquatic habitat within the Bay. However, these potential adverse effects will be reduced to less than significant levels with compliance with regulatory requirements. **(Less than Significant with Regulatory Compliance)**

Central California Coast steelhead (federally listed as threatened), green sturgeon (federally listed as threatened and a California species of special concern), and longfin smelt (state listed as threatened) could occur in tidal aquatic habitats of the Bay, such as those within and immediately adjacent to the Study Area. None of these species is expected to spawn in the waters in or adjacent to the Study Area. However, steelhead could occur in the open waters adjacent to the Study Area as they migrate to and from spawning and rearing streams in the South Bay, and green sturgeon and longfin smelt may forage occasionally in the tidal aquatic habitat within and adjacent to the Study Area. Bay water is designated as Essential Fish Habitat for Pacific Coast Salmon and Coastal Pelagics, and a Fisheries Management Plan for Pacific Groundfish has been prepared and is applicable to the Bay waters adjacent to the Study Area. No new development undertaken pursuant to the Project would occur within this tidal aquatic habitat.

However, Project construction activities may occur in close proximity to the Bay and could result in vegetation removal and mobilization of sediment that, in combination, could lead to erosion of sediment into the Bay. Increases in turbidity and sediment input may stress fish because of feeding difficulties or displacement. Further, minor spills of petrochemicals, hydraulic fluids and solvents may occur during vehicle and equipment refueling or because of leaks, adversely affecting water quality and potentially killing or injuring fish. Therefore, Project activities could result in potentially significant indirect impacts on steelhead, green sturgeon, longfin smelt and Essential Fish Habitat through impacts on water quality and resulting impairment of the health of individuals.

Regulatory Requirements

The CDFW has jurisdiction over the longfin smelt pursuant to the State Endangered Species Act (ESA). Incidental take approval from the CDFW would be needed if the Project were to result in take of longfin smelt. The NMFS has jurisdiction over the Central California Coast steelhead and green sturgeon pursuant to the federal ESA. Incidental take approval from the NMFS would be needed if the Project were to result in take of either of these species. However, the Project will comply with all regulatory requirements to control the discharge of stormwater pollutants and these regulatory requirements will minimize the risk of adverse indirect impacts on water quality such that no take of the longfin smelt, Central California Coast steelhead or green sturgeon will occur.

Regulatory Requirement Hydro 1A - Construction General Permit/Stormwater Pollution Prevention Plan:

All new qualifying construction projects pursuant to the Master Plan Update will be required to comply with Provision C.6 of the Municipal Regional Permit (MRP), and a Notice of Intent for permit coverage under the Construction General Permit must be filed.

- 1) To obtain Construction General Permit coverage, construction projects must include a Stormwater Pollution Prevention Plan (SWPPP) that demonstrates compliance with the City's Grading Ordinances and other local requirements.
- 2) The SWPPP must demonstrate implementation of seasonally appropriate and effective best management practices (BMPs) to prevent construction site discharges of pollutants into the storm drains, before approval and issuance of local grading permits.
- 3) Such construction projects are required to implement the stormwater BMPs identified by the San Mateo Countywide Stormwater Pollution Prevention Program, including plans to address materials and waste management, equipment management and spill control, grading and earthmoving to prevent erosion, paving and asphalt work, concrete and mortar applications, painting and paint removal, landscaping and dewatering.

BMPs will be incorporated into individual SWPPPs prior to approval of grading permits, providing an acceptable level of water quality protection. Implementation of the General Construction General Permit requirements will reduce potential impacts to water quality during construction activities to a less than significant level.

Regulatory Requirement Hydro 1B - Provision C.3 Requirements/Stormwater Management Plan: All new Regulated Projects pursuant to the Master Plan Update will be required to comply with Provision C.3 of the MRP, including requirements to incorporate post-construction stormwater control and low-impact development (LID) measures. Each individual development project must meet Provision C.3 requirements capable of reducing long-term impacts of development on stormwater quality. Some combination of the following post-construction stormwater controls will be required to demonstrate compliance with the hydraulic design criteria of the MRP:

- 1) Site design may include minimizing impervious surfaces minimizing impervious surfaces that are directly connected to the storm drain system, or using landscaping as a drainage feature.
- 2) Source control measures may include roofed trash enclosures, berms that control runoff from a pollutant source, use of indoor mats/equipment wash racks that are connected to the sanitary sewer (where allowed under separate sewer discharge permits), and regular inspection and cleaning of storm drain inlets.
- 3) Stormwater treatments may be met by a combination of measures that may include, but are not limited to bioretention areas, flow-through planter boxes, infiltration trenches, extended detention basins, green roofs, pervious paving and grid pavements, rainwater harvesting and subsurface infiltration systems.

These regulations ensure that potential water quality impacts related to post-construction activity pursuant to the Project will be reduced to a less than significant level.

Mitigation Measures

No mitigation measures are required.

Compliance with regulatory requirements for water quality will reduce the potential for indirect impacts to these species to a level of less than significant.

California Ridgway's Rail

Bio-2: The Project may cause a substantial adverse effect, both directly and through habitat modification, on California Ridgway's rail (federally and state listed as endangered and designated as a state fully protected species). However, these potential adverse effects will be reduced to less than significant levels with compliance with regulatory requirements and mitigation measures as recommended in this EIR. **(Less than Significant with Mitigation Measures)**

The California Ridgway's rail (federally and state listed as endangered and designated as a state fully protected species) has been recorded in coastal salt marshes along the Bay shoreline approximately 0.3 mile southwest of the Study Area at the mouth of Colma Creek (see **Figure 7-9**). The tidal salt marshes (or coastal salt marshes) within the biology Study Area for this EIR are extremely limited in extent and are highly disturbed. The salt marsh in the northerly portion of the Study Area is small, highly disturbed and isolated, and it is unlikely that rails would nest or forage there. However, there is some (albeit low) potential for individuals to forage in the tidal wetland (i.e., the coastal salt marsh) along the southeastern edge of the Study Area at San Bruno Channel, and it is possible that a pair could breed in this marsh. However, such an occurrence would be expected only very infrequently, if at all. Focused monitoring for nesting rails conducted along the San Bruno Channel in 2009, including 10 repeated site visits from June through August, detected no California Ridgway's rails.²⁹

²⁹ H. T. Harvey & Associates 2009; CNDDB, 2017



Seasonal wetland at northerly Biological Study Area (not in Project Site)



Coastal salt marsh near San Bruno Channel in southerly Biological Study Area (within Project Site)

Figure 7-9
Marsh and Wetland Habitats in Biology Study Area



Source: HT Harvey 2016 and 2017

New development undertaken pursuant to the Project would not result in activities occurring within suitable breeding or foraging habitat for the California Ridgway's rail, and no permanent loss or temporary disturbance of suitable habitat for this species would result from implementation of the Project. However, if rails are present in or immediately adjacent to the biological Study Area, construction-related noise could result in the disturbance of breeding or foraging individuals. Noise may alter rail behavior in ways that result in injury, mortality, or reduced nesting success. Disturbance during the breeding season could cause short-term effects such as failure to breed, nest abandonment, juvenile abandonment and overall lower juvenile survivorship. Disturbance could also result in a reduction in foraging efficiency in foraging areas, increased movement, flushing from cover, or altered activity patterns that reduce energy reserves and increase predation risk. Rails could be forced to adjust the boundaries of their territories or to disperse to other habitat areas. Project impacts on even one nest of the California Ridgway's rail would be significant due to this species' rarity in the region.

Mitigation Measures

The CDFW has jurisdiction over the California Ridgway's rail under the State ESA. Therefore, the CDFW will require that avoidance measures be implemented to avoid take of individual California Ridgway's rails. The following mitigation measures shall be implemented, consistent with CDFW requirements, to avoid take of individual California Ridgway's rails.

Mitigation Measure Bio 2A - Seasonal Avoidance: To avoid causing the abandonment of an active California Ridgway's rail nest, construction activities within 750 feet of the coastal salt marsh habitat in the southeastern corner of the site (see prior Figure 7-9) shall be avoided during the rail breeding season (from February 1 through August 31). If avoidance is not possible, protocol-level surveys (see Mitigation Measure Bio 2, below) shall be conducted by a qualified biologist to determine rail locations and territories.

Mitigation Measure Bio 2B - Protocol-Level Surveys and Buffers around Calling Centers: Prior to any construction activity near the coastal salt marsh along the southeastern edge of the biological Study Area, a protocol-level survey, which involves a series of site visits between mid-January (beginning no later than January 31) and late March, shall be conducted by a qualified biologist. The survey needs to be approved by the USFWS and CDFW in advance.³⁰ If breeding rails are determined to be present, construction activities shall not occur within 750 feet of an identified calling center during the breeding season.

Mitigation Measure Bio 2C - Initiate Work during the Non-Breeding Season: Regular, ongoing disturbance within a work area that begins prior to the start of the nesting season or nest establishment in an area may deter California Ridgway's rails from nesting near construction activities. If construction activities need to occur within 750 feet of suitable California Ridgway's rail nesting habitat, such activities shall be initiated and shall reach peak levels of disturbance prior to the onset of the nesting season. Peak levels of disturbance is defined as construction noise in the vicinity of the suitable habitat reaching maximum levels, and construction activities that occur as near to the suitable habitat as required for the project. If an active nest is identified subsequent to construction activities reaching a peak level of disturbance, a buffer of 750 feet shall be established between Project activities and the nest.

Resulting Level of Significance

Potential impacts on the California Ridgway's rail were not identified in the previous 2007 MEIR or the 2012 SMEIR, which indicates that habitat of suitable quality to support this species was not considered to be

³⁰ United States Department of the Interior, Fish and Wildlife Service, California Clapper Rail Survey Protocol, accessed at: https://www.fws.gov/sfbaydelta/documents/June_2015_Final_CCR_protocol.pdf

present in or adjacent to the Study Area. Although the coastal salt marshes in the Study Area are extremely limited in extent and are highly disturbed, the potential for individual California Ridgway's rails to forage or breed in this habitat along the southeastern edge of the Study Area at San Bruno Channel cannot be dismissed. Implementation of Mitigation Measures Bio 2A through 2C above would avoid take of individuals (as is required by the CDFW due to this species' designation as fully protected), would avoid impacts to nesting pairs and Project activities will not adversely affect this species' potential habitat. Therefore, impacts on the California Ridgway's rail will be reduced to a level of less than significant.

Burrowing Owl

Bio 3: The Project would not cause a substantial adverse effect, either directly or through habitat modification, on burrowing owls. Burrowing owls are a migratory species protected under the federal MBTA and California Fish and Game Code, and designated as a state species of special concern. **(Less than Significant)**

The ruderal grasslands in the Project Area provide ostensibly suitable foraging and roosting habitat for the burrowing owl, a California species of special concern. Although there are no records of burrowing owls in the Project vicinity, occasional migrating or dispersing individuals could forage in the Project Area and could possibly take temporary refuge in riprap along the shoreline. However, this species is not expected to breed, occur regularly or occur in numbers in the Project Area, and the San Mateo County Breeding Bird Atlas indicates no evidence of breeding in the Project vicinity.³¹

Project activities would not result in the loss of breeding habitat or impacts to breeding owls or their nests. The majority of suitable habitat for the species (i.e., open grasslands with ground squirrel burrows) occurs along the eastern edge of the Project Area within and adjacent to the rocky shoreline, where no development is proposed to occur. A recent study has suggested that many wintering owls in the South Bay do not breed in the Bay area.³² Thus, individuals of this species that may be present are likely from populations that are more robust than the dwindling Bay Area population of breeding burrowing owls. Potential impacts to burrowing owls are determined to be less than significant.

Mitigation Measures

No mitigation measures required. New development undertaken pursuant to the Project would not result in the disturbance of breeding individuals or the loss of breeding habitat for this species, and Project impacts are not expected to affect appreciably the regional population of this species. This impact is considered less than significant.

San Francisco Common Yellowthroat, Alameda Song Sparrow and other Native Nesting Birds

Bio 4: The Project may cause a substantial adverse effect, either directly or through habitat modification, on Alameda song sparrow, San Francisco common yellowthroat (both California species of special concern) and other native bird species protected by the MBTA and California Fish and Game Code. However, these potential adverse effects will be reduced to less than significant levels with compliance with mitigation measures as recommended in this EIR. **(Less than Significant with Mitigation Measures)**

The Alameda song sparrow and San Francisco common yellowthroat (both California species of special concern) could occur in brackish marsh along the drainage channel in the northerly portion of the Study Area (**not** in the Project site). They may also occur in the salt marsh habitat along the San Bruno channel at the

³¹ Sequoia Audubon Society, 2001

³² Chromczak et al., 2016

southern boundary of the Study Area (**within** the Project Site). These species are assessed together because the potential impacts of the Project on these species would be similar. Suitable breeding and foraging habitat for the Alameda song sparrow and San Francisco common yellowthroat in the Study Area is of relatively low quality due to its limited extent and the high level of human disturbance associated with the San Francisco Bay Trail and surrounding urban developments. The smaller isolated patches of salt marsh located along the shoreline (see previous Figures 7-1 and 7-2) do not provide suitable habitat for these species due to their very limited extent and sparse vegetation. Therefore, occurrence of the San Francisco common yellowthroat and Alameda song sparrow in the Study Area is expected to be limited to a small number of pairs in salt marsh habitats located along the narrow tidal channels on the northern and southern borders (see prior Figure 7-9).

No Project activities are proposed to occur in the salt marsh habitat in the Study Area. However, Project construction activities that result in ground disturbance, noise and vibrations near this habitat type could potentially disturb nesting Alameda song sparrows and San Francisco common yellowthroats, and cause them to move away from work areas, resulting in the abandonment of active nests with eggs or nestlings. Such impacts would be limited to a small number of pairs, and these individuals represent only a very small proportion of the regional populations of these species. Thus, implementation of the Project is not expected to result in a significant impact on the Alameda song sparrow or San Francisco common yellowthroat.

Nesting Birds

However, all native bird species, including Alameda song sparrows and San Francisco common yellowthroats, are protected by the MBTA and California Fish and Game Code. In particular, active nests of native birds may constrain certain Project-related construction activities. Trees and shrubs throughout the Project Site could provide suitable habitat for nesting native and migratory birds, which are protected under state and federal regulations. Construction activities that occur during the nesting season (February 1 through August 31) could result in the incidental loss of eggs or nestlings, through either the destruction or disturbance of active nests, or indirectly by causing the abandonment of nests, a violation of the provisions of the MBTA and California Fish and Game Code. This is considered a potentially significant impact.

Mitigation Measures

The Alameda song sparrow, San Francisco common yellowthroat and other native birds are protected under the federal MBTA and Sections 3503 and 3800 of the California Fish and Game Code. Therefore, the Project will be required to implement measures to ensure that Project activities comply with the MBTA and California Fish and Game Code. Therefore, the following avoidance mitigation measures shall be implemented, consistent with the MBTA and California Fish and Game Code:

Mitigation Measure Bio 4A - Seasonal Avoidance: To the extent feasible, construction activities should be scheduled to avoid the nesting season. If construction activities are scheduled to take place outside the nesting season, all impacts on nesting birds protected under the MBTA and California Fish and Game Code will be avoided. The nesting season for most birds in San Mateo County extends from February 1 through August 31.

Mitigation Measure Bio 4B - Pre-construction/Pre-disturbance Surveys: If it is not possible to schedule construction activities between September 1 and January 31, then a pre-construction survey for nesting birds shall be conducted by a qualified ornithologist to ensure that no nests will be disturbed during Project implementation. These surveys should be conducted no more than seven days prior to the initiation of any construction activities. During this survey, the ornithologist shall inspect all trees and other potential nesting habitats (e.g., trees, shrubs, ruderal grasslands, buildings) in and immediately adjacent to the impact area, as well as a construction zone of up to 300 feet from the edge of the construction zone into the southerly coastal salt marsh habitat (if applicable), for nests.

Mitigation Measure Bio 4C - Buffers: If an active nest is found sufficiently close to work areas such that it would be disturbed by construction activities, the ornithologist shall determine the extent of a construction-free buffer zone to be established around the nest (typically 300 feet for raptors and 100 feet for other species). Any active nests shall be monitored by the ornithologists to determine when the young fledge, and construction within the buffer zone can resume.

Resulting Level of Significance

Based on the limited extent and low quality of habitat conditions observed during the reconnaissance surveys, as well as the Project's avoidance of wetland habitats, Project development activities are expected to have only limited impacts on a small number of individuals of these species, and would not result in a substantial impact on regional populations. Implementation of Mitigation Measures 4A through 4C would ensure compliance with the MBTA and California and Fish and Game Code, and reduce potential impacts to a level considered less than significant.

Harbor Seal and California Sea Lion

Bio 5: The Project could potentially have an indirect adverse effect on harbor seal and California sea lion (both protected species under the Marine Mammal Protection Act), and their tidal aquatic habitat within the Bay. However, these potential adverse effects will be reduced to less than significant levels with compliance with regulatory requirements. **(Less than Significant with Regulatory Requirements)**

The harbor seal and California sea lion (both protected species under the Marine Mammal Protection Act) may occur in the Bay immediately adjacent to the Study Area. The tidal aquatic habitat adjacent to the Study Area provides suitable foraging and dispersal habitat for these species. The Project has the potential to result in indirect impacts to these species and this habitat type due to adverse effects on water quality.

Although the rocky shore habitat in the Project Area provides ostensibly suitable haul-out sites for these species, the high level of disturbance and human presence along the San Francisco Bay Trail and shoreline greatly reduces the suitability of this habitat, and neither harbor seals nor California sea lions are expected to make use of any part of the Project Area. Further, both species are only expected as occasional visitors to the adjacent Bay waters. If harbor seals or sea lions are present in the waters in or adjacent to the Study Area, Project construction activities that result in high volume underwater sound levels have the potential to result in the disturbance of these species. However, no currently known Project-related development activities are proposed within tidal aquatic or rocky shoreline habitats, and no activities that result in high volume underwater sound levels are anticipated. The potential for direct impacts to these species is considered less than significant.

Regulatory Requirements

The Project does have the potential to result in indirect impacts to these species and their habitat due to adverse effects on water quality. However, the Project will be required to comply with all regulatory requirements to control the discharge of stormwater pollutants:

Regulatory Requirement Hydro 1A - Construction General Permit/Stormwater Pollution Prevention Plan:

All qualifying new construction projects pursuant to the Master Plan Update must comply with Provision C.6 of the Municipal Regional Permit (MRP). A Notice of Intent for permit coverage under the Construction General Permit must be filed, and a Stormwater Pollution Prevention Plan must be implemented (see additional details, above).

Regulatory Requirement Hydro 1B - Provision C.3 Requirements/Stormwater Management Plan: All new Regulated Projects pursuant to the Master Plan Update will be required to comply with Provision C.3 of the MRP, including requirements to incorporate post-construction stormwater control and low-

impact development (LID) measures. Each individual development project must meet Provision C.3 requirements capable of reducing long-term impacts of development on stormwater quality. Some combination of post-construction stormwater controls will be required to demonstrate compliance with the hydraulic design criteria of the MRP (see additional details, above).

Implementation of these regulatory requirements will minimize the risk for adverse impacts on water quality, and potential indirect impacts on harbor seal and sea lion will be less-than-significant.

Additional Mitigation Measures

No additional mitigation measures required.

Bird Strikes

Bio 6: The Project would not interfere substantially with migratory bird corridors due to bird strikes with buildings. **(Less than Significant)**

New development pursuant to the Project will result in the construction of new multi-story buildings as well as the replacement of existing structures with buildings that are likely larger, taller, and more architecturally and functionally complex. Glass windows and building facades can result in injury or mortality of birds due to collisions with these surfaces. Because birds do not perceive glass as an obstruction the way humans do, they may collide with glass when the sky or vegetation is reflected in glass (i.e., they see the glass as sky or vegetated areas). Transparent windows allow birds to perceive an unobstructed flight route through the glass (such as at corners), and the combination of transparent glass and interior vegetation (such as in planted atria) may result in attempts by birds to fly through glass to reach that vegetation.

The majority of avian collisions with buildings occur within the first 60 feet of the ground, where birds spend the majority of their time engaged in foraging, territorial defense, nesting, and roosting activities, and where vegetation is most likely to be reflected in glazed surfaces.³³ However, very tall buildings may pose a threat to birds that are migrating through the area, particularly to nocturnal migrants that may not see the buildings or that may be attracted to lights on the buildings.

Currently, terrestrial land uses and habitat conditions in and adjacent to the Project Area consist primarily of developed and landscaped uses such as buildings, parking lots and roads. Vegetation in these areas is limited in extent, and consists primarily of non-native landscaped trees and shrubs. Although a number of bird species will use such vegetation, they typically do so in low numbers. Non-native vegetation supports fewer of the resources required by native birds than native vegetation, and the structural simplicity of the vegetation (without well-developed ground cover, understory and canopy layers) further limits resources available to birds. The area to the west of the Project Area is heavily urbanized, so large numbers of birds are not expected to be flying east to west over the Project Area at altitudes low enough for bird-strike mortality to occur.

The Project Area is located along the Pacific Flyway for migratory birds, and the juxtaposition of shoreline, coastal salt marsh, seasonal wetland and open tidal aquatic habitats in the region results in large-scale movements of birds north to south along the edge of San Francisco Bay, both during long-distance movements and during daily movements between roosting and foraging habitats. The bird species with the greatest potential to collide with buildings in the Project Area would consist primarily of the common, resident, migrant or wintering wading birds, waterfowl and passerines (i.e., songbirds). The numbers of these birds moving through the site will vary by time of year and by species.

³³ City of San Francisco, 2011

By necessity, buildings developed pursuant to the Project would be within the primary “Bird Collision Zone” (i.e., within the first 60 feet above the ground). However, the Project Area is already extensively developed with numerous multi-story buildings, including areas adjacent to the shoreline. The development of new buildings at infill sites is not expected to substantially increase the risk of bird strikes as these buildings would be surrounded by existing development that essentially “screens” all or a majority of the 60-foot Bird Collision Zone. Similarly, redevelopment of existing structures is not expected to increase substantially the risk for avian collisions. Therefore, this impact is determined to be less than significant.

Mitigation Measures

No mitigation measures required.

Due to the large number of existing multi-story buildings present throughout the Project Area, and the spatial orientation of high-quality bird habitat in relation to the site, Project impacts resulting from bird collisions are not expected to rise to the CEQA standard of having a substantial adverse effect on migratory bird corridors. This would not constitute a significant impact under the CEQA.

Invasive Species

Bio 7: The Project could potentially result in adverse effects on coastal salt marsh and other sensitive habitat due to the spread of invasive and non-native plant species. However, this potential adverse effect will be reduced to less than significant levels with mitigation measures identified in this EIR.
(Less than Significant with Mitigation Measures)

Invasive weeds can occur in all habitat types and can be difficult to eradicate. One of the characteristics of some invasive species that make them successful is that many non-native, invasive plant species produce seeds that germinate readily following disturbance. Newly disturbed areas are highly susceptible to colonization by non-native, invasive species that occur locally, or whose propagules are brought in by personnel vehicles and other equipment.

There are several non-native, invasive species currently present in the Project Area, including pampas grass and fennel. Development activities undertaken pursuant to the Project will result in a large portion of the site being subject to soil disturbance. Activities such as trampling, equipment staging, and vegetation removal are all factors that would contribute to disturbance. Areas of disturbance could serve as the source for promoting the spread of non-native species, which could degrade the ecological values of wetlands that occur within and immediately adjacent to the Study Area, and adversely affect native plants and wildlife that occur there. Additionally, movement of soil that is infested with invasive plants could spread these infestations to new areas within the Project Area. Therefore, Project construction activities could result in potentially significant impacts on adjacent sensitive habitats, including coastal salt marsh and the sensitive species it supports.

Mitigation Measures

Mitigation Measure Bio 7 - Invasive Weed Control: Prior to ground disturbing activities, the Project work areas shall be surveyed by a qualified biologist/botanist for the presence of pampas grass, fennel and other highly invasive plant species from the California Invasive Plant Council list.

- a) Any invasive plants found within the area that is to be disturbed by development shall be removed and disposed of in a sanitary landfill. Alternatively, invasive plants may be disposed of in a high-temperature composting facility that can compost using methods known to kill weed seeds, taking care to prevent any seed dispersal during the process by bagging material or covering trucks transporting such material from the site.
- b) Cut soils from areas infested by weeds such as pampas grass and fennel that will be reused as fill elsewhere in the Project Area will be buried under hardscape or placed in areas to be managed

with landscaping.

- c) During construction activities, all seeds and straw materials used on site shall be weed-free, and all gravel and fill material shall be certified weed-free.
- d) Construction vehicles and all equipment will be washed (including wheels, undercarriages and bumpers) before entering the Project Area. Vehicles will be cleaned at existing construction yards or car washes. Genentech will document that all vehicles have been washed prior to commencing work.

Resulting Level of Significance

Implementation of Mitigation Measure Bio 7, as described above, will reduce impacts from invasive weeds to a less-than-significant level.

Sensitive Natural Communities

Bio 8: The Project will not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. (**Less than Significant with Regulatory Compliance**)

Riparian communities are limited in extent within the state and are considered sensitive habitats. Riparian communities are potentially present in the Study Area, but limited to the area below the top of bank along the tidal channels at the northern and southern salt marsh areas (see prior Figure 7-9). The coastal salt marsh habitat in the Study Area is also a sensitive community (see further discussion, below).

New development undertaken pursuant to the Project would not result in activities occurring within riparian habitat, and no direct impacts to riparian habitat would occur. Nevertheless, Project construction activities in close proximity could result in ground disturbance, vegetation removal and mobilization of sediment that in combination could lead to erosion of sediment into the riparian habitat. Spills may occur during vehicle and equipment refueling or because of leaks that may also adversely affect riparian habitat, if these materials were deposited or allowed to flow into these areas. These indirect effects of construction activity could be significant, but are fully addressed through regulatory requirements (see below).

Regulatory Requirements

The Project will be required to comply with all regulatory requirements to control the discharge of stormwater pollutants:

Regulatory Requirement Hydro 1A - Construction General Permit/Stormwater Pollution Prevention Plan:

Qualifying new construction projects pursuant to the Master Plan Update will be required to comply with Provision C.6 of the Municipal Regional Permit (MRP). This includes filing a Notice of Intent for permit coverage under the Construction General Permit and implementation of a Stormwater Pollution Prevention Plan (see additional details, above).

Regulatory Requirement Hydro 1B - Provision C.3 Requirements/Stormwater Management Plan: All new Regulated Projects pursuant to the Master Plan Update will be required to comply with Provision C.3 of the MRP, including requirements to incorporate post-construction stormwater control and low-impact development (LID) measures. Each individual development project must meet Provision C.3 requirements capable of reducing long-term impacts of development on stormwater quality. Some combination of post-construction stormwater controls will be required to demonstrate compliance with the hydraulic design criteria of the MRP (see additional details, above).

Implementation of these regulatory requirements will minimize the risk for adverse impacts on water quality, and potential indirect impacts on sensitive natural communities, including riparian habitat, will be reduced to a less-than-significant level.

Mitigation Measures

No mitigation measures required.

The Project would not result in the temporary or permanent loss of riparian habitat. Compliance with State requirements to control the discharge of stormwater pollutants during construction under the NPDES Construction General Permit and the RWQCB required SWPPP, and post-construction measures and design features required by the MRP would avoid and minimize the risk for adverse impacts on water quality, and potential impacts on riparian habitat to a less-than-significant level.

Wetlands and Other Waters

Bio 9: The Project will not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.), waters of the U.S. and waters of the state through direct removal, filling, hydrological interruption or other means. **(Less than Significant with Regulatory Compliance)**

Wetlands - Tidal Aquatic and Coastal Salt Marsh Habitats

All tidally influenced open water and intertidal habitats of the Bay, the tidal channels at the northern and southern ends of the site, and associated wetlands and shoreline areas extending up to the mean high water (MHW) line are subject to USACE jurisdiction under the Rivers and Harbors Act. Any activities affecting these areas would potentially require a Section 10 Letter of Permission. Jurisdictional wetlands within the Study Area include:

- one area of coastal brackish marsh at the interior end of a tidal channel (not in the Project Area)
- several small patches of coastal salt marsh along the eastern edge of the Project Site
- one moderately-sized patch of coastal salt marsh at the southeastern corner of the Project Site, and
- one seasonal wetland at the northeastern corner of the Study Area (**not** in the Project Site)

However, the Project would not result in either temporary or permanent loss of these wetland habitats, as these areas are not identified in Opportunity Sites for new development.

However, tidal aquatic and wetland habitats may be indirectly affected due to increased hardscape in upland habitats that can lead to an increase in runoff, a decrease in infiltration and groundwater recharge, and possible introduction of anthropogenic contaminants such as petrochemicals, herbicides and fertilizers into regulated habitats. In addition, Project-related construction activities such as grading, paving, vegetation removal and other soil disturbances can increase the potential for soil erosion. Construction activities could increase the amount of soil and sediments entering waterways, resulting in a substantial impact on water quality. Further, spills may occur during vehicle and equipment refueling or because of leaks that may also adversely affect water quality.

Drainage Ditches

Project development may result in the temporary or permanent loss of some on-site drainage ditches. The on-site drainage ditches in the Project Area are excavated in uplands areas and are not a replacement for native drainage features (see prior Figure 7-8). In the opinion of the EIR consulting biologists (H. T. Harvey & Associates), the on-site drainage ditches are unlikely to be claimed as waters of the U.S. by the US Army Corps of Engineers under Section 404 or 401 of the Clean Water Act, and do not constitute waters of the State pursuant to Section 1600 of the California Fish and Game Code. The stormwater drainage ditches in

the Study Area were excavated in uplands for stormwater conveyance and treatment, source inputs appear to be from storm drain systems collecting runoff from developed uplands, they appear to drain to a constructed storm drain system, none of them replace native drainages, and they have been well maintained since construction.

Additional Mitigation Measures

Whereas the EIR consulting biologist's opinion is that the on-site drainage ditches do not constitute waters of the State and are unlikely to be claimed as waters of the U.S. by the US Army Corps of Engineers, this determination will ultimately need to be made by the USACE and/or the RWQCB. The following additional mitigation measure clarifies the requirement for verification of a wetlands delineation for these on-site drainage ditches:

Mitigation Measure Bio 9 – Drainage Channel Wetland Delineation: Although drainage channels within the site lack many of the habitat features usually present in jurisdictional waters of the U.S. or the State, there is some possibility these drainage ditches may be claimed as jurisdictional. Prior to any proposed fill or material alteration of on-site drainage ditches (those indicated on prior Figure 7-8), a preliminary wetlands delineation based on the criteria of most current Corps of Engineers Wetlands Delineation Manual and any regional supplements shall be conducted and submitted to USACE and RWQCB prior to issuance of any grading permits.

- a) Presuming these preliminary wetland delineations find the on-site drainage ditches are not Waters of the US or of the State, and that these delineations are accepted by the respective permitting agencies, then no further federal wetlands permitting is required.
- b) If the USACE and/or the RWQCB claim jurisdiction of these features, any alteration of the drainage ditches would require applicable permits and compliance with all standards and requirements of such permits.
- c) The RWQCB is likely to consider these drainage ditches as required parts of the overall Campus' Stormwater Management Plan, and pursuant to subsequent Statewide General Construction Permits will likely require that the storm drainage functions of these features be replaced if they are affected.

Potential biological effects on drainage ditches, should they be claimed as jurisdictional waters by either the USACE or the RWQCB (which is considered to be not likely), would be reduced to a level of less than significant through implementation of regulatory requirements of these respective agencies, if found applicable pursuant to subsequent preliminary wetland delineations.

Environmental Corridors

Bio 10: The Project will not 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. **(Less than Significant)**

For many species, the landscape is a mosaic of suitable and unsuitable habitat types. Environmental corridors are segments of land that provide a link between these different habitats while also providing cover. Development that fragments natural habitats (i.e., breaks them into smaller, disjunctive pieces) can have the effect of making habitats smaller such that they are unable to support as many individuals, and the area between habitats may become unsuitable for wildlife species to traverse.

All Project development activities are located in areas that are currently developed or that are surrounded by existing development or construction activities. The rocky shoreline adjacent to the Bay serves as the only movement pathway for terrestrial species, providing cover and foraging opportunities. Common, urban-

adapted species such as raccoons and striped skunks may use the landscaped plants along the Bay Trail to move north to south through the Project Area. Small mammals, such as mice and shrews, will also use this vegetation as cover to move between habitats. However, Project development does not extend down the rocky shoreline to the Bay. The Project's development activities would not impede animal movement along this wildlife movement pathway.

The Project Area consists of heavily disturbed habitats that are of little value to migrating wildlife. Terrestrial wildlife species that use these habitats are acclimated to existing high levels of disturbance and habitat fragmentation in the Project vicinity. To the east of the biological Study Area, the Bay provides an important movement pathway for aquatic species, connecting breeding and foraging habitats. However, the Project would not result in any loss of aquatic or marsh habitat. Aquatic species would continue to be able to move north to south through the Bay, independent of the Project.

Mitigation Measures

No mitigation measures required.

The Project would not 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, and this impact is determined to be less than significant.

Conflicts with Local Tree Protection Policies

Bio 11: The Project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. **(Less than Significant with Regulatory Compliance)**

Landscaped portions of the Project Area may contain trees defined as "protected" by the South San Francisco Tree Preservation Ordinance, Title 13 Chapter 13.30. Development activities could involve removal or pruning of certain protected trees. The removal or pruning of trees protected by the City of South San Francisco Tree Preservation ordinance without required permits is considered potentially significant under CEQA.

Regulatory Requirements

Regulatory Requirement Bio 11A – Tree Removal Permit: All new development pursuant to the Project will be required to comply with City of South San Francisco Municipal Code 13.30, which prohibits the removal or pruning of protected trees without a permit. Pursuant to this regulatory requirement, Genentech will be required to retain a certified arborist to conduct pre-construction surveys of trees within the Project Area, and provide a map to the applicant and the City. Each identified protected tree that will be directly impacted by removal or pruning will require a Tree Pruning/Removal Permit pursuant to the South San Francisco Municipal Code. This permit will be submitted to the City and must be approved before building permits are issued.

Regulatory Requirement Bio 11B- Tree Replacement Planting: Replacement trees will be determined as set forth in Municipal Code Section 13.30.080, which provides that any protected trees that are removed shall be replaced as follows:

- 1) Replacement will be three 15-gallon size or two 24-inch box minimum size landscape trees for each tree removed as determined below. However, the director maintains the right to dictate size and species of trees in new developments.
- 2) Any protected tree removed without a valid permit will be replaced by three 24-inch box minimum size landscape trees of a species approved by the director for each tree so removed as determined below.

- 3) Replacement of a protected tree can be waived by the director if a sufficient number of trees exist on the property to meet all other requirements of the tree preservation ordinance.
- 4) If replacement trees cannot be planted on the property, payment of the replacement value of the tree, as determined by the International Society of Arboriculture Standards, plus the costs to the city to plant an equivalent tree elsewhere in the city, will be made to the city.

Mitigation Measures

No mitigation measures required.

Implementation of the Project has the potential to result in the removal or pruning of trees protected by the City of South San Francisco Tree Preservation ordinance, but required compliance with the Municipal Code will reduce this impact to a less than significant level.

Conflict with Habitat Conservation Plan

Bio 12: The Project will not conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan or other habitat conservation plan approved by local, regional or state agencies. **(No Impact)**

The San Bruno Mountain Habitat Conservation Plan is the only Habitat Conservation Plan that has been approved in San Mateo County, but it does not cover the Project Area or the immediately surrounding vicinity. No other Natural Community Conservation Plans have been approved or are in preparation in San Mateo County.³⁴ The Project would not conflict with any adopted Habitat Conservation Plans or Natural Community Conservation Plans, or with any other approved local, regional or state habitat conservation plans. Potential impacts associated with conflicts between the Project and any adopted Habitat Conservation Plans or Natural Community Conservation Plans would be less than significant.

Mitigation Measures

No mitigation measures required.

Cumulative Biological Resource Effects

The Project will not result in a cumulatively considerable contribution to significant cumulative impacts on biological resources. Biological resource impacts are largely location-specific and dependent on site-specific habitat.

The Project's potential contribution to cumulative impacts on biological resources is evaluated in the context of past, present, and reasonably foreseeable probable future development expected in the City and along the Bay shoreline. As indicated below, with implementation of applicable regulatory requirements and appropriate mitigation measures, cumulative impacts to biological resources would be less than significant, and the Project would not result in a cumulatively considerable contribution to a significant cumulative biological resources impact.

Tidal Aquatic Habitat

Habitat for Central California Coast steelhead (federally listed as threatened), green sturgeon (federally listed as threatened and a California species of special concern), and longfin smelt (state listed as threatened) occur in tidal aquatic habitats of the Bay. The Bay has been designated as Essential Fish Habitat for Pacific Coast Salmon and Coastal Pelagics, and a Fisheries Management Plan is applicable to waters of the Bay for Pacific

³⁴ CDFW, 2017

Groundfish. However, there are no present or reasonably foreseeable probable future development projects in the vicinity that are known to result in direct impacts to these habitat types, and all new development is subject to applicable regulatory restrictions and requirements pertaining to this habitat type. No new development undertaken pursuant to the Project would occur within tidal aquatic habitat, and the Project would not contribute to cumulative effects on this habitat type.

Coastal Salt Marshes/Native Birds

The California Ridgway's rail has been recorded in coastal salt marshes along the Bay shoreline. Other current or reasonably foreseeable development projects could potentially result in direct impacts to this habitat, but all new development is subject to applicable regulatory restrictions and requirements. New development undertaken pursuant to the Project is required to implement these regulatory requirements and mitigation measures, and the Project would not contribute to cumulative effects on this habitat type.

Brackish marsh and salt marsh habitat along the Bay provide habitat for the Alameda song sparrow and San Francisco common yellowthroat (both California species of special concern). Cumulative development that threatens these habitat types poses a potentially significant cumulative impact to these species. However, all native bird species (including Alameda song sparrows and San Francisco common yellowthroats), are protected by the MBTA and California Fish and Game Code. All current and reasonably foreseeable development projects (including the Project) are required to implement measures to ensure compliance with the MBTA and California Fish and Game Code. Mitigation measures are identified for the Project that include seasonal avoidance of construction activities during the nesting season, pre-construction surveys for nesting birds, and establishment of construction-free buffer zones around active nests. With implementation of these mitigation measures, the Project will not contribute to cumulative effects on nesting native birds.

Wetlands and Waters of the US

Past, current or reasonably foreseeable future development projects could potentially result in direct impacts to wetlands and other waters of the U.S. However, regulatory requirements pursuant to Section 404 of the Clean Water Act, Section 401 of the Clean Water Act, the Porter-Cologne Water Quality Control Act and the Bay Plan (BCDC permits) apply to all applicable regulated projects. Implementation of these regulatory requirements, including the requirement to obtain a permit prior to discharge or fill of these habitat types, minimize the risk for adverse direct and indirect impacts on wetlands. New development undertaken pursuant to the Project is required to implement these regulatory requirements, and the Project would not contribute to cumulative effects on wetlands or other waters of the US.

Indirect Impacts Affecting Water Quality

Potentially significant cumulative impacts to multiple habitat types (including wetlands) could occur if stormwater pollutants were to be discharged into these areas. However, all present and reasonably foreseeable development projects are required to comply with regulatory requirements that control the discharge of stormwater pollutants. Those regulatory requirements that apply to all cumulative construction projects include compliance with the Construction General Permit, and preparation and implementation of a Stormwater Pollution Prevention Plan pursuant to Provision C.6 of the Municipal Regional Permit (MRP), including filing a Notice of Intent for permit coverage under the Construction General Permit. Further, all regulated cumulative development projects are required to design and implement Stormwater Management Plans to comply with applicable C.3 provisions of the MRP, including requirements to incorporate post-construction stormwater control and low-impact development (LID) measures. These regulations are designed to protect water quality from all new cumulative construction and development, including the Project.

Tree Removal

Past, present and reasonably foreseeable future development projects in the City of South San Francisco likely involve the removal or pruning of protected trees. The removal or pruning of trees protected by the City of South San Francisco Tree Preservation ordinance without required permits is considered potentially significant under CEQA. However, all cumulative development in South San Francisco is required to comply with the City of South San Francisco Municipal Code Section 13.30, which prohibits the removal or pruning of protected trees without a permit, and to provide replacement trees as set forth in Municipal Code Section 13.30.080. With on-going implementation of these regulatory requirements, cumulative tree removal throughout the City (including at the Project Site) is considered less than cumulatively considerable.