IV. ENVIRONMENTAL IMPACT ANALYSIS
D. BIOLOGICAL RESOURCES

INTRODUCTION

This section of the Draft Environmental Impact Report (DEIR) provides a description of the biological resources on the project site, including the vegetation communities, wildlife, special-status species, sensitive natural communities; a discussion of the regulations that serve to protect sensitive resources; an assessment of the potential impacts of the proposed project; and recommendations to minimize and mitigate potentially significant impacts on biological resources. Various technical reports were prepared and reviewed to analyze the potential biological resources impacts associated with the proposed project. These technical reports are summarized in the Backgrounds and Methods section below and are included in Appendix E of this DEIR.

ENVIRONMENTAL SETTING

Local Setting

As discussed in Section III (Project Description) of this DEIR, the project site is approximately 19.4 acres in size and is composed of two parcels (Assessor's Parcel Numbers [APN] 047-311-060 and 047-312-040) located on the west side of Airport Road (refer to Figures III-1 and III-2). The project parcels are separated by an unnamed County-owned intermittent stream tributary to Pillar Point Marsh, which borders the subject properties to the south. Pillar Point Marsh is a marsh community influenced by both tidal action and freshwater runoff (refer to Figure IV.H-3, Pillar Point Marsh Boundary Local Coastal Program, in Section IV.H, Hydrology and Water Quality, of this DEIR). The northern parcel (APN 047-311-060) is approximately 14.25 acres and the southern parcel (APN 047-312-040) is approximately 5.28 acres. The project site is bordered to the northwest by the El Granada Mobile Home Park, to the northeast by the Half Moon Bay Municipal Airport, to the southwest by Pillar Point Marsh, and to the southeast by commercial and industrial developments in Princeton. The overall terrain of the site is relatively flat, with elevations ranging from approximately 9 to 28 feet NVGD. Because the project site has been in agricultural production since 2003,[1] the extent of natural vegetation communities and wildlife habitats remaining on the site is limited to those that are contiguous to habitats (e.g., coastal freshwater marsh and central coast arroyo willow riparian forest) in and around Pillar Point Marsh just beyond the proposed project boundary. Non-native annual grasses and forbs occur in scattered patches within the agricultural fields and along the project fringes.

[1] *Peck, Jeff. Peninsula Builders, Inc. January 3, 2007 – email to Aindrea Jensen.*

REGULATORY SETTING

The following discussion identifies federal, state and local environmental regulations that serve to protect sensitive biological resources relevant to the California Environmental Quality Act (CEQA) review process.

Federal

Federal Endangered Species Act

The Federal Endangered Species Act (FESA) of 1973, as amended, provides the regulatory framework for the protection of plant and animal species (and their associated critical habitats), which are formally listed, proposed for listing, or candidates for listing as endangered or threatened under the FESA. The FESA has four major components: provisions for listing species, requirements for consultation with the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries Service), prohibitions against "taking" of listed species, and provisions for permits that allow incidental "take." The FESA also discusses recovery plans and the designation of critical habitat for listed species. Both the USFWS and the NOAA Fisheries Service share the responsibility for administration of the FESA. During CEQA review process, each agency is given the opportunity to comment on the potential of the proposed project to affect listed plants and animals.

Clean Water Act Section 404 & 401

The U.S. Army Corps of Engineers (Corps) and the U.S. Environmental Protection Agency (EPA) regulate the discharge of dredged or fill material into waters of the United States, including wetlands, under Section 404 of the Clean Water Act (CWA) (33 U.S.C. 1344). Waters of the United States are defined in Title 33 CFR Part 328.3(a) and include a range of wet environments such as lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds. The lateral limits of jurisdiction in those waters may be divided into three categories – territorial seas, tidal waters, and non-tidal waters – and is determined depending on which type of waters is present (Title 33 CFR Part 328.4(a), (b), (c)). Activities in waters of the United States regulated under Section 404 include fill for development, water resource projects (such as dams and levees), infrastructure developments (such as highways and airports) and mining projects. Section 404 of the CWA requires a federal license or permit before dredged or fill material may be discharged into waters of the United States, unless the activity is exempt from Section 404 regulation (e.g., certain farming and forestry activities).

Section 401 of the Clean Water Act (33 U.S.C. 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the United States to obtain a certification from the state in which the discharge originates or would originate, or, if appropriate, from the interstate water pollution control agency having jurisdiction over the affected waters at the point where the discharge originates or would originate, that the discharge will comply with the

applicable effluent limitations and water quality standards. A certification obtained for the construction of any facility must also pertain to the subsequent operation of the facility. The responsibility for the protection of water quality in California rests with the State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards (RWQCBs). The RWQCB's Water Quality Control Plan for the North Coast Basin (Basin Plan) and the California Water Code define waters of the state as follows: "'Waters of the state' means any surface water or groundwater, including saline waters, within the boundaries of the state (Water Code §13050 (e))." This definition is broader than that of "waters of the United States" and consequently should always be considered when determining impacts upon water resources.

Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act (16 U.S.C. Sections 661-667e, March 10, 1994, as amended 1946, 1958, 1978, and 1995) requires that whenever waters or channel of a stream or other body of water are proposed or authorized to be modified by a public or private agency under a federal license or permit, the federal agency must first consult with the USFWS and/or NOAA Fisheries and with the head of the agency exercising administration over the wildlife resources of the state where construction will occur (in this case the California Department of Fish and Game (CDFG)), with a view to conservation of birds, fish, mammals and all other classes of wild animals and all types of aquatic and land vegetation upon which wildlife is dependent.

The Migratory Bird Treaty Act & Bald and Golden Eagle Protection Act

The Federal Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703 et seq.), Title 50 Code of Federal Regulations (CFR) Part 10, prohibits taking, killing, possessing, transporting, and importing of migratory birds, parts of migratory birds, and their eggs and nests, except when specifically authorized by the Department of the Interior. As used in the act, the term “take” is defined as meaning, “to pursue, hunt, capture, collect, kill or attempt to pursue, hunt, shoot, capture, collect or kill, unless the context otherwise requires.” With a few exceptions, most birds are considered migratory under the MBTA. Disturbances that causes nest abandonment and/or loss of reproductive effort or loss of habitat upon which these birds depend would be in violation of the MBTA.

The Bald Eagle Protection Act (16 U.S.C. 668) was passed in 1940 to protect bald eagles and was later amended to include golden eagles. Under the act it is unlawful to import, export, take, sell, purchase, or barter any bald eagle or golden eagle, their parts, products, nests, or eggs. Take includes pursuing, shooting, poisoning, wounding, killing, capturing, trapping, collecting, molesting, or disturbing eagles.

State

California Endangered Species Act

The State of California enacted similar laws to the FESA, the California Native Plant Protection Act (NPPA) in 1977 and the California Endangered Species Act (CESA) in 1984. The CESA expanded upon

the original NPPA and enhanced legal protection for plants, but the NPPA remains part of the California Fish and Game Code. To align with the FESA, CESA created the categories of "threatened" and "endangered" species. It converted all "rare" animals into the CESA as threatened species, but did not do so for rare plants. Thus, these laws provide the legal framework for protection of California-listed rare, threatened, and endangered plant and animal species. CDFG implements NPPA and CESA, and its Wildlife and Habitat Data Analysis Branch maintains the California Natural Diversity Database (CNDDB), a computerized inventory of information on the general location and status of California's rarest plants, animals, and natural communities. During the CEQA review process, CDFG is given the opportunity to comment on the potential of the proposed project to affect listed plants and animals.

The Natural Community Conservation Planning Act

The Natural Community Conservation Planning (NCCP) Act of 1991 represents an unprecedented effort by the State of California, and numerous private and public partners, to broaden its orientation and objectives beyond those of the CESA and FESA (refer to discussions above). The primary objective of the NCCP Act is to conserve natural communities at the ecosystem scale while accommodating compatible land use. The NCCP seeks to anticipate and prevent the controversies and gridlock caused by species' listings by focusing on the long-term stability of wildlife and plant communities and including key interests in the process.

The California Coastal Act

The California Coastal Commission (Commission), in partnership with coastal cities and counties, plans and regulates the use of land and water in the coastal zone under the California Coastal Act (CCA). On land the coastal zone varies in width from several hundred feet in highly urbanized areas up to five miles in certain rural areas, and offshore the coastal zone includes a three-mile-wide band of ocean. The coastal zone established by the CCA does not include the San Francisco Bay, where development is regulated by the Bay Conservation and Development Commission. Development activities, which are broadly defined by the CCA to include (among others) construction of buildings, divisions of land, and activities that change the intensity of use of land or public access to coastal waters, generally require a coastal development permit from either the Commission or the local government. The CCA includes goals and policies that constitute the statutory standards applied to planning and regulatory decisions made by the Commission and by local governments. Refer to the County of San Mateo Local Coastal Program section below for more detail.

Fully Protected Species & Species of Special Concern

The classification of "fully protected" was CDFG's initial effort to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, amphibian and reptiles, birds, and mammals. Most of the species on these lists have subsequently been listed under CESA and/or FESA. The Fish and Game Code sections (fish at §5515, amphibian and reptiles at §5050, birds at §3511, and mammals at §4700) dealing with "fully protected" species states that these species "…may not be taken or possessed at any time and no provision of this code or any other

law shall be construed to authorize the issuance of permits or licenses to take any fully protected species," although take may be authorized for necessary scientific research. This language makes the "fully protected" designation the strongest and most restrictive regarding the "take" of these species. In 2003, the code sections dealing with fully protected species were amended to allow CDFG to authorize take resulting from recovery activities for state-listed species.

Species of special concern are broadly defined as animals not listed under the FESA or CESA, but which are nonetheless of concern to CDFG because are declining at a rate that could result in listing or historically occurred in low numbers and known threats to their persistence currently exist. This designation is intended to result in special consideration for these animals by CDFG, land managers, consulting biologist, and others, and is intended to focus attention on the species to help avert the need for costly listing under FESA and CESA and cumbersome recovery efforts that might ultimately be required. This designation also is intended to stimulate collection of additional information on the biology, distribution, and status of poorly known at-risk species, and focus research and management attention on them. Although these species generally have no special legal status, they are given special consideration under CEQA during project review.

California Fish and Game Code Sections 3503 & 3513

According to 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 English sparrows (Passer domesticus) and European starlings (Sturnus vulgaris)). Section 3503.5 specifically protects birds in the orders Falconiformes and Strigiformes (birds-of-prey). Section 3513 essentially overlaps with the MTBA, prohibiting the take or possession of any migratory non-game bird. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "take" by CDFG.

California Native Plant Society

The California Native Plant Society (CNPS) publishes and maintains an Inventory of Rare and Endangered Vascular Plants of California in both hard copy and electronic version (www.cnps.org/rareplants/inventory/6thedition.htm). The Inventory assigns plants to the following categories:

1A – Presumed extinct in California

1B – Rare, threatened, or endangered in California and elsewhere

2 – Rare, threatened, or endangered in California, but more common elsewhere

3 – Plants for which more information is needed

4 – Plants of limited distribution

Additional endangerment codes are assigned to each taxon as follows:

1 – Seriously endangered in California (over 80% of occurrences threatened/high degree of immediacy of threat).

2 – Fairly endangered in California (20-80% occurrences threatened).

3 – Not very endangered in California (<20% of occurrences threatened or no current threats known).

Plants on Lists 1A, 1B, and 2 of the CNPS Inventory consist of plants that may qualify for listing, and are given special consideration under CEQA during project review. Although plants on List 3 and 4 have little or no protection under CEQA, they are usually included in the project review for completeness.

Porter-Cologne Water Quality Control Act

Waters of the State are defined by the Porter-Cologne Act as "any surface water or groundwater, including saline waters, within the boundaries of the state." The RWQCB protects all waters in its regulatory scope, but has special responsibility for isolated wetlands and headwaters. These water bodies have high resource value, are vulnerable to filling, and may not be regulated by other programs, such as Section 404 of the CWA. Waters of the State are regulated by the RWQCB under the State Water Quality Certification Program, which regulates discharges of dredged and fill material under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act. Projects that require a Corps permit, or fall under other federal jurisdiction, and have the potential to impact waters of the State are required to comply with the terms of the Water Quality Certification Program. If a proposed project does not require a federal license or permit, but does involve activities that may result in a discharge of harmful substances to waters of the State, the RWQCB has the option to regulate such activities under its State authority in the form of Waste Discharge Requirements or Certification of Waste Discharge Requirements.

California Fish and Game Code Section 1600

Streams, lakes, and riparian vegetation as habitat for fish and other wildlife species, are subject to jurisdiction by CDFG under Sections 1600-1616 of the California Fish and Game Code. Any activity that will do one or more of the following: 1) substantially obstruct or divert the natural flow of a river, stream, or lake; 2) substantially change or use any material from the bed, channel, or bank of a river, stream, or lake; or 3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake; generally require a 1602 Lake and Streambed Alteration Agreement. The term "stream," which includes creeks and rivers, is defined in the California Code of Regulations (CCR) as follows: "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation" (14 CCR 1.72). In addition, the term stream can include ephemeral streams, dry washes, watercourses with subsurface flows,

canals, aqueducts, irrigation ditches, and other means of water conveyance if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife.[2] Riparian is defined as, "on, or pertaining to, the banks of a stream;" therefore, riparian vegetation is defined as, "vegetation which occurs in and/or adjacent to a stream and is dependent on, and occurs because of, the stream itself."[3] Removal of riparian vegetation also requires a Section 1602 Lake and Streambed Alteration Agreement from CDFG.

Sensitive Vegetation Communities

Sensitive vegetation communities are natural communities and habitats that are either unique, of relatively limited distribution in the region, or of particularly high wildlife value. However, these communities may or may not necessarily contain special-status species. These sensitive natural communities are usually identified in local or regional plans, policies or regulations, or by CDFG (i.e., CNDDB) or the USFWS. Impacts to sensitive natural communities and habitats must be considered and evaluated under CEQA.

Local

In addition to federal and state regulations, the County's General Plan[4] defines certain goals and objectives, and general policies for protecting natural resources (i.e., vegetative, water, fish and wildlife resources). Also, the County has adopted various ordinances that provide protection to natural resources within the County's limits. Consistent with the goals and policies of the CCA the County's Local Coastal Program (LCP)[5] provides protection of the coastal resources.

County of San Mateo General Plan

The General Plan contains the following policies related to biological resources that are applicable to the proposed project:

Vegetative, Water, Fish and Wildlife Resource Policies

1.2 Protect Sensitive Habitats

- Protect sensitive habitats from reduction in size or degradation of the conditions necessary for their maintenance.

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2 *California Department of Fish and Game. Environmental Services Division (ESD). 1994. A Field Guide to Lake and Streambed Alteration Agreements, Sections 1600-1607, California Fish and Game Code.*

3 *California Department of Fish and Game. Environmental Services Division (ESD). 1994. Ibid.*

4 *San Mateo County. 1986. General Plan Policies. Department of Environmental Management, Planning and Building Division, San Mateo County, California. November 1986.*

5 *San Mateo County. 1998. Local Coastal Program Policies. Environmental Services Agency, Planning and Building Division, San Mateo County, California. June 1998.*

1.3 Protection and Productive Use of Economically Valuable Vegetative, Water, Fish and Wildlife Resources

- Protect the availability and encourage the productive use of the County's economically valuable vegetative, water, fish and wildlife resources in a manner which minimizes adverse environmental impacts.

1.4 Access to Vegetative, Water, Fish and Wildlife Resources

- Protect and promote existing rights of public access to vegetative, water, fish and wildlife resources for purposes of study and recreation consistent with the need to protect public rights, rights of private property owners and protection and preservation of such resources.

General Policies

1.20 Importance of Sensitive Habitats

- Consider areas designated as sensitive habitats as a priority resource requiring protection.

1.21 Importance of Economically Valuable Vegetative, Water, Fish and Wildlife Resources

- Consider Vegetative, Water, Fish and Wildlife Resources which are economically valuable as a priority resource to be enhanced, utilized, managed and maintained for the needs of present and future generations.

Regulation of Development

1.22 Regulate Development to Protect Vegetative, Water, Fish and Wildlife Resources

a. Regulate land uses and development activities to prevent, and if infeasible mitigate to the extent possible, significant adverse impacts on vegetative, water, fish and wildlife resources.

b. Place a priority on the managed use and protection of vegetative, water, fish and wildlife resources in rural areas of the County.

1.23 Regulate Location, Density and Design of Development to Protect Vegetative, Water, Fish and Wildlife Resources

- Regulate the location, density and design of development to minimize significant adverse impacts and encourage enhancement vegetative, water, fish and wildlife resources.

Resource Protection

1.24 Protect Vegetative Resources

- Ensure that development will: (1) minimize the removal of vegetative resources and/or; (2) protect vegetation which enhances microclimate, stabilizes slopes or reduces surface water runoff, erosion or sedimentation; and/or (3) protect historic and scenic trees.

1.25 Protect Water Resources

- Ensure that development will: (1) minimize the alteration of natural water bodies, (2) maintain adequate stream flows and water quality for vegetative, fish and wildlife habitats; (3) maintain and improve, if possible, the quality of groundwater basins and recharge areas; and (4) prevent to the greatest extent possible the depletion of groundwater resources.

1.26 Protect Fish and Wildlife Resources

- Ensure the development will minimize the disruption of fish and wildlife and their habitats.

Sensitive Habitats

1.27 Regulate Development to Protect Sensitive Habitats

- Regulate land uses and development activities within and adjacent to sensitive habitats in order to protect critical vegetative, water, fish and wildlife resources; protect rare, endangered, and unique plants and animals from reduction in their range or degradation of their environment; and protect and maintain the biological productivity of important plant and animal habitats.

1.28 Establish Buffer Zones

- Establish necessary buffer zones adjacent to sensitive habitats which include areas that directly affect the natural conditions in the habitats.

1.29 Uses Permitted in Sensitive Habitats

- Within sensitive habitats, permit only those land uses and development activities that are compatible with the protection of sensitive habitats, such as fish and wildlife management activities, nature education and research, trails and scenic overlooks and, at a minimum level, necessary public service and private infrastructure.

1.30 Uses Permitted in Buffer Zones

- Within buffer zones adjacent to sensitive habitats, permit the following land uses and development activities: (1) land uses and activities which are compatible with the protection of sensitive habitats, such as fish and wildlife management activities, nature education and research, trail and scenic overlooks, and at a minimum level, necessary public and private infrastructure; (2) land uses which are compatible with the surrounding land uses and will mitigate their impact by enhancing or replacing sensitive habitats; and (3) if no feasible alternative exists, land uses which are compatible with the surrounding land uses.

1.31 Regulate the Location, Siting and Design of Development in Sensitive Habitats

- Regulate the location, siting and design of development in sensitive habitats and buffer zones to minimize to the greatest extent possible adverse impacts, and enhance positive impacts.

1.32 Performance Criteria and Development Standards

- Establish performance criteria and development standards for development permitted within sensitive habitats and buffer zones, to prevent and it infeasible mitigate to the extent possible significant negative impacts, and to enhance positive impacts.

Productive Uses

1.33 Regulate Productive Uses of Vegetative, Water, Fish and Wildlife Resources

- Regulate resource productive uses which are subject to local control in order to prevent and if infeasible mitigate to the extent possible significant adverse impacts on vegetative, water, fish and wildlife resources and to maintain and enhance (1) productivity of forests and other vegetative resources; (2) productive capacity and quality of groundwater basins and recharge areas, streams, reservoirs, and other water bodies; (3) productivity of fisheries and other fish and wildlife resources; and (4) the recreational value and aesthetic value of these areas.

1.34 Protect Productive Uses of Vegetative, Water, Fish and Wildlife Resources

- Regulate development in order to protect and promote the managed use of vegetative, water, fish and wildlife resources.

1.36 Protect and Productive Use of Water Resources

- Ensure that land uses and development on or near water resources will not impair the quality or productive capacity of these resources.

Control of Incompatible Vegetative, Fish and Wildlife Resources

1.38 Control Incompatible Vegetation, Fish and Wildlife

- Encourage and support the control of vegetation, fish and wildlife resources which are harmful to the surrounding environment or pose a threat to public health, safety and welfare.

1.39 Minimize Adverse Impacts of Programs Controlling Incompatible Vegetation, and Fish and Wildlife

- Minimize the negative impacts and risks of programs controlling incompatible vegetation, fish and wildlife.

San Mateo County Ordinances

The County has adopted the following ordinances to provide protection to natural resources within the County's limits.

Significant Tree Ordinance – This ordinance requires a permit for the removal or destruction of any significant trees and tree communities within the unincorporated area of the County. As defined in Chapter 2 of the ordinance, significant tree means any live woody plant rising above the ground with a single stem or trunk of a circumference of 38 inches or more measured at four and one half feet vertically above the ground or immediately below the lowest branch, whichever is lower, and having the inherent capacity of naturally producing one main axis continuing to grow more vigorously than the lateral axes. Tree communities are defined as a group of trees of any size which are ecologically or aesthetically related to each other such that loss of several of them would cause a significant ecological, aesthetic, or environmental impact in the immediate area.

Heritage Tree Ordinance – This ordinance requires a permit for the removal, destruction, or trimming of any heritage trees within the unincorporated area of the County. As defined in Chapter 2 of the ordinance, heritage tree means any of the following: (a) Class 1 any tree or grove of trees designated after Board of Supervisors; and (b) Class 2 any one of the 17 designated species of trees, healthy and generally free from disease, with a diameter equal to or greater than the specified size listed in Chapter 2 of the ordinance:

Excavating, Grading, Filling and Clearing Ordinance – This ordinance requires a land clearing permit for vegetation removal when: (a) the land area to be cleared is 5,000 square feet or greater, within any two-year period except in County Scenic Corridors where vegetation removal is greater than 1,000 square feet; (b) the existing slopes are greater than 20 percent; and (c) the land area to be cleared is in any sensitive habitat or buffer zone as identified in the County General Plan.

Applications for this permit must include plans for erosion control, the removal and disposal of vegetation, and a statement of the purpose for the removal of vegetation. Performance standards require

erosion control and grading standards in conformance with the Grading Permit Performance Standards Handbook. Approval of the permit is subject to the finding that the granting of the permit will not have a significant adverse effect on the environment.

County of San Mateo Local Coastal Program

In late 1980, the County Board of Supervisors adopted and the Commission certified the County's LCP. In April 1981, the County assumed responsibility for implementing the CCA in the unincorporated area of the County, including the issuance of Coastal Development Permits (CDP). All development in the coastal zone requires either a CDP or an exemption from CDP requirements. For a permit to be issued the development must comply with the goals and policies of the LCP and those ordinances adopted to implement the LCP. The Sensitive Habitat Component of the County's current LCP[6] contains the following policies to facilitate the management of the sensitive coastal resources.

General Policies

7.1 Definition of Sensitive Habitats

- Define sensitive habitats as any area in which plant or animal life or their habitats are either rare or especially valuable and any area which meets one of the following criteria: (1) habitats containing or supporting "rare and endangered" species as defined by the State Fish and Game Commission, (2) all perennial and intermittent streams and their tributaries, (3) coastal tide lands and marshes, (4) coastal and offshore areas containing breeding or nesting sites and coastal areas used by migratory and resident water-associated birds for resting areas and feeding, (5) areas used for scientific study and research concerning fish and wildlife, (6) lakes and ponds and adjacent shore habitat, (7) existing game and wildlife refuges and reserves, and (8) sand dunes.

- Sensitive habitat areas include, but are not limited to, riparian corridors, wetlands, marine habitats, sand dunes, sea cliffs, and habitats supporting rare, endangered, and unique species.

7.2 Designation of Sensitive Habitats

- Designate sensitive habitats as including, but not limited to, those shown on the Sensitive Habitats Map for the Coastal Zone.

7.3 Protection of Sensitive Habitats

a. Prohibit any land use or development which would have significant adverse impact on sensitive habitat areas.

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[6] *Environmental Services Agency, Building and Planning Division, San Mateo County, California. (Updated June 1998). Local Coastal Program Policies.*

b. Development in areas adjacent to sensitive habitats shall be sited and designed to prevent impacts that could significantly degrade the sensitive habitats. All uses shall be compatible with the maintenance of biologic productivity of the habitats.

7.4 Permitted Uses in Sensitive Habitats

a. Permit only resource dependent uses in sensitive habitats. Resource dependent uses for riparian corridors, wetlands, marine habitats, sand dunes, sea cliffs and habitats supporting rare, endangered, and unique species shall be the uses permitted in Policies 7.9, 7.16, 7.23, 7.26, 7.30, 7.33, and 7.44, respectively, of the County LCP on March 25, 1986.

b. In sensitive habitats, require that all permitted uses comply with U.S. Fish and Wildlife and State Department of Fish and Game regulations.

Riparian Corridors

7.9 Permitted Uses in Riparian Corridors

a. Within corridors, permit only the following uses: (1) education and research, (2) consumptive uses as provided for in the Fish and Game Code and Title 14 of the California Administrative Code, (3) fish and wildlife management activities, (4) trails and scenic overlooks on public land(s), and (5) necessary water supply projects.

b. When no feasible or practicable alternative exists, permit the following uses: (1) stream dependent aquaculture, provided that non-stream dependent facilities locate outside of corridor, (2) flood control projects, including selective removal of riparian vegetation, where no other method for protecting existing structures in the floodplain is feasible and where such protection is necessary for public safety or to protect existing development, (3) bridges when supports are not in significant conflict with corridor resources, (4) pipelines, (5) repair or maintenance of roadways or road crossings, (6) logging operations which are limited to temporary skid trails, stream crossings, roads and landings in accordance with State and County timber harvesting regulations, and (7) agricultural uses, provided no existing riparian vegetation is removed, and no soil is allowed to enter stream channels.

7.11 Establishment of Buffer Zones

a. On both sides of riparian corridors, from the "limit of riparian vegetation" extend buffer zones 50 feet outward for perennial streams and 30 feet outward for intermittent streams.

b. Where no riparian vegetation exists along both sides of riparian corridors, extend buffer zones 50 feet from the predictable high water point for perennial streams and 30 feet from the midpoint of intermittent streams.

c. Along lakes, ponds, and other wet areas, extend buffer zones 100 feet from the high water point except for manmade ponds and reservoirs used for agricultural purposes for which no buffer zone is designated.

7.17 Performance Standards in Wetlands

- Require that development permitted in wetlands minimize adverse impacts during and after construction. Specifically, require that: (1) all paths be elevated (catwalks) so as not to impede movement of water, (2) all construction takes place during daylight hours, (3) all outdoor lighting be kept at a distance away from the wetland sufficient not to affect the wildlife, (4) motorized machinery be kept to less than 45 dBA at the wetland boundary, except for farm machinery, (5) all construction which alters wetland vegetation be required to replace the vegetation to the satisfaction of the Planning Director including "no action" in order to allow for natural reestablishment, (6) no herbicides be used in wetlands unless specifically approved by the County Agricultural Commissioner and State Department of Fish and Game, and (7) all projects be reviewed by the State Department of Fish and Game and State Water Quality Board to determine appropriate mitigation measures.

7.18 Establishment of Buffer Zones

- Buffer zones shall extend a minimum of 100 feet landward from the outermost line of wetland vegetation. This setback may be reduced to no less than 50 feet only where (1) no alternative development site or design is possible; and (2) adequacy of the alternative setback to protect wetland resources is conclusively demonstrated by a professional biologist to the satisfaction of the County and the State Department of Fish and Game. A larger setback shall be required as necessary to maintain the functional capacity of the wetland ecosystem.

Rare and Endangered Species

7.36 San Francisco Garter Snake

a. Prevent any development where there is known to be a riparian or wetland location for the San Francisco garter snake with the following exceptions: (1) existing manmade impoundments smaller than one-half acre in surface, and (2) existing manmade impoundments greater than one-half acre in surface providing mitigation measures are taken to prevent disruption of no more than one half of the snake's known habitat in that location in accordance with recommendations from the State Department of Fish and Game.

b. Require developers to make sufficiently detailed analyses of any construction which could impair the potential or existing migration routes of the San Francisco garter snake. Such analyses will determine appropriate mitigation measures to be taken to provide for appropriate migration corridors.

Unique Species

7.49 California Wild Strawberry

- Require any development, within one-half mile of the coast, to mitigate against the destruction of any California wild strawberry in one of the following ways:

  a. Prevent any development, trampling, or other destructive activity which would destroy the plant, or

  b. After determining specifically if the plants involved are of particular value, successfully transplant them or have them successfully transplanted to some other suitable site. Determination of the importance of the plants can only be made by a professional doing work in strawberry breeding.

BACKGROUND AND METHODOLOGY

The analysis of potential biological resources impacts associated with the proposed project involved review of available background information, including (but not limited to) biological resources reports completed for the project site and surrounding lands (e.g., Pillar Point Marsh), and completion of field surveys by the DEIR consultant, Christopher A. Joseph & Associates (CAJA).

Prior to conducting field surveys, CAJA's biologist reviewed the previous biological resources reports completed for the project site to verify the adequacy, completeness, and accuracy of these reports for their use in this section of the DEIR. These reports are included in Appendix E of this DEIR and are summarized below.

- *San Mateo County Biological Impact Report, Big Wave Development Site, Princeton, San Mateo County, California* prepared by Wetlands Research Associates, Inc. in November 2001.[7] This report is based on general plant and animal surveys conducted by Wetland Research Associates, Inc. (WRA) on the northern project parcel (APN 047-311-060) on October 27, 2000[8] and November 20, 2000.[9] It provides a description of the existing biological conditions of the project site evaluates the potential for special-status plant and animal species and sensitive habitats to occur on the site, identifies potential impacts to biological resources that may occur as a result of development of the site, and presents avoidance and minimization measures to reduce potential impacts.

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[7] *Wetland Research Associates, Inc., (WRA). 2001a. San Mateo County Biological Impact Report, Big Wave Development Site, Princeton, San Mateo County, California.*

[8] *General plant surveys were conducted October 27, 2000.*

[9] *General wildlife surveys were conducted on November 20, 2000.*

- *San Mateo County Local Coastal Program Wetland Delineation Study, Big Wave Development Site, Princeton, San Mateo County, California* prepared by WRA in November 2001.[10] This report describes the nature and extent of areas on the northern project parcel that could be considered jurisdictional by the County under the LCP.

- *San Mateo County Biological Impact Report, Big Wave Development Site, Princeton, San Mateo County, California* prepared by WRA in May 2003.[11] This report updates the 2001 biological impact report (refer to the report above). At the time of the 2001 report, the project description and footprint were undetermined. WRA conducted subsequent surveys on the northern project parcel on January 17, 2003, March 19, 2003, and May 7, 2003 to determine whether existing site conditions had changed since its previous surveys. The biological impact report was revised accordingly.

- *San Mateo County Local Coastal Program Wetland Delineation Study, Big Wave Development Site, Princeton, San Mateo County, California* prepared by WRA in May 2003.[12] This report updates the 2001 wetland delineation study (refer to the report above). At the time of the 2001 study, the project description and footprint were undetermined. WRA conducted subsequent surveys on the northern project parcel and revised the wetland delineation study accordingly.

- *San Mateo County Rare Plant Report, Big Wave Development Site, Princeton, San Mateo County, California* prepared by WRA in March 2004.[13] This report is based on special-status plant surveys conducted WRA on the northern project parcel on March 19, 2003 and May 7, 2003. It determines the presence or absence of special-status plant species on the site and identifies potential impacts to special-status plants that may occur as a result of development of the site.

- *Wetland Delineation Study, Big Wave Office Park and Wellness Center – Southern Parcel, San Mateo County, California* prepared by CAJA in May 2007.[14] This report describes the nature and extent of areas on the southern parcel that could be considered jurisdictional by the Corps under Section 404 of the CWA and the County under the LCP.

- *An Analysis of the Geographic Extent of Waters of the United States, Including Wetlands, on the Big Wave Property, San Mateo County, California*, prepared by WSP Ecosystem Science and

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[10] *Wetland Research Associates, Inc., (WRA). 2001b. San Mateo County Local Coastal Program Wetland Delineation Study, Big Wave Development Site, Princeton, San Mateo County, California.*

[11] *Wetland Research Associates, Inc., (WRA). 2003a. San Mateo County Biological Impact Report, Big Wave Development Site, Princeton, San Mateo County, California.*

[12] *Wetland Research Associates, Inc., (WRA). 2003b. San Mateo County Local Coastal Program Wetland Delineation Study, Big Wave Development Site, Princeton, San Mateo County, California.*

[13] *Wetland Research Associates, Inc., (WRA). 2004. San Mateo County Rare Plant Report, Big Wave Development Site, Princeton, San Mateo County, California.*

[14] *Christopher A. Joseph & Associates (CAJA). 2007. Wetland Delineation Study, Big Wave Office Park and Wellness Center – Southern Parcel, San Mateo County, California. Draft – May 2007.*

Natural Resources Management in March 2008.[15] This report provides current information on the extent and types of wetland habitat present on and adjacent to the Big Wave site parcels.

- *Biological Resources of the Proposed Big Wave Wellness Center and Office Park Project Site, San Mateo County, California,* prepared by WSP Ecosystem Science and Natural Resources Management in August 2008, revised February 2009.[16]

In addition to the reports listed above, CAJA's biologist reviewed the Fitzgerald Marine Reserve Master Plan, Part Two: Environmental Setting – Draft prepared by Brady/LSA in May 2002[17] and San Mateo County Parks Vegetation Resources prepared by Rana Creek Habitat Restoration in March 2002.[18] Also, CAJA's biologist reviewed letters from the resource and regulatory agencies regarding the previous biological resources studies completed for the site, and contacted representatives from the agencies to discuss the biological resources on and in the vicinity of the project site. Representatives from CDFG and USFWS met with CAJA's biologist on the site on January 10, 2007. CAJA's biologist conducted field surveys on December 12, 2006, January 10, 2007, January 11, 2007, and February 22, 2007. WSP scientists performed reconnaissance-level wildlife surveys on February 25, 2008 and January 2009, in addition to the November 20, 2007, March 27, 2008 wetland delineation site visits. The methods used to asses the biological resources on the site are described in more detail below.

Vegetation Communities & Wildlife Habitats

The vegetation communities and wildlife habitats identified on the project site were classified based on Holland (1986),[19] where appropriate. However, few Holland classifications exist for areas dominated by non-native species (i.e., disturbed areas). Therefore, the California Wildlife Habitat Relationships (CWHR) habitat classification scheme was also used to describe the communities present on the site.[20] Vegetation communities and wildlife habitats present on the site were mapped by hand in the field using aerial imagery and then digitized onto appropriate base maps in ArcGIS 9, and a Trimble Geo-XT hand-held global positioning system (GPS) and downloaded onto the appropriate base maps in ArcGIS 9.

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[15] *WSP Ecosystem Science and Natural Resources Management (WSP), 2008. An Analysis o f the Geographic Extent of Waters of the United States, Including Wetlands, on the Big Wave Property, San Mateo County, California.*

[16] *WSP Ecosystem Science and Natural Resources Management (WSP) 2008, Rev. 2009. Biological Resources of the Proposed Big Wave Wellness Center and office Park Project Site, San Mateo County, California.*

[17] *Brady/LSA. 2002. Fitzgerald Marine Reserve Master Plan, Part Two: Environmental Setting – Draft.*

[18] *Rana Creek Habitat Restoration. 2002. San Mateo County Parks Vegetation Resources. Prepared for County San Mateo Environmental Services Agency Parks & Recreation Division. March 2002.*

[19] *Holland, R. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. Nongame-Heritage Program, California Department of Fish and Game.*

[20] *California Department of Fish and Game (CDFG). 1988. A Guide to Wildlife Habitats. Eds. Kenneth E. Mayer and William F. Laudenslayer, Jr. State of California, Resources Agency, Department of Fish and Game. Sacramento, California.*

Special-Status Species

For the purposes of this analysis, special-status species include those plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered by the USFWS or NOAA Fisheries Service under the FESA; those listed or proposed for listing as rare, threatened, or endangered by CDFG under the CESA; plants occurring on List 1A, List 1B, List 2, List 3 and List 4 of the CNPS Inventory; and animals designated as "species of special concern" or "fully protected" by CDFG.

The potential occurrence of special-status species on the project site was evaluated by first developing a list of special-status plants and animals that are known to or have the potential to occur in the vicinity of the project site based on a search of the CNDDB records within a five-mile radius of the site[21] and the CNPS Electronic Inventory records, including the Montara Mountain (448C) U.S. Geological Service (USGS) 7.5-Minute Quadrangle and the five surrounding USGS quadrangles (San Francisco South [448B], Hunters Point [448A], San Mateo [448D], Half Moon Bay [429B], and Woodside [429A]),[22] and review of the USFWS list of Federal Endangered and Threatened Species that Occur in or May be Affected by Projects in the Montara Mountain (448C) USGS 7.5-Minute Quad,[23] San Mateo County Biological Impact Report, Big Wave Development Site, Princeton, San Mateo County, California,[24,25] San Mateo County Rare Plant Report, Big Wave Development Site, Princeton, San Mateo County, California,[26] Fitzgerald Marine Reserve Master Plan, Part Two: Environmental Setting – Draft,[27] and Biological Resources of the Proposed Big Wave Wellness Center and Office Park Project Site, San Mateo County, California.[28] Each species was then evaluated for its potential to occur on the site during the reconnaissance-level field surveys according to the following criteria:[29,30]

(1) Not Present. Species listed as Not Present on the project site are those species for which:

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[21] *California Department of Fish and Game (CDFG). 2009 California Natural Diversity Database (CNDDB) Rarefind [CD-ROM], Wildlife Habitat Data Analysis Branch, California Department of Fish and Game. Sacramento: California.*

[22] *California Native Plant Society (CNPS). 2009. Inventory of Rare and Endangered Plants (online edition, v7-09b). California Native Plant Society, Sacramento. Available from http://cnps.org/inventory.*

[23] *U.S. Fish and Wildlife Service (USFWS). March 5, 2007. Federal Endangered and Threatened Species that Occur in or May be Affected by Projects in the Montara Mountain USGS 7.5-Minute Quad. Sacramento (CA): Sacramento Fish and Wildlife Office. Accessed May 4, 2009. Available from http://www.fws.gov/sacramento/es/spp_list.htm*

[24] *Wetland Research Associates, Inc. (WRA). 2001a. Ibid.*

[25] *Wetland Research Associates, Inc. (WRA). 2003a. Ibid.*

[26] *Wetland Research Associates, Inc. (WRA). 2004. Ibid.*

[27] *Brady/LSA. 2002. Ibid.*

[28] *WSP Ecosystem Science & Restoration (WSP). 2008, rev. 2009. Ibid.*

[29] *Wetland Research Associates, Inc. (WRA). 2004. Ibid*

[30] *WSP Ecosystem Science & Restoration (WSP). 2008, rev. 2009. Ibid*

No suitable habitat occurs on the project site. The species has no likelihood for utilizing any portion of the site due to lack of habitat requirements (e.g., foraging, breeding, cover, substrate, elevation, hydrology, plant community, disturbance regime, etc.).

The site has been surveyed during the proper time of year with negative results for the species.

(2) Low Potential to Occur. Species listed as having a Low Potential to Occur on the project site are those species for which:

There are no known records of occurrence in the vicinity of the site; and/or

The majority of the habitat on the project site is unsuitable or of very poor quality for the species;

Required habitat components are not present on the site.

(3) Moderate Potential to Occur. Species listed as having a Moderate Potential to Occur on the project site are those species for which:

There are known records of occurrence in the vicinity of the site; and/or

Some of the required habitat components are available on the site, but the site lacks some critical components required by the species.

(4) Likely to Occur. Species listed as Likely to Occur on the project site are those species for which:

There are known records of occurrence in the vicinity of the site (there are many records and/or records in close proximity); and/or

Habitat components are available on the site but no record of the species utilizing the project site exists.

(5) Present. Species listed as Present on the project site are those species for which:

The species was observed or is otherwise known to occur on the project site.

Table IV.D-1 and Table IV.D-2 present the list of special-status plants and animals that are known to or have the potential to occur in the vicinity of the project site, their habitat requirements, and a rating of potential for occurrence on the site. Although species restricted to marine habitats (e.g., black abalone (Haliotes cracherodii), white abalone [Haliotes sorenseni], Gaudalupe fur seal (Arctocephalus townsendi), blue whale [Balaenoptera musculus), finback whale(Balaenoptera physalus), right whale (Ebalaena glacialis), and sperm whale (Physeter catodon) are known to or have the potential to occur in the vicinity of the project site, these species were not included in Table IV.D-2, as the project site does not support habitat used by these species. Also, the words "nesting," "nesting colony" or "wintering" following the sensitivity/regulatory status of the bird species in Table IV.D-2 indicates the regulatory

status only while the species is nesting or wintering. Only those species identified as having a "moderate" or "likely" potential to occur on the site, and those identified as "present" are discussed further in this section of the DEIR.

Sensitive Natural Communities

Sensitive natural communities are identified by federal, state, and local agencies as those habitats that support special-status species, provide important habitat values for wildlife, represent areas of unusual or regionally restricted habitats, and/or provide high biological diversity. The potential occurrence of sensitive natural communities on the project site was evaluated by first developing a list of sensitive habitats that are known to or have the potential to occur in the vicinity of the project site based on a search of the CNDDB records within a five-mile radius of the site[31] and review of the San Mateo County Biological Impact Report, Big Wave Development Site, Princeton, San Mateo County, California,[32,33] San Mateo County Rare Plant Report, Big Wave Development Site, Princeton, San Mateo County, California,[34] Fitzgerald Marine Reserve Master Plan, Part Two: Environmental Setting – Draft,[35] County of San Mateo General Plan,[36] and County of San Mateo Local Coastal Program.[37] The vegetation communities and wildlife habitats identified on the site and recorded on the list of sensitive habitats were then evaluated using the specific methods presented below to determine the nature and extent of these communities present.

Riparian Habitat

In addition to reviewing the biological impacts reports and wetland studies completed for the project site, CAJA reviewed aerial photographs (historical and recent aerial photographs[38,39]) to determine the nature and extent of riparian habitat on the site. During field surveys CAJA recorded and mapped by hand and/or using a Trimble Geo-XT hand-held GPS riparian vegetation present on and immediately adjacent to the site. In addition, WSP delineated and mapped the extent of riparian habitat on the project site that currently bisects the project parcels.[40]

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[31] *California Department of Fish and Game (CDFG). 2006 California Natural Diversity Database (CNDDB 2009) [CD-ROM], Wildlife Habitat Data Analysis Branch, California Department of Fish and Game. Sacramento: California.*

[32] *Wetland Research Associates, Inc. (WRA). 2001a. Ibid.*

[33] *Wetland Research Associates, Inc. (WRA). 2003a. Ibid.*

[34] *Wetland Research Associates, Inc. (WRA). 2004. Ibid.*

[35] *Brady/LSA. 2002. Ibid.*

[36] *San Mateo County. 1986. Ibid.*

[37] *San Mateo County. 1998. Ibid.*

[38] *Historical aerial photographs from 1943 through 2001 (Environmental Data Resources, Inc. [EDR] 2007).*

[39] *Aerial photograph from January 2006 (HJW GeoSpatial 2006).*

[40] *WSP Ecosystem Science & Restoration (WSP). 2008. Ibid.*

Jurisdictional Waters and Wetlands

The presence of jurisdictional waters and wetlands on the project site were determined based on the review of the wetland delineation studies completed by WRA, CAJA, and WSP. These studies used technical guidelines and methods provided by the Corps in its Arid West Regional Supplement[41] to the 1987 Corps of Engineers Wetland Manual (hereafter referred to as the Corps Manual)[42] and/or the County's LCP. According to the Corps wetland delineation methodology, a wetland must exhibit the following field indicators: (1) a prevalence or dominance of hydrophytic vegetation (i.e., "water loving" species with "obligate" [OBL],[43] "facultative wetland" [FACW],[44] or "facultative" [FAC][45] wetland indicator status in Reed [1988][46]); (2) hydric soils (i.e., soils that are saturated or flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part); and (3) wetland hydrology (i.e., permanent or periodic inundation, or soil saturation to the surface for a sufficient duration to support hydrophytic vegetation). If positive indicators cannot be determined for any one of these parameters, the area is not a wetland. In the absence of adjacent wetland, the Corps jurisdiction extends to the ordinary high water mark (OHWM) of the water. According the to the County's LCP methodology (refer to the County of San Mateo Local Coastal Program Section Wetland Policy 7.14), a wetland is "an area where the water table is at, near, or above the land surface long enough to bring about the formation of hydric soils or to support the growth of plants which normally are found to grow in water or wet ground. In San Mateo County, wetlands typically contain the following plants: cordgrass, pickleweed, jaumea, frankenia, marsh mint, tule, bulrush, narrow-leaf cattail, broadleaf cattail, pacific silverweed, salt rush, and bog rush. To qualify, a wetland must contain at least a 50% cover of some combination of these plants, unless it is a mudflat" (San Mateo County 1998).[47]

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[41] *U.S. Army Corps of Engineers (Corps). 2006. Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region. Eds. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-06-16, U.S. Army Engineer Research and Development Center, Vicksburg, MS.*

[42] *Environmental Laboratory. 1987. Corps of Engineers Wetland Delineation Manual, Technical Report Y-87-7, U.S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, Miss.*

[43] *Plants that occur almost always (estimated probability >99 percent) in wetlands under natural conditions, but which may also occur rarely (estimated probability <1 percent) in non-wetlands.*

[44] *Plants that occur usually (estimated probability >67 percent) in wetlands, but also occur (estimated probability 1 percent to 33 percent) in non-wetlands.*

[45] *Plants with a similar likelihood (estimated probability 33 percent to 67 percent of occurring in both wetlands and non-wetlands.*

[46] *Reed, P. B., Jr. 1988. National List of Plant Species that Occur in Wetlands: California, Region 0. (Biological Report 88[26.10]0. U.S. Fish and Wildlife Service. Fort Collins, Colorado.*

[47] *San Mateo County. 1998. Ibid.*

EXISTING CONDITIONS

The following sections provide descriptions of the vegetation communities and wildlife habitats, special-status species and sensitive natural communities, and jurisdictional waters and wetlands present or potentially present on the project site.

Vegetation Communities & Wildlife Habitats

The majority of the project site has been recently disturbed by agricultural activities (i.e., disking and/or planting of irrigated row and field crops) and, therefore, the extent of natural vegetation communities and wildlife habitats on the site are limited to those that are contiguous to habitats in and around Pillar Point Marsh. In those areas where normal farming activities have not occurred recently (e.g., along the Airport Street verge and in very small, scattered patches within the agricultural fields), non-native annual grasses and herbs occur.[48] Vegetation communities and wildlife habitats identified on the site are described in more detail below and illustrated in Figure IV.D-1.

Agricultural (Irrigated Row and Field Crops)

Irrigated row and field crops are typically established in flat to gently rolling terrain on fertile soils and are greatly manipulated in terms of soils, irrigation, crop rotation, and fertilization. Irrigated row and field crops are usually grown in monoculture, using plowing or herbicides to eliminate unwanted vegetation. Cultivated species in such fields exhibit a variety of sizes, shapes, and growing patterns that provide various heights and canopy cover. Irrigated row and field crops have been planted on the project site since 2003 and prior to this the site had not been in agricultural production for at least seven years.[49] At the time of CAJA's field surveys, fava bean (Vicia faba) was planted on the southern project parcel and Swiss chard (Beta vulgaris var. cicla) was planted on the northern project parcel; however, the project parcels are planted in rotations with various other vegetable crops (e.g., corn [Zea mays], squash [Cucurbita sp.], garlic [Allium sp.]).[50] Non-cultivated species such as ruderal, weedy grass and forb species including common vetch (Vicia sativa), bristly oxtongue (Picris echioides), black mustard (Brassica nigra), poison hemlock (Conium maculatum), ripgut brome (Bromus diandrus), wild oat (Avena fatua), and wild radish (Raphanus sativus), were observed along the boundaries of the project parcels fronting El Granada Mobile Home Park, Airport Road, and the commercial and industrial developments in Princeton.

The value of irrigated row and field crops to wildlife depends on the vegetation characteristics, agricultural practices, and irrigation regimes. Agricultural fields provide habitat for a number of insects, reptiles, birds and small mammals, which in turn serve as important prey for predatory birds and mammals. Large mammals such as the black-tailed deer (Odocoileus hemionus) also frequent

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[48] *WSP Ecosystem Science & Restoration (WSP). 2008, rev. 2009. Ibid.*

[49] *Peck, Jeff. Peninsula Builders, Inc. January 3, 2007. Ibid.*

[50] *Iacopi, Michael. Iacopi Farms. January 10, 2007. Field meeting with Aindrea Jensen.*

agricultural fields. Some of these species forage in the agricultural fields and retreat to the protective cover of the surrounding habitat (e.g., riparian forest in Pillar Pt. Marsh) for shelter and nesting, while others disperse through this habitat. Wildlife species observed on the project site during past surveys include American crow (Corvus brachyrhynchos), northern harrier (Circus cyaneus), American kestrel

(Falco sparverius), Brewer's blackbird (Euphagus cyanocephalus), great blue heron (Ardea Herodias), and white-tailed kite (Elanus leucurus).[51,52,53]

Coastal Freshwater Marsh (Pillar Point Marsh)

Coastal freshwater marsh develops in shallow, standing or slow-moving water at the edge of lakes, ponds and rivers, and at other sites that lack currents and are permanently flooded or saturated by fresh water. Highly organic, mineral rich soils of sand, silt, and clay typically underlie freshwater marshes and support up to 16-foot tall, perennial, emergent plants. Characteristic species include cattails (Typha angustifolia, Typha domingensis, Typha latifolia), and bulrushes (Scirpus acutus, Scirpus americanus, Scirpus californicus, Scirpus robustus). Other smaller hydrophytic species are also present, including northern mudwort (Limosella aquatic), sedges (Carex ssp., Cyperus ssp., Eleocharis ssp.), and whorled marsh pennywort (Hydrocotyle verticillata). Although freshwater marsh is not present on the project site, it is found immediately adjacent to the project site within Pillar Point Marsh. Also, there is evidence (observations of species similar to those typically found within freshwater marshes on the site [refer to the Sensitive Habitat section]) to support the premise that if the project site was taken out of agricultural production, then this community would likely become established on portions of the site, particularly along the western edge of the southern project parcel. Within Pillar Point Marsh, the freshwater marsh supports a dense cattail/bulrush habitat. The most common species are broadleaf cattail (Typha latifolia) and California bulrush (Scirpus californicus).[54] Other species identified include bog rush (Juncus effuses var. brunneus), California blackberry (Rubus ursinus), Pacific silverweed (Potentilla egedii var. grandis), and swamp knotweed (Polygonum coccineum).[55]

Wildlife values of freshwater marsh habitat is generally considered to be high, due to the available surface water, abundance of insects, algae, and vascular plant forage, and protective cover of emergent vegetation. Although freshwater marshes are generally too wet to support small mammals, various birds, amphibians and reptiles are often abundant. Wildlife species noted in the Fitzgerald Marine Reserve Master Plan, Part Two: Environmental Setting – Draft[56] as using the freshwater marsh habitat in Pillar Point Marsh include birds such as great blue heron (Ardea herodias), marsh wren (Cistothorus palustris), and red-winged blackbird (Agelaius phoeniceus); reptiles such as common garter snake (Thamnophis

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[51] *Wetland Research Associates, Inc. (WRA). 2001a. Ibid.*

[52] *Observations made during CAJA's field surveys.*

[53] *WSP Ecosystem Science & Restoration (WSP). 2008, rev. 2009. Ibid.*

[54] *Rana Creek Habitat Restoration. 2002. Ibid.*

[55] *Brady/LSA. 2002. Ibid.*

[56] *Brady/LSA. 2002. Ibid.*

sirtalis) and San Francisco garter snake (Thamnophis sirtalis tetrataenia); and amphibian such as California newt (Taricha torosa), California red-legged frog (Rana aurora draytonii), Pacific treefrog (Hyla regilla), and western toad (Bufo boreas).

Central Coast Arroyo Willow Riparian Forest (Pillar Point Marsh)

Warner and Hendrix (1984) generally define riparian vegetation as that which occurs along water bodies such as intermittent and perennial streams, lakes, ponds, and floodplains, and is the interface between terrestrial and aquatic communities with soil moisture sufficiently in excess of that otherwise available through local precipitation to support the growth of mesic plants.[57] Central Coast arroyo willow riparian forest is a dense, low, closed-canopy broadleafed winter-deciduous forest of riparian vegetation dominated by arroyo willow (Salix lasiolepis). Other willow species (Salix ssp.), white alder (Alnus rhombifolia) and wax myrtle (Myrica californica) are also characteristic species of this community. Central Coast arroyo willow riparian forest forms large thickets around the majority of the coastal freshwater marsh in Pillar Point Marsh, as well as a tributary drainage flowing from the Half Moon Bay Airport property that separates the proposed project parcels (refer to Section IV.H [Hydrology & Water Quality] and Figure IV.D-1). The tree canopy of this community extends onto portions of the project parcels, in particular along the western project boundary on the northern project parcel. Where this community occurs in Pillar Point Marsh arroyo willow is the dominant tree species; however, to a limited extent, Coulter's willow (Salix coulteri) also occurs along portions of the freshwater marsh and the tributary drainage.[58] Understory plants include such species as California blackberry, swamp knotweed, and stinging nettle (Urtica doioca). Invasive, non-native plant species such as Cape/German ivy (Delaireia odorata / Senecio mikanioides) and poison hemlock are invading the coast arroyo-willow riparian forest habitat in Pillar Point Marsh.[59]

Riparian habitats are extremely productive and have diverse values for wildlife. The availability of water, the diversity and abundance of plant life, and the complex vegetation structure provide a number of wildlife species with food and water, cover, and movement corridor, as well as breeding and resting sites. Wildlife species noted in the Fitzgerald Marine Reserve Master Plan, Part Two: Environmental Setting – Draft[60] as using or expected to use the riparian forest habitat in Pillar Point Marsh include birds such as Bewick's wren (Thryomanes bewickii), common yellow throat (Geothlypis trichas), and wrentit (Chamaea fasciata); mammals such as brush rabbit (Sylvilagus bachmani), deer mice (Peromyscus maniculatus), dusky footed woodrat (Neotoma fuscipes), and raccoon (Procyon lotor), and amphibian such as California slender salamander (Batrachoseps attenuatus) and Pacific treefrog.

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[57] *Warner, Richard, E. and K. E. Hendrix, eds. California Riparian Systems: Ecology, Conservation, and Productive Management. University of California Press, Berkeley and Los Angeles, California. 1984.*

[58] *Brady/LSA. 2002. Ibid.*

[59] *Brady/LSA. 2002. Ibid.*

[60] *Brady/LSA. 2002. Ibid.*

Special-Status Species

As discussed above in the Background and Methods section, the special-status plants and animals evaluated for their potential to occur on the project site are listed in Table IV.D-1 and Table IV.D-2, respectively. Those species classified as having Moderate Potential to Occur, are Likely to occur or are identified as Present are discussed further below. The plants and animals classified as having a Low Potential to Occur or Not Present are not discussed because these species are not likely to occur on or adjacent to the project site due to the fact that the general habitat and/or micro-habitat requirements for the species are not present, the species distribution does not include the project site, or the species was not detected during appropriately timed field surveys.

Source: HJW GeoSpatial, Inc., MacLeod and Associates and Christopher A. Joseph & Associates, May 2007; WSP, March 17, 2008.

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Environmental Planning and Research

Figure IV.D-1
Vegetation Communities Map

Table IV.D-1
Special-Status Plants Evaluated for Potential to Occur within the Project Site

Plants												
Scientific Name	**Common Name**	**Sensitivity/Regulatory Status[a]**					**General Habitat**	**Blooming Period**	**Elevation (meters)**	**Potential for Occurrence**	**Discussion of Potential**	**Source[b]**
		Regulatory Status			**CDFG Sensitivity Rank**							
					CNDDB							
		CNPS	**FESA**	**CESA**	**Global**	**State**						
Acanthomintha duttonii	San Mateo thorn-mint	List 1B.1	FE	CE	G1	S1.1	Chaparral, Valley and foothill grassland/ serpentine	Apr-Jun	50-300	Not Present	Although grassland habitat previously occurred on the project site, the site has been in agricultural production since 2003.[d] Vegetation is limited to non-native and cultivated plants. Site is below the elevation range occupied by the species and no serpentine soils/substrates are present. Species is known from two extant natural occurrences and one introduced population.[e]	1,2
Allium peninsulare var. franciscanum	Franciscan onion	List 1B.1	-	-	G5T2	S2.2	Cismontane woodland, Valley and foothill grassland/ clay, volcanic, often serpentine	May-Jun	100-300	Not Present	Although grassland habitat previously occurred on the project site, the site has been in agricultural production since 2003[d]. Vegetation is limited to non-native and cultivated plants. Site is below the elevation range occupied by the species. Nearest recorded extant occurrence in the California Natural	1, 2, 4, 5, 6, 8

Table IV.D-1
Special-Status Plants Evaluated for Potential to Occur within the Project Site

Plants												
Scientific Name	**Common Name**	**Sensitivity/Regulatory Status[a]**					**General Habitat**	**Blooming Period**	**Elevation (meters)**	**Potential for Occurrence**	**Discussion of Potential**	**Source[b]**
		Regulatory Status			**CDFG Sensitivity Rank**							
					CNDDB							
		CNPS	**FESA**	**CESA**	**Global**	**State**						
											Diversity Database (CNDDB) is approximately 4 miles (mi) northeast (NE) of the site.	
Amsinckia lunaris	bent-flowered fiddleneck	List 1B.2	-	-	G2	S2.2	Coastal bluff scrub, Cismontane woodland, Valley and foothill grassland	Mar-Jun	3-500	Low	Although grassland habitat previously occurred on the project site, the site has been in agricultural production since 2003[d]. Vegetation is limited to non-native and cultivated plants. Species was not observed during surveys conducted in 2003 on the northern parcel.[f]	1, 2, 4, 5, 6, 8
Arctostaphylos andersonii	Santa Cruz manzanita	List 1B.2	-	-	G2	S2?	Broadleafed upland forest, Chaparral, North Coast coniferous forest/ openings, edges	Nov-Apr	60-730	Not Present	Project site does not support habitats this species typically inhabits. Site is below the elevation range occupied by the species.	1, 2, 6, 8
Arctostaphylos hookeri ssp. franciscana	Franciscan manzanita	List 1A	-	-	G3TXC	SX	Coastal scrub (serpentine)	Feb-Apr	60-300	Not Present	Project site does not support habitats this species typically inhabits. No serpentine soils/substrates onsite.	1, 2, 6, 8

Table IV.D-1
Special-Status Plants Evaluated for Potential to Occur within the Project Site

Plants												
Scientific Name	**Common Name**	**Sensitivity/Regulatory Status[a]**					**General Habitat**	**Blooming Period**	**Elevation (meters)**	**Potential for Occurrence**	**Discussion of Potential**	**Source[b]**
		Regulatory Status			**CDFG Sensitivity Rank**							
					CNDDB							
		CNPS	**FESA**	**CESA**	**Global**	**State**						
											Site is below the elevation range occupied by the species. Species last seen in 1942; now only occurs in cultivation.[e]	
Arctostaphylos hookeri ssp. ravenii	Presidio manzanita	List 1B.1	FE	CE	G3T1	S1.1	Chaparral, Coastal prairie, Coastal scrub/ serpentine outcrop	Feb-Mar	45-215	Not Present	Project site does not support habitats this species typically inhabits. Site is below the elevation range occupied by the species and no serpentine outcrops are present. Species is known from only one extant native occurrence at the Presidio in San Francisco.[e]	1, 2, 8
Arctostaphylos imbricata	San Bruno Mountain manzanita	List 1B.1	-	CE	G1	S1.2	Chaparral, Coastal scrub/ rocky	Feb-May	275-370	Not Present	Project site does not support habitats this species typically inhabits. Site is below the elevation range occupied by the species. No rocky soils/substrates are present.	1, 2, 8

Table IV.D-1
Special-Status Plants Evaluated for Potential to Occur within the Project Site

Plants												
Scientific Name	**Common Name**	**Sensitivity/Regulatory Status[a]**					**General Habitat**	**Blooming Period**	**Elevation (meters)**	**Potential for Occurrence**	**Discussion of Potential**	**Source[b]**
		Regulatory Status			**CDFG Sensitivity Rank CNDDB**							
		CNPS	**FESA**	**CESA**	**Global**	**State**						
Arctostaphylos montaraensis	Montara manzanita	List 1B.2	-	-	G2	S2.2	Chaparral (maritime), Coastal scrub	Jan-Mar	150-500	Not Present	Project site does not support habitats this species typically inhabits. Site is below the elevation range occupied by the species. Nearest recorded extant CNDDB occurrence is approx. 3.5 mi NE of the site.	1, 2, 6, 8
Arctostaphylos pacifica	Pacific Manzanita	List 1B.1	-	CE	G1	S1.1	Chapaarral (maritime), Coastal scrub	Feb – Apr	330	Not Present	Project site does not support habitats this species typically inhabits. Site is below the elevation range occupied by the species. Known only from San Bruno Mountain.	1, 2, 8
Arctostaphylos regismontana	Kings Mountain manzanita	List 1B.2	-	-	G2	S2.2	Broadleafed upland forest, Chaparral, North Coast coniferous forest/ granitic or sandstone	Jan-Apr	305-730	Not Present	Project site does not support habitats this species typically inhabits. Site is below the elevation range occupied by the species. No granitic or sandstone soils/substrates are present. Nearest recorded extant CNDDB occurrence approx. 3 mi NE of the project site.	1, 2, 6, 8

Table IV.D-1
Special-Status Plants Evaluated for Potential to Occur within the Project Site

Plants												
Scientific Name	**Common Name**	**Sensitivity/Regulatory Status[a]**					**General Habitat**	**Blooming Period**	**Elevation (meters)**	**Potential for Occurrence**	**Discussion of Potential**	**Source[b]**
		Regulatory Status			**CDFG Sensitivity Rank**							
					CNDDB							
		CNPS	**FESA**	**CESA**	**Global**	**State**						
Astragalus pycnostachyus var. pycnostachyus	coastal marsh milk-vetch	List 1B.2	-	-	G2T2	S2.2	Coastal dunes (mesic), Coastal scrub, Marshes and swamps (coastal salt, streamsides)	Apr-Oct	0-30	Moderate	Although this species was not observed during surveys conducted in 2003 on the northern parcel,[f] suitable habitat occurs along the drainage separating the project parcels and the parcels' western boundary in and around Pillar Point Marsh. Nearest recorded CNDDB occurrence is from Pillar Point Marsh; occurrence is from 1902 ,and species was not found during limited surveys of Pillar Point Marsh in 2004; species is presumed extant.	1, 2, 4, 5, 6, 8
Astragalus tener var. tener	alkali milk-vetch	List 1B.2	-	-	G1T1	S1.1	Playas, Valley and foothill grassland (adobe clay), Vernal pools/ alkaline	Mar-Jun	0-60	Low	Although grassland habitat previously occurred on the project site, the site has been in agricultural production since 2003 [d]. Vegetation limited to non-native and cultivated plants. No alkaline soils/substrates are present on the site.	1, 2, 8

Table IV.D-1
Special-Status Plants Evaluated for Potential to Occur within the Project Site

Plants												
Scientific Name	Common Name	Sensitivity/Regulatory Status[a]					General Habitat	Blooming Period	Elevation (meters)	Potential for Occurrence	Discussion of Potential	Source[b]
		Regulatory Status			CDFG Sensitivity Rank / CNDDB							
		CNPS	FESA	CESA	Global	State						
Carex comosa	Bristly sedge	List 2.1	-	-	G5	S2?	Coastal prairie, Marshes and swamps, Valley and foothill grassland	May-Sept	0-625	Moderate	Although grassland habitat previously occurred on the project site, the site has been in agricultural production since 2003 [d]. Vegetation limited to non-native and cultivated plants. Suitable habitat occurs along the drainage separating the project parcels and the parcels' western boundary in and around Pillar Point Marsh. This species was not observed during reconnaissance-level surveys completed in November 1997 in and around Pillar Point Marsh.[g]	1, 7, 8
Centromadia parryi ssp. parryi	pappose tarplant	List 1B.2	-	-	G4T2	S2.2	Chaparral, Coastal prairie, Meadows and seeps, Marshes and swamps (coastal salt), Valley and	May-Nov	2-420	Low	Although suitable habitat occurs along the drainage separating the project parcels and the parcels' western boundary in and around Pillar Point Marsh, no alkaline soil/substrate are present.	1, 2, 8

Table IV.D-1
Special-Status Plants Evaluated for Potential to Occur within the Project Site

Plants												
Scientific Name	**Common Name**	**Sensitivity/Regulatory Status[a]**					**General Habitat**	**Blooming Period**	**Elevation (meters)**	**Potential for Occurrence**	**Discussion of Potential**	**Source[b]**
		Regulatory Status			**CDFG Sensitivity Rank**							
					CNDDB							
		CNPS	**FESA**	**CESA**	**Global**	**State**						
							foothill grassland (vernally mesic)/ often alkaline					
Chorizanthe cuspidata var. cuspidata	San Francisco Bay spineflower	List 1B.2	-	-	G2T2	S2.2	Coastal bluff scrub, Coastal dunes, Coastal prairie, Coastal scrub/ sandy	Apr-Jul (Aug)	3-215	Not Present	Project site does not support habitats this species typically inhabits.	1, 2, 4, 5, 6, 7, 8
Chorizanthe robusta var. robusta	robust spineflower	List 1B.1	FE	-	G2T1	S1.1	Cismontane woodland (openings), Coastal dunes, Coastal scrub/ sandy or gravelly	Apr-Sep	3-300	Not Present	Project site does not support habitats this species typically inhabits. Most populations are extirpated; now known from only six extended occurrences.[e]	1, 2, 5, 6, 7, 8
Cirsium andrewsii	Franciscan thistle	List 1B.2	-	-	G2	S2.2	Broadleafed upland forest, Coastal bluff scrub, Coastal prairie, Coastal scrub/ mesic, sometimes serpentine	Mar-Jul	0-150	Not Present	The project site does not support habitats this species typically inhabits. The nearest recorded extant occurrence in the CNDDB is approximately 4 mi north (N) of the site.	1, 2, 6, 8

Table IV.D-1
Special-Status Plants Evaluated for Potential to Occur within the Project Site

Plants												
Scientific Name	Common Name	Sensitivity/Regulatory Status[a]					General Habitat	Blooming Period	Elevation (meters)	Potential for Occurrence	Discussion of Potential	Source[b]
		Regulatory Status			CDFG Sensitivity Rank / CNDDB							
		CNPS	FESA	CESA	Global	State						
Cirsium fontinale var. fontinale	fountain thistle	List 1B.1	FE	CE	G2T1	S1.1	Chaparral (openings), Cismontane woodland, Valley and foothill grassland/ serpentine seeps	Jun-Oct	90-175	Not Present	Although grassland habitat previously occurred on the project site, the site has been in agricultural production since 2003 [d]. Vegetation limited to non-native and cultivated plants. Site is below the elevation range occupied by the species and no serpentine seeps are present.	1, 2, 8
Cirsium occidentale var. compactum	compact cobwebby thistle	List 1B.2	-	-	G3G4T2	S2.1	Chaparral, Coastal dunes, Coastal prairie, Coastal scrub	Apr-Jun	5-150	Not Present	Project site does not support habitats this species typically inhabits. Species is known from fewer than 20 occurrences[e].	1, 2, 5, 6, 8
Collinsia multicolor	San Francisco collinsia	List 1B.2	-	-	G2	S2.2	Closed-cone coniferous forest, Coastal scrub/ sometimes serpentine	Mar-May	30-250	Not Present	Project site does not support habitats this species typically inhabits. The nearest recorded extant occurrence in the CNDDB is approximately 4 mi NE of the site.	1, 2, 6, 8
Cordylanthus maritimus ssp. palustris	Point Reyes bird's-beak	List 1B.2	-	-	G4?T2	S2.2	Marshes and swamps (coastal salt)	Jun-Oct	0-10	Not Present	Project site does not support habitats this species typically inhabits. The saltwater marsh associated with Pillar	1, 2, 8

Table IV.D-1
Special-Status Plants Evaluated for Potential to Occur within the Project Site

Plants												
Scientific Name	**Common Name**	**Sensitivity/Regulatory Status[a]**					**General Habitat**	**Blooming Period**	**Elevation (meters)**	**Potential for Occurrence**	**Discussion of Potential**	**Source[b]**
		Regulatory Status			**CDFG Sensitivity Rank**							
					CNDDB							
		CNPS	**FESA**	**CESA**	**Global**	**State**						
											Point Marsh is separated from the freshwater marsh along the parcels' western boundary by culverts through the road prism of West Point Avenue. Known occurrences of this species in San Mateo County are probably extirpated.[e]	
Dirca occidentalis	western leatherwood	List 1B.2	-	-	G2G3	S2S3	Broadleafed upland forest, Closed-cone coniferous forest, Chaparral, Cismontane woodland, North Coast coniferous forest, Riparian forest, Riparian woodland/ mesic	Jan-Mar (Apr)	50-395	Low	Although riparian habitat occurs along the drainage separating the project parcels and parcels' western boundary in and around Pillar Point Marsh, the site is below the elevation range occupied by the species. Species was not observed during surveys conducted in 2003 on the northern parcel.[f] The nearest recorded extant occurrence in the CNDDB is approximately 4.5 mi NE of the site.	1, 2, 6, 8
Equisetum palustre	marsh horsetail	List 3	-	-	G5	S1S2	Marshes and swamps	unknown	45-1,000	Moderate	Although the project site is slightly below the	2, 4, 5, 6

Table IV.D-1
Special-Status Plants Evaluated for Potential to Occur within the Project Site

Plants												
Scientific Name	Common Name	Sensitivity/Regulatory Status[a]					General Habitat	Blooming Period	Elevation (meters)	Potential for Occurrence	Discussion of Potential	Source[b]
		Regulatory Status			CDFG Sensitivity Rank CNDDB							
		CNPS	FESA	CESA	Global	State						
											elevation range occupied by this species and this species was not observed during surveys conducted in 2003 on the northern parcel[f], suitable habitat occurs along the drainage separating the project parcels and along the parcels' western boundary in and around Pillar Point Marsh,	
Eriophyllum latilobum	San Mateo woolly sunflower	List 1B.1	FE	CE	G1	S1.1	Cismontane woodland (often serpentine, on roadcuts)	May-Jun	45-150	Not Present	The project site does not support habitats this species typically inhabits. Site is below the elevation range occupied by the species.	1, 2, 3, 8
Fragaria chiloensis[c]	Beach strawberry	-	-	-	-	-	Coastal strand, Coastal bluff scrub		<200	Not Present	Project site does not support habitats this species typically inhabits.	7
Fritillaria biflora var. ineziana	Hillsborough chocolate lily	List 1B.1	-	-	G1QT1Q	S1.1	Cismontane woodland, Valley and foothill grassland/ serpentine	Mar-Apr	150-150	Not Present	Although grassland habitat previously occurred on the project site, the site has been in agricultural production since 2003 [d]. Vegetation limited to non-native and cultivated plants. Site is	1, 2, 6, 8

Table IV.D-1
Special-Status Plants Evaluated for Potential to Occur within the Project Site

Plants												
Scientific Name	Common Name	Sensitivity/Regulatory Status[a]					General Habitat	Blooming Period	Elevation (meters)	Potential for Occurrence	Discussion of Potential	Source[b]
		Regulatory Status			CDFG Sensitivity Rank / CNDDB							
		CNPS	FESA	CESA	Global	State						
											below the elevation range occupied by the species and no serpentine soils/substrates present.	
Fritillaria Lanceolata var. tristulis	Marin checker lily	1B.1	-	-	G5T 1	S1.1	Coastal bluff scrub, Coastal prairie, Coastal scrub	Feb-May	15.-150	Not Present	Project site does not support habitats this species typically inhabits.	2
Fritillaria liliacea	fragrant fritillary	List 1B.2	-	-	G2	S2.2	Cismontane woodland, Coastal prairie, Coastal scrub, Valley and foothill grassland/ often serpentine	Feb-Apr	3-410	Low	Although grassland habitat previously occurred on the project site, the site has been in agricultural production since 2003 [d]. Vegetation limited to non-native and cultivated plants. . Species was not observed during surveys conducted in 2003 on the northern parcel [f]. No serpentine soils/substrates are present. The nearest recorded extant occurrence in the CNDDB is approximately 3.8 mi NE of the site.	1, 2, 4, 5, 6, 7, 8
Gilia capitata ssp. chamissonis	dune gilia	List 1B.1	-	-	G5T2	S2.1	Coastal dunes, Coastal scrub	Apr-Jul	2-200	Not Present	Project site does not support habitats this species typically inhabits.	1, 2, 8

Table IV.D-1
Special-Status Plants Evaluated for Potential to Occur within the Project Site

Plants												
Scientific Name	**Common Name**	**Sensitivity/Regulatory Status[a]**					**General Habitat**	**Blooming Period**	**Elevation (meters)**	**Potential for Occurrence**	**Discussion of Potential**	**Source[b]**
		Regulatory Status			**CDFG Sensitivity Rank**							
					CNDDB							
		CNPS	**FESA**	**CESA**	**Global**	**State**						
Grindelia hirsutula var. maritima	San Francisco gumplant	List 1B.2	-	-	G5T2	S2.1	Coastal bluff scrub, Coastal scrub, Valley and foothill grassland/ sandy or serpentine	Jun-Sep	15-400	Low	Although grassland habitat previously occurred on the project site, the site has been in agricultural production since 2003 [d]. Vegetation limited to non-native and cultivated plants. Species was not observed during surveys conducted in 2003 on the northern parcel.[f] The nearest extant recorded occurrence in the CNDDB is approximately 2.6 mi northwest (NW) of the site.	1, 2, 6, 7, 8
Helianthella castanea	Diablo helianthella	List 1B.2	-	-	G3	S3.2	Broadleafed upland forest, Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland, Valley and foothill grassland	Mar-Jun	60-1,300	Low	Although grassland habitat previously occurred on the project site and riparian habitat occurs along the drainage separating the project parcels, the site is below the elevation range occupied by the species. Species was not observed during surveys conducted in 2003 on the northern parcel.[f]	1, 2, 5, 6, 8

Table IV.D-1
Special-Status Plants Evaluated for Potential to Occur within the Project Site

Plants												
Scientific Name	Common Name	Sensitivity/Regulatory Status[a]					General Habitat	Blooming Period	Elevation (meters)	Potential for Occurrence	Discussion of Potential	Source[b]
		Regulatory Status			CDFG Sensitivity Rank / CNDDB							
		CNPS	FESA	CESA	Global	State						
Hemizonia congesta ssp. Congesta	Seaside tarplant; pale yellow hayfield tarplant	List 1B.2	-	-	G5T2 T3	S2S3	Valley and foothill grassland, sometimes roadside	Apr-Nov	20-560	Not Present	Although grassland habitat previously occurred on the project site, the site has been in agricultural production since 2003 [d]. Vegetation limited to non-native and cultivated plants. Species was not observed during surveys conducted in 2003 on the northern parcel.[f]	
Hesperevax sparsiflora var. brevifolia	short-leaved evax	List 1B.2	-	-	G4T2 T3	S2S3	Coastal bluff scrub (sandy), Coastal dunes	Mar-Jun	0-215	Not Present	Project site does not support habitats this species typically inhabits.	1, 2, 8
Hesperolinon congestum	Marin western flax	List 1B.1	FT	CT	G2	S2.1	Chaparral, Valley and foothill grassland/ serpentine	Apr-Jul	5-370	Not Present	Although grassland habitat previously occurred on the project site, the site has been in agricultural production since 2003 [d]. Vegetation limited to non-native and cultivated plants. No serpentine soils/substrates are present.	1, 2 , 8
Horkelia cuneata ssp. sericea	Kellogg's horkelia	List 1B.1	-	-	G4T1	S1.1	Closed-cone coniferous forest, Chaparral (maritime),	Apr-Sep	10-200	Not Present	The project site does not support habitats this species typically inhabits. The nearest recorded extant occurrence in the	1, 2, 5, 6, 7, 8

Table IV.D-1
Special-Status Plants Evaluated for Potential to Occur within the Project Site

Plants												
Scientific Name	**Common Name**	**Sensitivity/Regulatory Status[a]**					**General Habitat**	**Blooming Period**	**Elevation (meters)**	**Potential for Occurrence**	**Discussion of Potential**	**Source[b]**
		Regulatory Status			**CDFG Sensitivity Rank CNDDB**							
		CNPS	**FESA**	**CESA**	**Global**	**State**						
							Coastal scrub/ sandy or gravelly, openings				CNDDB is approximately 3.9 mi southeast (SE) of the site.	
Layia carnosa	beach layia	1B.1	FE	CE	G2	S2.2	Coastal dunes, Coastal scrub/sandy	Mar-Jul	0-60	Not Present	The project site does not support habitats this species typically inhabits.	2
Horkelia marinensis	Point Reyes horkelia	List 1B.2	-	-	G2	S2.2	Coastal dunes, Coastal prairie, Coastal scrub/sandy	May-Sep	5-350	Not Present	The project site does not support habitats this species typically inhabits.	1, 2, 4, 5, 6, 7, 8
Leptosiphon croceus	coast yellow leptosiphon	List 1B.1	-	-	G1	S1.1	Coastal bluff scrub, Coastal prairie	Apr-May	10-150	Not Present	The project site does not support habitats this species typically inhabits. The nearest recorded extant occurrence in the CNDDB is approximately 2.8 mi NW of the site.	1, 2, 8
Leptosiphon rosaceus	rose leptosiphon	List 1B.1	-	-	G1	S1.1	Coastal bluff scrub	Apr-Jul	0-100	Not Present	The project site does not support habitats this species typically inhabits. The nearest recorded occurrence in the CNDDB is approximately 1.1 mi NW of the site, and this population is possibly extirpated.	1, 2, 8
Lessingia arachnoidea	Crystal Springs	List 1B.2	-	-	G1	S1.2	Cismontane woodland,	Jul-Oct	60-200	Not Present	Although grassland habitat previously	1, 2, 6, 8

Table IV.D-1
Special-Status Plants Evaluated for Potential to Occur within the Project Site

Plants												
Scientific Name	**Common Name**	**Sensitivity/Regulatory Status[a]**					**General Habitat**	**Blooming Period**	**Elevation (meters)**	**Potential for Occurrence**	**Discussion of Potential**	**Source[b]**
		Regulatory Status			**CDFG Sensitivity Rank**							
					CNDDB							
		CNPS	**FESA**	**CESA**	**Global**	**State**						
	lessingia						Coastal scrub, Valley and foothill grassland/ serpentine, often roadsides				occurred on the project site, the site has been in agricultural production since 2003[d]. Vegetation is limited to non-native and cultivated plants. Site is below the elevation range occupied by the species and no serpentine soils/substrates are present.	
Lessingia germanorum	San Francisco lessingia	List 1B.1	FE	CE	G1	S1.1	Coastal scrub (remnant dunes)	(Jun)Aug-Nov	25-90	Not Present	The project site does not support habitats this species typically inhabits.	1, 2, 7, 8
Lessingia hololeuca	woolly-headed lessingia	List 3	-	-	G3	S3	Broadleafed upland forest, Coastal scrub, Lower montane coniferous forest, Valley and foothill grassland/ clay, serpentine	Jun-Oct	15-305	Low	Although grassland habitat previously occurred on the project site, the site has been in agricultural production since 2003[d]. Vegetation is limited to non-native and cultivated plants. No serpentine soils/substrates are present.	2, 7
Lilium maritimum	coast lily	List 1B.1	-	-	G2	S2.1	Broadleafed upland forest, Closed-cone coniferous forest, Coastal	May-Aug	5-335	Low	Although suitable habitat occurs along the drainage separating the project parcels and along the parcels' western boundary	2, 7

Table IV.D-1
Special-Status Plants Evaluated for Potential to Occur within the Project Site

Plants												
Scientific Name	Common Name	Sensitivity/Regulatory Status[a]					General Habitat	Blooming Period	Elevation (meters)	Potential for Occurrence	Discussion of Potential	Source[b]
		Regulatory Status			CDFG Sensitivity Rank CNDDB							
		CNPS	FESA	CESA	Global	State						
							prairie, Coastal scrub, Marshes and swamps (freshwater), North Coast coniferous forest/ sometimes roadside				in and around Pillar Point Marsh., this species was not observed during reconnaissance-level surveys completed in November 1997 in and around Pillar Point Marsh.[g] Additionally, the known occurrences in San Mateo County are probably extirpated[5].	
Lupinus arboreus var. eximius	San Mateo tree lupine	List 3.2	-	-	G2Q	S2.2	Chaparral, Coastal scrub	Apr-Jul	90-550	Not Present	The project site does not support habitats this species typically inhabits.	2, 6, 7
Malacothamnus aboriginum	Indian Valley bush mallow	List 1B.2	-	-	G3	S3.2	Chaparral, Cismontane woodland/ rocky, often in burned areas	Apr-Oct	150-1,700	Not Present	The project site does not support habitats this species typically inhabits. The nearest recorded extant occurrence in the CNDDB is approximately 4 mi NE of the site.	1, 2, 8
Malacothamnus arcuatus	arcuate bush mallow	List 1B.2	-	-	G2Q	S2.2	Chaparral, Cismontane woodland	Apr-Sep	15-355	Not Present	The project site does not support habitats this species typically inhabits.	1, 2, 6, 8
Malacothamnus davidsonii	Davidson's bush mallow	List 1B.2	-	-	G1	S1.1	Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland	Jun-Jan	185-855	Low	Although riparian habitat is present along the drainage separating the project parcels, the site is below the elevation range occupied by the species.	1, 2, 8

Table IV.D-1
Special-Status Plants Evaluated for Potential to Occur within the Project Site

Plants												
Scientific Name	**Common Name**	**Sensitivity/Regulatory Status[a]**					**General Habitat**	**Blooming Period**	**Elevation (meters)**	**Potential for Occurrence**	**Discussion of Potential**	**Source[b]**
		Regulatory Status			**CDFG Sensitivity Rank**							
					CNDDB							
		CNPS	**FESA**	**CESA**	**Global**	**State**						
											The nearest recorded extant occurrence in the CNDDB is approximately 4 mi NE of the site.	
Malacothamnus hallii	Hall's bush mallow	List 1B.2	-	-	G1Q	S1.2	Chaparral, Coastal scrub	May-Sep	10-760	Not Present	The project site does not support habitats this species typically inhabits. The nearest recorded extant occurrence in the CNDDB is approximately 4 mi NE of the site.	1, 2, 8
Pedicularis dudleyi	Dudley's lousewort	List 1B.2	-	CR	G2	S2.2	Chaparral (maritime), Cismontane woodland, North Coast coniferous forest, Valley and foothill grassland	Apr-Jun	60-900	Low	Although grassland habitat previously occurred on the project site, the site has been in agricultural production since 2003[d] and the vegetation where present is limited to predominately non-native and cultivated plants. Additionally, the site is below the elevation range occupied by this species.	2
Pentachaeta bellidiflora	white-rayed pentachaeta	List 1B.1	FE	CE	G1	S1.1	Valley and foothill grassland (often serpentine)	Mar-May	35-620	Not Present	Although grassland habitat previously occurred on the project site, the site has been in agricultural production since 2003[d.] Vegetation is	2, 4, 5, 6

Table IV.D-1
Special-Status Plants Evaluated for Potential to Occur within the Project Site

Plants												
Scientific Name	**Common Name**	**Sensitivity/Regulatory Status[a]**					**General Habitat**	**Blooming Period**	**Elevation (meters)**	**Potential for Occurrence**	**Discussion of Potential**	**Source[b]**
		Regulatory Status			**CDFG Sensitivity Rank**							
					CNDDB							
		CNPS	**FESA**	**CESA**	**Global**	**State**						
											limited to non-native and cultivated plants. Site is below the elevation range occupied by the species and no serpentine soils/substrates are present. This species is only known from one extended occurrence bisected by Highway 280 and one occurrence in the Santa Lucia Mountains.[e]	
Plagiobothrys chorisianus var. chorisianus	Choris' popcorn-flower	List 1B.2	-	-	G3T2Q	S2.2	Chaparral, Coastal prairie, Coastal scrub/ mesic	Mar-Jun	15-160	Not Present	The project site does not support habitats this species typically inhabits.	1, 2, 4, 5, 6, 7, 8
Polemonium carneum	Oregon polemonium	List 2.2	-	-	G4	S1	Coastal prairie, Coastal scrub, Lower montaine coniferous forest	Apr-Sept	0-1830	Not Present	The project site does not support habitats this species typically inhabits.	1, 2
Potentilla hickmanii	Hickman's cinquefoil	List 1B.1	FE	CE	G1	S1.1	Coastal bluff scrub, Closed-cone coniferous forest, Meadows and	Apr-Aug	10-135	Moderate	Suitable habitat occurs along the drainage separating the project parcels and along the parcels' western boundary in and around Pillar Point	1, 2, 3, 4, 5, 6, 7, 8

Table IV.D-1
Special-Status Plants Evaluated for Potential to Occur within the Project Site

Plants												
Scientific Name	**Common Name**	**Sensitivity/Regulatory Status[a]**					**General Habitat**	**Blooming Period**	**Elevation (meters)**	**Potential for Occurrence**	**Discussion of Potential**	**Source[b]**
		Regulatory Status			**CDFG Sensitivity Rank**							
					CNDDB							
		CNPS	**FESA**	**CESA**	**Global**	**State**						
							seeps (vernally mesic), Marshes and swamps (freshwater)				Marsh. This species was not observed during reconnaissance-level surveys completed in November 1997 in and around Pillar Point Marsh,[g] nor was it observed during surveys conducted in 2003 on the northern parcel.[f] The nearest recorded extant occurrence in the CNDDB is approximately 2 mi NW of the site.	
Sanicula maritima	adobe sanicle	List 1B.1	-	CR	G2	S2.2	Chaparral, coastal prairie, meadows and seeps, Valley and foothill grassland/ clay, serpentine	Feb-May	30-240	Low	Although grassland habitat previously occurred on the project site, the site has been in agricultural production since 2003[d]. Vegetation is limited to non-native and cultivated plants. Site is below the elevation range occupied by the species and no serpentine soils/substrates are present. This species not observed during surveys conducted in 2003 on the northern parcel.[f]	1, 5, 6, 8

Table IV.D-1
Special-Status Plants Evaluated for Potential to Occur within the Project Site

Plants												
Scientific Name	Common Name	Sensitivity/Regulatory Status[a]					General Habitat	Blooming Period	Elevation (meters)	Potential for Occurrence	Discussion of Potential	Source[b]
		Regulatory Status			CDFG Sensitivity Rank CNDDB							
		CNPS	FESA	CESA	Global	State						
Silene verecunda ssp. verecunda	San Francisco campion	List 1B.2	-	-	G5T2	S2.2	Coastal bluff scrub, Chaparral, Coastal prairie, Coastal scrub, Valley and foothill grassland/sandy	Mar-Jun (Aug)	30-645	Not Present	Although grassland habitat previously occurred on the project site, the site has been in agricultural production since 2003[d]. Vegetation is limited to non-native and cultivated plants. Additionally, no sandy soils/substrates are present.	1, 2, 4, 5, 6, 7, 8
Suaeda californica	California seablite	List 1B.1	FE	-	G1	S1.1	Marshes and swamps (coastal salt)	Jul-Oct	0-15	Not Present	The project site does not support habitats this species typically inhabits. The saltwater marsh associated with Pillar Point Marsh is separated from the freshwater marsh along the parcels' western boundary by culverts through the road prism of West Point Avenue.	1
Trifolium depauperatum var. hydrophilum	saline clover	List 1B.2	-	-	G5T2?	S2.2?	Marshes and swamps, Valley and foothill grassland (mesic, alkaline),	Apr-Jun	0-300	Not Present	Although grassland habitat previously occurred on the project site, the site has been in agricultural production since 2003[d]. Vegetation is limited to non-native and	1

Table IV.D-1
Special-Status Plants Evaluated for Potential to Occur within the Project Site

Plants												
Scientific Name	**Common Name**	**Sensitivity/Regulatory Status[a]**					**General Habitat**	**Blooming Period**	**Elevation (meters)**	**Potential for Occurrence**	**Discussion of Potential**	**Source[b]**
		Regulatory Status			**CDFG Sensitivity Rank**							
					CNDDB							
		CNPS	**FESA**	**CESA**	**Global**	**State**						
							Vernal pools				cultivated plants. No alkaline soils/substrates are present on the site.	
Triphysaria floribunda	San Francisco owl's clover	List 1B.2	-	-	G2	S2.2	Coastal prairie, Coastal scrub, Valley and foothill grassland/ usually serpentine	Apr-Jun	10-160	Low	Although grassland habitat previously occurred on the project site, the site has been in agricultural production since 2003[d] and the vegetation where present is limited to predominately non-native and cultivated plants. Additionally, no serpentine soils/substrates are present on the site.	1, 4, 5, 6, 7, 8
Triquetrella californica	coastal triquetrella	1B.2	-	-	G1	S1.2	Coastal bluff scrub, Coastal scrub	Unknown	10-100	Not Present	The project site does not support habitats this species typically inhabits.	1
Usrea longissima	long beard lichen	-	-	-	G4	S4.2	North coast coniferous forest, Broadleafed upland forest	Unknown	0-2000	Not Present	The project site does not support habitats this species typically inhabits. No recent reports south of Sonoma.	1
Northern Coastal Salt Marsh		-	-	-	G3	S3.2	Brackish and Freshwater Marsh	-	-	Moderate	Occurrence recorded in project vicinity. Suitable habitat available in Pillar Point Marsh. Check Preserve report for location	1, 7

Table IV.D-1
Special-Status Plants Evaluated for Potential to Occur within the Project Site

Plants												
Scientific Name	**Common Name**	**Sensitivity/Regulatory Status[a]**					**General Habitat**	**Blooming Period**	**Elevation (meters)**	**Potential for Occurrence**	**Discussion of Potential**	**Source[b]**
		Regulatory Status			**CDFG Sensitivity Rank**							
					CNDDB							
		CNPS	**FESA**	**CESA**	**Global**	**State**						
Northern Maritime Chaparral	-	-	-	-	G1	S1.2	Chaparral	-	-	Not Present	No suitable habitat occurs onsite or on neighboring Pillar Point Marsh. Only know local occurrence on Montara Mountain and Whiting Ridge at elevations above 1,000 ft.	1
Serpentine Bunchgrass	-	-	-	-	G2	S2.2	Serpentine Soils	-	-	Not Present	No suitable habitat occurs onsite or on neighboring Pillar Point Marsh. Only known local occurrence on Montara Mountain at an elevation of 500 ft.	1
Valley Needlegrass Grassland	-	-	-	-	G1	S3.1	Native Grassland	-	-	Not Present	Although grassland habitat previously occurred on the project site, the site has been in agricultural production since 2003[d] and the vegetation where present is limited to predominately non-native and cultivated plants. Only known local occurrence on Sawyer Ridge at an elevation of 1,000 ft.	1
Riparian Corridors[c]	(Per designation as a	-	-	-	-	-	The limit of riparian vegetation (at	-	-	Present	Riparian vegetation and its corresponding corridor occurs onsite along the	7

Table IV.D-1
Special-Status Plants Evaluated for Potential to Occur within the Project Site

Plants												
Scientific Name	Common Name	Sensitivity/Regulatory Status[a]					General Habitat	Blooming Period	Elevation (meters)	Potential for Occurrence	Discussion of Potential	Source[b]
		Regulatory Status			CDFG Sensitivity Rank / CNDDB							
		CNPS	FESA	CESA	Global	State						
	Sensitive Habitat in the San Mateo County LCP)						least 50% cover) normally found near streams, lakes and other bodies of freshwater: red alder, jaumea, pickleweed, big leaf maple, narrow-leaf cattail, arroyo willow, broadleaf cattail, horsetail, creek dogwood, black cottonwood, and box elder.				drainage that separates the northern and southern project parcels. The drainage is directly confluent to Pillar Point Marsh.	

[a] *Sensitivity/Regulatory Status Codes:*
FESA: Federal Endangered Species Act of 1972, as amended
FE = Federally listed as Endangered; FT = Federally listed as Threatened; FD = Federally delisted (monitored for 5 years)
CESA: California Endangered Species Act
CE = State listed as Endangered; CT = State listed as Threatened; CR = State listed as Rare
CNDDB: California Natural Diversity Database

Table IV.D-1
Special-Status Plants Evaluated for Potential to Occur within the Project Site

Plants												
Scientific Name	Common Name	Sensitivity/Regulatory Status[a]					General Habitat	Blooming Period	Elevation (meters)	Potential for Occurrence	Discussion of Potential	Source[b]
		Regulatory Status			CDFG Sensitivity Rank / CNDDB							
		CNPS	FESA	CESA	Global	State						

G1/S1 = Extremely endangered: less than 6 viable element occurrences (EOs) OR less than 1,000 individuals OR less than 2,000 acres; G2/S2 = Endangered: 6-20 EOs OR 1,000-3,000 individuals OR 2,000-10,000 acres; G3/S3 = Restricted range, rare: 21-80 EOs OR 3,000-10,000 individuals OR 10,000-50,000 acres; G4/S4 = Apparently secure; some factors exist to cause some concern such as narrow habitat or continued threats; G5/S5 = Demonstrably secure; commonly found throughout its historic range; GnTn = Subspecies receive a T-rank attached to the G-rank, Grank reflects the condition of the entire species and T-rank reflects the global situation of just the subspecies; GH/SH = All sites historical, the element has not been seen for at least 20 year, but suitable habitat exists; GX/SX = All site extirpated, this element is extinct in the wild (0.1 = very threatened, 0.2 = threatened, 0.3 = no current threats known)
CNPS: California Native Plant Society
List 1B = Plants listed as rare, threatened, or endangered in California and elsewhere; List 2 = Plantsrare, threatened, or endangered in California, but more common elsewhere; List 3 = Plants about which more information is needed; List 4 = Limited distribution (.1 = Seriously endangered in California [>80% of occurrences threatened/high degreee of immediacy of threat]; .2 = Fairly endangered in California [20-80% occurrences threatened]; .3 Not very endangered in California [<20% of occurrences threatened or no current threats known]).

[b] Source: 1 = Search of the California Natural Diversity Database (Biogeographic Data Branch, California Department of Fish and Game 2009) occurrences within a five mile radius of project site; 2 = Search of the California Native Plant Society's On-line Inventory (CNPS 2009) of the Montara Mountain (448C) USGS 7.5-Minute Quad and the five surrounding quads; 3 = Review of the U.S. Fish and Wildlife Service Sacramento Office's list of Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Montara Mountain (448C) USGS 7.5-Minute Quad; 4 = Review of the San Mateo County Biological Impact Report, Big Wave Development Site, Princeton, San Mateo County, California prepared by Wetlands Research Associates, Inc. in 2001; 5 = Review of the Biological Impact Report, Big Wave Development Site, Princeton, San Mateo County, California prepared by Wetlands Research Associates, Inc. in 2003; 6 = Review of the San Mateo County Rare Plant Report, Big Wave Development Site, Princeton, San Mateo County, California prepared by Wetlands Research Associates, Inc. in 2004; 7 = Review of Fitzgerald Marine Reserve Master Plan, Part Two: Environmental Setting - Draft prepared by Brady/LSA in 2002. 8= Review of the Biological Resources of the Proposed Big Wave Wellness Center and Office Park Project Site, San Mateo County,California, prepared by WSP Ecosystem Science & Restoration in 2008.

[c] Recognized by the Local Coastal Commission Program (a locally unique species).

[d] Peck, Jeff. Peninsula Builders, Inc. San Francisco, CA. January 3, 2007 - email to Aindrea Jensen.

[e] California Native Plant Society. 2009. Inventory of Rare and Endangered Plants (online edition, v7-07a). California Native Plant Society, Sacramento. Accessed on May 4, 2009, from http://cnps.org/inventory.

[f] Wetland Research Associates, Inc. (WRA). 2004. San Mateo County Rare Plant Report, Big Wave Development Site, Princeton, San Mateo County, California.

[g] Brady/LSA. 2002. Fitzgerald Marine Reserve Master Plan, Part Two: Environmental Setting - Draft.

Table IV.D-2
Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site

Wildlife										
Scientific Name	Common Name	Sensitivity/Regulatory Status[a]					General Habitat	Potential for Occurrence	Discussion of Potential	Source[b]
		Regulatory Status			CDFG Sensitivity Rank					
		CDFG	FESA	CESA	CNDDB					
					Global	State				
Invertebrates										
Banksula incredula	Incredible harvestman	-	-	-	G1	S1	Restricted to the type locality, on the north slope of San Bruno Mountain ridge, just south of San Franscisco. The type locality site is a trailside talus slope consisting of Franciscan sandstone with a dense chaparral canopy. Apparently the talus slope was artificially formed during construction of a pipeline several decades ago. No Banksula were collected along other sections of the pipeline where talus was present. Last seen 1992.	Not Present	The project site does not support habitat this species typically inhabits.	1
Caecidotea tomalensis	Tomales isopod	-	-	-	G2	S2	Inhabits localized fresh-water ponds or streams with still or near-still water in several bay area counties. Occurs in water among cattails. Last seen 1984.	Not Present	The project site does not support suitable aquatic habitat for this species.	1
Calicina minor	Edgewood blilnd harvestman	-	-	-	G1	S1	Open grassland in areas of serpentine bedrock. Found on the underside of moist serpentine rocks near	Not Present	The project site does not support habitat this species typically inhabits such as	1

Table IV.D-2
Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site

Wildlife										
Scientific Name	Common Name	Sensitivity/Regulatory Status[a]					General Habitat	Potential for Occurrence	Discussion of Potential	Source[b]
		Regulatory Status			CDFG Sensitivity Rank					
		CDFG	FESA	CESA	CNDDB					
					Global	State				
							permanent springs. Recorded occurrences were at elevations above 400 ft.		serpentine soils/rocks. Site is below elevation range where species is know to occur.	
Callophrys mossii bayensis	San Bruno elfin butterfly	-	FE	-	G4 T1	S1	Coastal mountains near San Francisco Bay, in the fog-belt of steep north facing slopes that receive little direct sunlight. Found near prolific growths of the larval food plant, stonecrop (Sedum spathulifolium), which is a low growning succulant. Stonecrop is associated with rocky outcrops that occur at 900 to 1,075 foot elevation. Adult food plants not fully determined; Montara Mountain colonies are suspected to use Montara Mountain manzanita (Arctostaphylos montaraensis) and huckleberry (Vaccinium ovatum).	Not Present	The project site does not support habitat this species typically inhabits. The site does not support this species larval food plant and it is below the elevation range occupied by the species.	1, 3, 4, 5, 8
Cicindela hirticollis gravida	Sandy beach tiger beetle	-	-	-	G5T2	S1	Inhabits areas adjacent to non-brackish water along the coast of California from	Not Present	The project site does not support habitat this species typically	1

Table IV.D-2
Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site

Wildlife										
Scientific Name	Common Name	Sensitivity/Regulatory Status[a]					General Habitat	Potential for Occurrence	Discussion of Potential	Source[b]
		Regulatory Status			CDFG Sensitivity Rank					
		CDFG	FESA	CESA	CNDDB					
					Global	State				
							San Francisco Bay to Northern Mexico. Clean, dry, light-colored sand in the upper zone. Subterranean larvae prefer moist sand not affected by wave action. Last seen 1922.		inhabits such as fresh, non-brackish water and sandy soils.	
Danaus plexippus	Monarch butterfly	-	-	-	G5	S3	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	Low	Although the species was observed on November 20, 2001 in tall pines at Pillar Point Marsh, the project site does not support habitat this species typically inhabits/requires.	1, 3, 7
Dufourea stagei	Stage's dufourine bee	-	-	-	G1?	S1?	Restricted range; San Bruno Mountain, south to Santa Cruz Mountains. Species is a ground-nesting bee. Last recorded occurrence in 1962 on San Bruno Mountain at 700ft. elevation. Habitat requirements unknown.	Not Present	Due to active agricultural nature of the site, ground nesters are discouraged. Site occurs well below elevations typical for the species. Habitat types found on San Bruno Mountain are not found on the project site.	1

Table IV.D-2
Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site

Wildlife										
Scientific Name	Common Name	Sensitivity/Regulatory Status[a]					General Habitat	Potential for Occurrence	Discussion of Potential	Source[b]
		Regulatory Status			CDFG Sensitivity Rank					
		CDFG	FESA	CESA	CNDDB					
					Global	State				
Euphydryas editha bayensis	Bay checkerspot butterfly	FT	-	-	G5T1	S1	Restricted to native grasslands on outcrops of serpentine soil in the vicinity of San Francisco Bay. Plantago erecta is the primary host plant; orthocarpus sinsiglorus & o. Purpurscens are the secondary host plants.	Not Present	The project site does not support habitat this species typically inhabits (e.g. grassland and serpentine soils). The site does not support this species host food plants and it is below the elevation range occupied by the species.	1, 8
Hydrochara ricksecheri	Richsecher's water scavenger beetle	-	-	-	G1G2	S1S2	Aquatic. Known only from pond habitats scattered around the San Francisco Bay Area. Last seen 1954. Presumed extant.	Not Present	The project site does not support habitat this species typically inhabits.	1
Hydroporus leechi	Leech's skyline diving beetle	-	-	-	G1?	S1?	Aquatic. Last recorded occurrence elevation 680ft	Not Present	This site does not support the habitat this species typically inhabits and is below the elevation range occupied by the species.	1
Icaricia icarioides missionensis (Plebejus icariouides missionensis)	mission blue butterfly	-	FE	-	G5T1	S1	Majority of remaining colonies are found on San Bruno Mountain, San Mateo County. Colonies are lcoated at sites ranging from 690 to 1,180-feet	Low	The project site does not support habitat this species typically inhabits. The site does not support this species larval food	1, 3, 4, 5, 7, 8

Table IV.D-2
Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site

Wildlife										
Scientific Name	Common Name	Sensitivity/Regulatory Status[a]					General Habitat	Potential for Occurrence	Discussion of Potential	Source[b]
		Regulatory Status			CDFG Sensitivity Rank					
		CDFG	FESA	CESA	CNDDB					
					Global	State				
							elevation. Coastal chaparral and coastal grasslands dominate the vegetation type where colonies area found. Adults do not wander far from lupine (Lupinus albifrons, L. formosus, and L. variicolor), the larval food plant. Adults feed on golden aster (Chrysopsis villosa), bluedicks (Brodiaea pulchella). Ithuriel's spear (Brodiaea laxa), and coast buckwheat (Eriogonum latifolium).		plant and it is below the elevation range occupied by the species. However, Lupinus variicolor does occur within Northern Coastal Bluff Scrub communities on the Fitgerald Marine Reserve property and has the potential to support the species.	
Ischnura gemina	San Francisco forktail damselfly	-	-	-	G2	S2	Endemic to the San Francisco Bay Area. Small, marshy ponds and ditches with emergent and floating aquatic vegetation.	Low	Although suitable habitat occurs along the drainage separating the project parcels and along the parcels' western boundary in and around Pillar Point Marsh. This species was not observed during reconnaissance-level surveys completed in November 1997 in	1

Table IV.D-2
Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site

Wildlife										
Scientific Name	Common Name	Sensitivity/Regulatory Status[a]					General Habitat	Potential for Occurrence	Discussion of Potential	Source[b]
		Regulatory Status			CDFG Sensitivity Rank					
		CDFG	FESA	CESA	CNDDB Global	CNDDB State				
									and around Pillar Point Marsh,[g] nor was it observed during surveys conducted in 2003 on the northern parcel.[f] The nearest recorded extant occurrence in the CNDDB is approximately 20mi NE of the site.	
Lichnanthe ursina	bumblebee scarab beetle	-	-	-	G2	S2	Inhabits coastal sand dunes from Sonoma County south to San Mateo County. Usually flies close to sand surface near the crest of the dunes.	Not Present	The project site does not support habitat this species typically inhabits.	1, 4, 5, 7
Microcina edgewoodensis	Edgewood Park micro-blind harvestman	-	-	-	G1G3	S1	Open grassland in xeric environments. Found beneath serpentine rocks in grassland adjacent to scrub oaks.	Not Present	The project site does not support habitat this species typically inhabits.	1
Nothochrysa californica	San Francisco lacewing	-	-	-	G1G3	SS1S3	Habitat requirements unknown. Last seen 1959 in San Mateo.	Not Present	The species was not observed during any of the onsite surveys or surveys in Pillar Point Marsh.	1, 7
Speyeria callippe callippe	Callippee silverspot butterfly	FE	-	-	G5T1	S1	Restricted to the northern coastal scrub of the San Francisco Penninsula. Host	Not Present	The project site does not support habitat this species typically	1

Table IV.D-2
Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site

Wildlife										
Scientific Name	Common Name	Sensitivity/Regulatory Status[a]					General Habitat	Potential for Occurrence	Discussion of Potential	Source[b]
		Regulatory Status			CDFG Sensitivity Rank					
		CDFG	FESA	CESA	CNDDB					
					Global	State				
							plant is viola pedunculata. Most adults found on E-facing slopes; males congregate on hilltops in search of females. CNDDB occurrences documented on San Bruno Mountain above 400ft. elevation.		inhabits. The site does not support this species host food plant and it is below the elevation range occupied by the species.	
Speyeria zerene myrtleae	Myrtle's silverspot butterfly	-	FE	-	G5T1	S1	Coastal dune or prairie habitat. Populations were formerly found in dunes and bluffs from San Mateo County north to the mouth of the Russian River in Sonoma County. Populations south of the Golden Gate apparently have been extirpated by urban development. Four populations are known to inhabit coastal terrace prairie, coastal bluff scrub, and associated non-native habitats in western Marin County and southwestern Sonoma County. Adults typically found in areas that are sheltered from the wind, below 820 feet elevation, and within 3	Not Present	Although the project site is within 3 miles of the coast, the site does not support habitat this species typically inhabits.	1, 3, 7

Table IV.D-2
Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site

Wildlife										
Scientific Name	Common Name	Sensitivity/Regulatory Status[a]					General Habitat	Potential for Occurrence	Discussion of Potential	Source[b]
		Regulatory Status			CDFG Sensitivity Rank					
		CDFG	FESA	CESA	CNDDB					
					Global	State				
							miles of the coast.			
Trachusa gummifera	A leaf-cutter bee	-	-	-	G1	S1	Habitat requirements unknown. Last seen 1957 in San Francisco.	Not Present	The species was not observed during any of the onsite surveys or surveys in Pillar Point Marsh.	1
Tryonia imitator[c]	brackish water snail	-	-	-	G2G3	S2S3	Brackish salt marshes.	Not Present	The project site does not support habitat this species typically inhabits.	1, 7
Fishes										
Eucyclogobius newberryi	tidewater goby	CSC	FE	-	G3	S2S3	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego Co. to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels. Prefer a sand substrate component for breeding, but also found on rocky, mud, and silt substrates as well. Found in waters with salinity levels from 0 to 42 ppt, temperature levels from 8 to 25 degrees Celsius, and water depths	Not Present	The project site does not support suitable aquatic habitat for this species.	1, 3, 7, 8

Table IV.D-2
Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site

Wildlife										
Scientific Name	Common Name	Sensitivity/Regulatory Status[a]					General Habitat	Potential for Occurrence	Discussion of Potential	Source[b]
		Regulatory Status			CDFG Sensitivity Rank					
		CDFG	FESA	CESA	CNDDB					
					Global	State				
							from 25 to 200 centimeters.			
Hypomesus transpacificus	delta smelt	-	FT	CT	G1	S1	Suisun Bay upstream through the Delta in Contra Costa, Sacramento, San Joaquin, Solano, and Yolo counties. Delta smelt seldom found at salinities > 10 ppt. Most often at salinities < 2 ppt.	Not Present	The project site is outside of the delta smelt's distribution (delta smelt are endemic to the upper San Francisco Estuary) and it does not support habitat this species typically inhabits.	3
Oncorhynchus kisutch	coho salmon - Central California coast ESU	CSC	FE	CE[d]	G4	S2?	Naturally spawned populations from Punta Gorda in northern California south to and including the San Lorenzo River in central California, as well as populations in tributaries to San Francisco Bay, excluding the Sacramento-San Joaquin River system, as well as four artificial propagation programs: the Don Clausen fish Hatchery Captive Broodstock Program, Scott Creek/King Fisher Flats Conservation Program, Scott Creek Captive Broodstock Program, and	Not Present	The project site does not support suitable aquatic habitat for this species	3, 7

Table IV.D-2
Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site

Wildlife										
Scientific Name	Common Name	Sensitivity/Regulatory Status[a]					General Habitat	Potential for Occurrence	Discussion of Potential	Source[b]
		Regulatory Status			CDFG Sensitivity Rank					
		CDFG	FESA	CESA	CNDDB					
					Global	State				
							the Noyo River Fish Station Egg-Take Program. Spawn in cool, clear streams featuring suitable gravel size, depth, and current velocity. Streamside vegetation and cover area essential for steelhead fry survival.			
Oncorhynchus mykiss	steelhead - Central Valley	-	FT	-	G5T2Q	S2	Naturally spawned populations below natural and manmade impassable barriers in the Sacramento and San Joaquin Rivers and their tributaries, excluding steelhead from San Francisco and San Pablo Bays and their tributaries, as well as two articial propagation programs: the Coleman NFH and Feather River Hatchery Steelhead Program. Spawn in cool, clear streams featuring suitable gravel size, depth, and current velocity. Streamside vegetation and cover area essential for steelhead fry survival.	Not Present	The project site is outside of the Central Valley steelhead's distribution and it does not support habitat this species typically inhabits.	3
Oncorhynchus	steelhead -	-	FT	-	G5T2Q	S2	Naturally spawned	Not Present	The project site does	1, 3, 5, 8

Table IV.D-2
Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site

Wildlife										
Scientific Name	Common Name	Sensitivity/Regulatory Status[a]					General Habitat	Potential for Occurrence	Discussion of Potential	Source[b]
		Regulatory Status			CDFG Sensitivity Rank					
		CDFG	FESA	CESA	CNDDB					
					Global	State				
mykiss irideus	Central California coast ESU						populations below natural and manmade impassable barriers in California streams from the Russian River (inclusive) to Aptos Creek (inclusive), and the drainages of San Francisco, San Pablo, and Suisun Bays eastward to Chipps Island at the confluence of the Sacramento and San Joaquin Rivers; tributary streams to Suisun Marsh including Suisun Creek, Green Valley Creek, and an unnamed tributary to Cordelia Slough (commonly referred to as Red Top Creek), excluding the Sacramento-San Joaquin River Basin, as well as two artificial propagation programs: the Don Clausen Fish Hatchery, and Kingfisher Flat Hatchery/ Scott Creek (Monterey Bay Salmon and Trout Project) Steelhead Program. Spawn in cool, clear streams featuring		not support suitable aquatic habitat for this species	

Table IV.D-2
Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site

Wildlife										
Scientific Name	Common Name	Sensitivity/Regulatory Status[a]					General Habitat	Potential for Occurrence	Discussion of Potential	Source[b]
		Regulatory Status			CDFG Sensitivity Rank					
		CDFG	FESA	CESA	CNDDB					
					Global	State				
							suitable gravel size, depth, and current velocity. Streamside vegetation and cover area essential for steelhead fry survival.			
Amphibians										
Ambystoma californiense	California tiger salamander	CSC	FT	Candidate Endangered	G2G3	S2S3	Need underground refuges,especially ground squirrel burrows and vernal pools or other seasonal water sources for breeding. Prime habitat in California is annual grassland, but seasonal ponds or vernal pools are crucial to breeding. Permanent ponds or reservoirs are sometimes used as well; streams are rarely used for reproduction.	Low	The project site does not support suitable habitat for the California tiger salalmander (CTS); This species is known from vernal pool habitats in Sonoma and Santa Barbara counties as well as the Central Valley. The closest CNDDB occurrence on record is from 1962 near Woodside, approximately 21 miles to the SW. Pillar Point Marsh could potentially provide suitable CTS habitat, however, there are no known occurrences in Pillar Point Marsh to date.	1, 8

Table IV.D-2
Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site

Wildlife										
Scientific Name	Common Name	Sensitivity/Regulatory Status[a]					General Habitat	Potential for Occurrence	Discussion of Potential	Source[b]
		Regulatory Status			CDFG Sensitivity Rank					
		CDFG	FESA	CESA	CNDDB					
					Global	State				
Rana aurora draytonii	California red-legged frog	CSC	FT	-	G4T2T3	S2S3	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to aestivation habitat.	Likely	Two occurrences of California red-legged frog (CRLF) are recorded within 1 mi of the project site. The nearest occurrence is within Pillar Point Marsh, south of West Point Road. The other occurrence is along Denniston Creek. Although suitable breeding habitat is not present on the site, CRLF may use the site for foraging or dispersing.	1, 3, 4, 5, 7, 8
Reptiles										
Actinemys marmorata	western pond turtle	CSC	-	-	G3G4	S3	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation. Need basking sites (partially submerged logs, rocks, mats of floating vegetation, or open mud banks) and suitable (sandy banks or grassy open fields) upland habitat for	Moderate	The project site does not support suitable aquatic habitat for western pond turtle (WPT); however, Pillar Point Marsh supports suitable habitat for turtles.[e] If present within Pillar Point Marsh, turtles could use the site for	1, 4, 5, 7, 8

Table IV.D-2
Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site

Wildlife										
Scientific Name	Common Name	Sensitivity/Regulatory Status[a]					General Habitat	Potential for Occurrence	Discussion of Potential	Source[b]
		Regulatory Status			CDFG Sensitivity Rank					
		CDFG	FESA	CESA	CNDDB					
					Global	State				
							egg-laying. Females move up to 100m in the spring for nesting. Home range is normally quite restricted where adequate aquatic habitat exists.		nesting, WPT can move considerable distances from aquatic habitats for nesting.[f]	
Thamnophis sirtalis tetrataenis	San Francisco garter snake	FP	FE	CE	G5T2	S2	Prefers densely vegetated ponds near open hillsides where snakes can sun themselves, feed, and find cover in rodent burrows. Temporary ponds and other seasonal freshwater bodies are also used. Snakes avoid brackish marsh areas because their preferred prey (California red-legged frogs) cannot survive in saline water. Emergent and bankside vegetation such as cattails (Typha spp.), bulrushes (Scirpus spp.), and spike rushes (Juncus spp. and Eleocharis spp.) apparently are preferred and used for cover. The area between stream and pond habitats and grasslands or bank sides is used for basking, while	Likely	Although San Francisco garter snake were not found during extensive searches of Pillar Point Marsh during the 1970s[g,] suitable habitat occurs along the drainage separating the project parcels and along the parcels' western boundary. Additionally, there is a known occurrence of the garter snake along Denniston Creek[h].	1, 3, 4, 5, 7, 8

Table IV.D-2
Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site

Wildlife										
Scientific Name	Common Name	Sensitivity/Regulatory Status[a]					General Habitat	Potential for Occurrence	Discussion of Potential	Source[b]
		Regulatory Status			CDFG Sensitivity Rank					
		CDFG	FESA	CESA	CNDDB					
					Global	State				
							nearby dense vegetation or water often provide escape cover.			
Birds										
Athene cunicularia	Burrowing owl	CSC	-	-	G4	S2	Open, dry annual or perennial grasslands, deserts & scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Low	Although grassland habitat previously occurred on the project site, the site has been in agricultural production since 2003[d] Burrowing owl is a yearlong resident of California[i], and occurrence of this species in San Mateo County is rare in the fall and winter and rare and restricted to a small portion of the county or to a few locations in the spring and summer[j]. The project site does not support suitable nesting habitat for this species; no burrowing mammals currently inhabit the site. The site does	1

Table IV.D-2
Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site

Wildlife										
Scientific Name	Common Name	Sensitivity/Regulatory Status[a]					General Habitat	Potential for Occurrence	Discussion of Potential	Source[b]
		Regulatory Status			CDFG Sensitivity Rank					
		CDFG	FESA	CESA	CNDDB					
					Global	State				
									support suitable foraging habitat.	
Brachyramphus marmoratus	marbled murrelet	-	FT (nesting)	CE (nesting)	G3G4	S1	Feeds near-shore; nests inland along coast from Eureka to Oregon Boarder and from Half Moon Bay to Santa Cruz. Generally nests in old-growth forests, characterized by large trees, multiple canopy layers, and moderate to high canopy closure. In California, nests are typically found in coastal redwood and Douglas-fir forest. Forest are located close enough to the marine environment for the birds to fly to and from nest sites.	Not Present	The project site does not support habitat this species typically inhabits.	3
Charadrius alexandrinus nivosus	western snowy plover	CSC (nesting)	FT	-	G4T3	S2	Pacific coast population breeds primarily on coastal beaches from southern Washington to southern Baja California, Mexico. Breeds primarily above the high tide line on coastal beaches, sand spits, dune-backed beaches, sparsely-vegetated dunes, beaches at creek and river mouths, and	Not Present	The project site does not support habitat this species typically inhabits.	1, 3, 7, 8

Table IV.D-2
Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site

Wildlife										
Scientific Name	Common Name	Sensitivity/Regulatory Status[a]					General Habitat	Potential for Occurrence	Discussion of Potential	Source[b]
		Regulatory Status			CDFG Sensitivity Rank					
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					Global	State				
							salt pans at lagoons and estuaries. In winter, found on many of the beaches used for nesting as well as on beaches where they do not nest, in man-made salt ponds, and on estuarine sand and mud flats.			
Circus cyaneus	northern harrier	CSC (nesting)	-	-	G5	S3	Marshes, meadows, grasslands, and cultivated fields. Perches on ground or on stumps or posts. Nests on the ground, commonly near low shrubs, in tall weeds or reeds, sometimes in bog; or on top of low bush above water, or on knoll of dry ground, or on higher shrubby ground near water, or on dry marsh vegetation.	Present	Occurrence of northern harrier in San Mateo County is uncommon in the fall, winter, and spring, and uncommon and restricted to a small portion of the county or to a few locations in the summer[j]. Although the project site does not support suitable nesting habitat, the site does support suitable foraging habitat. Additionally, this species was observed during surveys conducted in 2003 on the northern parcel[l]. Suitable foraging and	4, 5, 7

Table IV.D-2
Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site

Wildlife										
Scientific Name	Common Name	Sensitivity/Regulatory Status[a]					General Habitat	Potential for Occurrence	Discussion of Potential	Source[b]
		Regulatory Status			CDFG Sensitivity Rank					
		CDFG	FESA	CESA	CNDDB					
					Global	State				
									nesting habitat occurs along the drainage separating the project parcels and the parcels' western boundary in and around Pillar Point Marsh. Northern harrier is also known to occur in Pillar Point Marsh[e].	
Diomedea albatrus	Short-tailed albatross	FP	FE	-	G1	S1	Short-tailed albatrosses require remote islands for breeding habitat. They next in open, treeless areas with low, or no, vegetation. The species also requires nutrient-rich areas of ocean upwelling for their foraging habitat.	Not Present	The project site does not support habitat this species commonly inhabits. Known to occur in Mendocino, Del Norte and Humbolt counties. Only two known breeding colonies in the Isu Shoto and Ryukyu Islands.	3
Elanus leucurus	white-tailed kite	FP (nesting)	-	-	G5	S3	Savanna, open woodland, marshes, partially cleared lands and cultivated fields, mostly in lowland situations. Nests in trees, often near a marsh, usually 6-15 meters above the	Present	White-tailed kite is a common to uncommon yearlong resident of California[i], and occurrence of this species in San Mateo	4, 5

Table IV.D-2
Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site

Wildlife										
Scientific Name	Common Name	Sensitivity/Regulatory Status[a]					General Habitat	Potential for Occurrence	Discussion of Potential	Source[b]
		Regulatory Status			CDFG Sensitivity Rank					
		CDFG	FESA	CESA	CNDDB					
					Global	State				
							ground in branches near the top of a tree.		County is uncommon[j]. Although the project site does not support suitable nesting habitat for this species, the site does support suitable foraging habitat. Additionally, this species was observed during surveys conducted in 2003 on the northern parcel[l]. Suitable foraging and nesting habitat occurs along the drainage separating the project parcels and the parcels' western boundary in and around Pillar Point Marsh. White tailed is also known to occur in Pillar Point Marsh[e]; this species observed perched and foraging over Pillar Point Marsh during surveys conducted in	

Table IV.D-2
Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site

Wildlife										
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		Regulatory Status			CDFG Sensitivity Rank					
		CDFG	FESA	CESA	CNDDB					
					Global	State				
									2007[m].	
Falco columbarius	Merlin	CSC (wintering)	-	-	G5	S3	A wide variety of habitats including marshes, deserts, seacoast, near coastal lakes and lagoons, open woodlands, fields, etc. May roost in conifers in winter.	Low	Merlin is an uncommon winter migrant of California[h], and occurrence of this species in San Mateo County is rare. The project site supports limited foraging habitat for this species; Merlin frequents shorelines in winter and catches shorebirds (this species feeds primarily on small birds)[h].	1, 7
Falco peregrinus anatum	American peregrine falcon	Delisted	FD	CE (nesting)	G4T3	S2	Various open habitats from tundra, moorlands, steppe, and seacoast, especially where there are suitable nesting cliffs, to mountains, open forested regions, and human population centers. When not breeding, occurs in areas where prey (primarily birds from medium-sized passerines up to small waterfowl)	Low	Peregrine falcon is an uncommon migrant along the coast of California[h], and occurrence of this species in San Mateo County is rare[i.] The project site does not support suitable nesting habitat and supports limited foraging habitat for	1, 7, 8

Table IV.D-2
Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site

Wildlife										
Scientific Name	Common Name	Sensitivity/Regulatory Status[a]					General Habitat	Potential for Occurrence	Discussion of Potential	Source[b]
		Regulatory Status			CDFG Sensitivity Rank					
		CDFG	FESA	CESA	CNDDB Global	CNDDB State				
							concentrate, including farmlands, marshes, lakeshores, rivers mouths, tidal flats, dunes and beaches, broad river valleys, cities, and airports. Often nests on ledge or hole on face of rock cliff or crag. River banks, tundra mounds, open bogs, large stick nests of other species, tree hollows, and man-made structures are used locally.		this species.	
Geothlypis trichas sinuosa	saltmarsh common yellowthroat	CSC	-	-	G5T2	S2	Requires dense growth of vegetation associated with moist environments. Inhabits freshwater marshes, coastal swales, swampy riparian thickets, brackish marshes, salt marshes, and edges of disturbed weed fields and grasslands that border soggy habitats.	Likely	Occurrence of common yellowthroat is fairly common in San Mateo County[l]. This species is known to occur in Pillar Point Marsh[e, m]. The project site does not support suitable nesting habitat, but the site does support marginal foraging habitat.	1, 4, 5, 7, 8
Laterallus jamaicensis coturniculus	California black rail	FP	-	CT	G4T1	S1	Marshlands with unrestricted tidal influence (estuarine, intertidal,	Low	The project site does not support habitat this species typically	1, 7, 8

Table IV.D-2
Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site

Wildlife										
Scientific Name	Common Name	Sensitivity/Regulatory Status[a]					General Habitat	Potential for Occurrence	Discussion of Potential	Source[b]
		Regulatory Status			CDFG Sensitivity Rank					
		CDFG	FESA	CESA	CNDDB					
					Global	State				
							emergent, regularly flooded). Favors areas dominated by pickleweed, bulrushes, and matted salt grass and other marsh vegetation.		inhabits. Additionally, occurrence of black rail in San Mateo County is extremely rare[j]. . The southern portion of Pillar Point Marsh supports areas of coastal salt marsh dominated by pickleweed (salicornia).	
Melospiza melodia pusillula	Alameda song sparrow	CSC	-	-	G5T2?	S2?	Resident of salt marshes bordering south arm of San Francisco Bay. Inhabits salicornia marshes; nests low in grindelia bushes (high enough to escape high tides) and in salicornia.	Low	The project site does not support habitat this species typically inhabits. The southern portion of Pillar Point Marsh supports areas of coastal salt marsh dominated by pickleweed (salicornia).	1, 8
Phalacrocorax auritus	Double-crested cormorant	FP	-	-	G5	S3	Colonial nester on coastal cliffs, offshore islands, &along lake margins in the interior of the state. Nests along coast on sequestered islets, usually on ground with sloping surface, or in	Low	The project site does not support habitat this species typically inhabits. Tall trees as well as coastal lagoon and seasonal freshwater marsh	1, 8

Table IV.D-2
Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site

Wildlife										
Scientific Name	Common Name	Sensitivity/Regulatory Status[a]					General Habitat	Potential for Occurrence	Discussion of Potential	Source[b]
		Regulatory Status			CDFG Sensitivity Rank					
		CDFG	FESA	CESA	CNDDB					
					Global	State				
							tall trees along lake margins. Requires considerable length of water or elevated perch for labored take-off		areas at Pillar Point Marsh may provide marginal habitat.	
Pelecanus occidentalis californicus	California brown pelican	FP	FE (nesting colony and communal roosts)	CE (nesting colony and communal roosts)	G4T3	S1S2	Nesting restricted to islands in the Gulf of California and along the outer coast from Baja California to West Anacapa and Santa Barbara Island in Southern California. Non-breeding brown pelicans range northward along the Pacific Coast from the Gulf of California to Washington and southern British Columbia. Breed in nesting colonies on islands without mammal predators. Roosting and loafing sites include offshore rocks and islands, river mouths with sand bars, breakwaters, pilings, and jetties along the Pacific Coast and San Francisco Bay.	Not Present	Although occurrence of brown pelican in San Mateo County is common the spring and summer, and fairly common in the fall[j], the project site does not support habitat this species typically inhabits.	3
Rallus longirostris obsoletus	California clapper rail	FP	FE	CE	G5T1	S1	Saltwater and brackish marshes traversed by tidal sloughs in the vicinity of	Low	The project site does not support habitat this species typically	1, 3, 8

Table IV.D-2
Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site

Wildlife										
Scientific Name	Common Name	Sensitivity/Regulatory Status[a]					General Habitat	Potential for Occurrence	Discussion of Potential	Source[b]
		Regulatory Status			CDFG Sensitivity Rank					
		CDFG	FESA	CESA	CNDDB					
					Global	State				
							San Francisco Bay. In the south and central San Francisco Bay and along the perimeter of San Pablo Bay, rails typically inhabit salt marshes dominated by pickleweed (Salicornia virginica) and Pacific cordgrass (Spartina foliosa). In the north Bay (Petaluma Marsh, Napa-Sonoma marshes, Suisun Marsh) rails also live in tidal brackish marshes, which vary significantly in vegetation structure and composition.		inhabits. Additionally, occurrence of clapper rail in San Mateo County is uncommon and restricted to a small portion of the county or to a few locations[j]. Coastal salt marsh portions of Pillar Point Marsh provide some habitat for this species.	
Riparia riparia	bank swallow	-	-	CT (nesting)	G5	S2S3	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Open and partly open habitats, frequently near flowing water. Nests in steep sand, dirt, or gravel banks, in a burrow dug near the top of the bank, along the edge of inland water or along the coast, or in gravel pits, road embankments, etc.	Moderate	Bank swallow is a neotropical migrant[h] and occurrence of this species in San Mateo County is rare in the fall, extremely rare in the winter, and fairly common and restricted to a small portion of the county or to a few locations in the summer[j]. Although the project	1, 7, 8

Table IV.D-2
Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site

Wildlife										
Scientific Name	Common Name	Sensitivity/Regulatory Status[a]					General Habitat	Potential for Occurrence	Discussion of Potential	Source[b]
		Regulatory Status			CDFG Sensitivity Rank					
		CDFG	FESA	CESA	CNDDB					
					Global	State				
									site does not support suitable nesting habitat for this species, the site does support suitable foraging habitat. Additionally, suitable foraging habitat occurs along the drainage separating the project parcels and along the parcels' western boundary in and around Pillar Point Marsh. Bank swallow are known to occur in Pillar Point Marsh[e].	
Sternula antillarum browni	California least tern	FP	FE (nesting colony)	CE (nesting colony)	G4T2T3	S2S3	Inhabits bays and lagoons, nesting on the adjacent open sandy beaches, dunes, or disturbed sites. Nesting is limited to colonies in the San Francisco Bay, Sacramento River delta, and areas along the coast from San Luis Obispo County to San Diego County.	Not Present	Least tern is migratory in California[i], and occurrence of this species in San Mateo County is rare[j]. Additionally, the project site does not support habitat this species typically inhabits.	3

Table IV.D-2
Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site

Wildlife										
Scientific Name	**Common Name**	**Sensitivity/Regulatory Status[a]**					**General Habitat**	**Potential for Occurrence**	**Discussion of Potential**	**Source[b]**
		Regulatory Status			**CDFG Sensitivity Rank**					
		CDFG	**FESA**	**CESA**	**CNDDB**					
					Global	**State**				
Mammals										
Antrozous pallidus	pallid bat	CSC	-	-	G5	S3	Arid deserts and grasslands,shrublands, woodlands and forests, often near rocky outcrops and water. Usually roosts in rock crevice or building, less often in cave, tree hollow, mine, etc. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites. Prefers narrow crevices in caves as hibernation sites.	Low	Although the project site does not support suitable roosting habitat for pallid bat, the site does support suitable foraging habitat for this species.	1, 4, 5, 8
Dipodomys venustus venustus	Santa Cruz kangaroo rat	-	-	-	G4T1	S1	Silverleaf Manzanita mixed chaparral in the Zayante Sand Hills ecosystem of the Santa Cruz Mountains. Needs soft, well-drained sand	Not Present	The project site does not support habitat this species typically inhabits.	1
Lsiurus cinereus	Hoary bat	-	-	-	G5	S4?	Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roost in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	Low	The project site does not support suitable roost habitat for hoary bat. However, the site does support suitable foraging habitat for this species and suitable roost habitat occurs	1

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Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site

Wildlife										
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		Regulatory Status			CDFG Sensitivity Rank					
		CDFG	FESA	CESA	CNDDB					
					Global	State				
									adjacent to the site at Pillar Point Marsh.	
Myotis thysanodes	Fringed myotis	-	-	-	G4G5	S4	Found in a wide variety of habitats. Optimal habitats are pinyon-juniper, valley foothill hardwood and hardwood-conifer, generally at 1300-2200m (4000-7000 ft.). Requires water. Roosts in caves, mines, buildings and crevices. Requires water. Uses open habitats, early successional stages, streams, lakes and ponds as foraging area.	Low	The project site does not support suitable roosting or maternity roost habitat for the fringed myotis. The site is located below the typical elevation range for the species. Typical habitat types do not occur in close proximity to the site. The site could potentially be used for foraging.	1, 4, 5, 7
Neotoma fuscipes annectens	San Francisco dusky-footed woodrat	CSC	-	-	G5T2T3	S2S3	Forest habitats of moderate canopy and moderate to dense understory. May prefer chaparral and redwood habitats. Constructs houses and nests of sticks, shredded grasses and leaves at the base of, or in a tree, around a shrub, or at the base of a hill. Nests included other misc. materials (e.g. bird feathers). May be limited by availability of nest	Low	The project site does support suitable nesting (forest) habitat for dusky-footed woodrat, but it does support marginal woody vegetation for foraging. Additionally, marginal suitable nesting and foraging habitat for this species occurs along the drainage	1, 4, 5, 7, 8

Table IV.D-2
Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site

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		Regulatory Status			CDFG Sensitivity Rank					
		CDFG	FESA	CESA	CNDDB					
					Global	State				
							building materials.		separating the project parcels and along the parcels' western boundary.	
Nyctinomops macrotis	Big free-tailed bat	CSC	-	-	G5	S2	Rare in California, this species prefers low lying areas in Southern California. They need high cliffs or rocky outcrops for roosting sites. Feed principally on large moths. Forages over water sources. Roosts in buildings, cave, and occasionally in holes in trees. Also roosts in crevices in high cliffs or rock. Probably does not breed in California. Prefers rugged, rocky canyons.	Low	The project site does not support habitat this species typically inhabits. Big free-tailed bats are not known to breed in California. Last know CNDDB occurrence in Pacifica (1984) approximately 8.7 miles north of the project site.	1, 8
Reithrodontomys raviventris	salt-marsh harvest mouse	FP	FE	CE	G1G2	S1S2	Found only around the San Francisco, San Pablo, and Suisun Bays. Critically dependent on dense cover and preferred habitat is pickleweed. Seldom found in cordgrass or alkali brush (Scirpus robustus). In marshes with an upper zone of peripheral halophytes (salt-tolerant plants), mice	Low	The project site does not support habitat this species typically inhabits. The southern portion of Pillar Point Marsh provides some habitat for this species.	1, 3, 8

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Special-Status Wildlife Species Evaluated for Potential to Occur within the Project Site

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		CDFG	FESA	CESA	CNDDB					
					Global	State				
							use this vegetation to escape the higher tides, and may even spend a considerable portion of their lives there. Mice also move into the adjoining grasslands during the highest winter tides.			
Taxidea taxus	American badger	CSC	-	-	G5	S4	Prefers open areas and may also frequent brushlands with little groundcover. Although badger may prefer habitats with more friable soils for digging burrows, which are used for dens, escape, and predation, the hard-baked earth in the middle of an unpaved road is no obstacle. When inactive, occupies underground burrows that are elliptical shaped and eight or more inches in diameter.	Low	Although there is a recorded occurrence in the California Natural Diversity Database approximately 3 miles north of the project site, no badger burrows were observed on the site[m]. Additionally, the intensity of the agricultural practices on the site likely discourages the use of the habitat on the site by this species.	1, 7, 8

[a] Sensitivity/Regulatory Status Codes:
FESA: Federal Endangered Species Act of 1972, as amended
FE = Federally listed as Endangered; FT = Federally listed as Threatened; FD = Federally delisted (monitored for 5 years)
CESA: California Endangered Species Act
CE = State listed as Endangered; CT = State listed as Threatened; CR = State listed as Rare

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		Regulatory Status			CDFG Sensitivity Rank					
		CDFG	FESA	CESA	CNDDB					
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CNDDB: California Natural Diversity Database
G1/S1 = Extremely endangered: less than 6 viable element occurrences (EOs) OR less than 1,000 individuals OR less than 2,000 acres; G2/S2 = Endangered: 6-20 EOs OR 1,000-3,000 individuals OR 2,000-10,000 acres; G3/S3 = Restricted range, rare: 21-80 EOs OR 3,000-10,000 individuals OR 10,000-50,000 acres; G4/S4 = Apparently secure; some factors exist to cause some concern such as narrow habitat or continued threats; G5/S5 = Demonstrably secure; commonly found throughout its historic range; GnTn = Subspecies receive a T-rank attached to the G-rank, Grank reflects the condition of the entire species and T-rank reflects the global situation of just the subspecies; GH/SH = All sites historical, the element has not been seen for at least 20 year, but suitable habitat exists; GX/SX = All site extirpated, this element is extinct in the wild (0.1 = very threatened, 0.2 = threatened, 0.3 = no current threats known)
CDFG: California Department of Fish and Game
CSC = Species of Special Concern; FP = Fully Protected
[b] Source: 1 = Search of the California Natural Diversity Database (Biogeographic Data Branch, California Department of Fish and Game 2007) occurrences within a five mile radius of project site; 2 = Search of the California Native Plant Society's On-line Inventory (CNPS 2007) of the Montara Mountain (448C) USGS 7.5-Minute Quad and the five surrounding quads; 3 = Review of the U.S. Fish and Wildlife Service Sacramento Office's list of Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Montara Mountain (448C) USGS 7.5-Minute Quad; 4 = Review of the San Mateo County Biological Impact Report, Big Wave Development Site, Princeton, San Mateo County, California prepared by Wetlands Research Associates, Inc. in 2001; 5 = Review of the Biological Impact Report, Big Wave Development Site, Princeton, San Mateo County, California prepared by Wetlands Research Associates, Inc. in 2003; 6 = Review of the San Mateo County Rare Plant Report, Big Wave Development Site, Princeton, San Mateo County, California prepared by Wetlands Research Associates, Inc. in 2004; 7 = Review of Fitzgerald Marine Reserve Master Plan, Part Two: Environmental Setting - Draft prepared by Brady/LSA in 2002. . 8= Review of the Biological Resources of the Proposed Big Wave Wellness Center and Office Park Project Site, San Mateo County,California, prepared by WSP Ecosystem Science & Restoration in 2008.

[c] Recognized by the Local Coastal Commission Program.

[d] CESA listing is limited to coho salmon south of San Francisco Bay

[e] Brady/LSA. 2002. Fitzgerald Marine Reserve Master Plan, Part Two: Environmental Setting - Draft.

[f] Jennings, M. R. and M. P. Hayes. 1994. Amphibian and Reptile Species of Special Concern in California. Final report submitted to the Califonria Department of Fish and Game, Inland Fisheries Division. Rancho Cordova, Calif. Under Contract No. 8023.

[g] Barry, S. J. 1994. The distribution, habitat, and evolution of the San Francisco garter snake, Thamnophis sirtalis tetrataenia. Mater's Thesis, University of California, Davis, California. 140 pp.

[h] Personal Communication. David Johnston, California Department of Fish and Game. December 14, 2006 - phone conversation.

[i] California Department of Fish and Game. California Interagency Wildlife Task Group. 2005. California Wildlife Habitat Relationships version 8.1 personal computer program. Sacramento, California.

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Wildlife									
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		Regulatory Status			CDFG Sensitivity Rank					
		CDFG	FESA	CESA	CNDDB					
					Global	State				

[j] *Metropulos, P. J. 2006. A Checklist of the Birds of San Mateo County, California. Sequoia Audubon Society. April 2006.*

[k] *NatureServe. 2006. NatureServe Explorer: An online encyclopedia of life [web application]. Version 6.1. NatureServe, Arlington, Virginia. Available http://www.natureserve.org/explorer. (Accessed: April 17, 2009).*

[l] *Wetland Research Associates, Inc. 2003. San Mateo County Biological Impact Report, Big Wave Development Site, Princeton, San Mateo County, California.*
[m] *Surveys conducted by Christopher A. Joseph & Associates in January and February 2007.*

Plants

Based upon a review of the resources and databases available, 59 special-status plants have been documented to occur in the vicinity of the project site. Of these, 43 species are "not present" on the project site, 14 have a "low" potential to occur on the project site and 4 have a "moderate" potential to occur on the project site. There are no special-status plants identified as "likely to occur" or "present" on the project site. The four species with a "moderate" potential for occurrence are discussed in more detail below, including coastal marsh milk-vetch (Astragalus pycnostachyus var. pycnostachyus), Bristly sedge (Carex comosa), marsh horsetail (Equisetum palustre), and Hickman's cinquefoil (Potentilla hickmanii). These special-status plant species have the potential to occur along the drainage separating the project parcels and the parcels' western boundary in and around Pillar Point Marsh.

Moderate Potential

Coastal Marsh Milk-Vetch

Coastal marsh milk-vetch is a CNPS List 1B.2 species. It is a perennial herb of the legume family (Fabaceae) that occurs in mesic coastal dune and coastal scrub communities, and along streams or coastal salt marshes and swamps at elevations ranging from 0 to 100 feet (0 – 30 meters). Coastal marsh milk-vetch has only been found in Humboldt, Mendocino, Marin and San Mateo counties in California. The blooming season for this species extends from April through October. Although coastal marsh milk-vetch was not observed during focused plant surveys conducted in 2003 on the northern project parcel,[61] suitable habitat occurs along the drainage separating the project parcels and the parcels' western boundary in and around Pillar Point Marsh. Additionally, there is an occurrence of coastal marsh milk-vetch recorded in the CNDDB from Pillar Point Marsh.[62] This occurrence is from a 1902 collection; however, while this species was not found during plant surveys of the marsh in 2004, coastal marsh milk-vetch is presumed extant, as suitable habitat exists at this location. Because of the presence of suitable habitat on and immediately adjacent to the project site, and the proximity of a known occurrence, this species has a moderate potential to occur on the project site.

Bristly sedge

Bristly sedge is a CNPS List 2.1 species. It is a rhizomatous herb of the sedge family (Cyperaceae) that occurs in marshes and swamps in elevations ranging from 0 - 625 feet (-5 – 1005meters). Bristly sedge can also occur along lake margins and in valley and foothill grassland. The plant is closely associated with coastal prairie. Bristly sedge is fairly widely distributed, but apparently rarely collected. In California Bristly sedge is known from Contra Costa, Lake, Mendocino, Sacramento, San Bernardino, Santa Cruz, San Francisco, San Mateo, Shasta, San Joaquin, and Sonoma counties. It has also been found in Oregon, Washington, Idaho, and elsewhere. The blooming season for Bristly sedge is from May -

[61] *Wetland Research Associates (WRA). 2004. Ibid.*

[62] *California Department of Fish and Game (CDFG). 2007. Ibid.*

September. The only known source of information for this occurrence is from an 1866 collection of this species and is estimated to be in a "swamp near San Francisco".[63] This species has not been found in San Mateo County nor was it observed during onsite reconnaissance-level surveys as well as those conducted in and around Pillar Point Marsh in November 1997.[64] However, suitable habitat for Bristly sedge occurs along the drainage separating the project parcels and the parcel's western boundary in and around Pillar Point Marsh. This species has a moderate potential to occur on the project site because of the presence of suitable habitat on and immediately adjacent to the site and the lapse of time since the previous surveys were conducted in and around Pillar Point Marsh (ten years).

Marsh Horsetail

Marsh horsetail is a CNPS List 3 species. It is a perennial rhizomatous herb of the horsetail family (Equisetaceae) that occurs in marshes and swamps at elevations from 150 to 3,280 feet (45 to 1,000 meters). In California, marsh horsetail has been found in Lake, Napa, San Francisco, and San Mateo counties. It has also been found in Idaho, Oregon, and Washington. Although the project site is slightly below the elevation occupied by this species and this species was not observed during focused surveys conducted in 2003 on the northern project parcel,[65] suitable habitat occurs along the drainage separating the project parcels and the parcels' western boundary in and around Pillar Point Marsh.[66] Marsh horsetail has a moderate potential to occur on the project site because of the presence of suitable habitat on and immediately adjacent to the site, as well as the lapse of time since the previous surveys for this species were conducted (four years).

Hickman's Cinquefoil

Hickman's cinquefoil is a listed as endangered by both the USFWS and CDFG and is a CNPS List 1B.1 species. It is a perennial herb of the rose family (Rosaceae) that occurs in coastal bluff scrub, closed-cone coniferous forest, vernally mesic meadows and seeps, and freshwater marshes and swamps in elevations ranging from 30 to 440 feet (10 to 149 meters). This plant is closely associated with coastal bluff scrub. Hickman's cinquefoil has only been found in Monterey, San Mateo, and Sonoma counties in California. The blooming season for this species extends from April through August. Although Hickman's cinquefoil was not observed during reconnaissance-level surveys conducted in and around Pillar Point Marsh in November1997[67] or during focused surveys conducted in 2003 on the northern project parcel,[68] suitable habitat occurs along the drainage separating the project parcels and the parcels' western boundary in and around Pillar Point Marsh. Additionally, there are two occurrences of Hickman's cinquefoil

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63 *California Department of Fish and Game (CDFG). 2007. Ibid.*

64 *Brady/LSA. 2002. Ibid.*

65 *Wetland Research Associates (WRA). 2004. Ibid.*

66 *Brady/LSA. 2002. Ibid.*

67 *Brady/LSA. 2002. Ibid.*

68 *Wetland Research Associates (WRA). 2004. Ibid.*

recorded in the CNDDB within five miles of the project site.[69] The closest occurrence is approximately two miles northwest of the project site. Both occurrences occur in coastal bluff associations above 25ft. However, due to the presence of suitable habitat on and immediately adjacent to the site, the proximity of known occurrences, and the lapse of time since the previous surveys (ten for the surveys in and around Pillar Point Marsh and four years for the survey on the project parcel), this species has a moderate potential to occur on the project site.

Sensitive Natural Communities/Habitats

Four Sensitive Natural Communities have been documented by CNDDB and CNPS to occur in the vicinity of the project site. In addition, the San Mateo County LCP requires evaluation of additional categories and designations of Sensitive Habitats. Of the four Sensitive Natural Communities documented by CNDDB and CNPS, 3 are "not present" and 1, Northern Coastal Salt Marsh, has a "moderate" potential to occur on the project site. In addition, "Riparian Corridors" are a designated Sensitive Habitat under the San Mateo County LCP. Riparian habitat and its associated corridor are "present" on the project site along the drainage that separates the northern and southern parcels and flows to Pillar Point Marsh. These two habitat types are discussed in more detail below. "Wetlands" are also designated as a Sensitive Habitat by the San Mateo County LCP and will be discussed under Jurisdictional Waters and Wetlands.

Northern Coastal Salt Marsh

Northern Coastal Salt Marsh is a type of Saline Emergent Wetland that occurs above intertidal sand and mud flats (Küchler 1977) and below upland communities not subject to tidal action (Macdonald 1977a). The upper part of estuaries grade into brackish and freshwater marshes (Chetham and Haller 1975, Macdonald 1977a, Josselyn 1983). This wetland type occurs along the margins of bays, lagoons, and estuaries sheltered from excessive wave action (Macdonald and Barbour 1974). Northern Coastal Salt Marsh provides food, cover, nesting and roosting habitat for a variety of birds, mammals, reptiles, and amphibians (Macdonald 1977b, Zedler 1982). Endemic subspecies of birds include the endangered California and light-footed clapper rails, California black rail, salt marsh yellowthroat, Belding's Savannah sparrow and three subspecies of the song sparrow at San Francisco Bay (CDFG 1980, USFWS 1983a, Josselyn 1983). Other bird species that feed or roost in these wetlands are herons, egrets, ducks, hawks (including the northern harrier), Virginia rail, American coot, shorebirds, swallows, and marsh wren. Species include residents, migrants and winter visitants (Macdonald 1977b, Springer 1982, Zedler 1982, Josselyn 1983). Mammals include species of shrews, bats, and mice, including the endangered salt marsh harvest mouse endemic at San Francisco Bay, as well as the raccoon, mink river otter, and harbor seal. Species from adjacent uplands, including several species of lizards and snakes, frequent the edge of

[69] *California Department of Fish and Game (CDFG). 2007. Ibid.*

the high marsh. Pacific tree frog and western toad occur in slightly brackish marsh or after heavy rains (Macdonald 1977b, Zedler 1982).[70]

Three occurrences of Northern Coastal Salt Marsh have been recorded in San Mateo County, two in San Francisco Bay and one east of Pillar Point next to Princeton. The latter occurrence, in the immediate vicinity of the project site, was dominated by salicornia, jamuea carnosa, and frankenia grandiflora, and was associated with both brackish and freshwater marsh habitats.[71] None of the characteristic plants or hydrologic regimes currently occurs on the project site, potentially due to continuous agricultural practices. However, due to the occurrence of Northern Coastal Salt Marsh in the immediate vicinity of the project site as well as suitable habitat in Pillar Point Marsh, this sensitive natural community has a moderate potential to occur on the project site.

Animals

Fifty-two special-status wildlife species have been documented in the vicinity of the project site. Of these species, 28 are "not present" on the project site, 17 have a "low" potential, four have a "moderate" potential, and one is "likely" to occur on the project site. Further, two species have been identified as "present" on the project site. Western pond turtle (Actinemys marmorata), California red-legged frog (Rana aurora draytonii), bank swallow (Riparia riparia), and San Francisco garter snake (Thamnophis sirtalis tetrataenis) have a "moderate" potential to occur. Saltmarsh common yellowthroat (Geothlypis trichas sinuosa) is "likely" to occur. Northern harrier (Circus cyaneus) and white-tailed kite (Elanus leucurus) are "present" on the project site. These species, as well as other migratory bird and raptor species, are discussed in more detail below.

Moderate Potential – Reptiles and Amphibians

Western Pond Turtle (*Actinemys marmorata)*

The western pond turtle (WPT) is designated a species of concern by CDFG and is uncommon to common in suitable aquatic habitats throughout California, west of the Sierra-Cascade crest and absent from desert regions, except in the Mojave Desert along the Mojave River and its tributaries.[72] WPTs are associated with a variety of aquatic habitats, both permanent and intermittent, including rivers, creeks, small lakes and ponds, marshes, irrigation ditches, and reservoirs. They may also occur in brackish to salt

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[70] *Springer, Paul F. California Department of Fish and Game (CDFG). California Interagency Wildlife Task Group (pdf – 2008-12-23). California Wildlife Habitat Relationships System online version. Sacramento, California.*

[71] *California Department of Fish and Game (CDFG). 2009. Ibid.*

[72] *California Department of Fish and Game (CDFG). California Interagency Wildlife Task Group. 2005. California Wildlife Habitat Relationships version 8.1 personal computer program. Sacramento, California.*

water.[73] WPTs are found from sea level to approximately 6,700 feet (2,040 meters), but mostly below 4,980 feet (1,370 meters).[74]

Although WTPs spend much of their lives in water, they require terrestrial habitats for nesting. They also may overwinter (meaning periods of reduced or no activity during the winter which may include periods of a hibernation-like state of reduced physiological activity) on land and may spend part of the warmest months in aestivation (meaning an inactive state that individuals enter in the hottest weeks of the year) on land. Use of terrestrial habitats for overwintering and aestivation may vary considerably with latitude and habitat type, as some turtles do not leave aquatic habitat.[75] WPTs spend a considerable amount of time engaged in thermo-regulatory behavior. They frequently seek warmth from the sun in an activity referred to as emergent basking when water temperatures are low and air temperatures are greater than water temperatures. When air temperatures become too warm, as they may later in the day and later in the season, WTPs engage in aquatic basking, an activity were turtles conceal themselves in or under masses of floating vegetation or algae, or in shallow water relatively close to shore. WPTs can be seen basking out of the water on emergent or floating vegetation, logs, rocks, and occasionally mud or sand banks.

In general, nesting occurs between late April and early August.[76] Females typically leave the water in late afternoon or early evening and travel to an upland location that may be a considerable distance (1,300 feet [400 meters] or more) from aquatic habitat.[77] One to 13 eggs are deposited in the flask-shaped nest excavated by the female. Because digging the nest may require several hours, the female commonly remains on or near the nest site overnight. The young hatch (the incubation period for eggs maintained in a laboratory setting ranged from 73 to 80 days[78]) and may overwinter in the nest, emerging from the nest site and moving to the aquatic habitat in the spring. Hatchlings spend much of their time feeding in shallow water that typically has a relatively dense vegetation of submergents or short emergents. In California, reproductive maturity occurs at between seven and 11 years of age; WPTs are thought to be long-lived since the minimum age of a recaptured individual was 42 years old.[79]

The project site does not support suitable aquatic habitat for WPTs. In addition, all occurrences of WPT in San Mateo County have been recorded at sites with an elevation above 250ft. However, wetland communities (e.g. northern coastal salt marsh and coastal freshwater marsh) in Pillar Point Marsh may provide suitable habitat for WPT. If turtles were to use aquatic communities in Pillar Point Marsh, they might use the project site for nesting, overwintering, and/aestivation. Because the majority of the site is in

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[73] *Stebbins, R. C. 2003. A field guide to western reptiles and amphibians. Third edition. Houghton Mifflin Company, Boston Massachusetts. vii + 533.*

[74] *Stebbins, R. C. 2003. Ibid.*

[75] *Jennings, M. R. and M. P. Hayes. 1994. Amphibian and reptile species of special concern in California. Final Report submitted to the California Department of Fish and Game, Inland Fisheries Division. Contract No. 8023. 225 pp.*

[76] *Jennings, M. R. and M. P. Hayes. 1994. Ibid.*

[77] *Jennings, M. R. and M. P. Hayes. 1994. Ibid.*

[78] *California Department of Fish and Game (CDFG). California Interagency Wildlife Task Group. 2005. Ibid.*

[79] *Jennings, M. R. and M. P. Hayes. 1994. Ibid.*

agricultural production, the extent of usage would most likely be limited to the drainage separating the project parcels and suitable habitats along the parcels' western boundary. WPT might also use the site during overland movements to and from nesting sites and aquatic habitats, such as Denniston Creek located less than a half of a mile east of the site. Although current use of the site by turtles is limited due to ongoing agricultural activities, WPTs have a moderate potential to occur on the project site due to the presence of suitable aquatic (e.g., Pillar Point Marsh and Denniston Creek) and terrestrial habitat (undisturbed upland communities) in the immediate vicinity of the project site.

San Francisco Garter Snake (*Thamnophis sirtalis tetrataenia)*

The San Francisco Garter Snake (SFGS) is a federally and state-listed endangered species. It is also considered a fully protected species by CDFG. The historic range of the SFGS extended from just north of the San Francisco – San Mateo County line near Merced Lake south along the eastern and western bases of the Santa Cruz Mountains at least to the upper Crystal Springs Reservoir, and along the coast to Ano Nuevo Point, San Mateo County and Waddell Creek, Santa Cruz County.[80] Recent surveys indicate that there has likely been very little decrease in the overall historic range of the SFGS, but SFGS have been extirpated from individual locales.[81] Snakes have disappeared from portions of their range due to habitat loss from agriculture and urbanization.

Within its range SFGS are found in the vicinity of various aquatic habitats including ponds, lakes, reservoirs, creeks, and drainage ditches that are bordered at least partially by dense emergent vegetation, such as cattails, spike rush (Eleocharis spp.), and water plantain (Alisma spp.), and riparian vegetation, such as willows (Salix spp.) and various members of Rubus spp. SFGS are most easily found in marshlands and along the edge of riparian vegetation.[82] In addition to aquatic habitats, SFGS use upland habitats (e.g., grasslands with scattered coyote brush [Baccharis pillularis] or similar brush) to sun themselves and to retreat to protective cover. Within upland habitats the SFGS may prefer slopes with southern or western facing exposures, which receive increased levels of solar radiation, due to the enhanced ability for thermoregulations at these sites. Sometimes during the summer months adult snakes aestivate within upland habitat refugia. Also, for much of the winter, SFGS along the coast retreat to hibernacula (meaning shelters where snakes spend their dormant time during the winter). Often rodent burrows and thick mats of grass near aquatic habitats are chosen for refugia.

SFGS are livebearers that mate during the spring (March –April) and also during the fall (September – November), the latter is thought to be due to the increased likelihood of encountering a mate as individuals emerge from hibernacula and concentrate near aquatic foraging sites.[83] Neonates are normally

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[80] *U.S. Fish and Wildlife Service (USFWS). 1985. Recovery plan for the San Francisco garter snake (Thamnophis sirtalis tetrataenia). U.S. Fish and Wildlife Service, Portland, Oregon. 77 pp.*

[81] *U.S. Fish and Wildlife Service (USFWS). 2006. 5-year review San Francisco garter snake (Thamnophis sirtalis tetrataenia). U.S. Fish and Wildlife Service, Sacramento, California. 40 pp.*

[82] *Barry, S. J. 1994. The distribution, habitat, and evolution of the San Francisco garter snake, Thamnophis sirtalis tetrataenia. Master's Thesis, University of California, Davis, California. 140 pp.*

[83] *U.S. Fish and Wildlife Service (USFWS). 2006. Ibid.*

born in litters of 1to 35 (average 16) during late July to early August, although a few litters are born as late as early September.[84] SFGS are most active from March to September although they may be observed during any month of the year. Juveniles grow rapidly during their year, spending much of their time feeding in riparian zones or aquatic habitats. Males and females probably reach sexual maturity in two years (at about 46 centimeters and 55 centimeters total length, respectively), although some slower growing snakes reach sexual maturity in three years.[85] Subadult and adult SFGS feed largely on larvae and post-metamorphic life stages of Pacific treefrogs (Hyla regilla) and California red-legged frogs. California toads (Bufo boreas halophilus), bullfrogs (Rana catesbeiana), mosquitofish (Gambusia affinis), and three-spine sticklebacks (Gasterosteus aculeatus) are also taken.[86,87] Juvenile snakes feed largely on newts (Taricha spp.), earthworms and Pacific treefrogs. SFGS were not found during extensive searches of Pillar Point Marsh during the 1970's. There is one known occurrence of SFGS recorded along Denniston Creek as extirpated in 1977 and has remained so. Because the majority of the site is in agricultural production, the extent of usage would most likely be limited to the drainage separating the project parcels and suitable habitats along the parcels' western boundary. Like WPT, SFGS might also use the site during overland movements to and from nesting sites and aquatic habitats, such as Denniston Creek located less than a half of a mile east of the site. Although current use of the site is limited due to ongoing agricultural activities, SFGSs have a moderate potential to occur on the project site due to the presence of suitable aquatic (e.g., Pillar Point Marsh and Denniston Creek) and terrestrial habitat (undisturbed upland communities) in the immediate vicinity of the project site.

California Red-legged Frog (*Rana aurora draytonii)*

The California red-legged frog (CRLF) formerly occurred from Shasta County to Baja California, west of the mountains. It also occurred historically on a few desert slopes in the western Mojave and Colorado deserts. According to the USFWS (61 FR 25813–25833), the species has been extirpated from 70 percent of its former range and is now found primarily in wetlands and streams in coastal drainages of central California from Marin County to Ventura County. It has been all but eradicated from California's inland regions, including the foothills of the Sierra Nevada and coastal areas south of Ventura County (Jennings and Hayes 1994). The species occurs, or once occurred, at elevations ranging from sea level to 4,900 feet (1,500 meters). The CRLF species is listed as threatened by the USFWS and is recognized as a California Species of Concern (CSC) by CDFG. It typically occurs in aquatic habitat of streams and ponds, but can disperse considerable distances in search of breeding and aestivation sites. Continued loss of upland dispersal habitat, fragmentation of remaining breeding locations, competition and predation by bullfrog, and degradation of aquatic habitat are primary concerns regarding protection and recovery of this species.

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[84] *Larson, S. S. 1994. Life history aspects of the San Francisco garter snake at the Millbrae habitat site. Master's Thesis. California State University, Hayward, California. 105 pp.*

[85] *Barry, S. J. 1994. Ibid.*

[86] *Barry, S. J. 1994. Ibid.*

[87] *U.S. Fish and Wildlife Service (USFWS). 2006. Ibid.*

Common habitats of the CRLF include stream borders, moist woods, forest clearings, and grasslands (Stebbins 1985). CRLF feeds on insects, mammals, and other amphibians along shorelines. A permanent water source and structurally complex vegetation are habitat requirements of the CRLF. The habitats found to contain the largest densities of CRLF are usually associated with deep-water pools (>2 ft. deep) with dense stands of overhanging willows (*Salix spp*.) and an intermixed fringe of cattails (*Typha latifolia),* tules (*Scirpus spp.)*, or sedges (*Carex spp.)* (Hayes and Jennings 1988). However, CRLF have also been observed to inhabit stock ponds and artificial (e.g., concrete) pools completely devoid of vegetation (Storer 1925). CRLF cannot successfully reproduce at salinities a> 4.5% (Jennings and Hayes 1990) and are thus largely restricted to freshwater and slightly brackish water habitats. For lagoon habitats such as Pescadero Marsh in Santa Cruz County, CRLF will be present only during periods when the salinities of the lagoons are within the range tolerated by the species (Padgett-Flohr and Jennings 2002).

The project site occurs outside of the designated critical habitat areas for CRLF, which were recently approved by the USFWS. Critical Habitat for CRLF in San Mateo County occurs within the Pilarcitas Lake and Lower Crystal Springs drainage basins. Two occurrences of CRLF are recorded within 1 mile of the project site. The nearest occurrence is within Pillar Point Marsh, south of West Point Rd. (May 1999). The other occurrence is along Denniston Creek (June 1989). As noted above, CRLF require both permanent water and complex vegetation structure to complete their life cycle. The project site does not contain any areas of permanent water. In addition, due to continual ongoing agricultural practices on the site, suitable vegetation is limited to the wetland interface and pockets of exotics near power pole lines where plowing and disking are not practicable (WSP 2009). Although there is no suitable breeding or foraging habitat onsite, CRLF have a moderate potential to occur onsite due to known occurrences in the immediate vicinity of the site and potential breeding habitat within Pillar Point Marsh and Denniston Creek.

Bird Species

Bank Swallow (*riparia riparia)*

The bank swallow is a colonial nester, nesting primarily in riparian and other lowland habitats west of the desert. Bank swallow utilize open and partly open habitats, frequently near flowing water. This bird species nests in steep sand, dirt, or gravel banks, in a burrow dug near the top of the bank, along the edge of inland water or along the coast, or in gravel pits, road embankments, etc. (CDFG 2006). Bank swallow is a neotropical migrant and occurrence of this species in San Mateo County is rare in the fall, extremely rare in the winter, and fairly common and restricted to a small portion of the county or to a few locations in the summer (Metropulos 2006). Although the project site does not support suitable nesting habitat for this species, the site does support suitable foraging habitat. Additionally, suitable foraging habitat occurs along the drainage separating the project parcels and along the parcels' western boundary in and around Pillar Point Marsh. Bank swallow are known to occur in Pillar Point Marsh (Brady/LSA 2002). Therefore, the bank swallow has a moderate potential to occur onsite.

Salt Marsh Common Yellow Throat (*Geothlypis trichas sinuosa)*

The salt marsh common yellow throat requires dense growth of vegetation associated with moist environments. The species inhabits freshwater marshes, coastal swales, swampy riparian thickets, brackish marshes, salt marshes, and edges of disturbed weed fields and grasslands that border soggy habitats. Breeding populations have been documented in wetlands along the San Mateo County coast. Occurrence of common yellowthroat is fairly common in San Mateo County (CDFG 2005). This species is known to occur in Pillar Point Marsh (Brady/LSA 2002). The project site does not support suitable nesting habitat, however, the site does support marginal foraging habitat. The salt marsh common yellow throat is likely to occur onsite due to the known presence of the species in Pillar Point Marsh as well as suitable breeding, foraging and nesting habitat in the preserve. In addition, during the February 25, 2008 field surveys, WSP observed one common yellow throat perched in willows in the wetlands adjacent to and to the southwest of the project site.

Northern Harrier (*Circus cyaneus)*

The northern harrier uses a variety of habitats ranging from sea level to alpine meadows. The harrier frequents marshes, meadows, grasslands, and cultivated fields. Northern harrier perches on the ground, on stumps, or posts. The species nests on the ground, commonly near low shrubs, in tall weeds or reeds, sometimes in bogs or on top of low bushes above water. Harriers also nest on knolls of high ground, on higher shrubby ground near water, or on dry marsh vegetation. Occurrence of northern harrier in San Mateo County is uncommon in the fall, winter, and spring, and uncommon and restricted to a small portion of the county or to a few locations in the summer (Metropulos 2006). Although the project site does not support suitable nesting habitat, the site does provide suitable foraging habitat. Additionally, this species was observed foraging during surveys conducted in 2003 on the northern parcel (WRA 2003).

White-Tailed Kite (*Elanus leucurus)*

The white-tailed kite is a resident of coastal and valley grassland habitats throughout California and is often found in savanna, open woodland, marshes, partially cleared lands and cultivated fields, mostly in lowland situations. Nests are located in trees, often near a marsh, usually 6-15 meters above the ground in branches near the top of a tree. White-tailed kite is a common to uncommon yearlong resident of California (CDFG 2005). Occurrence of this species in San Mateo County is uncommon (Metropulos 2006). Although the project site does not support suitable nesting habitat for this species, the site does support suitable foraging habitat. Additionally, this species was observed during surveys conducted in 2003 on the northern parcel (WRA 2003). Suitable foraging and nesting habitat occurs along the drainage separating the project parcels and the parcels' western boundary in and around Pillar Point Marsh (Brady/LSA 2002). This species was observed perched and foraging over Pillar Point Marsh during surveys conducted in 2007 (CAJA).

No nests have been reported on the project site in previous surveys or were observed during the field reconnaissance surveys by the applicant's biologist. Pre-construction surveys would be necessary to confirm presence or absence of any nesting activity that could potentially occur on the site.

It should be noted that there remains a potential for occasional use of the site vicinity by other bird species, including special-status species. Species usage would be limited to occasional wintering activity by migratory bird species or possible occasional foraging activity by species for which essential breeding habitat is absent from the site. Sharp-shinned hawk (*Accipiter striatus*) was observed flying over the site and a great blue heron *(Ardea herodias)* was observed on the southwestern portion of the project site during 2008 surveys (WSP).

Jurisdictional Waters

Preliminary wetland assessments were conducted on the northern parcel by WRA in 2001 and again in 2003.[88] An updated delineation was conducted on both subject parcels by WSP in 2008. The WSP report provides a description of the site and information on regulatory background, summarizes methodology, and describes the results of the delineation. Field surveys were conducted, and observed potential wetlands and water bodies were mapped, as shown in Figure IV.D-2. A subsequent addendum to the delineation was filed in March 2008. The 2008 WSP delineation was verified by the Corps in June 2008.

Based on the 2008 delineation by WSP, a total of 0.45 acres of "other waters" (Type 3 waters of the U.S.) occur on the project site. This includes Type 3 waters of the U.S. that occur in four regions across the project site. An additional 0.29 acres (12,604 sq. ft.) of single-parameter (vegetation) wetlands conforming to the California Coastal Act Public Code occurs on the project site, for a total of 0.74 acres (32,180 sq. ft.) of California Coastal wetlands. This additional acreage of one parameter wetlands is located in the western portion of the southwestern parcel and along the extreme western corner of the property. Wetland delineation results are discussed in detail in the delineation report and addendum.[89]

Local - County of San Mateo General Plan

As detailed in the Regulatory Setting at the beginning of this section, the County's General Plan defines certain goals and objectives, and general policies for protecting vegetative, water, fish and wildlife resources. The County has adopted various ordinances that provide protection to natural resources within the County's limits. Consistent with the goals and policies of the CCA the County's Local Coastal Program (LCP) provides protection of the coastal resources.

[88] *WRA,2001and 2003 Ibid.*

[89] *WSP, 2008a and 2008b Ibid.*

Source: HJW GeoSpatial, Inc., MacLeod and Associates and Christopher A. Joseph & Associates, May 2007; WSP, March 17, 2008.

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Figure IV.D-2
Jurisdictional Wetlands

ENVIRONMENTAL IMPACTS

Thresholds of Significance

Based on Appendix G of the CEQA Guidelines and the Regulatory Setting requirements, the proposed project would have a significant environmental impact if it would:

a) have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service. Those special-status species with the potential to occur within the project site are outlined in the Environmental Setting (Special-Status Species) discussion as well as in Tables IV.D-1 and IV.D-2 of this section.

b) have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service such as, northern coastal salt marsh, and riparian corridors, as identified in the Environmental Setting (Sensitive Natural Communities) discussion of this section;

c) have a substantial adverse effect on federally-protected wetlands as defined by Section 404 of the Clean Water Act through direct removal, filling, hydrological interruption, or other means, which includes the estimated 0.74 acres of jurisdictional waters and wetlands delineated onsite. Refer to the Regulatory Setting discussion for additional water requirements outlined in the Section 1602 Lake and Streambed Alteration Agreement and the Porter-Cologne Water Quality Control Act;

d) 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 site. Refer to the Environmental Setting discussion for an outline of the wildlife species anticipated and known to occur within or in the vicinity of the site;

e) conflict with any local policies or ordinances protecting biological resources, such as those outlined within the Regulatory Setting (Local) discussion of this section (i.e., San Mateo County General Plan Policies, and the San Mateo County Local Coastal Program Policies).

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

As discussed in Section V.C (Impacts Found to be Less Than Significant) of this DEIR, potential impacts associated with Threshold (f) above were determined to have no impact because the project site and its vicinity are not located within an area covered by a Habitat Conservation Plan, Natural Community Conservation Plan, or other approved conservation plan. Therefore, only Thresholds (a), (b), (c), (d), and (e) listed above are addressed in the following discussion.

Project Impacts and Mitigation Measures

Impact BIO-1 Special-Status Species

Special-Status Plant Species

Proposed development would not directly affect any known occurrences of special-status plant species on the site. Based on the extensive surveys conducted as part of the previous development application on the northern parcel (WRA), and again in 2008 as part of the current application on both parcels (WSP), there are no known special-status plant species known from the vicinity of proposed development on the site. Development on the site is limited to areas of continuous and ongoing agricultural activities. In addition, no habitat for any of the special-status plant species with a potential to occur on the site exists on the project site. Impacts would be ***less than significant***.

Special-Status Wildlife Species

No direct impact or take of special-status species is expected as a result of the proposed project due to the lack of habitat suitable onsite to support those species with a potential to occur or known to occur in the project vicinity. However, development on the project site has the potential to indirectly impact special-status species such as western pond turtle, San Francisco garter snake and California red-legged frog due to the availability of suitable habitat in the immediate vicinity of the project as well as documented occurrences of the species in the project vicinity. Therefore, impacts would be ***potentially significant***.

The following mitigation measures would reduce the potential impact described above to a less-than-significant level:

Mitigation Measure BIO-1a Special-Status Species

A qualified biologist (hereafter, biological monitor), capable of monitoring projects with potential habitat for Western pond turtle (WPT), San Francisco garter snakes (SFGS), and California red-legged frogs (CRLF) shall be present at the site as follows:

1. Prior to and within 3 days of installation of exclusion fencing (type to be determined through consultation with CDFG and USFWS), the monitor shall survey the location for the installation for the presence of WPT, SFGS and CRLF. In addition, should any burrows be observed, the burrows shall be inspected by the biologist to determine if it is being used by any of the species. Should any of these species be observed, the area shall be vacated and re-inspected in one week. If no animal use is noted, the burrows shall be carefully excavated using a small trowel or shovel. Careful prodding using a blunt object will aid in determining the course of the tunnel such that the tunnel is excavated from the sides rather than the top, reducing the potential for any injury should an animal be present. Excavated burrows with no WPT, CRLF or SFGS shall be left open so they cannot be re-occupied. If any non-listed species are located, they shall be translocated outside of the construction zone. Should any individual WPT, CRLF or SFGS be found during the field survey or excavation, the area where that individual has been found shall remain

undisturbed. If any life stage of the WPT, SFGS or CRLF is found during these surveys or excavations, the Department of Fish and Game and the US Fish and Wildlife Service shall be contacted immediately, and activities that could result in take shall be postponed until appropriate actions are taken to allow project activities to continue.

2. During installation of construction zone exclusion fencing, the biological monitor shall be present and will oversee the installation of all construction fencing. The exclusionary fencing shall be installed on one parcel site first so that if any animals are within the construction zone, they will have the opportunity to move out of the area freely.

   Immediately following installation of exclusion fencing, the biological monitor shall survey the enclosed construction zone for the presence of WPT, SFGS and CRLF. If any life stage of the SFGS or CRLF is found during these surveys, the Department of Fish and Game and the U.S. Fish and Wildlife Service shall be contacted immediately, and activities that could result in take shall be postponed until appropriate actions are taken to allow project activities to continue.

   The biological monitor shall be present at all times during restoration area planting activities outside the construction zone and within the buffer area, to monitor for the presence of WPT, SFGS and CRLF.

   The biological monitor shall prepare a training document in both English and Spanish about the animals of concern, their identification, and the methods of avoidance and reporting requirements and procedures, should the species be observed. The document shall provide photographs of the species and notification numbers for the monitor, the Department of Fish and Game, and the U.S. Fish and Wildlife Service. The training document and contact information for the monitor shall be posted at the construction zone and maintained in the monitoring log. Every contractor, sub-contractor and construction worker shall be provided a copy of the training document in advance of their respective construction activities and shall be required to adhere to its contents.

   A highly visible warning sign shall be installed along the project perimeter. The warning sign shall be in English and Spanish and shall state: “Stay Out - Habitat Area of Federally Protected Species.” A document drop shall be attached to several warning signs and stocked with a supply of training documents.

   The biological monitor shall conduct weekly site visits when construction is occurring to verify that all construction zone exclusionary fencing is in place and functioning as intended. Any repair or maintenance to the fencing deemed necessary by the biological monitor shall be completed under the monitor’s supervision. Such maintenance activities include adequate removal of vegetation at the construction fence line to ensure that vegetation “ladders” for species access are not allowed to establish.

   Once restoration activities are complete, the exclusion fencing shall be removed under the supervision of the biological monitor. Prior to the removal of the buffer area/restoration area fencing, permanent exclusionary measures shall be put in place to prevent special-status species

movement beyond the buffer areas. Wildlife movement through the site shall be facilitated via a buffer zone on either side of the drainage that bisects the parcels.

The general contractor shall assign a crew member that will be responsible for conducting site inspections, monitoring gate opening and closing, and assuring that other species protection measures are in place and being enforced when the Biological Monitor is not present. The crew member shall adhere to the procedures contained in the training document and shall be able to contact the biological monitor should any violations be noted or listed species observed onsite.

The biological monitor has the authority to halt all or some construction activities and or modify all or some construction methods as necessary to protect habitat and individual sensitive species. The monitor shall be responsible for contacting USFWS should any endangered or threatened species be observed within the construction zones.

The biological monitor shall complete daily monitoring reports for each day present, to be maintained in a monitoring log-book kept onsite. Reports must contain the date and time of work, weather conditions, biological monitor's name, construction or project activity and progress performed that day, any listed species observed, any measures taken to repair and or maintain fencing, and any construction modifications required to protect habitat. The monitoring log-book with compiled reports shall be submitted to the Executive Director upon cessation of construction as part of a construction monitoring report.

Bird Species

The project site does not provide suitable nesting habitat for any of the special-status bird species with the potential to occur or known to occur in the vicinity of the project site. Although the site currently provides some suitable foraging habitat, the proposed project proposes 32 acres of farming, 12 in row crop production in the immediate vicinity of the project site. A 5-acre native plant nursery will also occur onsite as part of the project. In addition, the project will provide 9 acres of riverine wetland and riparian ecosystem restoration. The restored wetlands will extend both foraging and breeding habitat currently available in Pillar Point Marsh for project area special-status species as well as provide a wider, protected movement corridor through the site. No special-status bird species will be substantially affected as a result of the proposed project.

While no nests were observed on the site during the surveys conducted by the applicant's biologist, there is a potential for new nests to be established prior to project implementation, or during later phases of construction. Tree removal, vegetation clearing, or disturbance in the immediate vicinity of a nest in active use could result in abandonment of the nest or loss of eggs and young, which would be a violation of the Migratory Bird Treaty Act. Preconstruction surveys would be necessary in advance of construction during the nesting season (March through August) to confirm presence or absence of any new nests. This is considered a ***potentially significant*** impact.

The following mitigation measure would reduce the impact described above to a less-than-significant level:

Mitigation Measure BIO-1b Special-Status Species

Any active bird nests in the vicinity of proposed grading shall be avoided until young birds are able to leave the nest (i.e., fledged) and forage on their own. Avoidance may be accomplished either by scheduling grading and tree removal during the non-nesting period (September through February), or if this is not feasible, by conducting a pre-construction nesting bird survey. Provisions of the pre-construction survey and nest avoidance, if necessary, shall include the following:

If grading is scheduled during the active nesting period (March through August), a qualified wildlife biologist shall conduct a pre-construction nesting survey no more than 30 days prior to initiation of grading to provide confirmation on presence or absence of active nests in the vicinity.

If active nests are encountered, species-specific measures shall be prepared by a qualified biologist in consultation with CDFG and implemented to prevent nest abandonment. At a minimum, grading in the vicinity of the nest shall be deferred until the young birds have fledged. A nest-setback zone shall be established via consultation with CDFG and USFWS, within which all construction-related disturbances shall be prohibited. The perimeter of the nest-setback zone shall be fenced or adequately demarcated, and construction personnel restricted from the area.

If permanent avoidance of the nest is not feasible, impacts shall be minimized by prohibiting disturbance within the nest-setback zone until a qualified biologist verifies that the birds have either a) not begun egg-laying and incubation, or b) that the juveniles from the nest are foraging independently and capable of independent survival at an earlier date. A survey report by the qualified biologist verifying that the young have fledged shall be submitted to CDFG and USFWS prior to initiation of grading in the nest-setback zone.

The following mitigation measures would reduce impacts to both special-status plant and wildlife species and their associated habitat to a less-than-significant level:

Mitigation Measure BIO-1c Special-Status Species

Proposed project construction activities will not result in impacts to project area wetlands and/or habitat for special-status species known to occur in the vicinity of the site. The applicant's biologist has obtained a verified wetland delineation and has consulted with the regulatory agencies regarding special-status species. The applicant shall continue to coordinate all project activities potentially regulated by State, Federal, and local agencies and shall obtain all necessary permits from CDFG, Corps, USFWS, and the RWQCB as required by federal and State law to avoid, minimize or offset impacts to any species listed under either the State or federal Endangered Species Acts or protected under any other State or federal law.

Evidence that the applicant has secured any required authorization from these agencies shall be submitted to San Mateo County prior to issuance of any grading or building permits for the project.

Mitigation Measure BIO-1d Special-Status Species

Sensitive and general habitat features outside the limits of approved grading and development shall be protected by identifying a construction and development boundary on all project plans and prohibiting construction equipment operation within this boundary. The boundary shall be staked and flagged in the field with a highly visible color coded system and all construction and equipment operators shall be instructed to remain outside this no-disturbance boundary for the duration of construction. This measure is in addition to the wildlife exclusion fencing described in Mitigation Measure Bio-1a and applies to the protection of all habitat features outside of the project limits.

Impact BIO-2 Sensitive Natural Communities

Proposed grading and development would not result in impacts to northern salt marsh scrub or riparian habitat on the site, both of which are considered sensitive natural community types. There is no northern salt marsh scrub on or in the immediate vicinity of the project site. Existing riparian habitat onsite will be protected by a buffer and will undergo habitat restoration to enhance the functional value of this sensitive habitat type. Riparian habitat onsite occurs along the drainage that divides the project parcels. Impacts would be ***less than significant***.

Impact BIO-3 Federally Protected Wetlands

No direct impacts to wetlands will occur from the proposed project. A 100-foot buffer required by the San Mateo County LCP is indicated on the site plan. Under the proposed alternative, this buffer will be restored to a native riparian forest (WSP 2009). In addition to the riparian area, a buffer has been established to protect wetlands in adjacent Pillar Point Marsh. The project areas adjacent to the marsh are proposed for an additional wetland creation/restoration area. Impacts would be ***less than significant***.

Impact BIO-4 Wildlife Movement and Habitat Connectivity

Sensitive wildlife habitats are located south of the project site within the adjacent Pillar Point Marsh. Due to the continuous and ongoing agricultural activities on the project site, special-status and common wildlife species movement across the site is limited. The drainage that bisects the project parcels contains the only sensitive habitat onsite. This area will be restored and protected by a 100-foot buffer on either side, enhancing its habitat value and availability for use as a protected movement corridor through the site. No wildlife corridors or sensitive habitats will be affected as a result of the proposed project. Impacts would be ***less than significant***.

Mitigation Measure BIO-4a Wildlife Movement and Habitat Connectivity

Measures recommended in Mitigation Measures BIO-1a through BIO-1d would serve to protect important natural habitat on the site for wildlife, avoid the potential loss of bird nests, and protect sensitive natural

areas. Although wildlife movement and habitat connectivity impacts were found to be less than significant, the following additional provisions shall be implemented to further protect wildlife habitat resources:

Fencing that obstructs wildlife movement shall be restricted to building envelopes and wildlife exclusionary fencing along special-status species protection corridors and shall not be allowed elsewhere on the site. Fencing that obstructs wildlife movement contains one or more of the following conditions: lowest horizontal is within 1.5 feet of the ground OR highest horizontal is over 6 feet OR top or bottom wire is barbed OR distance between top wires is less than 10 inches OR it combines with existing structures or fences, even on neighboring parcels, to create an obstacle to wildlife movement.

Lighting shall be carefully designed and controlled to prevent unnecessary illumination of natural habitat on the site. Lighting shall be restricted to building envelopes, at the minimum level necessary to illuminate roadways and other outdoor areas. Lighting shall generally be kept low to the ground, directed downward, and shielded to prevent illumination into adjacent natural areas.

Dogs and cats shall be confined to individual residences and the fenced portion of the building envelopes to minimize harassment and loss of wildlife.

All garbage, recycling, and composting shall be kept in closed containers and latched or locked to prevent wildlife from using the waste as a food source.

Impact BIO-5 Conformance with Local Policies and Ordinances

In general the proposed project would conform to local policies and ordinances related to protection of vegetative, water, fish and wildlife resources. Mitigation measures proposed as part of the project or recommended as part of this DEIR would ensure sensitive resources are adequately protected or mitigated in compliance with the goals and objectives set forth in both the San Mateo County General Plan Policies and Local Coastal Program Policies, as detailed in the Regulatory Setting subsection of this DEIR section. In particular, the project goals include the protection of all project area sensitive habitats, vegetation resources, water resources, and fish and wildlife resources. The project incorporates a restoration and enhancement plan that enhances onsite habitat in order to expand habitat to sensitive species that may inhabit Pillar Point Marsh. The project designates buffers along the drainage and associated riparian corridor that bisects the property as well as from sensitive resources occurring on the adjacent Pillar Point Marsh property, and wetland resources on and offsite. The project does not propose any impacts to special-status species or their habitats and provides BMP's to insure that these species will not be negatively impacted by project development.

In summary, when completed, the project site will have enhanced existing habitat and created additional habitat for wildlife occurring in the project vicinity. In addition, by providing a buffer along the riparian drainage onsite, the project provides a movement corridor for species potentially dispersing from Pillar Point Marsh and/or other habitats to the east of the project site. Therefore, project impacts would be ***less than significant***.

CUMULATIVE IMPACTS

The overall cumulative effect of development is dependent on the degree to which significant vegetation and wildlife resources are protected or mitigated as part of individual developments. This includes preservation of areas of sensitive natural communities, protection of essential habitat for special-status plant and animal species, and avoidance of wetlands. Further environmental review of any specific development proposals in the vicinity of the site should generally serve to ensure that important biological and wetland resources are identified, protected and properly managed, and should serve to prevent any significant adverse development-related impacts. However, there may be significant impacts of an individual development cannot be fully mitigated and could contribute to significant cumulative impacts on biological and wetland resources as well.

Cumulative development contributes to an incremental reduction in the amount and connectivity of existing natural communities and wildlife habitat. Proposed development on the Big Wave Wellness Center and Office Park site would not result in the loss of any sensitive biological or wetland habitat. Measures recommended to mitigate potential impacts on sensitive natural resources would serve to address much of the project contribution to cumulative impacts. Although conversion of agricultural production area to commercial development would diminish the existing wildlife foraging habitat onsite, creation of additional wetland nesting and foraging habitat in addition to agricultural foraging areas in the immediate vicinity of the site offsets the temporary loss of foraging habitat. The proposed project does not contribute to significant cumulative impacts to area biological or wetland resources. Therefore, cumulative impacts would be ***less than significant***.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Potential impacts to special-status species, sensitive natural communities, wetlands, and wildlife habitat and movement opportunities would be ***less than significant*** with implementation of the above mitigation.