

## 4.C Biological Resources

### 4.C.1 Introduction

This section identifies the existing biological resources at the Project Site; describes the federal, state, and local regulations pertaining to biological resources; and describes the impacts on biological resources associated with development of the Project Site. Feasible mitigation measures are identified to reduce significant impacts.

In addition to the surveys of the Project Site described below, information used in the preparation of this section was obtained from reconnaissance-level field surveys and existing documents pertaining to all or portions of the Project Site including the *Brisbane Baylands Wetland Delineation Report* (Burns and McDonnell, 2003); the *Brisbane Baylands Wetland Mitigation Plan* (Burns and McDonnell, 2004); the *Biological Assessment of Sunquest Properties, Inc, Brisbane, California* (WRA, 2003); the *Habitat Assessment for the California Red-legged Frog and San Francisco Garter Snake on the Former Southern Pacific Rail Yard, Brisbane, San Mateo County, California* (WRA, 2001); the *San Francisco Estuary Invasive Spartina Project Treatment Report for 2008-2009* (ISP, 2009); and the *California Clapper Rail Surveys for the San Francisco Estuary Invasive Spartina Project* (ISP, 2010). Additional information was obtained from the California Natural Diversity Database (CNDDDB) (CDFW, 2013), California Native Plant Society Electronic Inventory (CNPS, 2013), United States Fish and Wildlife Service (USFWS, 2013), Natural Resources Conservation Service Soil Survey (NRCS, 2007), National Wetlands Inventory (USFWS, 2012), and standard biological literature.

On March 2, 2007, June 20, 2007, April 20, 2011, and April 19, 2013 reconnaissance-level field surveys covering the entire Project Site were conducted by ESA biologists. The 2011 survey confirmed that site conditions in terms of biological resources remain consistent with no appreciable changes in distribution or condition of existing habitats between 2007 conditions and 2011, and also consistent with the earlier site surveys described above.

The surveys described above were timed during the various calendar years to maximize the potential for observations of special-status plant species to be in flower, and to maximize opportunities to observe wildlife species that may be present and using the Project Site for breeding and rearing purposes. The combination of existing sources and first hand observations of the Project Site form the body of data used by qualified biologists to develop an accurate description of existing conditions for biological resources. While numerous plant and wildlife species were observed during these reconnaissance surveys, some species may not have been identifiable at the time of the surveys. In such cases, the likelihood for such species to occur has been determined based on the presence or absence of suitable habitat, and is provided in the analysis below. A significant effect was assumed to exist and appropriate mitigation measures have been provided where Project Site development would result in impacts to species with at least a moderate likelihood of occurring onsite. Species characterized as having a low potential to occur are included in **Table 4.C-1**. Species identified as having low potential may occur within a 5-mile radius of the Project Site but the specific habitat type required to support low-potential-to-occur species is absent from the site.

For example those plant species that require serpentine, coastal dune, chaparral, adobe soils, or other species-specific micro habitat as stated would not be expected to occur and/or have a low potential for occurrence. Similarly, those animal species that have specialized breeding habitat requirements that are not present within the Project Site were determined to have a low potential for occurrence. In some cases both the lack of specific micro habitat and the notation that the CNDDDB record for the species was recorded outside a five-mile radius from site from the Project Site contributed to a determination of low potential for occurrence determination.

## 4.C.2 Environmental Setting

### Regional Setting

The Project Site is located in the Bay Area-Delta Bioregion, as defined by the California Environmental Resources Evaluation System. This bioregion supports a variety of natural communities that range from the open waters of the San Francisco Bay and Delta to salt and brackish marshes to chaparral and oak woodlands. The temperate climate of this bioregion is Mediterranean in nature, with relatively mild, wet winters and warm, dry summers.

### Project Site Setting

The Project Site is located primarily in Brisbane, south of the City and County of San Francisco, adjacent to San Francisco Bay. The Project Site is adjoined by US Highway 101 and the current shoreline of San Francisco Bay to the east. San Bruno Mountain and central Brisbane are located to the west. The Project Site was originally an estuarine ecosystem supporting tidal marshes, tidal mud flats, and open Bay waters. The estuarine habitat was filled in with debris and refuse, beginning with the advent of the railroad and the need to dispose of debris from the 1906 earthquake, to create upland elevations and accommodate development of the roads, rail facilities, and industrial uses in the area today (see Section 4.G, *Hazards and Hazardous Materials*, of this EIR, for historical information regarding Bay fill at the Project Site). The process of filling the Bay eventually completely removed or substantially altered much of the natural habitat areas (marshes, tidal mudflats, open Bay waters) that formerly occurred on the Project Site.

Historically, the Project Site was occupied by intertidal mudflats with tidal salt-to-brackish marshes located at the mouth of Visitacion Valley. There were also small areas of sandy beach at the foot of what is now Icehouse Hill and areas to the north that may have supported dune habitat (USGS, 1899; SFEI, 1998a). The terrestrial portions of the Project Site are located nearly entirely on fill over Bay mud, with the exception of Icehouse Hill, which represents a segment of the historical bay margin and is composed of sandstones (NRCS, 2007; see Section 4.E, *Geology, Soils, and Seismicity*, of this EIR for further details on Project Site soils).

The site is dominated by non-native ruderal and grassland species, with landscaped areas along roadways and adjacent to US Highway 101 containing non-native trees and shrubs. Native vegetation types, including coastal scrub and perennial grasslands, are confined to relatively small areas on Icehouse Hill in the western portion of the Project Site.

Tidal and freshwater wetlands occur along the edges of drainage channels and in the portion of the Project Site that was formerly a rail yard. The drainage channels on the site are man-made and were to provide site drainage. Brisbane Lagoon, which is tidally influenced, supports open water habitat and small patches of mudflats, while the perimeter supports remnant tidal marsh habitat. Two large concrete box culverts allow tidal waters from the Bay to enter the lagoon. These box culverts measure 12 feet long by 12 feet wide, with concrete bottoms, and are unobstructed for a length of 300 feet. Approximate tidal range in the portion of the Bay directly adjacent to the Project Site is 6.5 feet and is expected to be less than this within the lagoon. Within the culverts tidal range between mean high water and mean low is likely to be consistent with Bay conditions. Vegetation and habitat types observed on the Project Site are described below and illustrated in **Figure 4.C-1**. Vegetation communities are described below.

### ***Vegetation Communities and Wildlife Habitats***

Vegetation communities described below are based on the classification scheme presented in Preliminary Descriptions of the Terrestrial Natural Communities of California (Holland, 1986). Additionally, descriptions of wildlife habitats included in A Guide to Wildlife Habitats of California (Mayer and Laudenslayer, 1988) were also referenced to better assess wildlife species that vegetation communities could potentially support. Adaptations to the habitat classifications were used where necessary to accurately describe site specific conditions when the vegetation community did not strictly fall within the classification schemes. These sources are considered to be the classic reference materials for baseline evaluations and are recognized and accepted by regulatory agencies and are often used, along with onsite surveys, to evaluate habitat types and the species that would potentially use or are associated with those habitats and therefore might occur at a Project Site. A description of the habitat types beginning with terrestrial habitats, and concluding with wetland habitats provides species specific details for each habitat type including both botanical and wildlife species. Figure 4.C-1 depicts the location and distribution of the habitat types that occur at the Project Site.

### **Terrestrial Communities**

**Non-Native Annual Grassland.** Within the Project Site, non-native annual grassland occurs along the south side of Lagoon Way and on the slopes of Icehouse Hill. Non-native annual grassland habitat is also associated with the soil cuts on Icehouse Hill where the eastern slope was graded to accommodate the rail lines, where the western slope was graded to construct Bayshore Boulevard, and on the southern toe where various non-specific excavations for fill was conducted. In these locations, the steep slopes may be only sparsely vegetated with annual grasses and can contain portions of bare ground. The herbaceous species found within non-native annual grassland may also be observed within the interior portions of the Project Site as part of the understory to the Ruderal habitat.

Non-native annual grasslands are dominated by introduced grasses and forbs, including wild oat (*Avena* sp.), Italian ryegrass (*Festuca perenne*), ripgut brome (*Bromus diandrus*), Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*), and velvet grass (*Holcus lanatus*). Ruderal (broadleaf) herbaceous species, including Italian thistle (*Carduus pycnocephalus*), black mustard

(*Brassica nigra*), wild radish (*Raphanus sativus*), yellow starthistle (*Centaurea solstitialis*), fennel (*Foeniculum vulgare*), pampas grass (*Cordateria jubata*), bristly ox-tongue (*Helminthotheca echinoides*), and English plantain (*Plantago lanceolata*) are also found throughout the non-native grasslands.

Portions of Icehouse Hill that are regularly grazed by horses are also mapped as non-native grasslands, but support limited patches of native annual and perennial grass and forb species. The variety of native grasses and forbs on Icehouse Hill include lupine (*Lupinus* sp.), Douglas iris (*Iris douglasiana*), toad rush (*Juncus bufonius*), California goldfields (*Lasthenia californica*), purple needlegrass (*Stipa pulchra*), buckwheat (*Eriogonum* sp.), California buttercup (*Ranunculus californicus*), suncup (*Taraxia* sp.), two species of checkerbloom (*Sidalcea* spp.), western blue-eyed grass (*Sisyrinchium bellum*), soap plant (*Chlorogalum pomeridianum*), Coast Range mule ears (*Wyethia glabra*), and dotseed plantain (*Plantago erecta*). Johnny jump-up (*Viola pedunculata*), the host plant for the federally listed endangered callippe silverspot butterfly (*Speyeria callippe callippe*), was observed in a patchy but relatively abundant distribution. Even though biologists observed that the Johnny jump-up plants had been grazed by herbivores such as deer, these plants represent a potential host for the callippe silverspot butterflies.

**Ruderal.** Ruderal communities are found throughout the state of California and vary dramatically in vegetation assemblage, depending upon soil types, rainfall, and disturbance frequency. In summary, ruderal habitats are dominated by non-native broad leaf plants (dicots). With the dominance of broadleaf species this habitat is can appear shrubby and form thick barriers in some cases. In contrast, non-native annual grassland habitats are generally shorter in height, falling below two or three feet at the end of the growing season. Plant species found in non-native annual grassland habitat, as described above, may also be found as a component of the ruderal habitat type. The biggest differentiation between the ruderal community and non-native annual grassland is the prevalence of dicots in opposition to grass species domination.

Within the Project Site, ruderal vegetation is found across the former railyard and the lands to the north and south of Visitacion Creek where the non-native dicots are dominant to the non-native grasses. The lands are vegetated with a mosaic of invasive forbs including fennel, Italian thistle, black mustard, wild radish, yellow starthistle, bristly ox tongue, red valerian (*Centranthus ruber*), crown daisy (*Glebionis coronaria*), and pampas grass, and shrubs such as French broom (*Genista monspessulana*), and cotoneaster (*Cotoneaster* sp.), and pyrocantha (*Pyrocantha crenato-serrata*). Coyote brush (*Baccharis pilularis*) and toyon (*Heteromeles arbutifolia*), native pioneer shrub species, can also be found interspersed among the non-natives but in fewer numbers than the invasive shrub species. A few sapling gum trees (*Eucalyptus* sp.) are also found growing in some regions where ruderal vegetation is dominant.

**Wildlife in Non-Native Annual Grassland and Ruderal Habitat.** With the overlap in vegetative species between these two habitat types the common resident and migratory animals that could potentially use these areas can be evaluated together. Non-native annual grasslands and ruderal habitat can provide refuge for reptiles such as western fence lizard (*Sceloporus occidentalis*), alligator lizard (*Elgaria* sp.), western yellow-bellied racer (*Coluber mormon*), and



SOURCE: ESA, 2013

Brisbane Baylands . 206069  
**Figure 4.C-1**  
 Vegetation and Habitat Types

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gopher snake (*Pituophis catenifer*) as well as grassland birds such as mourning dove (*Zenaida macroura*), red-winged blackbird (*Agelaius phoeniceus*), and golden-crowned sparrow (*Zonotrichia atricapilla*). Killdeer (*Charadrius vociferus*) commonly forage and nest on gravel or bare ground, including open dirt and fractured pavement. Grasslands also serve as important foraging grounds for aerial and ground-foraging insect eaters such as *Myotis* bat species. Mammals such as Botta's pocket gopher (*Thomomys bottae*), California ground squirrel (*Spermophilus beecheyi*), and western harvest mouse (*Reithrodontomys megalotis*) commonly forage within both native and non-native grasslands. These small rodents may attract raptors, including red-tailed hawk (*Buteo jamaicensis*) and American kestrel (*Falco sparverius*), both of which have been observed foraging over several areas of the Project Site. Evidence of coyote (*Canis latrans*) on Icehouse Hill and black-tailed jackrabbit (*Lepus californicus*) were also observed. The Project Site is open and devoid of buildings for the most part, and may provide wildlife movement corridors for common species such as skunks (*Mephitis mephitis*) and raccoons (*Procyon lotor*), and avian species moving down slope toward the Bay shore during foraging or to find water.

**Landscaped.** The following descriptions apply to the unit mapped within the Project Site as Landscaped (see Figure 4.C-1). This habitat type includes minor landscaped areas associated with some buildings and the plantings of trees such as lollipop tree (*Myoporum laetum*) and pine (*Pinus* spp.) on the edges of Tunnel Avenue, the north side of Lagoon Way, adjacent to the west side of US Highway 101 between the highway and the former landfill area, as well as on the eastern edge of the Brisbane Lagoon.

Landscaped areas provide foraging or nesting habitat for generalist,<sup>1</sup> and sometimes non-native, wildlife species that can tolerate human presence and activities. Although higher human activity levels in these areas are not often compatible with native wildlife, they may support native wildlife species habituated to human presence including birds and small mammals such as western scrub jay (*Aphelocoma californica*), California towhee (*Melospiza crissalis*), house finch (*Carpodacus mexicanus*), raccoon (*Procyon lotor*), and house mouse (*Mus musculus*).

**Eucalyptus.** Several groves of gum trees (*Eucalyptus* sp.) were observed to form a contiguous habitat type on the western side of the Project Site along Bayshore Boulevard. Gum trees were also established between Bayshore Boulevard and the former railyard property on Bayshore Boulevard to the north.

Even with high traffic levels on Bayshore Boulevard and human activity associated with businesses along Industrial Way, mature blue gum eucalyptus may provide nesting habitat for a number of raptors such as red-tailed hawk, red-shouldered hawk (*Buteo lineatus*), and great horned owl (*Bubo virginianus*). During ESA's reconnaissance site visit in April 2011, the operator of a horse stable on Icehouse Hill described previously observing red-tailed hawks nesting in the small eucalyptus grove north of Icehouse Hill. Eucalyptus may also provide roosting and nursery sites for several bat species, including fringed myotis and long-eared myotis.

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<sup>1</sup> "Generalist" species can occupy and thrive in a variety of natural or developed areas.

**Coastal Scrub and Invasive Scrub.** Coastal scrub is the closest vegetation community classification that may be used to describe the invasive scrub habitat within the Project Site. Invasive scrub is found in small isolated patches on uplands surrounding Brisbane Lagoon and adjacent to the eastern side of Bayshore Boulevard. These two vegetation types are mapped separately on Figure 4.C-1 as coastal scrub and invasive scrub accordingly.

Coastal scrub is a highly variable plant community and is described with a native shrub or a combination of native shrubs as the dominant anchor species; however, in the case of the Project Site the scrub community is dominated by non-native species such as French broom (*Genista monspessulana*), pampas grass, tobacco tree (*Nicotiana glauca*), wattle (*Acacia* sp.), and escaped ornamental fruit trees (*Prunus* sp.). On San Bruno Mountain and in the region, gorse (*Ulex europaeus*), Portuguese broom (*Cytisus striatus*), and cotoneaster (*Cotoneaster* sp.) are commonly found as dominants in the invasive shrubland areas and are also found interspersed within the Project Site. Active management and elimination of the invasive shrubs is conducted on San Bruno Mountain to prevent the extirpation of true coastal scrub habitat. Where left uncontrolled native species disappear, as observed on the Project Site where the non-native shrubs have become the dominant species. Few natives remain in the invasive scrub community and consist of the “tree-like” specimens or the larger shrubs which were well established prior to the invasion of non-native shrubs. The native shrubs toyon (*Heteromeles arbutifolia*), buckeye (*Aesculus californica*), and coyote brush are still present in the invasive shrub community.

Coastal scrub habitat is located on the northeastern slope of Icehouse Hill where a relatively small patch of habitat on a steep slope has remained undisturbed. Perennial grasses occur in association with the coastal scrub habitat and are a component of the understory. Covering approximately 0.5 acre, this habitat patch on Icehouse Hill is the most diverse native plant assemblage within the Project Site and represents a relatively intact fragment of the natural landscape before extensive development of Brisbane occurred in the 19th century.

The coastal scrub overstory is dominated by coyote brush and poison oak (*Toxicodendron diversilobum*), with toyon and elderberry (*Sambucus nigra* ssp. *caerulea*) also occurring as secondary species. The understory is dominated by the native perennial bunchgrasses California melic grass (*Melica californica*) and blue wildrye (*Elymus glaucus*), which occur in association with non-native annuals such as quaking grass (*Briza maxima*) and velvet grass. In addition, the understory contains herbaceous forb species such as goldenback fern (*Pentagramma triangularis*), soap plant, elegant brodiaea (*Brodiaea elegans*) two-tone everlasting (*Pseudognaphalium biolettii*), yarrow (*Achillea millefolium*), and Ithuriel’s spear (*Triteleia laxa*).

Coastal scrub, especially where it occurs in larger patches such as on Icehouse Hill, may provide nesting and foraging habitat for various birds, including California towhee, common bushtit (*Psaltriparus minimus*), and western scrub jay. A continuous vegetation corridor is lacking for passerines between the Project Site and better quality habitat to the west on San Bruno Mountain. Connectivity of this patch to coastal scrub habitat to habitat on the west at San Bruno Mountain may be possible, but Bayshore Boulevard represents a barrier to movement for mammals. Raptors may forage over such areas and prey upon some of these small birds, as well as upon small



mammals and reptiles such as California ground squirrel, brush rabbit (*Sylvilagus bachmani*), and western fence lizard.

### **Wetland Communities**

The following descriptions apply to units mapped in Figure 4.C-1 within the Project Site as Freshwater Emergent Wetlands, Willow Scrub, Tidal Wetland Drainage, Freshwater Drainage, and Tidal Marsh.

**Freshwater Emergent Wetlands.** Freshwater emergent wetland habitat is found within the former rail yard area in the middle of the property and at the center of the roundhouse structure where the turntable once operated. The depression within which the turntable would have rotated accumulates water runoff and has developed wetland vegetation. Freshwater emergent wetlands also occur adjacent and to the west of the Caltrain tracks in the vicinity of Icehouse Hill and supports willow scrub habitat. One small patch of freshwater emergent wetland also was identified in the north eastern corner of the soil processing facility near Beatty and US Highway 101.

The freshwater emergent wetlands on the Project Site typically lose surface water or completely dry up during the summer months, but contain water through the winter and late spring. These seasonally inundated wetlands support hydrophytic vegetation including rabbit's foot grass, nut-sedge (*Cyperus eragrostis*), cattails (*Typha latifolia*), arroyo willow, brownhead rush (*Juncus phaeocephalus*), and cutleaf plantain (*Plantago coronopus*). Due to past disturbance and the nature of these wetlands (small size and, in some cases, isolation), it is highly unlikely that they would support special-status plants or wildlife.

Freshwater emergent wetlands that are dominated by perennial vegetation such as cattails or bulrush may provide nesting and foraging opportunities, as well as cover, for a number of bird species and small mammals. Species commonly associated with freshwater emergent wetland and which are assumed to be present on the site at least occasionally, include great blue heron (*Ardea herodias*), great egret (*Ardea alba*), black phoebe, red-winged blackbird, raccoon, and California vole (*Microtus californicus*). Greater yellowlegs (*Tringa melanoleuca*) and mallards (*Anas platyrhynchos*) were also observed foraging in the shallow standing waters of freshwater emergent wetland habitats during a reconnaissance survey of the Project Site conducted on April 20, 2011.

**Willow Scrub.** Willow scrub habitat is characterized by thickets of arroyo willow (*Salix lasiolepis*), which have grown in association with wetland hydrology in several locations within the Project Site. The willow scrub habitat can be found just north of the Kinder Morgan tank farm, at the south toe of Icehouse Hill, and at the northwestern corner of Brisbane Lagoon. This habitat is densely composed with many multi-trunked or multi-stemmed arroyo willow trees forming thicket-like conditions.

Willow scrub habitat provides nesting and foraging habitat Wilson's warbler, Hutton's vireo and Townsend's warbler.

**Freshwater Drainage.** Freshwater drainages occur in the northern portion of the Project Site and consist of artificially created channels that support herbaceous wetland vegetation. Vegetation

within the freshwater drainage habitat can consist of the same species as observed in the freshwater emergent wetland, but in some areas the freshwater drainages do not support vegetation where the channels are lined with concrete. The freshwater drainages can either flow to San Francisco Bay or appear to be isolated from a receiving body.

Wildlife that could potentially use the habitat within freshwater drainage habitat common yellow throat, white-crowned sparrow, and small mammal species such as raccoons use this habitat for foraging and as movement corridors.

**Tidal Marsh and Tidal Wetland Drainage.** Tidal marsh habitat at the Project Site is found around Brisbane Lagoon and along the length of Visitacion Creek. In both areas the dominant plant species is pickleweed (*Salicornia virginica*) which generally forms a dense mat across the silty or muddy shoreline substrates that have a saline influence or an association with a bay or the ocean (see Figure 4.C-1).

The tidal marsh located around the perimeter of Brisbane Lagoon occurs where soils and/or sediments are present to support vegetation growth (large stretches of the lagoon are armored with riprap which does not support vegetation growth). The soils within the lagoon and the influx of brackish water from San Francisco Bay (box culvert connection described below under open water) promote the growth of halophytes such as pickleweed and its associates. These plants possess morphological adaptations that allow them to inhabit saline soils. The largest area of tidal marsh is located on the southern end of Brisbane Lagoon where a silt fan from a small tributary has formed from sediments. Smaller patches of tidal marsh occur at the northwest corner in conjunction with a drainage fan and along the northern and eastern edges of the lagoon where other patches of sediment have accumulated. A shell beach also exists along the edge of pickleweed habitat in the southeastern side of the lagoon.

Visitacion Creek is connected directly to San Francisco Bay through a culvert beneath US Highway 101 and is also tidally influenced. Visitacion Creek is lined with a wetland fringe dominated by pickleweed for most of its length; and therefore is mapped as a tidal wetland drainage, a type of tidal marsh present along a defined drainage channel.

The tidal marsh and tidal wetland drainage habitat is dominated primarily by pickleweed but other common tidal salt marsh species are found as associates such as saltgrass (*Distichlis spicata*), alkali heath (*Frankenia grandiflora*), fathen (*Atriplex prostrata*), and gumplant (*Grindelia* sp.).

Tidal marsh and tidal marsh drainage habitat at the Project Site may provide nesting and foraging opportunities and cover for water birds and small mammals, including mallard, green-winged teal (*Anas crecca*), great blue heron, great egret, marsh wren, Alameda song sparrow (*Melospiza melodia pusillula*), and California vole. Raptors that typically use marsh habitats for foraging include the northern harrier (*Circus cyaneus*), red-tailed hawk, white-tailed kite (*Elanus leucurus*), and American kestrel.

It is possible that the Brisbane marshes once were inhabited by what are now special-status species. However, it is unlikely that any of these species would currently be found in the tidal

marsh or tidal marsh drainage due to the relatively small size and longstanding fragmentation and isolation of the remaining habitat. For example, salt marsh harvest mouse (*Reithrodontomys raviventris*) occur in high-quality tidal marsh with larger acreage of pickleweed habitat that occurs adjacent to upland environments, but are not expected to occur at the Brisbane Baylands due to the relatively small size of the marshes, the fact that they have been fragmented by roads crossing them, and their longstanding isolation from other similar habitat (USFWS, 1984<sup>2</sup>). Protocol-level surveys for California clapper rail were carried out throughout marshes in San Francisco Bay, San Pablo Bay, and Suisun Bay in connection with the Invasive Spartina Project. Clapper rail was not detected during surveys at saltwater marshes associated with Brisbane Lagoon as recently as 2010 (ISP, 2010), and is not expected to occur on the Project Site. There are no known occurrences in the vicinity and the marsh habitat at the site does not include channels preferred by the species. California black rail (*Laterallus jamaicensis coturniculus*) do not generally occur in smaller marshes close to urban uses (PRBO, 2002). This species is not expected to occur at the site and is not known to occur in the vicinity.

**Cordgrass (not observed within Project Area May 2013).** Stands of invasive hybrid cordgrass (*Spartina foliosa* X *S. alterniflora*) (also referred to as spartina) were removed from the northwest corner and the northern and eastern periphery of Brisbane Lagoon by the Invasive Spartina Project. Hybrid cordgrass can provide cover and nesting habitat for birds such as marsh wren and California clapper rail (*Rallus longirostris obsoletus*); however, its ecosystem-altering characteristics have led to it being considered a noxious weed in California and elsewhere. Therefore, the Invasive Spartina Project coordinates an ongoing control program to eradicate non-native and hybrid cordgrass throughout the San Francisco Estuary. Treatment was carried out within Brisbane Lagoon in 2008 and 2009, when 0.58 and 0.65 acres of cordgrass was sprayed with the herbicide Imazapyr using trucks and amphibious vehicles (ISP, 2009). During site visits in May 2013, no spartina was observed in the lagoon and it may have been eradicated from this area in the short term. While not observed, it is possible that this species could be found within the Brisbane Lagoon in the future and if its presence is detected it would be managed and/or removed through the Invasive Spartina Project.

### **Open Water Estuarine Habitat**

The following discussion and description applies to units mapped in Figure 4.C-1 as Tidal Lagoon and associated mudflat.

Brisbane Lagoon is a tidal lagoon feature composed of approximately 119 acres of open water subject to muted tidal influence, located at the southern end of the Project Site. The lagoon's shorelines contain little beach during high tides and most of the shoreline exposed during low tides is protected by riprap.

Box culverts flow beneath US Highway 101 to allow water exchange between Brisbane Lagoon and San Francisco Bay. Floodwater runoff is able to reach the San Francisco Bay through the pair of box culverts located on the east side of the lagoon. Fresh water runoff into the lagoon from its

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<sup>2</sup> This represents the most recent recovery plan for the species.

two tributaries located to the west can flow through the box culvert such that localized flooding upstream does not occur under storm conditions. With the presence of the box culverts water within Brisbane Lagoon is directly influenced by tidal action through its connection to the waters of San Francisco Bay.

### ***Potentially Jurisdictional Waters within the Project Site***

Wetlands and Jurisdictional Waters are regulated by both the United States Army Corps of Engineers (Corps) and Regional Water Quality Control Board (RWQCB) under the Clean Water Act (CWA) regulations (see Figure 4.C-1 for locations of these potentially jurisdictional features). The California Department of Fish and Wildlife (CDFW) also asserts jurisdiction over lakes and streambeds under Fish and Game Code Section 1602.

A formal wetland delineation pursuant to Section 404 of the CWA was conducted at the Project Site in July 2003 and was subsequently verified by the Corps in August 2003. The delineation included identification of 27 wetland features for a total of approximately 5.93 acres of wetlands within the Project Site. Because the 2003 delineation expired in 2008, its conclusions relative to the precise location and acreage of wetlands existing on the Project Site may no longer be valid for purposes of a formal jurisdictional wetland delineation. However, 2011 reconnaissance-level surveys confirmed that the information contained in the 2003 delineation remains a valid source of information regarding the location and distribution of wetland features on the site, and thus descriptive of the 2010 baseline year used for analysis in this EIR. The 2011 reconnaissance-level surveys were therefore used as a source to characterize and quantify existing conditions for wetland habitat areas on the Project Site. Figure 4.C-1 depicts the wetland habitat existing on the Project Site based on 2011 observations. Approximate acreages of existing wetlands are shown in Table 4C-1. Formal wetland delineations would be required for portions of the Project Site prior to grading, remediation, or other ground-disturbing activities.

### ***Special-Status Species***

In this analysis, special-status species are defined as:

- Plant and wildlife species listed as rare, threatened, or endangered under the federal or state endangered species acts;
- Species that are candidates for listing under either federal or state law;
- Species formerly designated by the United States Fish and Wildlife Service (USFWS) as Species of Concern or designated by CDFW as Species of Special Concern;
- Fully protected species identified in California Fish and Game Code Sections 3511 [birds], 4700 [mammals], 5050 [reptiles and amphibians], and 5515 [fish];
- Species protected by the federal Migratory Bird Treaty Act (16 U.S.C. 703-711); and/or
- Species such as candidate species that may be considered rare or endangered pursuant to Section 15380(b) of the CEQA Guidelines.

**Appendix E** of this EIR provides comprehensive lists of the special-status species that have been documented or have some potential to occur on the Project Site based on data collected and contained in several databases. These lists were obtained from the CNDDDB (CDFW, 2013), the California Rare Plant Rank (CRPR) maintained online by the California Native Plant Society (CNPS) (2013), and the USFWS (2013). These lists identify species that have been documented in the region at some point in time and includes species documented many miles away from the Project Site. These lists are considered to be a broad starting point for assessing a site, and were used in the design of survey methods and as guides to evaluation of habitat suitability.

In order to refine the list in Appendix E of this EIR to be focused to the Project Site, biologists conducted a review of the biological literature of the region and previous EIR documents. Those documents record observations of previous biologists of species occurrences directly on site or adjacent to the site. In addition, ESA biologists conducted surveys of the Project Site and evaluated the condition of the habitats that occur. Based on the professional judgment of qualified biologists, many of the species included in Appendix E were eliminated from further evaluation because (1) the Project Site or the immediate area does not provide suitable habitat, or (2) the Project Site is not located within the known range for the particular species, the species is believed to be extirpated and no longer occur in the vicinity. The special-status species list presented in Table 4.C-1 includes species for which potential habitat (i.e., general habitat types) occurs on or in the vicinity of the Project Site (Table 4.C-1 is included at the end of this chapter). Species determined to have low potential to occur on the Project Site were considered and are addressed in Table 4.C-1; however, they are not likely to be present onsite, and therefore more detailed analysis was not needed. This table also provides the rationale for each potential-to-occur determination. Species observed or with a moderate to high potential to occur at the Project Site are discussed in further detail in the text below and in the impacts analysis.

### Species Assessed in Detail

Of the special-status plants and animals included in Table 4.C-1 the following species were determined to have a moderate to high potential to occur within the Project Site and are carried forward in the impact analysis:

- Bent-flowered fiddleneck
- Bristly sedge
- San Francisco collinsia
- Choris' popcorn-flower
- San Francisco campion
- Mission blue butterfly
- Callippe silverspot butterfly
- Central California coast steelhead
- Sacramento River winter-run Chinook salmon
- Central Valley spring-run Chinook salmon
- Central Valley fall/late fall-run Chinook salmon
- California least tern
- Great horned owl
- Red-tailed hawk
- Red-shouldered hawk
- Northern harrier
- American kestrel
- Salt-marsh common yellowthroat
- Alameda song sparrow
- Allen's hummingbird
- Barn owl
- Burrowing owl
- Pallid bat
- Townsend's Pacific big-eared bat
- Long-eared myotis
- Fringed myotis
- Hoary bat
- Yuma myotis

### Special-Status Invertebrates

**Mission blue butterfly** (*Plebejus icariodes missionensis*) **Federally Endangered.** This federally listed endangered butterfly is found in grassland and coastal scrub habitat on San Bruno Mountain, where its distribution is closely tied to that of its larval host plants. Protection from wind seems to be another important habitat component for Mission blue butterflies. The primary larval host plants for this butterfly are two species of perennial lupine: silver lupine (*Lupinus albifrons* var. *collinus*) and summer lupine (*L. formosus* var. *formosus*). Varied lupine (*L. variicolor*) is also used on San Bruno Mountain as a host plant, but not as frequently. Adult Mission blues use a variety of plant species for nectaring, including non-native Italian thistle and wild radish, which are found throughout the Project Site. Mission blues can move up to approximately 0.25 mile between habitat patches and the species is likely to move farther, during multiple movements between habitat areas. Multiple occurrences of Mission blues have been documented near the Project Site, in open space scrub and grassland habitat located within 0.25 mile and immediately west of Icehouse Hill (San Mateo County, 2007).

Icehouse Hill is the only location on the Project Site where the substrate is suitable to support these three lupine species. None of these larval host plants have, however, been documented as occurring on the Project Site and individual plants were not observed during reconnaissance surveys.

**Callippe silverspot butterfly** (*Speyeria callippe callippe*) **Federally Endangered.** The callippe silverspot is listed by the USFWS as endangered. Callippe silverspot distribution on San Bruno Mountain is similar to that of the Mission blue. *Viola pedunculata*, the host plant for the callippe silverspot, was found on Icehouse Hill during a reconnaissance survey of the Project Site in 2011. Similar to the Mission blue, callippe silverspots use a variety of native and non-native species for nectar sources. Callippe silverspots use ridgelines and hilltops within grassland habitats for mating, a phenomenon referred to as hilltopping behavior. Icehouse Hill provides this important habitat component. The callippe silverspot is capable of moving at least 0.75 mile between habitat patches and likely can move farther in multiple movements (San Mateo County, 2007). Because this species is known to occur within 0.25 mile of Icehouse Hill and its larval host plants are also present there, there is a fairly high potential that this species occurs on Icehouse Hill.

### Special-Status Fish

The special-status fish species discussed below are assumed to be present in the Brisbane Lagoon, although species-specific surveys were not conducted, based on their known presence in the adjacent Bay waters and the lack of barriers between the lagoon and the Bay. It is plausible that individuals of the species could freely move between these two water bodies. The two large sized concrete box culverts located at the northeastern corner of the lagoon are tidally influenced with brackish conditions prevailing within the water body.

**Central California coast steelhead trout** (*Oncorhynchus mykiss*) **Federally Threatened, California Species of Special Concern.** Steelhead populations in what is known as the Central California Coast “evolutionarily significant unit” are listed as threatened under the Federal Endangered Species Act (FESA). Anadromous rainbow trout, or steelhead, occur in California

from the Smith River in Del Norte County south along the coast to San Mateo Creek, San Diego County, and in streams of the San Francisco Estuary and Central Valley (Moyle, 2002).

The “headwaters” of Visitacion Creek terminate in the former railyard area to the east of the round house and consist of shallow stagnant drainages which are dry during approximately half of the year. The drainage channels in this vicinity are not suitable for spawning steelhead due to the lack of appropriate spawning substrates and absence of sufficient attracting water flows for steelhead.

Spawning habitat for anadromous fish does not exist within Brisbane Lagoon or within the tributary channels to the lagoon. Guadalupe Creek does not provide spawning habitat because it is located underground within culverts for significant portions of its length to the west of the outfall at the northwest corner of the lagoon. The unnamed drainage that enters the southern corner of the lagoon likewise runs through underground storm drain culverts which have eliminated the potential for spawning habitat to occur upstream from the lagoon.

Although species-specific surveys for steelhead were not conducted and there have been no documented occurrences of this species in the vicinity of the Project Site, individuals of the species could gain access to the lagoon via the box culvert that connects the Project Site to the Bay. These individuals could potentially use the lagoon for foraging. Therefore, for the purposes of this analysis the species is presumed to be present at least on an occasional basis.

**Sacramento River winter-run, Central Valley spring-run, and Central Valley fall/late fall-run Chinook salmon (*Oncorhynchus tshawytscha*) Federally Endangered, California Endangered.** The population of Chinook salmon in San Francisco Bay consists of three distinct races: winter-run, spring-run, and fall/late fall-run. Sacramento River winter-run Chinook salmon, listed as endangered by both the state and the federal government, migrate through San Francisco Bay from December through July with a peak in March (Moyle, 2002). These races are distinguished by the seasonal differences in adult upstream migration, spawning, and juvenile downstream migration. Chinook salmon are anadromous fish, spending three to five years at sea before returning to fresh water to spawn. These fish pass through San Francisco Bay waters to reach their upstream spawning grounds. In addition, juvenile salmon migrate through the Bay en route to the Pacific Ocean.

The steelhead and chinook typically occur in the Bay waters east of the Project Site during in-migration to spawning sites in the South Bay and during out-migrations of anadromous juveniles heading from freshwater to ocean habitat. It is possible that individuals of these species could occasionally enter Brisbane Lagoon via the box culvert that connects the Project Site with the Bay therefore the analysis in this section is based on presumed occurrence. Smolts and juveniles would not be prevented from entering the Project Site as part of their known behavior to remain in estuarine habitats before migrating to the ocean.

**Longfin Smelt (*Spirinchus thaleichthys*) California Threatened.** Longfin smelt listed as a California threatened species in 2009, is a small schooling fish that inhabits the freshwater section of the lower Delta and has been observed from south San Francisco Bay to the Delta, with the

bulk of the San Francisco Bay population occupying the region between the Carquinez Strait and the Delta (CDFW, 2009; Miller and Lea, 1972). They have been collected in large numbers in Montezuma slough, Suisun Bay and near the Pittsburg and Contra Costa power plants. In the fall, adults from San Francisco and San Pablo Bays migrate to fresher water in the Delta to spawn. The spawning habits of longfin smelt are similar to the delta smelt and both species are known to school together. Larval stages are known to inhabit Suisun Bay and move south within the Bay-Delta as they grow larger in April and May (CDFW, 2009; Ganssle 1966). The larvae are pelagic and found in the upper layers of the water column. Data (CDFW, 2006) indicate that longfin smelt are present to a small extent in the Central Bay and are may be seasonally transient within the Brisbane Lagoon and shoreline of San Francisco Bay.

**Green Sturgeon (*Acipenser medirostris*) Federally Threatened.** The southern Distinct Population Segment of the green sturgeon has federal threatened status, with the only known spawning habitat available in the upper Sacramento River. The green sturgeon is the most widely distributed member of the sturgeon family and the most marine-oriented of the sturgeon species. Green sturgeons use nearshore areas from Mexico to the Bering Sea and are common occupants of bays and estuaries along the western coast of the United States (Moyle et al., 1995). Adults in the San Joaquin Delta are reported to feed on benthic invertebrates including shrimp, amphipods and occasionally small fish while juveniles have been reported to feed on opossum shrimp and amphipods (Moyle et al., 1995). Adult green sturgeons migrate into freshwater beginning in late February with spawning occurring in March through July, and peak activity in April and June. After spawning, juveniles remain in fresh and estuarine waters for one to four years and then begin to migrate out to the sea (Moyle et al., 1995). Although green sturgeon are caught and observed in the lower San Joaquin River, spawning is not known to occur within that river. Green sturgeons are uncommon in the Central Bay, and therefore would uncommonly occur in the Brisbane Lagoon or shoreline areas in San Francisco Bay adjacent to the Project Site (NMFS, 2008).

### **Special-Status Birds**

**California least tern (*Sterna antillarum browni*) Federally Endangered.** The California least tern is a small tern, about nine inches long, with a 20-inch wingspan. This migratory bird winters in Latin America, but its winter range and habitats are unknown. The species nests along the Pacific coast from southern Baja California to San Francisco Bay. Least terns usually arrive in California in April and depart in August. They nest colonially on bare or sparsely vegetated flat substrates near the coast. Typical nesting sites are on isolated or specially protected sand beaches or on natural or artificial open areas in remnant coastal wetlands. These sites are typically near estuaries, bays, or harbors where small fish are abundant. The former Alameda Naval Air Station is one of the largest and most successful breeding colonies in the state, and the only established colony in the Bay Area. The California least tern has been observed foraging at Brisbane Lagoon; however, there is only a small amount of potential nesting habitat (a sandy/shell beach) at the southern end of Brisbane Lagoon and a nesting colony would have been observed if terns were to breed there. There are no documented occurrences of this species nesting at the Project Site.

**Great horned owl (*Bubo virginianus*).** This species, like other raptors and birds in general, is protected under the Migratory Bird Treaty Act at the federal level, and California Fish and Game



Code Sections 3503 and 3503.5 at the state level. Section 3503 prohibits the needless destruction of nests or eggs of any bird, and Section 3503.5 prohibits the taking or destroying of any bird, nest or eggs in the order of Falconiformes (falcons, kites, and hawks) and Strigiformes (owls). Great horned owls occur throughout North America and are found in a variety of wooded habitats. These large raptors prey on small to medium-sized mammals such as voles, rabbits, skunks, and squirrels. Great horned owls can often be seen and heard at dusk, perched in large trees. They roost and nest in large trees such as pines or eucalyptus. They often use the abandoned nests of crows, ravens, or sometimes squirrels (Ehrlich et al., 1988; Sibley, 2000). Great horned owls may use large eucalyptus trees north of Icehouse Hill or along the western boundary of the Project Site for roosting or nesting and may forage over grassland and ruderal habitat for voles and other small mammals.

**Red-tailed hawk** (*Buteo jamaicensis*). Red-tailed hawks are commonly found in woodlands and open country with scattered trees. These large hawks feed primarily on small mammals, but will also prey on other small vertebrates, such as snakes and lizards, as well as on small birds and invertebrates. Red-tailed hawks nest in a variety of trees in urban, woodland, and agricultural habitats. Red-tailed hawks were observed foraging over the Project Site during 2011 reconnaissance surveys. Large eucalyptus trees north of Icehouse Hill or along the western boundary of the Project Site may be used by red-tailed hawks for nesting.

**Red-shouldered hawk** (*Buteo lineatus*). Red-shouldered hawks are relatively common in both rural and urban locations and can be found in residential neighborhoods and along riparian corridors or other water bodies. These hawks hunt primarily for mammals, reptiles, and amphibians (Sibley, 2001). Large eucalyptus trees north of Icehouse Hill or along the western boundary of the Project Site provide potential nesting habitat for this species.

**Northern harrier** (*Circus cyaneus*) **California Species of Special Concern.** Northern harrier nest and forage along wet meadows, sloughs, savanna, prairie, and marshes, feeding on small mammals such as California vole and mice. Destruction of marsh habitat is the primary reason for the decline of this species. Northern harrier may use wetlands and grasslands in the Project Site for foraging and nesting.

**American kestrel** (*Falco sparverius*). American kestrels have been observed foraging from perches near grassland and ruderal habitats within the Project Site. This relatively small member of the falcon family preys on small birds and on mammals, lizards, and insects. The kestrel is most common in open habitats, such as grasslands or pastures. American kestrels usually nest in tree cavities (Sibley, 2001; Ehrlich et al., 1988); large eucalyptus trees north of Icehouse Hill or along the western boundary of the Project Site may provide this species with nesting habitat.

**Burrowing Owl** (*Athene cunicularia*) **California Species of Special Concern.** Burrowing owls are ground-nesting owls that occur in annual and perennial grasslands, deserts, and scrublands characterized by low-growing vegetation (Zarn, 1974). Suitable owl habitat may also include trees and shrubs if the canopy covers less than 30 percent of the ground surface. Burrows are the essential component of burrowing owl habitat: both natural and artificial burrows provide protection, shelter, and nests for burrowing owls (Henny and Blus, 1981). Burrowing owls

typically use burrows made by small mammals, such as ground squirrels or badgers, but also may use man-made structures, such as cement culverts; cement, asphalt, or wood debris piles; or openings beneath cement or asphalt pavement. Burrowing owls may use a site for breeding, wintering, foraging, and/or migration stopovers.

Occupancy of suitable burrowing owl habitat can be verified at a site by an observation of at least one burrowing owl, or, alternatively, its molted feathers, cast pellets, prey remains, eggshell fragments, or excrement at or near a burrow entrance. Burrowing owls exhibit high site fidelity, reusing burrows year after year (Rich 1984, Feeney, 1992). A site is assumed to be occupied if at least one burrowing owl has been observed occupying a burrow there within the last three years (Rich, 1984).

The nearest CNDDDB record for burrowing owl is 1.5 miles south of Coyote Point at the restored area within the San Mateo landfill located approximately 9.5 miles south of the Project Site. A burrowing owl was observed to use the grassland at this location during the two successive winters between 2002 and 2003, but was not observed nesting. Potential foraging habitat for burrowing owl is present in the grasslands and ruderal portions of the Project Site; however, burrowing owls were not observed during reconnaissance surveys.

**Salt-marsh common yellowthroat** (*Geothlypis trichas sinuosa*) **California Species of Special Concern.** The common yellowthroat is a small warbler with a complex of subspecies. The salt-marsh subspecies is recognized as a distinct breeding population, with geographic distribution, habitats, and subtle differences in morphological traits that distinguish it from other subspecies. It inhabits tidal salt and brackish marshes in winter, but breeds in freshwater to brackish marshes and riparian woodlands during spring to early summer. Nests are placed on or near the ground in dense emergent vegetation or shrubs. The subspecies is a state species of concern due to major decline of both habitat and populations in the past decade, but it is not currently listed as endangered or threatened. The common yellowthroat is also protected under the Migratory Bird Treaty Act. Saltmarsh common yellowthroat could potentially occur within tidal marsh habitats associated with Brisbane Lagoon and Visitacion Creek, or in freshwater wetlands within the former railyard area.

**Alameda song sparrow** (*Melospiza melodia pusillula*) **California Species of Special Concern.** The Alameda song sparrow is one of three morphologically distinct song sparrow subspecies that occur in the San Francisco Bay region. This particular subspecies is endemic to the marshes bordering the Central Bay and is a state species of concern. Intermixed stands of bulrush (*Scirpus* spp.), cattail (*Typha* spp.), and other emergent vegetation provide suitable habitat in brackish marshes. Alameda song sparrows nest in tall tules with local pickleweed. They also frequent tall vegetation along the edges of tidal marshes and forage on mudflats and channel beds exposed at low tide. Alameda song sparrow may use tidal marsh habitat in Brisbane Lagoon and along Visitacion Creek for nesting and foraging.

**Allen's hummingbird** (*Selasphorus sasin*). Allen's hummingbirds inhabit chaparral, scrub, riparian, and woodland habitats that support nectar-producing plants. Allen's hummingbirds

primarily feed on nectar, but consume insects and spiders as well. Coastal scrub on Icehouse Hill on the Project Site may provide potential nesting and foraging habitat for Allen's hummingbird.

**Barn owl** (*Tyto alba*). The barn owl is one of the most widespread of all terrestrial birds and can be found in a number of open habitats, including grassland and farmland. Barn owls specialize in hunting small mammals, and the majority of their food consists of small rodents, including voles, pocket gophers, shrews, mice, and rats. The species will nest in buildings as well as in tree cavities or nest boxes, and has been observed at the Project Site (WRA, 2003). The entire Project Site provides foraging habitat, and potential nesting habitat is available in abandoned and underused buildings in the former railyard area and mature eucalyptus trees north of Icehouse Hill or along the western boundary of the Project Site.

### **Special-Status Mammals (Bat Species)**

The Project Site provides potential foraging and roosting habitat for several special-status bat species. The pallid bat (*Antrozous pallidus*) is a California species of concern present in most low elevations in California. Preferred habitats for this species include rocky outcrops with crevices and access to open areas. Day roosts can be found in crevices, caves, mines, and occasionally buildings and hollow trees, while night roosts can be found in more open areas such as open buildings or porches (Zeiner et al, 1990). The Townsend's Pacific big-eared bat (*Corynorhinus townsendii townsendii*) occurs in a variety of habitats and uses caves, mines, tunnels, buildings, or other human-made structures for roosting. The long-eared myotis (*Myotis evotis*) inhabits brushlands, woodlands, and forests, seeming to prefer coniferous forests and woodlands. Roosts include caves, buildings, snags, and crevices in tree bark. This species is highly maneuverable in its forays for arthropods over water and open terrain and in habitat edges. The fringed myotis (*Myotis thysanodes*) occurs throughout California and is most frequent in coastal and montane forests and near mountain meadows (Jameson and Peeters, 1988). This species uses echolocation to find moths, beetles, and other prey and forms nursery colonies in caves and old buildings (Jameson and Peeters, 1988). The hoary bat (*Lasiurus cinereus*) is a California species of concern and can be found at nearly any location in California. Maternity roosts of this species are typically found in woodlands with medium to large trees and dense foliage cover (Zeiner et al., 1990). This species prefers open habitats or habitat mosaics for insect foraging. These bat species may use buildings, especially in the western portions of the Project Site, or trees of nearly any species for roosting throughout the Project Site. The Yuma myotis occurs in a variety of habitats, including riparian areas, arid scrublands, deserts, and forests. This species roosts on bridges, buildings, cliff crevices, caves, mines, and trees, and forages on aquatic insects. Within the Project Site, Yuma myotis could potentially roost in large trees or abandoned buildings, or in nearby highway structures.

### **Special Status Reptiles**

**San Francisco Garter Snake** (*Thamnophis sirtalis tetrataenia*) **Federally Endangered, State Endangered.** The San Francisco garter snakes' preferred habitat is densely vegetated freshwater ponds near an open hillside where they can sun themselves and find their preferred prey, California red-legged frogs (USFWS, 2003). In 2001, Wetlands Research Associates, Inc. (WRA) assessed San Francisco garter snake habitat using a procedure developed by Dr. Sam McGinnis, a

recognized expert on the San Francisco garter snake. The procedure determines a level of probable occurrence of the snake based on habitat characteristics. The approach, as outlined in the WRA habitat assessment, ranks habitat quality based on four characteristics: availability of impounded fresh water (marshes, farm ponds, vernal pools), vegetation cover, available food, and the presence of competitive garter snake species. Ideal San Francisco garter snake habitat, according to the McGinnis approach used by WRA, has impounded fresh water with a large shallow inshore zone present all year; dense reed-shrub cover throughout a marsh or in a wide band around entire pond edge; small fish and pacific treefrog and red-legged frog adults and larvae; and no other garter snake species present.

The aquatic habitat encountered by WRA during their survey of the railyard in 2001 and by Burns & McDonnell biologists during the May 2003 survey of the railyard and landfill had almost none of the characteristics ideal for the San Francisco garter snake. The available aquatic habitat was contaminated with oil, appeared to be only shallow winter-spring surface water, had dense reed-shrub cover in only small clumps along one-half or less of the shoreline, and western toad tadpoles were the only species found in the aquatic environments. As for the last requirement, the presence of competitive garter snake species, the presence of other garter snake species is unlikely because no prey species were found in the ditches and central drainage channel and the ditches are only seasonally inundated with water.

San Francisco garter snakes have been found in Sharp Park and in the vicinity of San Francisco International Airport, which are both approximately five miles from the Project site (CDFW, 2003). San Francisco garter snake dispersal to the Project Site is unlikely because of the disturbed nature of the railyard and landfill and the urban development between these parks and the Project Site creates a significant barrier. It is highly unlikely that the Project Site would support a population of San Francisco garter snake at in 2013, due to the lack of suitable habitat (no significant changes to the habitats have occurred on site since the last specific analysis in 2003), and the geographic isolation of the site from extant populations.

### **Special-Status Plants**

**Bent-flowered fiddleneck** (*Amsinckia lunaris*) **CNPS 1B.2.** Bent-flowered fiddleneck is a member of the borage family (Boraginaceae). This herbaceous annual has small orange tubular-shaped flowers held in a coiling inflorescence and blooms from March through June. The species can be found in a variety of habitats, including valley and foothill grassland and coastal scrub. Bent-flowered fiddleneck is known to occur on San Bruno Mountain, and this Rank 1B.2 species may occur in coastal scrub or grassland habitat on Icehouse Hill.

**San Francisco collinsia** (*Collinsia multicolor*) **CNPS 1B.2.** This member of the figwort family (Scrophulariaceae) is an herbaceous annual that favors coastal scrub and moist, shady woodlands and can tolerate serpentine<sup>3</sup> soils. Stems are loosely branched, weak, and sometimes trailing. Lavender and white flowers can be seen from March to May. This Rank 1B.2 species is known to occur near the Project Site on Bayview Hill located approximately 0.5 mile north of the Project

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<sup>3</sup> A specific mineral found in soils which results in reduced plant nutrients, but often supports rare plants specifically adapted for such conditions.

Site, and also on San Bruno Mountain southwest of the Project Site. San Francisco collinsia may also occur in coastal scrub habitat on Icehouse Hill.

**Choris' popcorn-flower** (*Plagiobothrys chorisianus* var. *chorisianus*) **CNPS 1B.2.** This Rank 1B.2 herbaceous annual prefers moist, grassy areas in coastal scrub and chaparral. Unlike many popcorn-flower species, Choris' popcorn-flower has no basal rosette of leaves. This species blooms from March to June and has white flowers that are 6 to 10 millimeters wide. Choris' popcorn flower could occur in scrub communities on Icehouse Hill.

**San Francisco Champion** (*Silene verecunda*) **CNPS 1B.** This member of the pink family (Caryophyllaceae) is a Rank 1B species. It is a multi-stemmed perennial with dense gland-tipped hairs and ranges between 4 to 20 inches in height. This species produces white to pink or rose to purple tubular-shaped flowers from March to June. San Francisco Champion prefers sandy or rocky soils and can be found in scrub communities and grasslands, but is known from fewer than 20 occurrences. The species is known from San Bruno Mountain and may occur on Icehouse Hill.

### 4.C.3 Regulatory Setting

Development within the Project Site must comply with federal, state, regional, and local regulations. This section discusses these requirements to the extent that they affect the way that development would occur with the Project Site.

This subsection briefly describes federal, state, and local regulations, permits, and policies pertaining to biological resources and wetlands as they apply to proposed development of the Project Site.

## Federal and State Regulations Regarding Special-Status Species

### ***Federal Endangered Species Act***

The USFWS (which has jurisdiction over plants, wildlife, and most freshwater fish) and the National Marine Fisheries Service (NMFS) (which has jurisdiction over anadromous fish, marine fish, and mammals) oversee implementation of the FESA. Section 7 of the FESA mandates that all federal agencies consult with the USFWS and NMFS to ensure that federal agency actions do not jeopardize the continued existence of a listed species or destroy or adversely modify critical habitat for listed species. A federal agency is required to consult with the USFWS and NMFS if it determines a “may affect” situation will occur in association with a proposed project. The FESA prohibits the “take”<sup>4</sup> of any fish or wildlife species listed as threatened or endangered, including the destruction of habitat that could hinder species recovery.

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<sup>4</sup> “Take,” as defined in Section 9 of the FESA, 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 that creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns that include, but are not limited to, breeding, feeding, and sheltering. “Harm” is defined as an act that actually kills or injures wildlife. This may include significant habitat modification or degradation that actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.

Under Section 9 of the FESA, the take prohibition applies only to wildlife and fish species. However, Section 9 prohibits the removal, possession, damage, or destruction of any endangered plant from federal land. Section 9 also prohibits acts to remove, cut, dig up, damage, or destroy an endangered plant species in nonfederal areas in knowing violation of any state law or in the course of criminal trespass. Candidate species and species that are proposed or under petition for listing receive no protection under Section 9 of the FESA.

Section 10 of the FESA requires the issuance of an “incidental take” permit before any public or private action may be taken that would potentially harm, harass, injure, kill, capture, collect, or otherwise hurt (i.e., take) any individual of an endangered or threatened species. To offset the take of individuals that may occur incidental to implementation of a project, the permit requires preparation and implementation of a habitat conservation plan that provides for the overall preservation of the affected species through specific mitigation measures.

### ***Federal Migratory Bird Treaty Act***

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

### ***Federal Marine Mammal Protection Act***

The Marine Mammal Protection Act (MMPA) is the principal federal legislation that guides marine mammal species protection and conservation policy. The MMPA delegates authority for oceanic marine mammals to the Secretary of Commerce, the parent agency of the National Oceanic and Atmospheric Administration. Species of the order Cetacea (whales and dolphins) and species, other than walrus, of the order Carnivora, suborder Pinnipedia (seals and sea lions), are the responsibility of NMFS. The USFWS is responsible for the dugong, manatee, polar bear, sea otter, and walrus. 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 U.S.

### ***Federal Essential Fish Habitat Requirements***

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) establishes requirements for Essential Fish Habitat (EFH) descriptions in federal Fisheries Management Plans and requires federal agencies to consult with the National Marine Fisheries Service (NMFS) on activities that may adversely affect EFH. The NMFS strongly encourages efforts to streamline EFH consultation and other federal consultation processes. EFH consultation can be consolidated, where appropriate, with interagency consultation, coordination, and environmental review procedures required by other statutes such as the National Environmental Policy Act, Fish and Wildlife Coordination Act, CWA, FESA, and Federal Power Act. EFH

consultation requirements can be satisfied using existing review procedures if they provide the NMFS with timely notification of actions that may adversely affect EFH and the notification meets requirements for EFH Assessments (i.e., a description of the proposed action, an analysis of the effects, and the federal agency's views regarding the effects of the action on EFH and proposed mitigation, if applicable). Brisbane Lagoon is considered EFH for groundfish species including the Pacific herring, as well as steelhead, chinook salmon, and coho salmon.

### ***California Endangered Species Act***

Under the California Endangered Species Act (CESA), CDFW has the responsibility for maintaining a list of threatened and endangered species (California Fish and Game Code Section 2070). CDFW also maintains a list of "candidate species," which are species formally noticed as being under review for addition to either the list of endangered species or the list of threatened species. In addition, CDFW maintains lists of "species of special concern," which serve as "watch lists." Pursuant to the requirements of the CESA, 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, CDFW encourages informal consultation on any proposed project that may affect a candidate species.

### ***California Environmental Quality Act***

The intent of the California Environmental Quality Act (CEQA) is to maintain "high-quality ecological systems and the general welfare of the people of the state" (CEQA Section 21000). 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 Section 21001).

CEQA requires consultation with CDFW on any project an agency initiates that is not statutorily or categorically exempt from CEQA. The CEQA Guidelines (Section 15065a) indicate that impacts on state- and federal-listed rare, threatened, or endangered plants or animals are significant.

Although rare, threatened, and endangered species are protected by specific federal and state statutes, CEQA Guidelines Section 15380(b) provides that a species not listed on federal or state protected species lists may be considered rare, threatened, or endangered if the species can be shown to meet certain criteria (e.g., it can be shown that the species' survival in the wild is in jeopardy or the species is at risk of becoming endangered in the near future). These criteria have been modeled after the definition in the FESA and the section of the California Fish and Game Code dealing with rare or endangered plants or animals. This section was included in the CEQA Guidelines primarily to deal with situations in which a public agency is reviewing a project that may have a significant effect on, for example, a "species of concern" that has not yet been listed by either the USFWS or CDFW. Thus, CEQA requires an agency to consider a project's potential impacts on species which meet the definition of endangered, rare, or threatened under CEQA, but

have not been officially listed under either the federal or state endangered species acts, but leaves it to the discretion of the lead agency to determine whether a species not formally listed meets the definition. For example, CDFW interprets Lists 1A, 1B, and 2 of the California Native Plant Society's *Inventories 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. Further, the determination of whether an impact is significant is a function of the lead agency. In making these determinations, the lead agency may be guided by the protections and standards of other laws and regulations, such as those discussed in this EIR. Projects subject to CEQA review must specifically address potential impacts on endangered, rare, or threatened species and provide mitigation measures if the impact is determined to be significant.

### ***California Native Plant Protection Act***

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

### ***California Fish and Game Code***

Under Section 3503 of the California Fish and Game Code, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by the code or any regulation made pursuant thereto. Section 3503.3 of the California Fish and Game Code prohibits take, possession, or destruction of any birds in the orders Falconiformes (hawks) or Strigiformes (owls), or of their nests and eggs.

The California Fish and Game Code (Sections 3511 [birds], 4700 [mammals], 5050 [reptiles and amphibians], and 5515 [fish]) allows the designation of a species as Fully Protected. CDFW may authorize incidental "take" of Fully Protected species if the species is covered under an approved Natural Community Conservation Plan (2835).

## **Federal and State Regulations Regarding Jurisdictional Waters (Including Wetlands and Coastal Wetlands)**

### ***Potentially Jurisdictional Waters within the Project Site***

Wetlands and Waters are regulated by both the Corps and RWQCB under the CWA regulations (see Figure 4.C-1 for locations of these potentially jurisdictional features).



## Definitions

**“Waters of the United States.”** The term “waters of the United States,” as defined in the Code of Federal Regulations (33 C.F.R. § 328.3[a]; 40 C.F.R. § 230.3[s]), refers to:

1. All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2. All interstate waters including interstate wetlands;
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce including any such waters:
  - which are or could be used by interstate or foreign travelers for recreational or other purposes; or
  - from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
  - which are used or could be used for industrial purposes by industries in interstate commerce.
4. All impoundments of waters otherwise defined as waters of the United States under the definition;
5. Tributaries of waters identified in paragraphs (1) through (4);
6. Territorial seas; and
7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (1) through (6).

The Code of Federal Regulations further provides that “waters of the United States” do not include prior converted cropland. Notwithstanding the determination of an area’s status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with the United States Environmental Protection Agency (33 CFR 328.3[a][8]).

**Definitions of Wetlands.** Wetlands are ecologically productive habitats that support a rich variety of both plant and animal life. The importance of wetlands has increased due to their value as recharge areas and filters for water supplies and to their widespread filling and destruction to enable urban and agricultural development. Examples of wetlands may include freshwater marsh, seasonal wetlands, and vernal pool complexes that are adjacent to “waters of the United States.” In a jurisdictional sense, there are two commonly used wetland definitions: (1) a definition adopted by the United States Environmental Protection Agency and Corps, and (2) a separate definition, originally developed by the USFWS, that has been adopted by agencies in the State of California that have regulatory authority over wetlands. Both definitions are presented below.

*Federal Wetland Definition.* Under federal law, wetlands are a subset of “waters of the United States” and receive protection under Section 404 of the CWA. Wetlands are defined as those areas that are inundated or saturated by surface or ground water at a frequency and duration that are sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetland determination under the federal wetland definition adopted by the Corps requires the presence of three factors: (1) wetland hydrology, (2) plants adapted to wet conditions, and (3) soils that are routinely wet or flooded [33 C.F.R. 328.3(b)]. In January 2001, the Supreme Court of the United States ruled that certain isolated wetlands do not fall under the jurisdiction of the CWA (*Solid Waste Agency of Northwestern Cook County v. United States Army Corps of Engineers et al.*).

*State of California Wetland Definition.* The CDFW and the California Coastal Commission have adopted the USFWS Cowardin (1979) definition of wetlands. While the federal definition of wetlands requires three wetland identification parameters to be met, the Cowardin definition can be satisfied under some circumstances with the presence of only one parameter. Thus, identification of wetlands by state agencies may include areas that are permanently or periodically inundated or saturated and without wetland vegetation or soils, such as rocky shores, or areas that presume wetland hydrology based on the presence of at least one of the following: (1) a seasonal or perennial dominance by hydrophytes,<sup>5</sup> or (2) the presence of hydric<sup>6</sup> soils. The California Coastal Act also defines “wetlands” as “lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens” (Public Resources Code Section 30121). CDFW does not normally assert jurisdiction over wetlands unless they are subject to Streambed Alteration Agreements (California Fish and Game Code Sections 1600–1616) or they support state-listed endangered species. However, the Fish and Game Commission policy (amended in 2005) regarding wetlands resources is to seek to provide for the protection, preservation, restoration, enhancement and expansion of wetland habitat in California, and to discourage development in or conversion of wetlands. Under this policy, the Commission does not support wetland development proposals unless project mitigation assures there will be ‘no net loss’ of either wetland habitat values or acreage, and prefers mitigation which would expand wetland acreage and enhance wetland habitat values.

**“Other Waters of the U.S.”** “Other waters of the U.S.” refers to additional features that are regulated under the CWA but are not wetlands (33 CFR 328.4). To be considered jurisdictional, these features must exhibit a defined bed and bank and an ordinary high water mark. The term “ordinary high water mark” refers to a 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 soil, destruction of terrestrial vegetation, the presence of litter and debris, or other means appropriate to the characteristics of the surrounding areas. Examples of other waters of the U.S. include rivers, creeks, ponds, and lakes.

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<sup>5</sup> A “hydrophyte” is, literally, a water-loving plant, i.e., one that is adapted to growing in conditions where the soil lacks oxygen, at least periodically during the year, due to saturation with water.

<sup>6</sup> A “hydric” soil is one that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part of the soil profile.

### **State Policies and Regulations for Waters and Wetlands**

State regulation of activities in waters and wetlands resides primarily with CDFW and the State Water Resources Control Board (SWRCB). In addition, the California Coastal Commission has review authority for wetland permits within its planning jurisdiction. CDFW provides comment on Corps permit actions under the Fish and Wildlife Coordination Act. CDFW is also authorized under the California Fish and Game Code, Sections 1600–1616, to enter into a Streambed Alteration Agreement with applicants and to develop mitigation measures when a proposed project would obstruct the flow or alter the bed, channel, or bank of a river or stream in which there is a fish or wildlife resource, including intermittent and ephemeral streams. CDFW has interpreted the term “streambed” to extend laterally to the upland edge of riparian vegetation. The SWRCB, acting through the nine RWQCBs, must certify that a Corps permit action meets state water quality objectives (CWA Section 401). California Fish and Game Code defines “waters of the state” and “state waters” as having the same meaning as “waters of the state” in California Water Code §13050(e) (“ ‘Waters of the state’ means any surface water or groundwater, including saline waters, within the boundaries of the state.” *Id.*).

### **Bay Conservation and Development Commission Regulations**

The Bay Conservation and Development Commission (BCDC) is authorized by the McAteer Petris Act to analyze, plan, and regulate San Francisco Bay and its shoreline. BCDC implements the San Francisco Bay Plan and regulates filling and dredging in the Bay, its sloughs and marshes, and certain creeks and their tributaries. BCDC jurisdiction includes the waters of the Bay as well as a shoreline band that extends inland 100 feet from the high tide line. Any fill, excavation of material, or substantial change in use within BCDC jurisdiction requires a permit from BCDC.

## **Local Regulations**

### **City of Brisbane General Plan**

The Open Space and Conservation Elements of the City of Brisbane General Plan present a number of policies and programs relating to the protection of the City’s natural resources. The following are relevant to the Project and are summarized in this EIR section:

**Policy 81:** The City shall conduct an on-going effort to identify sites or portions of sites having particular value as open space, wildlife habitat, wetlands, or other environmental qualities that should be preserved and protected. In such cases, the City shall explore the feasibility of acquisition of these areas by the City or by other public or private agencies that are engaged in the ownership and preservation of open space, and, when legally possible, imposing a requirement that such areas be dedicated by the owner to the public for open space purposes.

**Policy 81.1:** Work to preserve open space lands to protect the natural environment and to provide outdoor educational and recreational opportunities consistent with the sensitivity of the resource.

**Policy 82:** Encourage the preservation, conservation and restoration of open space to retain existing biotic communities, including rare and endangered species habitat, wetlands, watercourses and woodlands.

**Policy 85:** Encourage the preservation and conservation of aquatic resources in Brisbane: the Lagoon, the Bayfront and the Marsh.

*Program 85a:* Seek opportunities to utilize aquatic areas for recreational and educational activities consistent with the sensitivity of the resource.

*Program 85b:* Develop provisions in the Zoning Ordinance, including setback requirements, to protect the natural ecology of aquatic resources.

*Program 85c:* Provide information to citizens on the eco-systems of the Bay, the Lagoon and the Wetland Marsh and how citizens can participate in respecting and conserving these resources.

*Program 85d:* Work with responsible agencies, property owners and environmental and conservation groups to ensure preservation of aquatic eco-systems.

**Policy 118:** Preserve areas containing rare and endangered species habitat to the extent allowed by law and available resources.

**Policy 120:** Cooperate with local, State and Federal agencies in conservation efforts for biological resources.

**Policy 122:** Cooperate with other agencies in conservation efforts.

*Program 122a:* Work with the Habitat Conservation Plan Operator, the State Department of Fish and Game, the U. S Fish and Wildlife Service, and other agencies as appropriate regarding plans and programs that may affect biological resources in the planning area.

*Program 122b:* Consult the maps in the technical background reports and information supplied by responsible agencies to determine potential for environmental impacts to biological resources and take appropriate action.

*Program 122c:* Consult with local, State and Federal agencies to determine when field studies are required to supplement or update existing data.

*Program 122e:* Encourage applicants to initiate early CEQA consultation on conservation issues.

**Policy 123:** Conserve important biological communities through sensitive project design.

*Program 123a:* In land use development applications, consider the siting of structures and utilities so as to conserve identified biological communities.

*Program 125a:* Refine the ordinance that establishes requirements for protection of heritage trees in the urban setting.

**Policy 127:** Encourage the use of plants that are compatible with the natural flora in landscape programs.

**Policy 128:** Encourage the use of native plants in landscape programs that provide food and shelter to indigenous wildlife.

*Program 128a:* Encourage conservation groups to provide public information on plant materials.

### **Open Space Plan for the City of Brisbane**

To aid in the implementation of selected programs and policies of Brisbane’s 1994 General Plan, the Brisbane Open Space and Ecology Committee developed the Open Space Plan for the City of Brisbane, which contains open space inventory, analysis, and policy recommendations. The Open Space Plan was approved by the City Council in August 2001, and “offers a vision for a comprehensive and integrated open space system for the city and is intended to be a flexible, working tool to guide the City Council in implementing specific environmental policies and programs from the 1994 Brisbane General Plan,” including Program 93h of the 1994 Brisbane General Plan which states, “for reference and assistance in establishing open space priorities, prepare a comprehensive map of vacant lands on the planning area and update the map annually.” The recommendations within this plan reflect the most significant natural and open space resources in the City, and establish overall guidelines and/or criteria for decision making. The Open Space Plan addresses the possibility of land acquisition or preservation based on identification and evaluation of natural resources and amenities within the jurisdictional boundaries of the City.

### **Open Space Resources Evaluation and Priorities**

The Open Space Plan includes open space and resource protection recommendations for the Baylands. The area north of Visitation Creeks envisioned for new development with “substantial” open space (minimum of 25 percent of developed areas to be devoted to open space). The area east of the tank farm between Visitation Creek and Brisbane Lagoon is envisioned for “maximized open areas” (recreational or other use with open character), while the lagoon area is envisioned as open space to be dedicated to a public agencies for permanent preservation. Figure 4.M-1 (see section 4.M, *Recreational Resources*, of this EIR) also shows the proposed Bay Trail extension, as well as other local trails within the Baylands.

The Brisbane Lagoon occupies the southern portion of the subarea and is a valuable aquatic resource that contains tidal wetlands. There is a fishing area, locally known as Fisherman’s Park, located on the lagoon’s northeastern perimeter. The Open Space Plan recommends that the lagoon and its environs be conserved as open space, and that a public pathway be developed around the lagoon perimeter, linking with the future Bay Trail and Tunnel Avenue trail. Additionally, the Open Space Plan recommends that the area along the entire shoreline at the northern end of the lagoon, between the lagoon and Lagoon Way, be preserved as open space as it provides significant recreational opportunities, noting that this “would be a very high priority open space area.”

### **Open Space Preservation Strategies**

The Open Space Plan identified specific open space preservation strategies for each Subarea. The following preservation strategies apply to the Northeast Bayshore, Baylands, and Beatty Subareas:

- a. Refer to this Open Space Plan and use it as a guide in reviewing development proposals and city-sponsored plans for use of the land in these subareas;

- b. Share this Open Space Plan and coordinate with local and regional agencies involved in reviewing and permitting development in the city and on adjacent sites, such as partners in the Habitat Conservation Plan, the San Francisco Bay Conservation and Development Commission, Corps of Engineers, Regional Water Quality Control Board, Department of Toxic Substance Control, the Integrated Waste Management Board, the State Lands Commission, and Caltrans;
- c. Share this Open Space Plan and coordinate with local and regional agencies involved in planning and implementing trails (primarily the San Francisco Bay Trail Project);
- d. Pursue the dedication of easements, where applicable, for trails and the Wetland River Park; and;
- e. Incorporate open space dedication and open area planning as part of the specific planning portion of the planned development process, when applications are made to the City, utilizing this Plan as the guiding principles.

### **Use and Management Policies**

The following general and site-specific policies are relevant to development of the Project Site.

#### ***General Management Policies***

- a. Open space is to be maintained in a natural condition as much as possible, except in redeveloped areas where trail corridors and open space may be tied in to the overall development landscape theme.
- b. New open space acquisitions, major open space restoration or management, trail construction or any significant trail alterations or improvements should be consistent with this plan. The City Council, Planning and PB&R Commissions and City staff may refer these matters to the Open Space and Ecology Committee for review and recommendation.
- c. Ongoing staff support should be provided for the open space planning and acquisition program and staffing the Open Space and Ecology Committee.
- d. Native habitat restoration efforts should be undertaken where practical, in conjunction with the RCP operators, and consistent with other City policies.
- e. The City Council and City Manager should assign responsibility among City departments for coordinating open space and trail use information and trail and resource management activities as well as for trail improvement and maintenance. Volunteer labor can be used to augment City resources.
- f. The City will take responsibility for monitoring open space or trail easements and conditions of approval on private open areas.
- g. Smoking and fires are prohibited in open space lands having fire danger. This includes city-owned open space in the Brisbane Acres subarea, Northeast Ridge and Northwest Bayshore subareas, and other areas as designated and posted by the city.
- h. No plants, animals, or other resources are to be collected or disturbed except in conjunction with a city approved and coordinated resource management project.
- i. The city recognizes that restoration, maintenance and management of natural or improved open space areas can be a significant initial and ongoing expense.

- j. Public and private open spaces and open areas have been demonstrated to add significant direct and indirect value to properties adjacent and in the region.
- k. The city will make every effort to secure funding and direct aid for open space protection and management in accordance with development entitlements, environmental impacts and the values provided to properties.
- l. The Parks, Beaches, and Recreation Committee is the chief advisory body for the City on trails. The Open Space and Ecology Committee shall provide guidance for trail planning and management, to help protect sensitive resources in accordance with ecological principles.

***Baylands and Beatty Subareas Open Space and Trails***

- a. Open space land may be acquired or dedicated in these subareas in conjunction with future commercial development. Planning and implementation of resource protection and restoration will be part of the scope of the development projects.
- b. New trails may be planned and constructed in these subareas in conjunction with future commercial development, including portions of the San Francisco Bay Trail. Planning and construction of these trails and related improvements will be part of the scope of the development projects.
- c. The design and use and management arrangements for trails in these areas will be determined in conjunction with future planning for commercial development.
- d. Assessments will be placed on future developments to help pay for ongoing maintenance and management of the open space in these areas that will provide benefit to the properties subject to assessment.
- e. These lands include areas with toxic contamination. Reclamation of natural landscapes will require planning and implementation of cleanup and restoration by qualified scientists and contractors.
- f. The city will coordinate volunteer efforts to maintain trails and open space in these subareas to augment major restoration and ongoing professional monitoring and management efforts.

***City of Brisbane Tree Ordinance***

Under Title 12, Chapter 12.12 of the City's Municipal Code, the City of Brisbane requires a permit for removal of protected trees, or any other tree having a trunk that is greater than 30 inches in diameter at a height of 24 inches above grade. Pursuant to the provisions of Section 12.12.040 B of the Municipal Code, the following do not require tree removal permits:

1. Emergencies. If the condition of a protected tree presents an immediate hazard to life or property, it may be removed without a permit on order of the city manager, the city engineer, the planning director, the chief of police, or the fire chief.
2. City Employees. This chapter shall not apply to the removal of any trees on city-owned property by city employees or any person retained by the city for the purpose of removing such trees.
3. Public Utilities. Public utilities subject to the jurisdiction of the State Public Utilities Commission may without a permit take such action as may be necessary to comply with the

safety regulations of the commission and as may be necessary to remove a direct and immediate hazard to their facilities within the public utility lands or easement areas in which the same may be located.

4. Project Approval. Where removal of a protected tree has been authorized as part of a development approval granted by the city, no permit shall be required under this chapter for removal of such tree.

A tree, as defined by the Municipal Code Section 12.12.020, is “... a woody perennial plant characterized by having a main stem or trunk, or a multi-stemmed trunk system with a more or less definitely formed crown, and [that] is usually over ten (10) feet high at maturity.” Protected trees, as defined by the Municipal Code, are any of the following:

1. Any California Bay (*Umbellularia californica*), Coast Live Oak (*Quercus agrifolia*), or California Buckeye (*Aesculus californica*) having a main stem or trunk which measures thirty (30) inches or greater in circumference at a height of twenty-four (24) inches above natural grade.
2. Any species of native or nonnative tree, in addition to those identified in subsection (1) above, designated as a protected tree on recommendation of the parks, beaches and recreation commission as adopted by resolution of the city council, based upon its finding and determination that such species uniquely contributes to the scenic beauty of the city or provides special benefits to the natural environment or wildlife.
3. Any tree designated as a protected tree by resolution of the city council.
4. Any tree, regardless of size, originally required by the city to be planted as a condition for the granting of a permit, license, or other approval, or any tree that existed at the time of the granting of such permit, license, or other approval and required by the city to be preserved as part of such approval.
5. Any tree, regardless of size, required by the city to be planted as a replacement for an unlawfully removed tree.
6. Any tree, regardless of size, planted or maintained by the city.
7. Any street tree which is not otherwise described in subsections (1) through (6) above, having a main stem or trunk which measures thirty (30) inches or greater in circumference at a height of twenty-four (24) inches above natural grade.

The Municipal Code further provides that, where three or more trees of any one or more species, each having a main stem or trunk that measures 30 inches or greater in circumference at a height of 24 inches above natural grade, are proposed to be removed at the same time from the same property or from contiguous properties under common ownership, such trees shall collectively be regarded as a protected tree (Section 12.12.020).

The Municipal Code requires that an application for a tree removal permit be made to the city manager and contain the number and location of each tree to be removed, the type and approximate size of each tree, the reason for removal, and additional information that the City Manager may require. Removal permits may granted subject to conditions including, but not limited to, requiring planting one or more replacement trees (Section 12.12.050 F).



### ***San Mateo County Trails Plan***

This document provides guidelines for trail planning, design, and trail management in cities and parks within San Mateo County. The trail design and management guidelines primarily pertain to the construction of new trails. However, the guidelines are also relevant to ongoing or long-term management activities for existing trails. Policies relevant to protection of biological resources are as follows:

**6.4.1** – Locate, design and develop trail routes with sensitivity to their potential environmental, recreational and other impacts on adjacent lands, private property, and utilities.

**6.4.2** – Levels-of-use and types-of-use on trails shall be controlled to avoid unsafe use conditions or risk severe environmental degradation.

**6.4.7** – Locate trails to recognize the resources and hazards of the areas they traverse, and to be protective of sensitive habitat areas such as estuaries, wetlands, riparian corridors, erodible soils and other areas where sensitive species may be adversely affected.

**6.4.8** – Develop design guidelines to ensure that sensitive species and the habitats they rely on shall be protected, and where possible, enhanced by trail development and trail use.

**6.29.4** – Develop a monitoring program for use by the lead agency in evaluating current conditions and determining whether or not new trails or trail management programs (including maintenance, reconstruction, education, and use regulations) are effective in addressing user conflicts, safety issues, and environmental impacts.

### ***San Bruno Mountain Habitat Conservation Plan***

The San Bruno Mountain Habitat Conservation Plan (SBMHCP) was adopted in 1983 to protect and improve habitat for several species of endangered butterflies. The SBMHCP is an effort to address the problem of potential extinction of these endangered butterflies while enabling private landowners to develop their land.

While the Project Site is not within the SBMHCP planning area, Icehouse Hill is directly adjacent to the eastern boundary of the planning area, and the SBMHCP is biologically relevant to Mission blue and callippe silverspot butterflies potentially present on Icehouse Hill. Management recommendations are presented by plan area parcel, and three parcels adjacent to Bayshore Boulevard are in close proximity to Icehouse Hill and the Project Site. SBMHCP recommendations for these parcels include the following:

1. Assessment of freshwater seep wetland habitats for San Francisco garter snake;
2. Consideration of parcels for upgrade of habitat quality;
3. Enhancement of habitat corridors with butterfly host plant species to attract butterflies and facilitate movement to larger habitat areas;
4. Elimination of dense patches of exotic plants and brush to expand usable habitat area for butterflies;
5. Creation of a reclamation plan to prevent erosion after development; and
6. Monitoring of habitat characteristics.

## 4.C.4 Impacts and Mitigation Measures

### Significance Criteria

For the purposes of this analysis, this EIR uses the questions provided in Appendix G of the CEQA Guidelines. The project would have a significant effect on the biological resource if it were to:

- Have a substantial adverse effect, either directly or indirectly (including through habitat modification) on any species identified as a candidate, sensitive, or special-status species (including those likely to become endangered in the foreseeable future) in local or regional plans, policies, or regulations, or by the [CDFW ]or USFWS, including species which meet the definition of endangered, rare or threatened in CEQA Guidelines Section 15380;
- 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 CDFW or USFWS;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

### Impact Assessment Methodology

Build out of the Project Site development would result in impacts associated with removal and overall redistribution of habitats and land uses compared to existing conditions. One impact mechanism shared by all Project Site development is the site remediation effort required prior to any proposed development. The footprint of Project Site development remediation would be the same for all Project Site development, although specific remediation technologies would differ based on the land uses that are ultimately approved within the Project Site.

The trail development proposed for Icehouse Hill is also an impact mechanism shared by all concept scenarios. Therefore impacts associated with these two aspects of the site build out are described and addressed such that they can be tracked independently in terms of disclosure of impacts and mitigation commitments as build out proceeds.

Changes to the natural environment are anticipated to occur as a result of grading, construction and changes in land uses at the Project Site compared to existing conditions. If build out of the Project Site would include a direct take or direct loss of a special status species or habitat for special status species it would be considered substantial and per the significance criteria is

identified below as a significant impact. Indirect impacts would be considered substantial if special status species, their habitats, or any sensitive natural communities would also be harassed or removed through either removal or changes in land use that result in habitat avoidance by a special status species.

The impacts are presented below as direct statements consistent with the CEQA Guidelines Appendix G. Each impact statement is followed by a description of the impact mechanism, a direct reference to the proposed mitigation measure(s) intended to off-set the Project Site development impacts, and a conclusion regarding the level of impact remaining after implementation of mitigation.

## Project Impacts and Mitigation Measures

**Impact 4.C-1: Would the Project have a substantial adverse effect, either directly or indirectly, on any species identified as a candidate, sensitive, or special-status plant and wildlife species, including species which meet the definition of endangered, rare or threatened in CEQA Guidelines Section 15380, either through direct injury or mortality, harassment, or elimination of plant or wildlife communities?**

Impact Significance by Scenario (before Mitigation)			
DSP	DSP-V	CPP	CPP-V
SU	SU	SU	SU
SU = Significant Unavoidable SM = Significant but Mitigable LTS = Less than Significant - = no impact			

### ***DSP, DSP-V, CPP, and CPP-V***

Direct mortality or harm to special-status plants or animals potentially occurring at the Project Site and/or loss or degradation of habitat for special-status plants and animals would occur as a result of development permitted under each of the concept scenarios. Impact mechanisms include removal and redistribution of existing habitats during Project Site construction, and increased human presence and disturbance to existing habitats.

Build out of the Project Site development would result in significant impacts to special status plants and animals and their habitats as discussed below. With implementation of **Mitigation Measures 4.C-1a, 4.C.-1b, and 4.C-1c**, these impacts would be reduced to a less-than-significant level.

### **Impacts on Special-Status Plants**

Suitable habitat for special status plants occurs at the western edge of the Project Site on Icehouse Hill. Bent-flowered fiddleneck, San Francisco collinsia, Choris' popcorn flower, and San Francisco campion have the potential to occur in the annual grasslands and coastal scrub habitats since this portion of the Project Site consists of native soil/substrate. For all Project Site development, Icehouse hill would be preserved as open space for passive recreational uses including a pedestrian trail providing access to the top of the hill and linked to open space corridors and Visitation Creek area.

Construction of trails on Icehouse Hill would occur with Project Site development. Post construction impacts include subsequent increase in recreational use compared to existing

conditions, which could damage or permanently destroy individual plants or populations of the species on Icehouse Hill as a result of trail users making off-trail use of the area. Indirect impacts would occur if changes to drainage or surface runoff that supplies water to the plants on Icehouse Hill. Additional impact would include increased use of the area by horses, which might eat the host plants if they occur adjacent or near the trail. The CPP/PPP-V scenarios envision equestrian uses occurring as part of the Group Use Area proposed adjacent to Icehouse Hill.

**Conclusions:** Special status plant species occur within the Project Site only on Icehouse Hill. Damage to or mortality of special-status plants caused by construction of trails on Icehouse Hill and an anticipated post-construction increase in recreation-related activities including equestrian uses would be a significant impact. Adherence to performance standards during construction and operation of the proposed trails set forth in **Mitigation Measures 4.C-1a** and **4.C-1b** would reduce the impacts on special-status plants to a less-than-significant level.

**Mitigation**

**Mitigation Measure 4.C-1a:** Prior to construction, or any other Project Site development-related ground disturbance activities on Icehouse Hill, the applicant shall conduct pre-construction presence/absence surveys for special-status plants.

Initial surveys at Icehouse Hill shall be carried out in conjunction with surveys for endangered butterfly host plants as described in **Mitigation Measure 4.C-1c**.

Surveys would be implemented to determine if a special-status plant species has colonized the site in the interim between the determination of baseline conditions for this EIR, and project initiation, as well as to provide site-specific direction for final trail routing and design to avoid sensitive plant species (see **Mitigation Measures 4.C-1b** and **4.C-1c**).

Surveys shall be conducted in accordance with CNPS and CDFW rare plant survey guidelines and shall be conducted during the flowering period when each species is most readily identifiable.

In order to capture variability of special-status plant species distribution, three special-status plant surveys shall be conducted at two-week intervals during the appropriate flowering period (April to June), before commencement of any development activities on Icehouse Hill.

Any special-status plant populations shall be mapped in the field (see **Mitigation Measure 4.C-1b**). If the presence of any special-status plant species is confirmed, a copy of the survey results shall be forwarded to CDFW, and **Mitigation Measure 4.C-1b** shall be implemented.

In the event that special-status plants are not identified within development areas, including areas used for construction, the additional mitigation identified in **Mitigation Measure 4.C-1b** is not required.

Mitigation Measure Applicability by Scenario			
DSP	DSP-V	CPP	PPP-V
✓	✓	✓	✓
✓ = measure applies - = measure does not apply			

**Mitigation Measure 4.C-1b:** Documented plant occurrences on Icehouse Hill shall be avoided by establishing a buffer zone of no less than 25 feet prior to Project trail construction, or other ground-disturbing activities having the potential to disturb or result in mortality of special-status plant populations. This buffer zone shall be demarcated using flagging, orange fencing, or any other visual barrier between plant populations and the active disturbance footprint. Buffer distances may be increased if hydrology features would be altered as a result of train construction.

Mitigation Measure Applicability by Scenario			
DSP	DSP-V	CPP	CPP-V
✓	✓	✓	✓
✓ = measure applies - = measure does not apply			

If the City determines that disturbance or mortality is unavoidable, special-status plants shall be restored onsite in either the annual grassland or coastal scrub habitat located on Ice House Hill. Restoration would be at a 1:1 ratio consistent with typical CDFW requirements in areas that are to remain as post-development open space, as is Icehouse Hill. The 1:1 replacement ratio shall be met at the end of five years, and may therefore require initial plantings at a greater than 1:1 ratio, as determined by a qualified botanist. If feasible, special-status plants and/or seeds shall be salvaged from on-site plants and used for any replacement plantings.

To reduce impacts from off-trail use, and increased horse use, trail head signage shall be required to educate the public regarding sensitive resources and restoration that would be affected by off-trail use. Mitigation areas shall be fenced or marked for three years. Trail use rules shall be developed prior to construction, and in addition to limiting use to identified trails, may include other requirements to limit the possibility that sensitive species would be impacted.

To avoid indirect impacts to special status plant species that could occur if slope drainage or surface hydrology is modified as a result of trail construction **Mitigation Measure 4.C1-g** shall also be applied.

Prior to issuance of project approvals, and in coordination with state and federal permitting requirements, a five-year restoration mitigation and monitoring program shall be developed and implemented for any planting areas established to mitigate impacts to special-status species plants. Restoration success criteria shall include:

- 1) Establishment of mitigation site(s) at or near the location of impacts where plant restoration will occur.
- 2) A qualified botanist shall identify an appropriate plant palette and restoration methodology compatible with the specific impacted special status species. Mitigation sites could include existing annual grassland or coastal scrub habitat areas on Icehouse Hill, depending on site conditions and locations of special status plants found.
- 3) No loss in total number of individual plants in a special status plant population found on Project Site shall be verified at the end of the five-year monitoring period established in coordination with state and federal agencies with jurisdiction over these resources.

**Conclusion with Mitigation: Mitigation Measures 4.C-1a and 4.C-1b** require identification of sensitive plant species prior to construction and operation of the proposed trails on Icehouse Hill, and compensate for direct loss of individual special status plants. **Mitigation Measure 4.C-1b** requires mitigation sites with appropriate plant palettes, helping to ensure that mitigation sites and populations of sensitive plant species would be self-sustaining. **Mitigation Measure 4.C-1b** also requires development of a trail use plan prior to construction, trail head signage to inform the public, and requires mitigation areas to be fenced and marked while they are becoming established. With mitigation, no net loss of occupied suitable habitat would occur. Impacts on special-status plants would therefore be less than significant with implementation of **Mitigation Measures 4.C-1a and 4.C-1b**.

**Impacts on Special-Status Animals**

**Impact to Federally Listed Butterfly Species.** Potential habitat for endangered butterflies includes Johnny jump-up (*Viola pedunculata*) the host species for the callippe silverspot, and three species of lupine: *Lupinus albifrons*, *L. formosus*, and *L. versicolor*. host plants for the Mission blue butterfly. These plants have the potential to support the callippe silverspot or Mission blue butterfly species, respectively. Within the Project Site, Icehouse Hill represents the only suitable habitat for the host plants for this listed species. Construction and use of proposed trails, would result in direct loss or indirect removal or damage to suitable habitat for listed butterflies on Icehouse Hill. Recreational use of trails constructed on Icehouse Hill would also result in indirect impacts related to the disturbance of host plant populations, as well as direct impacts on the callippe silverspot butterfly and Mission blue butterfly if trail users disturb, injure, or kill individual butterflies and their eggs or larvae. Additionally, trail construction in any area often results in the establishment of additional informal trails over time, which would result in potential loss or damage to butterfly host plants, or direct mortality of listed butterflies. Indirect impacts would include changes to drainage patterns or in the vicinity of the host plants that would deprive the plants of needed water.

**Conclusion:** Direct loss or damage to the Mission blue and callippe silverspot butterfly species as a result of habitat removal, harassment, direct injury, or mortality associated with trail construction and off-trail use of the open area on Icehouse Hill after trails are open to the public would be considered significant. Therefore, **Mitigation Measure 4.C-1c** has been included to reduce impacts to less than significant.

**Mitigation**

**Mitigation Measure 4.C-1c:** Prior to any trail-related construction, vegetation management, development, or any other ground disturbing activities taking place on Icehouse Hill, pre-construction surveys for butterfly larval host plants (*Viola pedunculata*, *Lupinus albifrons*, *L. formosus*, and *L. versicolor*) shall be conducted by a qualified invertebrate biologist with demonstrated experience working with the species to ensure avoidance of such host plants. Required surveys may be conducted

Mitigation Measure Applicability by Scenario			
DSP	DSP-V	CPP	CPP-V
✓	✓	✓	✓
✓ = measure applies - = measure does not apply			

in conjunction with the rare plant surveys required under **Mitigation Measure 4.C-1a**. The timing for these preconstruction surveys is further specified, below.

All populations of butterfly host plants located on Icehouse Hill shall be mapped and trails shall be designed to avoid them, whether or not they are being used by butterflies at the time of the initial surveys. All populations of butterfly host plants located on Icehouse Hill shall be inspected by a qualified invertebrate biologist, at an appropriate time of year, to determine whether or not they are being used by endangered butterflies for reproduction. If it is determined that they are being used for reproductive purposes by endangered butterflies, the specific project applicant shall contact USFWS to identify the appropriate consultation process prior to proceeding further with any activities on Icehouse Hill. Consultation may indicate that an Incidental Take Permit is required pursuant to the FESA.

If populations of callippe silverspot or Mission blue butterflies are determined to be reproducing on Icehouse Hill, the property owner shall prepare and implement a Butterfly Protection Plan in coordination with the USFWS and the habitat managers for the SBMHCP prior to any ground-disturbing activities on or adjacent to Icehouse Hill. The plan shall include, but not be limited to, the following elements:

- Pre-construction surveys shall be conducted during the period of identification for larval host plants and butterfly larvae in the flowering and/or breeding season immediately prior to trail construction or any other work scheduled to occur on Icehouse Hill.
- Trail construction on Icehouse Hill shall avoid populations of larval host plants.
- All trails, or alternately, sensitive habitats, shall be fenced to minimize the establishment of “informal” trails through habitats supporting special-status plants.
- Dogs shall be allowed on Icehouse Hill trails on leash only.
- Interpretative signage shall be posted at trailheads explaining the presence of endangered butterflies and/or their habitat and the importance of preserving Icehouse Hill as habitat for endangered species.
- Grassland habitat on Icehouse Hill shall be restored and enhanced to maintain and expand healthy populations of butterfly host plants. This shall include regular and ongoing management of non-native invasive species, such as French broom and fennel, as well as revegetation with native grassland species and establishment of new populations of butterfly host plants for callippe silverspot and Mission blue butterfly species, particularly lupine host species and Veolia species. These efforts shall be planned in coordination with similar SBMHCP efforts and according to the butterfly habitat restoration and vegetation management guidelines that have been established for the SBMHCP (San Mateo County, 2007). The criteria for successful implementation of habitat restoration shall be no loss of butterfly habitat and at least 50 percent cover (includes at least two of the lupine species used by butterflies) in restored areas after five years.

**Conclusion with Mitigation:** With implementation of **Mitigation Measure 4.C-1c**, impacts on endangered Mission blue and callippe silverspot butterflies and their habitat as a result of habitat degradation would be avoided and the impacts of site development would be less than significant.

### **Impacts on Raptors and Avian Species**

***Raptor Foraging Habitat.*** Undeveloped land presents potential foraging opportunities for a number of raptors, including red-tailed hawk, red-shouldered hawk, American kestrel, northern harrier, great horned owl, and barn owl, burrowing owl and all of which are known to occur in the vicinity and may utilize the site for foraging. All of these species are protected under the Migratory Bird Treaty Act, and California Fish and Game Code Section 3503.5. Northern harrier is also a California Species of Special Concern and a California Bird Species of Special Concern (breeding). Burrowing owl (breeding) is also a California Bird Species of Special Concern.

Build out of Project Site development would result in grading and developing existing ruderal, and non-native annual grassland habitats as well as remediation of the unpaved, non-vegetated developed areas under current commercial use (i.e. the landfill area). Resident and migratory raptors currently use ruderal, non-native annual grassland and land fill areas for foraging. Initial loss of these habitats would occur during site remediation and grading as the existing substrates will be modified. Over time the newly graded and developed site would be used by raptors species and although the total overall amount of foraging area would be reduced by approximately one third under the CPP/PP-V scenarios and approximately one half under the DSP/DSP-V scenarios, raptors would continue to use open space areas within the Project Site for foraging after Project Site development build out is complete. The CPP/PP-V scenarios would result in approximately 203 acres of habitat enhancement and open space areas that would provide potential foraging habitat for raptors after site build out is complete. The DSP/DSP-V scenarios would include approximately 150 acres of open space, habitat areas and promenades that would provide potential foraging habitat for raptors.

In the vicinity of the Project Site, San Bruno Mountain State and County Park provides more than 2,000 acres of significantly higher-quality foraging habitats that are protected in perpetuity. Therefore, large areas of existing foraging habitat would remain available in the vicinity even after Project Site development concludes. Removal of existing unpaved areas under any of Project Site development would not represent a substantial reduction in available foraging habitat and thus would not have a substantial effect on local populations of raptors.

***Raptor Nesting Habitat.*** Large trees at the Project Site occur primarily adjacent to existing roadways along the perimeter of the project footprint for all Project Site development. These trees represent potential nesting habitat for raptors and other species. All of the species listed above are protected under the Migratory Bird Treaty Act and California Fish and Game Code. Removal or trimming of any of the existing trees during the breeding season (January 1 through September 15th) would result in impacts to breeding raptors and avian species if an active nest is present. Removal of active nests or the trees the nests occupy would result in harassment or mortality of the young either through direct impact or as a result of abandonment by the adult bird.

Ground nesting species including western burrowing owls, and Northern harriers, both identified as a California Bird Species of Special Concern, are recognized as declining in numbers and distribution in the Bay Area region. Burrowing owls nest in burrows created by ground squirrels and as the squirrels are present on the site is considered suitable nesting habitat for the owls.



Northern harriers are not likely to nest at the Project Site. Although limited suitable nesting habitat for northern harrier occurs at the southern end of the lagoon, no development would occur in this location. Further, northern harriers appear to prefer patches of dense, often tall vegetation in undisturbed areas for nesting, and the all areas of the Project Site would experience disturbance. The species forages in a variety of habitats, including wet meadows and coastal inland marshes, however the species is known to use annual grasslands near the Bay for foraging.

Damage to or disturbance to occupied burrowing owl nests as a result of construction activities associated with pre-development remediation activities common to all Project Site development would be considered a significant impact. Construction of trails on Icehouse Hill would have the potential to impact active burrowing owl nests if existing burrows are occupied and nesting is in process. Damage to occupied natal burrows or disturbance of active burrows such that adults abandon the young would be considered a significant impact under CEQA.

**Conclusion:** Removal of trees at the Project Site would result in significant impacts to nesting raptor species that may use the existing trees at the Project Site for nesting. Grading and site preparation prior to Project Site development would result in significant impacts to ground-nesting protected species including burrowing owls.

Because performance standards as set forth in **Mitigation Measure 4.C-1d** for tree removal activity and ground-disturbance such as grading include no loss of nesting habitat during the raptor breeding season and the standards would be applied to all Project Site development, the impact would be considered less than significant.

**Mitigation**

**Mitigation Measure 4.C-1d:** The following steps shall be taken to avoid direct losses of nests, eggs, and nestlings and indirect impacts to special status avian species.

Vegetation removal including removal of trees and shrubs as part of site development shall be confined to the non-breeding season, except as provided for below. Grading or ground disturbance activities associated with site development including site remediation activities shall occur after pre-construction protocol burrowing owl surveys are conducted as described below and in the 2012 CDFW Staff Report on Burrowing Owls.

Mitigation Measure Applicability by Scenario			
DSP	DSP-V	CPP	CPP-V
✓	✓	✓	✓
✓ = measure applies - = measure does not apply			

- If removal of trees and shrubs or disturbance to trees and shrubs (i.e., tree removal, tree trimming) is proposed to occur between January 1 and September 15, a qualified avian biologist shall survey any trees proposed to be removed or trimmed during the nesting season (i.e., January 1 through September 15) to determine if active nests are present. Surveys shall occur not more than 14 days prior to tree removal or trimming. If active nests are found, tree removal and/or tree trimming shall be conducted only after the young have left the nest and the nest is no longer in use. Confirmation that the nest is no longer in use shall be provided by a qualified biologist familiar with the species.

If the qualified avian biologist identifies active nests, a no disturbance buffer of 150 feet shall be established and monitored by a qualified avian biologist, with authority to stop work in the event construction activities encroach within the disturbance buffer thus ensuring that impacts to nesting birds would not occur.

Survey and monitoring reports shall be submitted to City staff for review: preconstruction survey reports shall be submitted prior to initiating construction activities; monitoring reports shall be submitted weekly until activities associated with nest habitat removal or disturbance activities are completed.

- Prior to initiating **grading or ground disturbance activities** associated with remediation activities required prior to site development, the following shall occur:
  - Not less than 45 days prior to site grading, a qualified biologist shall survey the site to determine the presence of active burrowing owl nests. If active nests are found passive relocation of the individuals would be accomplished according to the CDFW standards in effect at the time of the survey including the 2012 CDFW Staff Report on Burrowing Owls.
  - Results of the burrowing owl survey will be forwarded to CDFW.
  - Should the results of the survey include positive finding for occupied burrows, the location and condition of the burrows shall be reported to the CDFW and an on-site mitigation plan shall be prepared for review and approval by the CDFW. Onsite mitigation shall include construction of artificial burrows at a ratio of not less than 1:1 with the burrows located away from areas permitted for use by dogs and hikers. Following construction of the artificial burrows, the existing owls shall be passively removed from their burrows using one-way trap doors. The artificial burrows shall be monitored for a period of five years to confirm occupation by the species. Monitoring reports shall be forwarded to the CDFW to document compliance with this mitigation measure.

**Conclusion with Mitigation:** Because performance standards as set forth in **Mitigation Measure 4.C-1d** that would occur prior to removal of trees or shrubs and ground-disturbance such as grading include no loss of nesting habitat during the raptor breeding season and the standards will be applied for all Project Site development, the impact would be considered less than significant.

Implementation of **Mitigation Measure 4.C-1d** would reduce or avoid significant impacts on breeding birds and raptors, including ground-nesting raptors, by limiting construction activities within the general avian breeding season. With implementation of this mitigation measure, significant environmental effects on breeding birds would be reduced to less-than-significant levels. Furthermore, trees and plants proposed to be planted as part of Project Site development would include native species and habitat assemblages that over time would result in higher quality nesting habitat for tree, shrub and ground-nesting birds compared to existing landscape trees and non-native eucalyptus trees at the site currently.

Although burrowing owls are dependent on burrows at all times of the year, eviction may also result in significant impacts. However, **Mitigation Measure 4.C-1d** also requires that replacement, artificial burrows be provided if burrowing owls are found and the approved burrow

exclusion techniques are implemented; this requirement would ensure that impacts to burrowing owls are reduced to less than significant.

### **Impacts to Raptors and Bats as a Result of Operation of Onsite Wind Power Generation**

Wind energy facilities have been demonstrated to cause a variety of impacts to raptors and bats including direct mortality through turbine collision. The level of collision risk is highly dependent upon the specific location and design of wind turbines. Raptors including the species discussed in this document such as burrowing owls, red-tailed hawks are harmed when they either attempt to perch on turbines or collide with them if the turbines are placed in migratory pathways or foraging areas. Or, the species avoid areas where turbines have been located and are effectively displaced from foraging habitat. Very little data is available pertaining to bats and wind turbines, compared to the knowledge of avian species in this regard. Existing information about bat migration and habitat use is limited in California (CBWG, 2006), so there is no corollary data set to the detailed level of knowledge that has emerged about turbine micro-siting in relationship to raptor use of the landscape. However, attempts are being made to model and predict effects on bats (CBWG, 2006; CEC, 2007).

The DSP and DSP-V scenarios would include construction and operation of a free-standing wind turbine located within the developed portions of the site, away from the open space and habitat areas. However, because raptors forage at the site and bats forage in the vicinity of wetlands and waters at the site, impacts to these species cannot be ruled out under the DSP and DSP-V scenarios. The CPP and CPP-V scenarios includes rooftop wind turbines which depending on the rooftop elevation and the turbine design can pose collision risk for foraging bats and raptors.

The turbines located in areas of high raptor use or in the vicinity of bat roosts have a greater chance to impact bats and raptors. The contemporary strategy for reducing potential impacts of wind energy facilities on avian species is to include micro-siting of individual turbines in areas or orientations that are less risky for raptors and other species, burying electrical collector cables underground, avoiding use of guy wires, and using solid tower/support structures rather than lattice towers to avoid providing birds with potential perching sites. Also, using turbines with rotor speeds of approximately 20 rpm (slower than earlier generations of wind turbines), and located turbines away from any major habitat areas that could act as attractants to raptors further minimizes the potential for bird collisions.

**Conclusion:** Micro-siting is believed to avoid or reduce the effects of wind turbines on bats and raptors, but does not ensure that the impact would be reduced to a less than significant level. Therefore, because raptor and bat mortality from collisions with wind turbines cannot be ruled out in association with operation of wind turbines, their operation would be considered a significant impact.

**Mitigation**

**Mitigation Measure 4.C-1e:** Prior to construction of any wind turbines within the Project Site, the applicant for such wind turbines shall prepare a site-specific micro-siting report in designing the proposed turbine layout that incorporates modeling of raptor species’ flight patterns, hovering or kiting patterns, bat roosting habitat areas and foraging areas. The report shall provide micro-siting recommendations to reduce avian collision and impacts to bat species that shall be implemented in the final design and placement of wind turbines. Utilization data; digital elevation modeling; slope attributes; techniques to identify saddles, notches, and benches; and associations between bird utilization and topography may be included, for example. The report shall include adaptive management during and after Project Site construction using information gathered in the pre-construction assessment to guide possible Project modifications, mitigation, or the need for and design of post-construction studies; post-construction studies can test design modifications and operational activities to determine their effectiveness in avoiding or minimizing significant adverse impacts (USFWS, 2010b). The design of wind turbines shall minimize the use of above ground electrical cabling; be designed with solid surfaces that are not conducive to perching; not run when visibility is poor, such as at night and during periods of heavy fog; and be designed with low rotor speeds (20 rpm maximum).

Mitigation Measure Applicability by Scenario			
DSP	DSP-V	CPP	CPP-V
✓	✓	✓	✓
✓ = measure applies - = measure does not apply			

**Mitigation Measure 4.C-1f:** Prior to construction or operation of wind turbines within the Project Site, the applicant shall implement the following mitigation measure, which is based upon the California Bat Working Group *Guidelines for Assessing and Minimizing Impacts to Bats at Wind Energy Development Sites in California* (CBWG, 2006). These measures will help to mitigate the Project’s effects on bats by addressing the data gaps that prevent adequate assessment of the Project’s effects on bats, such as what bat species are using the site and how they are using the Project area.

Mitigation Measure Applicability by Scenario			
DSP	DSP-V	CPP	CPP-V
✓	✓	✓	✓
✓ = measure applies - = measure does not apply			

- a. The applicant shall contribute to the body of knowledge on bat/turbine interactions by performing pre-construction and post-construction surveys, and post-construction monitoring within the Project area at each discrete location of a wind turbine or solar facility.

**Conclusion with Mitigation:** Implementation of **Mitigation Measures 4.C-1e** and **4.C-1f** would reduce or avoid impacts to bat species. With implementation of these mitigation measures impacts to raptors and bats would be avoided, but due to the lack of knowledge and the current uncertainty of the effectiveness of micro-siting efforts for these species, impacts to raptors and bats are considered significant.

**Impacts on Special-Status Fish**

Impacts to special-status fish species would occur during construction and operation of open space facilities and trails adjacent to the lagoon shoreline and Visitation Creek banks. Construction-related

impacts would result from water quality degradation associated with siltation and storm water run-off, and operational impacts would result from increased human presence adjacent to these two water bodies onsite, due to recreational uses associated with Project Site development. These include sports fields, meadows, rest rooms and parking areas directly north and upslope from the lagoon. The DSP and DSP-V scenarios also include a perimeter trail around the eastern edge of the lagoon.

Any special-status fish species present in Brisbane Lagoon or Visitation Creek during construction of Project recreational facilities, including trails, directly adjacent to the lagoon and creek could be harassed, injured, or temporarily displaced from lagoon waters during construction and would be affected by pollutants from urban runoff into the lagoon during operation. Accelerated erosion rates resulting from construction activities would have a negative impact on fish habitat if excessive soil sediment clouds waters, changes water temperature or limits oxygen levels and access to cover. Introduction of debris including trash and refuse would also displace existing habitat for special status fish. Recreational use would introduce more people to the area, and litter from recreational users would be a source of additional debris on the trails and in lagoon waters.

Performance standards for all work proposed adjacent to the lagoon under all concept scenarios will include implementation of erosion control and other best management practices to avoid and minimize introduction of run-off or sediment into the lagoon. Such standards would be consistent with National Pollution Discharge Elimination System (NPDES) permit conditions (see Section 4.N, *Hydrology and Water Quality*, of this EIR, for a detailed discussion of the permit requirements), construction regulations, and applicable state and federal requirements for Project construction adjacent to sensitive habitats, including water bodies that may support special status fish. In addition, performance standards would apply to the operation of the open space areas and trail use areas including implementation of maintenance and trails, trash removals and monitoring to ensure environmental quality is not degraded adjacent to and encroaching upon habitat for special status fish in the lagoon and Visitation Creek.

**Conclusion:** Impacts to habitat for special status fish species that would occur at the lagoon or Visitation Creek areas would occur as a result of introduction of sediment or materials generated during Project Site construction and operation. Impacts would result from Project construction and grading activities undertaken as part of trail construction or establishment of park facilities, and would temporarily increase exposure of disturbed surface soils to runoff, causing erosion and entrainment of sediment. Operational impacts would include introduction of materials such as litter or refuse into the water column as a result of increased human presence and recreational use, or an increase in runoff introduced as a result of recreational uses.

**Mitigation**

**Mitigation Measure 4.C-1g:** Construction and operation of proposed recreational and open space areas along Visitation Creek or adjacent to the northern lagoon edge shall include implementation of erosion control and water pollution control measures consistent with Storm Water Pollution Prevention Program (SWPPP) requirements, and implementation of an on-going maintenance plan to ensure no reduction in water and environmental quality as a result of recreational uses adjacent to the Creek and lagoon.

Mitigation Measure Applicability by Scenario			
DSP	DSP-V	CPP	CPP-V
✓	✓	✓	✓
✓ = measure applies - = measure does not apply			

Project applicants shall provide the City with proof that appropriate stormwater permits have been obtained pursuant to the City of Brisbane’s NPDES stormwater discharge permit, the San Francisco Regional MS4 Permit. This shall include construction site inspection and control programs at all construction sites, with follow-up and enforcement consistent with each Permittee’s respective Enforcement Response Plan, to prevent construction site discharges of pollutants and impacts on beneficial uses of receiving waters. The goal of Provision C.3 of the MS4 Permit is for the Permittee, such as the City of Brisbane, to use their planning authorities to include appropriate source control, site design, and stormwater treatment measures in new development and redevelopment projects to address both soluble and insoluble stormwater runoff pollutant discharges and prevent increases in runoff flows from new development and redevelopment projects. This goal is to be accomplished primarily through the implementation of low impact development techniques.

Project applicants shall comply with local municipal requirements and the local storm water program as mandated under the Municipal Stormwater Permit, including, at minimum, the following measures:

- Plan the development to fit the topography, soils, drainage pattern and natural vegetation of the Project Site.
- Delineate clearing limits, easements, setbacks, sensitive or critical areas, trees, drainage courses, and buffer zones to prevent excessive or unnecessary disturbances and exposure.
- Phase grading operations to reduce disturbed areas and time of exposure.
- Avoid excavation and grading during wet weather.
- Limit on-site construction routes and stabilize construction entrance(s) and exit(s).
- Any increase in impervious surface area shall include establishment of vegetated swales, permeable pavement materials, preserve vegetation, re-plant with native vegetation and appropriate measures should be evaluated and implemented where appropriate.
- Whenever practicable, native vegetation buffer areas shall be provided as part of a project to control pollutants from entering the Bay, and vegetation shall be substituted for rock riprap, concrete, or other hard surface shoreline and bank erosion control methods where appropriate and practicable.
- Construct diversion dikes and drainage swales to channel runoff around the site and away from bodies of water.

- Use berms and drainage ditches to divert runoff around exposed areas.
- Place diversion ditches across the top of cut slopes.
- No use of fertilizers or pesticides.

Applicants shall prepare a maintenance program for approval by the City that includes maintenance of water quality pollution-control features such as swales, sediment traps or other passive applications of pollution-prevention measures required as part of NPDES permitting. The maintenance program shall address the management of open space adjacent to the Brisbane lagoon and Visitation Creek and, at minimum, shall include the following requirements, to be performed to the satisfaction of the City:

- Identify the entity responsible for ongoing maintenance of the lagoon perimeter and recreational facilities within the perimeter area (e.g., property owners’ association, landscape maintenance district), along with provisions permitting the City to enforce maintenance requirements and recoup costs for such enforcement.
- Provide trash receptacles at appropriate locations and regular litter removal.
- Maintain all improvements within the lagoon perimeter in a safe and working condition.
- Identify a funding mechanism to ensure site maintenance and implementation of environmental quality monitoring at the creek and lagoon as part of the open space interpretive center. Monitoring parameters may include but would not be limited to water quality monitoring, vegetation monitoring, and passive observation and recording of fish species present.

**Conclusion with Mitigation:** Compliance with local municipal requirements and the local storm water program as mandated under the Municipal Stormwater Permit would prevent introduction of sediments and materials into the lagoon during construction. A required plan and funding for regular litter removal and maintenance of vegetative swales or technology to prevent runoff would ensure that use of the recreational areas in and near the Lagoon would result in less than significant impacts to special status fish. Therefore, implementation of **Mitigation Measure 4.C-1g**, in addition to implementation of **Mitigation Measures 4.H-1a, 4.H-1b and 4.H-4** (See Section 4.H, *Hydrology and Water Quality*, of this EIR ) would reduce impacts to special status fish to a less than significant level.

**Impact 4.C-2: Would the Project 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 CDFW or USFWS?**

***DSP, DSP-V, CPP, and CPP-V***

Development of the Project Site would be preceded by remediation activities including removal of soils and importation

Impact Significance by Scenario (before Mitigation)			
DSP	DSP-V	CPP	CPP-V
SM	SM	SM	SM
SU = Significant Unavoidable SM = Significant but Mitigable LTS = Less than Significant - = no impact			

and placement of clean fill to achieve clean-up goals and required levels of safety for future uses. Remediation activities associated with cleanup of the former landfill area including cleanup within and along the Visitation Creek channel would impact sensitive natural communities including tidally influenced banks of Visitation Creek either by temporary removal of tidal habitats during remediation, or through indirect effects such as increase in storm water runoff into sensitive habitats while work is occurring within or adjacent to the creek channel. Remediation actions taken at the former railyard would require removal of contaminated soils and placement of clean fill to achieve clean-up goals and required levels of safety for future uses. Remediation actions in the former railyard would impact and displace sensitive natural communities including freshwater emergent wetlands that have formed on the existing fill material that is the current substrate at the site, and the Visitation Creek channel. A 2004 wetland mitigation plan was prepared to address impacts to sensitive natural communities including 404 wetlands and provided for creating two types of wetland habitats to offset impacts and restore functions and values. One acre of saltwater marsh wetlands and three acres of freshwater marsh wetlands, including a shallow water shoreline zone, a deep water zone and an open water zone, were included in the mitigation plan and were to be implemented along Visitation Creek. A permit for the restoration work was issued in 2006 but has since lapsed with no action taken.

Prior to implementation of remediation actions and as part of the approvals process overseen by the California Department of Toxic Substances Control and the RWQCB, total area and extent of natural communities would be delineated using methods and standards mandated by federal and state agencies with jurisdiction over natural communities including the Corps, CDFW, USFWS and the RWQCB. Figure 4.C-1 depicts the approximate distribution and locations of natural communities on site currently, but formal delineation(s) would be required to support acquisition of permits required prior to implementation of the remediation process.

Remediation would result in a beneficial outcome in terms of biological resources because the amount and quality of sensitive natural communities created onsite as part of development of proposed passive storm water treatment systems, proposed creek and natural area improvements such as contouring and re-vegetation at Visitation Creek, and reconstruction of railyard wetlands onsite. Overall the restored wetlands would exceed the ecological functions-and-values currently present. Improved functions and values would occur because restoration designs and planting plans would incorporate native species and result in natural assemblages and structural components of sensitive natural communities that are consistent with the regional conditions and the specific conditions at the Project Site. Such conditions, incorporated herein as performance standards for site development, would be established in detail during coordination with state and regulatory agencies with jurisdiction over natural communities including CDFW, USFWS, and the Corps, among others. The regulatory permitting processes referenced above establishes criteria for restoration of functions and values that would be incorporated into design, implementation and long term monitoring and adaptive management of restored habitats to ensure that impacts to sensitive natural communities would not result in a loss of total amount of or functions and values associated with those communities.



**Conclusion:** Site remediation activities would impact sensitive natural communities within the landfill and rail yard area footprints.

**Conclusion with Mitigation:** Although the long term results of remediation would be beneficial, impacts to existing sensitive natural communities would be significant. With implementation of **Mitigation Measures 4.C-2a, 4.C-2b, and 4.C-2c** this impact would be considered less than significant.

Because performance standards for remediation activities include no overall loss of either total area/amount or functions and values of sensitive natural communities, impacts as a result of remediation would be less than significant. With implementation of mitigation measures including compliance with regulatory requirements, post remediation site conditions are likely to result in greater quantity and higher overall quality than what exists at the site currently.

#### **Impacts on Sensitive Natural Communities as a result of post-remediation site development activities**

After remediation has been completed build out of Project Site development would proceed. Build out of Project Site would include implementation of a water transfer agreement as discussed in relation to project site utilities in *Section 4.O, Utilities, Service Systems and Water Supply*, of this EIR. As a result of the proposed IOD-Brisbane water transfer agreement a change could be needed in the amount of water released from Hetch Hetchy Reservoir flowing down the segment of the Tuolumne River between Hetch Hetchy Reservoir and New Don Pedro Reservoir. The water transfer would contribute to potential impacts on the Tuolumne River that may occur as a result of required changes to the reservoir release pattern from Hetch Hetchy Reservoir that, in some years, could prevent groundwater recharge and could adversely affect streamside meadows and other alluvial deposits. Assuming a conservative approach to this analysis, the impact is considered to be significant but mitigable for the OID-Brisbane water transfer element of the Project through implementation of mitigation measure 4.O-1b included in Section 4.O of this EIR.

Depending on timing of site-specific development approvals and the overall pace of build out at the site, Project construction activities could impact adjacent sensitive natural communities. Impacts would include runoff from development construction areas and increased human presence and noise. Construction actions such as earthwork and construction of roads, infrastructure, and residential (DSP, DSP-V scenarios) and commercial areas in the vicinity of restored sensitive natural areas including wetlands constructed as mitigation for remediation impacts would temporarily disturb adjacent habitat areas as the result of construction. This impact is common to all Project Site development.

**Conclusion: Mitigation Measure 4.C-4a** is recommended to avoid impacts to natural communities after remediation and before mitigation/habitat restoration. **Mitigation Measure 4.C-4b** is recommended to reduce impacts on marsh wildlife and habitat to a less-than-significant level; and **Mitigation Measure 4.C-4c** is recommended to reduce predation on local wildlife by

domestic pets and feral dogs and cats and reduce impacts on undeveloped areas that support restored natural communities to a less-than-significant level.

**Mitigation**

**Mitigation Measure 4.C-2a:** The applicant shall avoid or minimize adverse effects on sensitive natural communities and restored wetland mitigation areas created to comply with remediation permit requirements or any restored habitat that may have been created as part of site clean-up actions. After Project Site remediation has concluded, measures shall be implemented to avoid impacts to sensitive natural communities or restored habitat areas, including the installation of silt fencing, straw wattles, or other appropriate erosion and sediment control methods or devices to prevent runoff and construction debris from entering these areas. Such measures shall also be employed where pre-construction grading and post-remediation development may require work adjacent to sensitive natural communities, either prior to or after restoration of those areas occurs. Where construction activities occur in the vicinity of sensitive natural communities onsite, the following shall be implemented to ensure no loss of restored mitigation sites:

Mitigation Measure Applicability by Scenario			
DSP	DSP-V	CPP	CPP-V
✓	✓	✓	✓
✓ = measure applies - = measure does not apply			

- Fencing shall be erected adjacent to the areas where construction is occurring to avoid unintended impacts to sensitive natural area that occur just outside the construction area. Construction workers will be educated about local resources and instructed to avoid sensitive habitats during construction including limiting any human intrusion into natural areas.
- If work in the vicinity of natural communities cannot be avoided, work within these areas shall be conducted during the dry season, typically between May 1 and October 15, and shall occur under permit authority of CDFW, Corps and RWQCB pursuant to the CWA Section 404 requirements for avoidance, mitigation and monitoring. **Mitigation Measures 4.2-2b and 4.C-2c** shall also apply if work cannot be avoided in or directly adjacent to sensitive natural areas or restored habitats created as part of site cleanup actions.

**Mitigation Measure 4.C-2b:** The measures described below shall be employed to avoid degradation of natural communities or sensitive natural communities by maintaining water quality and controlling erosion and sedimentation during construction as required by compliance with the National Pollutant Discharge Elimination System (NPDES) General Permit for Construction Activities and as established by **Mitigation Measures 4.H-1a and 4.H-1b** (see Section 4.H, *Hydrology and Water Quality*, of this EIR) to address impacts on water quality. In addition, measures shall include, but not be limited to, the following:

Mitigation Measure Applicability by Scenario			
DSP	DSP-V	CPP	CPP-V
✓	✓	✓	✓
✓ = measure applies - = measure does not apply			

- Installing silt fencing between aquatic sensitive natural communities and Project-related activities;
- Locating fueling stations away from potentially jurisdictional areas and features; and
- Otherwise isolating construction work areas from any identified jurisdictional features.

**Mitigation Measure 4.C-2c:** Where disturbance to sensitive natural communities cannot be avoided, compensation shall be provided for temporary impacts and permanent loss to ensure that there is no overall loss of sensitive natural communities as a result of Project Site development. Onsite, in kind replacement of sensitive natural communities including coastal scrub, willow scrub, tidal marsh, freshwater emergent wetlands, and lined manmade drainages that have developed bed and bank characteristics shall be a condition of development. Compensation shall be detailed on an impact-specific basis and shall include development of an onsite wetland mitigation and monitoring plan, which shall be developed prior to Project Site development or in coordination with permit applications and/or conditions. Alternately, offsite mitigation may be pursued through an approved mitigation bank, although this option may result in a higher ratio for compensation. At a minimum, such plans shall include:

Mitigation Measure Applicability by Scenario			
DSP	DSP-V	CPP	CPP-V
✓	✓	✓	✓
✓ = measure applies - = measure does not apply			

- Baseline information, including a summary of findings for the most recent wetland delineation conducted at the Project Site;
- Anticipated habitat enhancements to be achieved through compensatory actions, including mitigation site location (onsite enhancement or offsite habitat creation) and hydrology;
- Performance and success criteria for wetland creation or enhancement including, but not limited to, the following:
  - At least 70 percent survival of installed plants for each of the first three years following planting.
  - Performance criteria for vegetation percent cover in Years 1-4 as follows: at least 10 percent cover of installed plants in Year 1; at least 20 percent cover in Year 2; at least 30 percent cover in Year 3; at least 40 percent cover in Year 4.
  - Performance criteria for hydrology in Years 1-5 as follows: 14 or more consecutive days of flooding, ponding, or a water table 12 inches or less below the soil surface during the growing season at a minimum frequency of three of the five monitoring years; OR establishment of a prevalence of wetland obligate plant species.
  - Invasive plant species that threaten the success of created or enhanced wetlands should not contribute relative cover greater than 35 percent in Year 1, 20 percent in Years 2 and 3, 15 percent in Year 4, and 10 percent in Year 5.
  - If necessary, supplemental water shall be provided by a water truck for the first two years following installation. Any supplemental water must be removed or turned off for a minimum of two consecutive years prior to the end of the monitoring period, and the wetland must meet all other criteria during this period. At the end of the five-year monitoring period, the wetland must be self-sufficient and capable of persistence without supplemental water.
  - At least 75 percent cover by hydrophytic vegetation at the end of the five-year monitoring period. In addition, wetland hydrology and hydric soils must be present and defined as follows:
    - *Hydrophytic vegetation* – A plant community occurring in areas where the frequency and duration of inundation or soil saturation produce

permanently or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present.

- *Wetland hydrology* – Identified by indicators such as sediment deposits, water stains on vegetation, and oxidized rhizospheres along living roots in the upper 12 inches of the soil, or satisfaction of the hydrology performance criteria listed above.
  - *Hydric soils* – Soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions, which are often characterized by features such as redox concentrations, which form by the reduction, translocation, and/or oxidation of iron and manganese oxides. Hydric soils may lack hydric indicators for a number of reasons. In such cases, the same standard used to determine wetland hydrology when indicators are lacking can be used.
- Five years after any wetland creation, a wetland delineation shall be performed to determine whether created wetlands are developing according to the success criteria outlined in the project permits. If they are not, remedial measures such as re-planting and or re-design and construction of the created wetland shall be taken to ensure that the Project’s mitigation obligations are met.
- Monitoring and reporting requirements. If permanent and temporary impacts on jurisdictional waters cannot be compensated onsite through the restoration or enhancement of wetland features incorporated within proposed open space areas, the specific project applicant shall provide additional compensatory mitigation for these habitat losses. Potential options include the creation of additional wetland acreage onsite or the purchase of offsite mitigation. Offsite compensatory mitigation would be required to fulfill the performance standards described above.

**Conclusion with Mitigation:** Implementation of **Mitigation Measures 4.C-2a, 4.C-2b, and 4.C-2c** would reduce impacts on natural communities including natural communities that occur as a result of restoration and mitigation for impacts associated with pre-development site remediation to a less-than-significant level under Project Site development.

**Impact 4.C-3: Would the Project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA through direct removal, filling, hydrologic interruption, or other means?**

***DSP, DSP-V, CPP, and CPP-V***

**Impacts on Wetlands and Other Waters of the United States**

Remediation activities, would result in substantial adverse effects on wetlands and waters of the United States as defined by Section 404 of the CWA, and Waters of the State,<sup>7</sup> as defined by the Porter-Cologne Water Quality Act, overseen by the RWQCB pursuant to Section 401 of the CWA. Significant impacts

Impact Significance by Scenario (before Mitigation)			
DSP	DSP-V	CPP	CPP-V
SM	SM	SM	SM
SU = Significant Unavoidable SM = Significant but Mitigable LTS = Less than Significant - = no impact			

<sup>7</sup> Waters and wetlands under the jurisdiction of CDFW and/or RWQCB.

include permanent fill of freshwater emergent wetlands and manmade drainages occurring on the former railyard; permanent fill of un-vegetated manmade drainage ditches, freshwater emergent wetlands, and tidally influenced wetlands at Visitation Creek within the landfill footprint. The fill of jurisdictional waters as a result of remediation activities would result in loss of wetland area to create appropriate soil elevations for the purpose of containment of contaminants required prior to Project Site development. Remediation activities would occur within the landfill and railyard footprints prior to Project Site development build out. Implementation of **Mitigation Measures 4.C-2a, 4.C-2b, and 4.C-2c** would reduce impacts on wetlands, to a less-than-significant level for fill of wetlands associated with site remediation activities.

Because performance standards for remediation activities as set forth in **Mitigation Measure 4.C-2c** include ensuring that the total area and or overall functions and values of jurisdictional wetlands or waters of the U.S. would apply to site development, impacts associated with filling jurisdictional wetlands during site remediation would be less than significant.

**Post-Remediation Build Out of the Project Site Outside Landfill and Railyard Areas**

Implementation of **Mitigation Measures 4.C-2a, 4.C-2b, and 4.C-2c** would reduce impacts on wetlands to a less-than-significant level under all four proposed development scenarios.

Because performance standards would be applied to Project Site development including no net loss of jurisdictional wetlands as defined by the CWA, impacts associated with build out of Project Site development would be less than significant.

**Conclusion:** Project Site development would comply with all applicable federal and state permitting requirements, as discussed above. Implementation of **Mitigation Measures 4.C-2a, 4.C-2b, and 4.C-2c** would ensure that the significant impact on jurisdictional wetlands or waters of the United States would be reduced to a less-than-significant level.

**Impact 4.C-4: Would the Project affect movement of wildlife species, active wildlife corridors, and wildlife nursery sites supporting breeding?**

***DSP, DSP-V, CPP, and CPP-V***

**Impact on Wildlife Corridors and Bird Migration Navigation**

Contiguous undeveloped areas, stream or drainage channels, and other linear arrangements of open space within urban habitats, such as Visitation Creek, constitute important movement corridors for local wildlife species. Utilizing cover along vegetated channels and contiguous undeveloped vegetated areas, local ground-dwelling and avian wildlife species are able to maneuver from place to place within a given environment without encountering barriers to their movement patterns. Studies of wildlife corridors have shown that contiguous open space areas

Impact Significance by Scenario (before Mitigation)			
DSP	DSP-V	CPP	CPP-V
SM	SM	SM	SM
SU = Significant Unavoidable SM = Significant but Mitigable LTS = Less than Significant - = no impact			

function to provide connectivity between local populations of species and increase the viability of those populations (Beier and Noss, 1998).

Open space areas in the vicinity of the Project Site that support wildlife populations and attract wildlife movement include the San Bruno Mountain area to the west of the Project Site, and wetland and aquatic habitats in San Francisco Bay located to the east of the site. Currently, suitable wildlife habitat at the site is limited to Icehouse Hill, which could attract butterfly species present in the San Bruno Mountain area, and aquatic habitat in the lagoon which may attract fish species present in San Francisco Bay. Butterflies would be attracted by host species that could colonize Icehouse Hill, and fish would potentially be attracted to open water lagoon habitats at the site. Within the interior of the site currently much of the area is open, but habitat quality is low with large expanses of compacted bare ground and not likely to attract or facilitate animal movements.

**Wildlife Movement.** Build out of Project Site development will result in establishment and maintenance of contiguous open areas under each of the development scenarios, including the Visitation Creek area that would increase habitat quality onsite compared to existing conditions and would maintain connectivity within the Project Site. Development of the Project Site would not create barriers to site access for species present in the vicinity and would not inhibit on-site animal movement corridors. Project Site development includes contiguous open space areas of sufficient width to facilitate animal movement onsite. Therefore, development of the Project Site would not result in significant impacts to animal movements onsite or onto the site from nearby open space areas. In addition, to aid in implementing select programs and policies of the City's 1994 General Plan, the City Council approved the Open Space Plan. The Open Space Plan includes Preservation Strategies and General Management Policies, which, in turn, direct that open space dedication and open area planning should be incorporated as part of the specific planning portion of the planned development process, and that native habitat restoration efforts should be undertaken, where practical. However, Open Space Plan policies do not specify how the goals expressed in these policies should be achieved, and thus, standing alone, do not ensure that impacts to wildlife movement would be less than significant.

Site development would not reduce access compared to existing conditions for animals from adjacent areas, for instance the including the watershed of Guadalupe Creek which is a natural channel in San Bruno Mountain State and Regional Park that flows through the community of Brisbane in subsurface culverts and terminates at a concrete outfall into Brisbane Lagoon. Additional potential access points for wildlife would include the southern tip of the Brisbane Lagoon area which is in close proximity to the toe of the San Bruno Mountain feature, where it meets the Bay shore at US Highway 101. Project Site development would not change the existing use or condition of the southern tip of the lagoon and no change in site access for resident or local animals would occur.

**Migration Birds.** Migrating birds such as songbirds including special status species can be affected by human-built structures because of their propensity to migrate at night, their low flight altitudes, and their tendency to be disoriented by artificial light, making them vulnerable to collision with obstructions. Both tall structures and residential windows provide collision hazards

to migrating birds. A majority of bird strikes occur when birds do not recognize windows on buildings. Under Project Site development, the highest densities and the tallest buildings would be concentrated in the northern portion of the Project Site, which is already developed for urban or industrial uses. Building heights under Project Site development range from 25 feet to 160 feet in height. Highest densities for buildings and light-producing structures are included in the DSP and DSP-V scenarios. Thus, operation of the towers and stadium included in the DSP and the DSP-V scenarios, and the commercial buildings proposed under the CPP and CPP-V scenarios would pose collision hazards to migratory birds as effects associated with the lighting of the towers can alter the flight patterns of migratory birds and substantially increase bird strike collisions with the structures. Since the CPP and CPP-V scenarios do not include residences and proposed reduced density for commercial and urban uses, these scenarios would result in a smaller increase in light and collision hazards as a result of Project Site development.

Large-scale avian injury or mortality due to bird strikes have not been documented at buildings on the West Coast as it has in eastern and midwestern North America. However, due to the potential for individuals of special status bird species to collide with windows and reflective surfaces on tall buildings associated with development of the site, this would be a potentially significant impact.

**Wildlife Movement.** Because Project Site development, even though consistent with the Open Space Plan would not ensure that impacts to wildlife movement would be less than significant, build out of Project Site development would result in significant impacts to wildlife movements onsite or onto the site from nearby open space areas. **Mitigation Measure 4.C-4a** requires a Project wide Open Space Plan be prepared by a landscape architect in coordination with a qualified habitat restoration biologist to ensure avoidance of impacts to wildlife movement. **Mitigation Measures 4.C-4b** and **4.C-4c** would also serve to reduce impacts to wildlife movement corridors onsite through avoidance of marsh habitats and restrictions on pets associated with occupation of the site which would occur in the DSP and DSP-V scenarios.

**Conclusion with Mitigation:** Performance standards applied to site development include compliance with General Plan Open Space Planning requirements including a requirement for a project wide Open Space Plan to be prepared by a landscape architect in coordination with a qualified habitat restoration biologist to ensure avoidance of impacts to wildlife movement. **Mitigation Measure 4.C-4a** is recommended to enhance existing and coordinate connections between proposed open space areas such that they would also function as animal movement corridors.

Potential impacts to migratory birds associated with increased collision with mid-rise and high-rise buildings would be mitigated to a level that is considered less than significant with application of **Mitigation Measures 4.C-4d** and **4.C-4e**.

**Mitigation**

**Mitigation Measure 4.C-4a:** Development in the Baylands shall be subject to a requirement for a Project wide Open Space Plan to be prepared by a landscape architect in coordination with a qualified habitat restoration biologist and included as a component of the Specific Plan. The Plan shall incorporate designs to provide for wildlife movement corridors and to enhance habitat for native wildlife species. Specific requirements shall include the following:

Mitigation Measure Applicability by Scenario			
DSP	DSP-V	CPP	CPP-V
✓	✓	✓	✓
✓ = measure applies - = measure does not apply			

- Landscaped areas shall contain a mosaic of native habitat types that support fauna of the surrounding area, including coastal scrub, grassland, and willow scrub habitats. Tree plantings shall be limited to native species whenever possible, as these species could create more nesting and roosting habitat for native birds and bats.
- Landscape plans shall incorporate both east-west and north-south open space areas, to promote both linkages between upland habitats and San Francisco Bay and linkages between upland habitats along the Bay shoreline.
- Removed trees shall be replaced at a minimum ratio of 1:1 (native trees shall be substituted for non-native trees whenever possible). The minimum ratio of 1:1 shall be met five years after planting; initial plantings may require greater than 1:1 ratio to achieve this standard.
- Nest boxes for bats and cavity-nesting bird species shall be installed in passive recreational areas.

**Mitigation Measure 4.C-4b:** Development in the Baylands shall be subject to a requirement for a Marsh Wildlife and Habitat Protection Plan for the Project to be prepared as part of the specific plan process prior to approval of any development projects. The Habitat Protection Plan shall be prepared by a qualified biologist and subject to approval by the Brisbane Community Development Department. The Plan shall include (but not be limited to), the following components:

Mitigation Measure Applicability by Scenario			
DSP	DSP-V	CPP	CPP-V
✓	✓	✓	✓
✓ = measure applies - = measure does not apply			

- To minimize the effect of night lighting on wetland habitats adjacent to Project Site development, the following shall apply in the vicinity of wetlands located north of the lagoon, development north and south of the Visitacion Creek channel, and any development adjacent to freshwater wetlands in the western portion of the Project Site:
  - Street lighting shall be provided only at intersections.
  - Low-intensity street lamps and low elevation lighting poles shall be provided.
  - Internal silvering of the globe or external opaque reflectors shall be provided to direct light away from preserved wetland or open water habitats.
  - In addition, private sources of illumination around homes (**for DSP and DSP-V only**) shall also be directed and/or shaded to minimize glare into these habitats.



- Residential and commercial leases within the Project Site shall prohibit building occupants from creating outdoor feeding stations for feral cats to prevent feral cat colonies from establishing and to prevent the attraction of other predatory wildlife such as red fox, raccoon, or opossums. Such restrictions shall be monitored by a property owners association which shall have the right to impose fines for violation of this requirement.
- If a buffer cannot be accommodated between development and habitat areas, cyclone fencing with vinyl slats (or an equivalent screening barrier) at a minimum height of three feet for screening shall be installed outside of wetland habitat and between any preserved wetland or open water habitat and all residential or commercial development. Appropriate native vegetation shall be planted both inside and outside of the fence to provide further screening. This fencing would provide a barrier to exclude cats, dogs, and other household pets, which are not effectively deterred by buffers.
- An education program for residents shall be developed including posted interpretive signs and informational materials regarding the sensitivity of preserved habitats, the dangers of unleashed domestic animals in this area. Such restrictions shall be monitored by a property owners association which shall have the right to impose fines for violation of the pet policy. Such information shall be provided in the vicinity of onsite marshes where public access is provided.

**Mitigation Measure 4.C-4c:** All development on the Baylands that includes a residential component shall include a pet policy that requires residents to adhere to the measures of this policy to prevent impacts on wildlife from domestic animals. The policy shall become a part of the Covenants, Conditions, and Restrictions (CC&Rs) attached to each property deed for for-sale residential properties and enforced through the homeowners association or other entity specified in the CC&Rs, and made part of leases for residential rental properties and commercial leases within the Project Site. The pet policy shall limit the number of animals per residence and require adult cats, dogs, and rabbits to be spayed or neutered. Cats and dogs shall be required to be kept inside the residences and allowed outside residences only if on a leash and under the tenant’s control and supervision, except within areas specifically designed as dog parks. To provide effective predator control, feral animal trapping may be necessary.

Mitigation Measure Applicability by Scenario			
DSP	DSP-V	CPP	CPP-V
✓	✓	-	-
✓ = measure applies - = measure does not apply			

**Conclusion with Mitigation:** Implementation of **Mitigation Measures 4.C-1a, 4.C-1b, 4.C-1c, 4.C-1d, 4.C-1e, 4.C-1f, 4.C-1g, 4.C-4a, 4.C-4b, and 4.C-4c** would reduce impacts on wildlife corridors to a less-than-significant level.

**Mitigation Measure 4.C-4d:** During design of any building greater than 100 feet tall, the applicant and architect shall consult with a qualified biologist experienced building/lighting design issues (as approved by the City of Brisbane Planning Department) to identify lighting related measures to minimize the effects of the building’s lighting on birds. Such measures, which may include the following and/or other measures, shall be incorporated into the building’s design and operation.

Mitigation Measure Applicability by Scenario			
DSP	DSP-V	CPP	CPP-V
✓	✓	✓	✓
✓ = measure applies - = measure does not apply			

- Use strobe or flashing lights in place of continuously burning lights for obstruction lighting. Use flashing white lights rather than continuous light, red light, or rotating beams.
- Install shields onto light sources not necessary for air traffic to direct light towards the ground.
- Extinguish all exterior lighting (i.e., rooftop floods, perimeter spots) not required for public safety.
- When interior or exterior lights must be left on at night, the operator of the buildings shall examine and adopt alternatives to bright, all-night, floor-wide lighting, which may include:
  - Installing motion-sensitive lighting.
  - Using desk lamps and task lighting.
  - Reprogramming timers.
  - Use of lower-intensity lighting.
- Windows or window treatments that reduce transmission of light out of the building will be implemented to the extent feasible.
- Educational materials will be provided to building occupants encouraging them to minimize light transmission from windows, especially during peak spring and fall migratory periods, by turning off unnecessary lighting and/or closing drapes and blinds at night.
- A report of the lighting alternatives considered and adopted shall be provided to the City of Brisbane Planning Department for review and approval prior to construction. The City of Brisbane Planning Department shall ensure that lighting-related measures to reduce the risk of bird collisions have been incorporated into the design of such buildings to the extent practicable.

**Mitigation Measure 4.C-4e:** During design of any building greater than 100 feet tall, the applicant and architect shall consult with a qualified biologist experienced with urban building bird strikes design issues (as approved by the City of Brisbane Planning Department) to identify measures related to the external appearance of the building to minimize the risk of bird strikes. Such measures, which may include the following and/or other measures, shall be incorporated into the building's design:

- Use non-reflective tinted glass.
- Use window films to make windows visible to birds from the outside.
- Use external surfaces/designs that break up reflective surfaces.
- Place bird attractants, such as bird feeders and baths, at least three feet and preferably 30 feet or more from windows in order to reduce collision mortality.

Mitigation Measure Applicability by Scenario			
DSP	DSP-V	CPP	CPP-V
✓	✓	✓	✓
✓ = measure applies - = measure does not apply			

- A report of the design measures considered and adopted shall be provided to the City of Brisbane Planning Department for review and approval prior to construction. The City of Brisbane Planning Department shall ensure that building design related measures to reduce the risk of bird collisions have been incorporated to the extent practicable.

**Impact on Breeding Birds**

Although the existing high ambient levels of noise and disturbance at the Project Site likely preclude nesting activities for many special-status birds, potential nesting habitat occurs on or adjacent to the Project Site. Limited nesting habitat for northern harrier occurs in the marshes at the southern end of Brisbane Lagoon. Red-tailed hawks, red-shouldered hawks, and great horned owls could use larger eucalyptus trees located along the western perimeter of the site as well as on Icehouse Hill for nesting. Common passerine species such as house finches, white-crowned sparrows, and Anna’s hummingbirds might also utilize shrub habitats within the site, which would be lost as part of site construction. The western portion of the Project Site is subject to lower ongoing noise levels due to the greater distance from US Highway 101 and the attenuation of noise levels associated with the highway.

Increased noise and activity resulting from remediation activities or development construction, were it to exceed ambient levels, could cause nest abandonment and death of young or loss of reproductive potential at active nests in the Project Site. In addition, while some trees may be retained during implementation of the Project, grading and removal of trees or other vegetation would result in direct losses of nests, eggs, or nestlings, if present.

**Conclusion:** Such impacts on breeding birds, including special-status birds, would be significant. **Mitigation Measure 4.C-4f** is recommended to reduce the impact to a less-than-significant level. **Mitigation Measure 4.A-4a** in Section 4.A, *Aesthetics*, of this EIR applies specific guidelines that address lighting of the night sky and the reduction of nighttime lighting effects.

**Mitigation**

**Mitigation Measure 4.C-4f:** Prior to tree removal, trimming of trees or shrubs or soil disturbance for site grading, a survey of suitable nesting habitat shall be conducted by a avian biologist familiar with Bay Area species and habitats to map the location of vegetation that could support avian species. If ground-disturbing activities or vegetation removal are proposed during the breeding bird season (January 1 through September 15), to avoid direct losses of nests, eggs, and nestlings and indirect impacts on avian breeding success, a qualified avian biologist shall survey active sites for nesting raptors and passerine birds not more than 14 days prior to the ground-disturbing activity or vegetation removal. Surveys shall include all trees in line-of-sight and within 500 feet of construction for raptors, and all vegetation (including bare ground within 250 feet) for all other species. If active nests are found, tree removal or tree trimming and construction activities, including soil disturbance, construction noise, increased human

Mitigation Measure Applicability by Scenario			
DSP	DSP-V	CPP	CPP-V
✓	✓	✓	✓
✓ = measure applies - = measure does not apply			

presence, would be halted and the nest would be monitored by a qualified biologist who shall verify when the nestlings have fledged and left the nest.

**Conclusion with Mitigation:** Implementation of **Mitigation Measure 4.C-d** would reduce or avoid impacts on breeding birds by limiting construction activities within the general avian breeding season. With implementation of this mitigation measure, significant environmental effects on breeding birds would be reduced to less-than-significant levels.

**Impact on Roosting Bats**

Bats may roost in abandoned or underused buildings, as well as trees, and may use such structures or larger eucalyptus trees located north of Icehouse Hill and along Bayshore Boulevard as nurseries or winter hibernacula. Several special-status bat species, including pallid bat, Townsend’s Pacific big-eared bat, long-eared myotis, fringed myotis, hoary bat, and Yuma myotis, could potentially roost and breed in eucalyptus trees or vacant buildings within the Project Site.

Landfill reclamation and subsequent development activities resulting in the demolition of abandoned or underused buildings or tree removal within the western portion of the Project Site would adversely affect special-status bat species. Construction activities could destroy maternity roosts were they to be located in large trees or abandoned buildings and thereby adversely affect reproductive success. Construction could likewise adversely affect winter hibernacula.<sup>8</sup> Finally, tree removal and building demolition could result in the direct mortality of special-status bats if present.

**Conclusion:** This impact would be significant. **Mitigation Measure 4.C-4g** is recommended to reduce the impact to a less-than-significant level.

**Mitigation**

**Mitigation Measure 4.C-4g:** Applicants for site specific development projects pursuant to an approved specific plan within the Project Site shall take the following measures to avoid direct mortality of roosting special-status bats and disturbance of maternity roosts or winter hibernacula:

- A bat biologist familiar with Bay Area species shall conduct surveys of all potential bat habitat, including areas suitable for maternity roosts and/or winter hibernacula within a site proposed for development prior to initiation of construction activities, including initial grading. Surveys shall be conducted within one year prior to construction to capture current bat habitats at the site, as presence of bats could vary yearly and survey results several years before impacts occur could be inaccurate. Potentially suitable habitat shall be located visually. Bat emergence counts shall be made at dusk as the bats depart from any suitable habitat. In addition, an acoustic detector shall be used to determine any areas of bat activity. At least four nighttime emergence counts shall be undertaken on nights that are warm enough for bats to be active. The bat

Mitigation Measure Applicability by Scenario			
DSP	DSP-V	CPP	CPP-V
✓	✓	✓	✓
✓ = measure applies - = measure does not apply			

<sup>8</sup> A location where wildlife can become dormant for some period of time, that provides refuge and cover.

biologist shall determine the type of each active roost (i.e., maternity, winter hibernacula, day or night).

- Removal or trimming of trees or demolition of buildings showing evidence of bat activity shall occur during the period least likely to affect the bats as determined by a qualified bat biologist (generally between February 15 and October 15 for winter hibernacula and between August 15 and April 15 for maternity roosts). If active day or night (non-maternity) roosts are found, the bat biologist shall take action to allow individual bats to depart prior to tree removal or building demolition.
- During construction, a no-disturbance buffer shall be created around active bat roosts being used for maternity or hibernation purposes at a distance to be determined in consultation with CDFW. Bat roosts initiated during construction are presumed to be unaffected, and no buffer is necessary.

**Conclusion with Mitigation:** With the implementation of **Mitigation Measure 4C-4g**, significant impacts on roosting bats under each of the four proposed development scenarios would be reduced to a less-than-significant level.

**Overall Conclusion**

For the reasons discussed above, implementation of **Mitigation Measures 4.C-1a, 4.C-1b, 4.C-1c, 4.C-1d, 4.C-1e, 4.C-1f, 4.C-1g, 4.C-4a, 4.C-4b, 4.C-4c, 4.C-4d, 4.C-4e, 4.C-4f and 4.C-4g** would reduce the significant impacts resulting from Project Site Development on wildlife corridors, movement of wildlife species, and active nursery sites to less-than-significant levels.

**Impact 4.C-5: Would the Project result in impacts on trees protected by the City of Brisbane Tree Ordinance?**

***DSP, DSP-V, CPP, and CPP-V***

Implementation of Project Site development has the potential to result in the removal of trees protected under the City’s Tree Ordinance. Unauthorized tree removal (i.e., without authorization under a development approval or a permit from the City) would be considered a significant impact, since such removal would frustrate the purposes of the City’s Tree Ordinance which include protecting native tree species, maintaining trees planted as conditions of development approval, protecting against erosion, land instability and flooding. Performance standards for all scenarios would include compliance with the City’s Tree Ordinance and replacement of impacted trees with at least a 1:1 ratio.

Impact Significance by Scenario (before Mitigation)			
DSP	DSP-V	CPP	CPP-V
LTS	LTS	LTS	LTS
SU = Significant Unavoidable SM = Significant but Mitigable LTS = Less than Significant - = no impact			

**Conclusion:** Project Site development would be required to comply with the City’s Tree Ordinance. Tree removals would be authorized and conditioned through development approvals and/or tree removal permits, and would not conflict with local plans or policies. This impact would be less than significant and no mitigation is required.

**Impact 4.C-6: Would the Project conflict with any adopted habitat conservation plans or natural community conservation plans?**

***DSP, DSP-V, CPP, and CPP-V***

There are no adopted habitat conservation plans, natural community conservation plans, or other approved local, regional, or state habitat conservation plans that apply to the Project Site. The SBMHCP extends from San Bruno Mountain west of the site to Bayshore Boulevard, and does not extend east of Bayshore Boulevard into the Baylands. Icehouse Hill is east of Bayshore Boulevard and thus is not included in the SBMHCP. However, the Project Site is immediately north of several management units of the SBMHCP, and Icehouse Hill is known to support *Viola pedunculata*, the larval host plant for the callippe silverspot butterfly, which is a species of concern under the SBMHCP. Icehouse Hill may also support larval host plants for the Mission blue butterfly, which is also an endangered species addressed in the SBMHCP. Because Icehouse Hill is planned as open space under Project Site development, conflicts with the SBMHCP are not anticipated to occur (see also discussion and mitigation measures relating to endangered butterflies under Impact 4.C-1 above).

**Conclusion:** While the Project is not required to comply with the SBMHCP, Icehouse Hill would remain as open space, and therefore development would not conflict with the SBMHCP. This impact is less than significant and no mitigation is required.

Impact Significance by Scenario (before Mitigation)			
DSP	DSP-V	CPP	CPP-V
LTS	LTS	LTS	LTS
SU = Significant Unavoidable SM = Significant but Mitigable LTS = Less than Significant - = no impact			

**TABLE 4.C-1  
SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING WITHIN THE PROJECT SITE**

Common Name <i>Scientific Name</i>	Listing Status USFWS/ CDFW/CNPS <sup>a</sup>	General Habitat	Potential for Species Occurrence Within Project Site	Period of Identification
SPECIES LISTED OR PROPOSED FOR LISTING				
<b>Animals</b>				
<b>Invertebrates</b>				
San Bruno elfin butterfly <i>Callophrys mossii bayensis</i>	FE/--	Inhabits rocky outcrops and cliffs on north-facing, often shady slopes in coastal scrub and relatively undisturbed grasslands. Larval host plant is <i>Sedum spathulifolium</i> .	<b>Low.</b> Host plant not observed to date and not expected to occur on Project Site due to lack of suitable habitat. Species occurs on San Bruno Mountain.	February–April
Bay checkerspot butterfly <i>Euphydryas editha bayensis</i>	FT/--	Restricted to native grasslands on outcrops of serpentine, with dwarf plantain and owl's clover as host plants.	<b>Low.</b> No suitable habitat. Project Site. Critical habitat is located on San Bruno Mountain but not within Project Site.	February–May
Mission blue butterfly <i>Plebejus icarioides missionensis</i>	FE/--	Coastal scrub and grassland habitat. Requires <i>Lupinus albifrons</i> , <i>L. variicolor</i> , or <i>L. formosus</i> as larval host plant.	<b>Moderate.</b> One unidentified lupine species, (i.e. <i>Lupinus</i> sp. not keyed to the species level) was observed on Icehouse Hill during ESA's 2011 reconnaissance site visit, and multiple occurrences of mission blue butterfly are documented on lands within 0.25 mile west of the Project Site and on San Bruno Mountain.	March–July
Callippe silverspot butterfly <i>Speyeria callippe callippe</i>	FE/--	Occurs in grasslands with a native component. Host plant is <i>Viola pedunculata</i> .	<b>High.</b> Host plant is present on Icehouse Hill where grasses are grazed by horses, and individual plants show signs of insect herbivory. Multiple occurrences are documented on lands within 0.25 mile of the Project Site and on San Bruno Mountain.	May–July
Myrtle's silverspot butterfly <i>Speyeria zerene myrtleae</i>	FE/--	Coastal dune and coastal prairie habitat. Larval food plant is <i>Viola adunca</i> .	<b>Low.</b> Dune habitat is not present. Type locality is given as "San Mateo County," but no location is given. Historic reference.	June–September
<b>Fish</b>				
Central California coast steelhead <i>Oncorhynchus mykiss</i>	FT/CSC	Spawns and rears in coastal streams between the Russian River and Aptos Creek, as well as drainages tributary to San Francisco Bay, where gravelly substrate and shaded riparian habitat occur.	<b>Moderate.</b> No spawning habitat available, but may occasionally stray into Brisbane Lagoon or Visitacion Creek. Juveniles are known to spend time in San Francisco Bay.	Year-round
Green sturgeon <i>Acipenser medirostris</i>	FT/--	Spawns in upper Sacramento River, adults feed in Delta. Uncommon in Central Bay.	<b>Low.</b> No spawning habitat within Project Area. Uncommon in Central Bay based on CDFW trawling data. Unlikely within Brisbane Lagoon or in near shore areas of Bay.	

**TABLE 4.C-1 (Continued)**  
**SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING WITHIN THE PROJECT SITE**

Common Name <i>Scientific Name</i>	Listing Status USFWS/ CDFW/CNPS <sup>a</sup>	General Habitat	Potential for Species Occurrence Within Project Site	Period of Identification
SPECIES LISTED OR PROPOSED FOR LISTING (cont.)				
<b>Animals (cont.)</b>				
<b>Fish (cont.)</b>				
Sacramento winter-run Chinook salmon <i>Oncorhynchus tshawytscha</i>	FE/CE	Spawns and rears in Sacramento River and tributaries where gravelly substrate and shaded riparian habitat occur.	<b>Moderate.</b> Migrates through San Francisco Estuary. May occasionally stray into Brisbane Lagoon or Visitacion Creek, but no spawning habitat present.	Year-round
Central Valley spring-run Chinook salmon <i>Oncorhynchus tshawytscha</i>	FT/CT	Spawns and rears in Sacramento River and tributaries where gravelly substrate and shaded riparian habitat occur.	<b>Moderate.</b> Migrates through San Francisco Estuary. May occasionally stray into Brisbane Lagoon or Visitacion Creek for brief stay. No spawning habitat present.	Year-round
Longfin Smelt <i>Spirinchus thaleichthys</i>	--/CT	Occurs in freshwater section of lower Delta between Carquinez Straight and Delta. Also in San Francisco bay but move to Delta for spawning.	<b>Low.</b> Spawning habitat absent from tributaries to Brisbane Lagoon. No historic presence in lagoon. Larvae are pelagic so low potential for transient presence in Central Bay.	
<b>Amphibians</b>				
California red-legged frog <i>Rana draytonii</i>	FT/CSC	Breeds in stock ponds, pools, and slow-moving streams.	<b>Low.</b> Aquatic habitat exists in freshwater wetlands in the old railyard, in the Roundhouse wetland and the westernmost drainage and associated wetlands; however, these wetlands are contaminated with hazardous materials that are potentially damaging to amphibians. Extant upstream populations are absent on San Bruno Mountain, and habitat fragmentation that would prevent access to the Project Site from other potentially suitable habitat; extant populations (Lake Merced and San Francisco Airport, both six miles away.),	May–August
<b>Reptiles</b>				
San Francisco garter snake <i>Thamnophis sirtalis tetrataenia</i>	FE/CE/CFP	Most often observed in the vicinity of standing water; ponds, lakes, marshes, and sloughs. Temporary ponds and seasonal bodies of water are also used. Banks with emergent and bankside vegetation are preferred and used for cover.	<b>Low.</b> Marginally suitable habitat exists west of the Project Site. However, lack of habitat historically on the Project Site, distance from extant documented populations (Pacifica and San Francisco Airport, seven and six miles away, respectively), absence of extant upstream populations on San Bruno Mountain make the likelihood of occurrence extremely low.	March–November



**TABLE 4.C-1 (Continued)**  
**SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING WITHIN THE PROJECT SITE**

Common Name <i>Scientific Name</i>	Listing Status USFWS/ CDFW/CNPS <sup>a</sup>	General Habitat	Potential for Species Occurrence Within Project Site	Period of Identification
SPECIES LISTED OR PROPOSED FOR LISTING (cont.)				
<b>Animals (cont.)</b>				
<b>Birds</b>				
Western snowy plover <i>Charadrius alexandrinus nivosus</i>	FT/CSC	Sandy coastal beaches, salt pans, coastal dredged spoils sites, dry salt ponds, salt pond levees, and gravel bars. Nests in sandy substrate and forages in sandy marine and estuarine bodies.	<b>Low.</b> Marginal (small in area) nesting habitat on shell beach at southern end of Brisbane Lagoon on Project Site. Potential foraging habitat along tidal areas of San Francisco Bay. No documented nesting. Nearest nesting occurs in Monterey Bay.	Year-round
California black rail <i>Laterallus jamaicensis coturniculus</i>	--/CT/CFP	Salt marshes along large bays, also freshwater marshes.	<b>Low.</b> Marginally suitable habitat present. Not expected to inhabit smaller marshes in proximity to urban uses (PRBO, 2002). Nearest population locations south of San Francisco Airport (greater than five miles away).	Year-round
California brown pelican <i>Pelecanus occidentalis californicus</i>	DL/CFP	Nests on protected islets near freshwater lakes.	<b>Low.</b> No suitable nesting habitat present. May forage in bay adjacent to Project Site and in Brisbane Lagoon on Project Site where project activities are limited to trails so not likely to impact foraging habitat for the species.	May–July
California clapper rail <i>Rallus longirostris obsoletus</i>	FE/CE/CFP	Salt-water and brackish marshes with tidal sloughs.	<b>Low.</b> Marginally suitable breeding and foraging habitat present. However, not detected during recent protocol-level surveys (ISP, 2010).	Year-round
Bank swallow <i>Riparia riparia</i>	--/CT	Largely found in riparian ecosystems, particularly rivers in the larger lowland valleys of northern California. Nesting colonies are located in vertical banks or bluffs in friable soils.	<b>Low.</b> No banks suitable for nesting colonies exist within the Project Site	March–August
California least tern <i>Sternula antillarum browni</i>	FE/--	Feeds in relatively shallow, near-shore waters, coastal freshwater ponds, channels, and lakes occupied by small fish. Colonial nesters on sand, gravel, or shell beaches where visibility is good.	<b>Observed.</b> Noted foraging at Brisbane Lagoon on Project Site, but potential for breeding is low due to lack of suitable habitat. Nearest extant breeding colony in San Francisco Bay is located at the former Alameda Naval Air Station greater than five miles away to the east across San Francisco Bay.	April–August
<b>Mammals</b>				
Salt marsh harvest mouse <i>Reithrodontomys raviventris</i>	FE/CP	Dense pickleweed marsh habitat with adjacent to uplands vegetated with salt tolerant vegetation for escape during high tides.	<b>None.</b> Tidal marsh in the Project Site is small in size, confined, and has no connectivity to larger-sized habitat. Project Site has abrupt transitions to rocky shoreline and uplands with lack of suitable refuge vegetation during high tides.	Resident

**TABLE 4.C-1 (Continued)**  
**SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING WITHIN THE PROJECT SITE**

Common Name <i>Scientific Name</i>	Listing Status USFWS/ CDFW/CNPS <sup>a</sup>	General Habitat	Potential for Species Occurrence Within Project Site	Period of Identification
SPECIES LISTED OR PROPOSED FOR LISTING (cont.)				
<b>Plants</b>				
Franciscan manzanita <i>Arctostaphylos franciscana</i>	FE/--/1B.1	Coastal scrub on serpentine soils.	<b>Low.</b> Only one plant (not located on the Project Site) believed to exist in the wild. No serpentine soils present on the Project Site. Project Site not within critical habitat proposed for the species.	February–April
San Bruno Mountain manzanita <i>Arctostaphylos imbricata</i>	--/CE/1B.1	Restricted to chaparral and coastal scrub habitats on San Bruno Mountain.	<b>Low.</b> No chaparral present on the Project Site. No manzanita observed in coastal scrub on the Project Site.	February–May
Presidio manzanita <i>Arctostaphylos montana</i> ssp. <i>ravenii</i>	FE/CE/1B.1	Chaparral, coastal prairie, and serpentine outcrops of coastal scrub.	<b>Low.</b> No chaparral or serpentine outcrops present on the Project Site. No manzanita observed in coastal scrub on the Project Site.	February–March
Pacific Manzanita <i>Arctostaphylos pacifica</i>	--/CE/1B.2	Chaparral, coastal scrub	<b>Low.</b> No manzanita observed in coastal scrub on the Project Site.	February–April
Robust spineflower <i>Chorizanthe robusta</i> var. <i>robusta</i>	FE/--/1B.1	Sandy or gravelly soils in coastal scrub, cismontane woodland, or coastal dunes.	<b>Low.</b> Although coastal scrub is present on Icehouse Hill, a dense understory of grasses is present that likely precludes establishment of this annual species.	April–September
Beach layia <i>Layia carnosia</i>	FE/C/1B.1	Occurs in openings in coastal sand dunes ranging in elevation from 0-100 feet, where it colonizes sparsely vegetated, semi-stabilized dunes and areas of recent wind erosion.	<b>Low.</b> Coastal dune habitat does not exist on the Project Site and this species is not expected to be found based on lack of suitable habitat.	March–July
San Francisco lessingia <i>Lessingia germanorum</i>	FE/CE/1B.1	Remnant dunes in coastal scrub.	<b>Low.</b> Although coastal scrub is present on the Project Site, there is no evidence of remnant dune habitat.	(June) August–November
White-rayed pentachaeta <i>Pentachaeta bellidiflora</i>	FE/CE/1B.1	Grasslands, usually dry rocky or grassy slopes with serpentine soils.	<b>Low.</b> Limited grasslands provide only marginal habitat. Serpentine soils not present within the Project Site.	March–May
Showy 66ancheria clover <i>Trifolium amoenum</i>	FE/--/1B.1	Coastal bluff scrub, valley and foothill grassland, sometimes on serpentine.	<b>Low.</b> Limited grasslands provide only marginal habitat. Serpentine soils not present within the Project Site.	April–June
<b>OTHER SPECIAL-STATUS SPECIES</b>				
<b>Animals</b>				
<b>Invertebrates</b>				
Incredible harvestman <i>Banksula incredula</i>	--/*	Known only at San Bruno Mountain.	<b>Low.</b> Restricted to type locality on San Bruno Mountain.	Year-round
Tomales isopod <i>Caecidotrea tomalensis</i>	--/*	Localized freshwater ponds or streams with still or near-still water.	<b>Low.</b> Nearest occurrences are from Pacifica, approximately 5 miles away from Project Site. Little information is available for this species.	Year-round

**TABLE 4.C-1 (Continued)**  
**SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING WITHIN THE PROJECT SITE**

Common Name <i>Scientific Name</i>	Listing Status USFWS/ CDFW/CNPS <sup>a</sup>	General Habitat	Potential for Species Occurrence Within Project Site	Period of Identification
OTHER SPECIAL-STATUS SPECIES (cont.)				
<b>Animals (cont.)</b>				
<b>Invertebrates (cont.)</b>				
Sandy beach tiger beetle <i>Cicindela hirticollis</i> <i>gravida</i>	--/*	California coastlines in clean, light-colored sand above wave action; larvae prefer moist sand.	<b>Low.</b> Nearest records in San Francisco are historical (1906, 1922) and have since been extirpated.	Year-round
Stage's durfourine bee <i>Dufourea stagei</i>	--/*	San Bruno Mountain.	<b>Low.</b> Little information exists regarding this species; only known from San Bruno Mountain.	Year-round
Leech's skyline diving beetle <i>Hydroporus leechi</i>	--/*	Sag ponds on the San Francisco peninsula.	<b>Low.</b> Only known occurrences are from Pacifica, approximately 5 miles away from Project Site. Little information is available for this species.	Year-round
San Francisco forktail damselfly <i>Ischnura gemina</i>	--/*	Sag ponds on the San Francisco peninsula.	<b>Low.</b> Only known occurrences are from Pacifica, approximately 5 miles away from Project Site. Little information is available for this species.	Year-round
Bumblebee scarab beetle <i>Lichnanthe ursina</i>	--/*	Coastal sand dunes, typically flying close to sand surface near the crest of the dunes.	<b>Low.</b> No sand dune habitat is present in the vicinity of the Project Site.	Year-round
<b>Reptiles</b>				
Western pond turtle <i>Emys marmorata</i>	--/CSC	Freshwater ponds and slow streams edged with sandy soils for laying eggs.	<b>Low.</b> Freshwater aquatic habitat at the Project Site is not large enough to support this species.	Year-round
<b>Fish</b>				
Pacific herring <i>Clupea pallasii</i>	CDFW-regulated fishery	San Francisco Bay has been a major spawning ground for species. Preferred spawning substrate is eelgrass (which was not observed onsite) and algae, but the species will also use pier pilings, riprap, and other rigid, smooth structures within Bay waters. Recent spawning areas include Oyster Point and Hunters Point.	<b>Low.</b> Aquatic habitat in Brisbane Lagoon is marginal for this species. Spawns in large schools that are unlikely to move from bay to lagoon through culverts.	November–March
Hardhead <i>Mylopharodo</i> <i>concephalus</i>	--/CSC	Clear, deep pools with sand, gravel, or boulder bottoms and slow water velocity.	<b>Low.</b> Freshwater habitats on the Project Site are small and isolated without rocky substrate; nearest occurrence is from Lake Merced, a much larger water body more than 3 miles west of the Project Site.	Year-round
Central Valley fall/late fall-run Chinook salmon <i>Oncorhynchus</i> <i>tshawytscha</i>	--/CSC	Spawns and rears in Sacramento River and tributaries where gravelly substrate and shaded riparian habitat occur.	<b>Moderate.</b> Migrates through San Francisco Bay. May occasionally stray into Brisbane Lagoon or Visitacion Creek, but no spawning habitat available.	Year-round

**TABLE 4.C-1 (Continued)**  
**SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING WITHIN THE PROJECT SITE**

Common Name <i>Scientific Name</i>	Listing Status USFWS/ CDFW/CNPS <sup>a</sup>	General Habitat	Potential for Species Occurrence Within Project Site	Period of Identification
OTHER SPECIAL-STATUS SPECIES (cont.)				
<b>Animals (cont.)</b>				
<b>Birds</b>				
Cooper's hawk <i>Accipiter cooperi</i>	--/CSC	Nests in conifers or deciduous stands near riparian areas; also nests in urban areas near riparian corridors.	<b>Low.</b> Suitable nesting habitat occurs in larger eucalyptus within the Project Site. However, species is closely tied to riparian corridors, which are lacking at the Project Site.	March–August
White-tailed kite <i>Elanus leucurus</i>	--/CP	Forages in grasslands and ruderal habitats. Nests in small to large size trees in riparian or savanna and can use trees in various grasslands. Can nest and forage in ruderal and agricultural settings.	<b>Moderate.</b> Trees surrounding edges of Project Site are suitable for nesting. Foraging habitat is present across ruderal and grassland habitat within Project Site.	Resident
Sharp-shinned hawk <i>Accipiter striatus</i>	--/CSC	Nests in forest canopy.	<b>Low.</b> Do not generally breed in the region. May winter in the area.	Winter
Great egret <i>Ardea alba</i>	--/* Rookeries only	Nests colonially in groves of trees. Rookery sites located near marshes, tide-flats, irrigated pastures, and margins of rivers and lakes.	<b>Low.</b> Potential nesting habitat is not available on the site and rookery formation is unlikely. Individual birds likely to forage in wetland habitat and at Brisbane Lagoon. Large eucalyptus are present at margins of Project Site representing potential nesting locations, but high levels of disturbance preclude nesting activity. No rookeries were observed or are recorded in the immediate vicinity.	Year-round
Great blue heron <i>Ardea herodias</i>	--/* Rookeries only	Nests colonially in groves of trees. Rookery sites located near marshes, tide-flats, irrigated pastures, and margins of rivers and lakes.	<b>Low.</b> Potential nesting habitat is not available on the site and rookery formation is unlikely. Individual birds have been observed foraging in the former landfill portion of the Project Site. Large eucalyptus at margins of Project Site represent potential nesting sites, but high levels of disturbance preclude nesting activity. No rookeries were observed or are recorded in the immediate vicinity.	Year-round
Short-eared owl <i>Asio flammeus</i>	--/CSC	Nests in fresh and salt marshes with tules or tall grasses, in depression on ground concealed by vegetation.	<b>Low.</b> Potentially suitable foraging habitat present in marshes at northern end of Project Site. Not expected to nest in the region.	Winter
Great horned owl <i>Bubo virginianus</i>	--/3503.5	Often uses abandoned nests of corvids or squirrels; nests in large oaks, conifers, eucalyptus.	<b>Moderate.</b> Suitable nesting habitat occurs in mature eucalyptus within the Project Site.	Year-round

**TABLE 4.C-1 (Continued)**  
**SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING WITHIN THE PROJECT SITE**

Common Name <i>Scientific Name</i>	Listing Status USFWS/ CDFW/CNPS <sup>a</sup>	General Habitat	Potential for Species Occurrence Within Project Site	Period of Identification
OTHER SPECIAL-STATUS SPECIES (cont.)				
Animals (cont.)				
<i>Birds (cont.)</i>				
Red-shouldered hawk <i>Buteo lineatus</i>	--/3503.5	Usually nests in large trees, often in woodland or riparian deciduous habitats. Forages over open grasslands and woodlands.	<b>Observed.</b> Suitable nesting habitat occurs in mature eucalyptus within the Project Site.	Year-round
Red-tailed hawk <i>Buteo jamaicensis</i>	--/3503.5	Usually nests in large trees, often in woodland or riparian deciduous habitats.	<b>Observed.</b> Suitable nesting habitat occurs in mature eucalyptus within the Project Site. Observed foraging over the Project Site and roosting in eucalyptus along Bayshore Boulevard.	Year-round
Northern harrier <i>Circus cyaneus</i>	--/CSC	Mostly nests in emergent vegetation, wet meadows, or near rivers and lakes, but may nest in grasslands away from water.	<b>Moderate.</b> Potentially suitable nesting and foraging habitat present at Project Site.	Year-round
American kestrel <i>Falco sparverius</i>	--/3503.5	Nests in cavities in large trees near open areas.	<b>Observed.</b> Forages over the Project Site. May nest in cavities of mature eucalyptus within the Project Site.	Year-round
Salt-marsh common yellowthroat <i>Geothlypis trichas sinuosa</i>	--/CSC	Emergent wetlands.	<b>Moderate.</b> Resident of San Francisco Bay region salt and freshwater marshes. Small and fragmented marsh size may reduce likelihood of presence.	Year-round
Alameda song sparrow <i>Melospiza melodia pusillula</i>	--/CSC	Salt marshes of Central San Francisco Bay.	<b>Moderate.</b> Suitable habitat present. Small and fragmented marsh size may reduce likelihood of presence.	Year-round
Double-crested cormorant <i>Phalacrocorax auritus</i>	--/CSC	Nests colonially on coastal cliffs, on offshore islands, and along lake margins.	<b>Low.</b> Foraging habitat available at Project Site but no suitable breeding habitat on site.	Year-round
Allen's hummingbird <i>Selasphorus sasin</i>	/* (AWLY)	Inhabits coastal scrub and a variety of woodlands and riparian habitat, as well as gardens in the urban-wildland interface.	<b>Moderate.</b> Suitable nesting and foraging habitat is present in coastal scrub on Icehouse Hill.	January–July
Barn owl <i>Tyto alba</i>	--/3503.5	Found in open and partly open habitats, especially grasslands. Nests in tree cavities or buildings.	<b>Observed.</b> Suitable nesting habitat in abandoned or underused buildings on the Project Site (WRA, 2003).	Year-round
Burrowing Owl <i>Athene cunicularia</i>	-/CSC	Found in open and partly open habitats, especially grasslands. Nests in small mammal burrows or manmade burrows.	<b>Low.</b> Suitable foraging habitat occurs within the non-native annual grassland and ruderal habitats across the project site. If burrows are present there is a potential for owls to occupy them and use site for foraging and breeding.	Year-round

**TABLE 4.C-1 (Continued)**  
**SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING WITHIN THE PROJECT SITE**

Common Name <i>Scientific Name</i>	Listing Status USFWS/ CDFW/CNPS <sup>a</sup>	General Habitat	Potential for Species Occurrence Within Project Site	Period of Identification
OTHER SPECIAL-STATUS SPECIES (cont.)				
<b>Animals (cont.)</b>				
<b>Mammals</b>				
Pallid bat <i>Antrozous pallidus</i>	--/CSC/WBWG- HP	Occurs in various habitats including rocky arid deserts and canyon lands, shrub-steppe grasslands, and higher-elevation forests. Roosts include rocky outcrops and cliffs, caves, mines, trees, and various human structures.	<b>Moderate.</b> Potential roosting habitat is available in eucalyptus trees and crevices in the Roundhouse building. Good foraging habitat is available throughout the Project Site.	March–August
Townsend's Pacific big-eared bat <i>Corynorhinus townsendii townsendii</i>	--/CSC/WBWG- HP	Inhabits a variety of habitats; requires caves or human-made structures for roosting.	<b>Moderate.</b> Potential roosting habitat is available in eucalyptus and crevices in the Roundhouse building. Good foraging habitat is available throughout the Project Site.	April–August
Hoary bat <i>Lasiurus cinereus</i>	--/*/WBWG-MP	Prefers open habitats or habitat mosaics; roosts in dense foliage of medium to large trees.	<b>Moderate.</b> Potential roosting habitat is available in larger landscape trees and eucalyptus on the Project Site. Good foraging habitat is available throughout the Project Site.	April–August
Long-eared myotis <i>Myotis evotis</i>	--/*/WBWG-MP	Inhabits woodlands and forests; roosts in crevices and snags.	<b>Moderate.</b> Potential roosting habitat is available in eucalyptus and crevices in the Roundhouse building. Good foraging habitat is available throughout the Project Site.	April–August
Fringed myotis <i>Myotis thysanodes</i>	--/*/WBWG-HP	Inhabits a variety of woodland habitats, roosts in crevices or caves, and forages over water and open habitats.	<b>Moderate.</b> Potential roosting habitat is available in eucalyptus and crevices in the Roundhouse building. Good foraging habitat is available throughout the Project Site.	April–August
Yuma myotis <i>Myotis yumanensis</i>	--/CSC	Open forests and woodlands below 8,000 feet in close association with water bodies.	<b>Moderate.</b> Potential roosting habitat is available in eucalyptus and crevices in the Roundhouse building. Good foraging habitat is available throughout the Project Site.	March–August
Harbor seal <i>Phoca vitulina richardsi</i>	MMPA/--	Only permanent resident marine mammal in San Francisco Bay. Haul-out sites are used for pupping and are primarily located in the north, central and south bay. Uses deep water for foraging and feeds primarily on fish.	<b>Low.</b> Potential for foraging in offshore waters, but no suitable haul-out sites exist on Project Site.	Year-round

**TABLE 4.C-1 (Continued)**  
**SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING WITHIN THE PROJECT SITE**

Common Name <i>Scientific Name</i>	Listing Status USFWS/ CDFW/CNPS <sup>a</sup>	General Habitat	Potential for Species Occurrence Within Project Site	Period of Identification
OTHER SPECIAL-STATUS SPECIES (cont.)				
<b>Animals (cont.)</b>				
<b>Mammals (cont.)</b>				
California sea lion <i>Zalophus californianus</i>	MMPA/--	Occurs along west coast from Vancouver to Gulf of California. In San Francisco Bay, uses deep waters and haul-out sites at Pier 39, Angel Island, and Seal Rock.	<b>Low.</b> Presence in bay tied to that of Pacific herring. No breeding or pupping known to occur within the estuary. No suitable haul-out sites present on Project Site.	Year-round
<b>Plants</b>				
Bent-flowered fiddleneck <i>Amsinckia lunaris</i>	--/--/1B.2	Coastal bluff scrub, valley and foothill grassland.	<b>Moderate.</b> Potential habitat exists on Icehouse Hill. Documented from San Bruno Mountain (CDFW, 2013).	March–June
Montara manzanita <i>Arctostaphylos montaraensis</i>	--/--/1B.2	Maritime chaparral, coastal scrub.	<b>Low.</b> Nearby occurrences are on steep slopes associated with Montara Mountain and San Bruno Mountain; no similar habitat exists within the Project Site.	January–March
Alkali milk vetch <i>Astragalus tener</i> var. <i>tener</i>	--/--/1B.2	Adobe clay soils in valley and foothill grassland.	<b>Low.</b> Adobe clay soils not present on the Project Site. Believed extirpated from the United States Geological Survey San Francisco South quadrangle.	March–June
Bristly sedge <i>Carex comosa</i>	--/--/2.1	Coastal prairie, marshes and swamps, valley and foothill grasslands.	<b>Moderate.</b> Nearest CNDDDB occurrence is historical and potentially extirpated, but potential habitat is present in freshwater wetlands in the former railyard area.	
Pappose tarplant <i>Centromadia parryi</i> ssp. <i>parryi</i>	--/--/1B.2	Vernally mesic, often alkaline microhabitats in valley and foothill grassland, coastal salt marsh, meadows and seeps, coastal prairie.	<b>Low.</b> Suitable habitat exists throughout Project Site. However, the only location documented on the San Francisco peninsula is historical and near Mussel Beach. Would likely have been identified during site wetland delineation and other site assessments.	May–November
San Francisco Bay spineflower <i>Chorizanthe cuspidata</i> var. <i>cuspidata</i>	--/--/1B.2	Sandy soils in coastal bluff scrub, coastal dunes, coastal prairie, or coastal scrub.	<b>Low.</b> Value of suitable habitat on Icehouse Hill is reduced by density of understory grasses.	April–July
Franciscan thistle <i>Cirsium andrewsii</i>	--/--/1B.2	Mesic and sometime serpentine-derived soils in coastal bluff scrub, coastal scrub, and coastal prairie.	<b>Low.</b> Potentially suitable habitat occurs on Icehouse Hill. However, known primarily from coast and only one historical collection from San Francisco South quad.	March–July
Compact cobwebby thistle <i>Cirsium occidentale</i> var. <i>compactum</i>	--/--/1B.2	Coastal dunes, scrub, and prairie.	<b>Low.</b> Potentially suitable habitat occurs on Icehouse Hill. However, known primarily from coast and only one historical collection from San Francisco South quad.	April–June

**TABLE 4.C-1 (Continued)**  
**SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING WITHIN THE PROJECT SITE**

Common Name <i>Scientific Name</i>	Listing Status USFWS/ CDFW/CNPS <sup>a</sup>	General Habitat	Potential for Species Occurrence Within Project Site	Period of Identification
OTHER SPECIAL-STATUS SPECIES (cont.)				
Plants (cont.)				
San Francisco collinsia <i>Collinsia multicolor</i>	--/--/1B.2	Sometimes on serpentine soils in coastal scrub.	<b>Moderate.</b> May occur in coastal scrub habitat on Icehouse Hill. Occurs on nearby Bayview Hill and on San Bruno Mountain (Wood, 1996). No serpentine soils occur on Project Site.	March–May
Fragrant fritillary <i>Fritillaria liliacea</i>	FSC/--/1B.2	Coastal prairie and scrub, grasslands, often on serpentine soils.	<b>Low.</b> Serpentine soils are not present on Project Site. Scrub habitat is generally not open enough and grasslands are of marginal suitability for this species.	February–April
Dune gilia <i>Gilia capitata</i> ssp. <i>chamissonis</i>	--/--/1B.1	Coastal dunes and coastal scrub.	<b>Low.</b> No dune habitat present on Project Site; even quality coastal scrub understory dense with grasses and not conducive to persistence of herbaceous annuals.	April–June
San Francisco Gumplant <i>Grindelia hirstuta</i> var. <i>maritima</i>	--/--/3.2	Near or above high tide line of tidal marsh surrounding San Francisco Bay. Occurs among pickleweed, and typical salt marsh halophytes.	<b>High.</b> <i>Grindelia</i> sp. observed around Brisbane Lagoon in appropriate habitat. Not collected or keyed during reconnaissance level surveys.	June–September
Diablo helianthella <i>Helianthella castanea</i>	--/--/1B.2	Broadleaved upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland.	<b>Low.</b> Limited suitable habitat present on Project Site. Not observed.	March–June
Seaside tarplant <i>Hemizonia congesta</i> ssp. <i>congesta</i>	--/--/1B.2	Valley and foothill grasslands, sometimes along roadsides.	<b>Low.</b> Records in the CNDD) are historical and the species has likely been extirpated.	April–November
Short-leaved evax <i>Hesperevax sparsiflora</i> var. <i>brevifolia</i>	--/--/1B.2	Sandy soils in coastal bluff scrub.	<b>Low.</b> Species would have difficulty competing with dense, grassy coastal scrub understory. Only a small amount of quality habitat available on Icehouse Hill on Project Site. Not observed.	March–June
Kellog's horkelila <i>Horkelia cuneata</i> var. <i>sericea</i>	--/--/1B.1	Sandy or gravelly openings in coastal scrub.	<b>Low.</b> Only a small amount of suitable habitat present on Icehouse Hill within Project Site. Not observed.	April–September
Rose leptosiphon <i>Leptosiphon rosaceus</i>	--/--/1B.1	Coastal bluff scrub.	<b>Low.</b> While coastal scrub occurs on Icehouse Hill, no coastal bluffs exist within the Project Site, and other occurrences of this species are found on bluffs adjacent to the Pacific Ocean. Not observed.	April–July
Arcuate bush-mallow <i>Malacothamnus arcuatus</i>	--/--/1B.2	Chaparral, cismontane woodlands.	<b>Low.</b> Colonies previously found in hills of the Coast Range west of the Project Site. Chaparral habitat is not present on the Project Site.	April–September



**TABLE 4.C-1 (Continued)**  
**SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING WITHIN THE PROJECT SITE**

Common Name <i>Scientific Name</i>	Listing Status USFWS/ CDFW/CNPS <sup>a</sup>	General Habitat	Potential for Species Occurrence Within Project Site	Period of Identification
OTHER SPECIAL-STATUS SPECIES (cont.)				
<b>Plants</b>				
Choris' popcorn-flower <i>Plagiobothrys chorisianus</i> <i>var. chorisianus</i>	--/--/1B.2	Mesic areas in coastal prairie, coastal scrub, and chaparral.	<b>Moderate.</b> Potential habitat exists on Icehouse Hill. Recorded from Visitacion Valley historically. Not observed.	March–June
Adobe sanicle <i>Sanicula maritima</i>	--/--/1B.1	Chaparral, coastal prairie, meadows and seeps, valley and foothill grasslands.	<b>Low.</b> Only known occurrence from Potrero Hill in San Francisco is likely extirpated.	February–May
San Francisco campion <i>Silene verecunda</i> ssp. <i>verecunda</i>	--/--/1B.2	Sandy soils in valley and foothill grassland, coastal scrub, and chaparral.	<b>Moderate.</b> Suitable habitat exists on Icehouse Hill. Occurs on San Bruno Mountain. Not observed.	March–June
San Francisco owl's clover <i>Triphysaria floribunda</i>	--/--/1B.2	Usually on serpentine-derived soils in coastal prairie, coastal scrub, or valley and foothill grassland.	<b>Low.</b> Only a small area of moderate quality grassland habitat is present on the Project Site. No serpentine soils are present. Not observed.	April–June
California triquetrella <i>Triquetrella californica</i>	--/--/1B.2	Coastal bluff scrub and coastal scrub.	<b>Low.</b> Coastal scrub understory on Icehouse Hill generally too dense with grasses, small patch sizes for suitable habitat.	December–March

<sup>a</sup> STATUS CODESFederal (U.S. Fish and Wildlife Service [USFWS]):

FE = Listed as Endangered (in danger of extinction) by the federal government.

FT = Listed as Threatened (likely to become Endangered within the foreseeable future) by the federal government.

FP = Proposed for Listing as Endangered or Threatened.

FC = Candidate to become a *proposed* species.

DL = Delisted (no longer considered threatened or endangered due to recovery of the species).

MMPA = Marine Mammal Protection Act

State (California Department of Fish and Game [CDFW]):

CE = Listed as Endangered by the State of California.

CT = Listed as Threatened by the State of California.

CFP = Listed as Fully Protected by the State of California.

CR = Listed as Rare by the State of California (plants only).

CSC = California Species of Special Concern.

3503.5 = Protection for nesting species of Falconiformes (hawks) and Strigiformes (owls).

\*Special animal—listed on CDFW's Special Animals List.

California Rare Plant Rank (CRPR):

Rank 1A= Plants presumed extinct in California.

Rank 1B = Plants rare, Threatened, or Endangered in California and elsewhere.

Rank 2 = Plants rare, Threatened, or Endangered in California but more common elsewhere.

An extension reflecting the level of threat to each species is appended to each rarity category as follows:

.1 – Seriously endangered in California.

.2 – Fairly endangered in California.

.3 – Not very endangered in California.

Audubon Watch List (AWL):

AWLR = Red List; species that are declining rapidly, have very small populations or limited ranges, and face major conservation threats. These typically are species of global conservation concern.

AWLY = Yellow List; species that are also declining but at a slower rate than those in the red category. These typically are species of national conservation concern.

Western Bat Working Group (WBWG):

HP = High conservation priority; species are imperiled or at high risk of imperilment.

MP = Medium conservation priority; a lack of information regarding the status of the species constitutes a threat, and conservation actions are warranted.

SOURCE: CDFW, 2013; CNPS, 2013; Leidy et al., 2003; USFWS, 2013.

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