

Huffman-Broadway Group, Inc.

ENVIRONMENTAL REGULATORY CONSULTANTS

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October 29, 2019

Mr. Graham Groneman
P.O. Box 2854
Sausalito, CA 94966

Subject: Biological Site Assessment for 183 Sunset Way, Marin County, California

Dear Mr. Groneman:

Huffman-Broadway Group, Inc. (HBG) has completed a Biological Site Assessment report for your proposed single-family residence on two residential parcels totaling approximately 0.5-acres at 183 Sunset Way in Muir Beach, Marin County, California. The subject project site consists of Assessor's Parcel Numbers (APN) 199-235-47 and APN 199-235-48. The evaluation complies with requirements of Item #36, Biological Site Assessment, in Marin County's list of project application materials, County guidelines as spelled out in the document "Preparation of Biological Site Assessments" and clarifications provided in conversations with you regarding biological information that is needed at this time.

As stated in the Marin County guidelines for preparation of Biological Site Assessments, the objective of this study was to (1) determine whether there are any sensitive biological resources such as wetlands, streams, or habitats for special status species in proximity to a proposed project; (2) accurately map any biological constraints on a site plan for the project; and (3) to determine whether the proposed project would result in potentially significant adverse biological impacts pursuant to the California Environmental Quality Act (CEQA). Our analysis included: (1) a review of the habitat characteristics of the site and species of plants and animals expected to utilize the site; (2) review of the California Natural Diversity Data Base (CNDDDB) to determine if any populations of endangered, threatened, or rare species have occurred historically or are currently known to exist in the project vicinity; (3) a field survey of the site by an HBG biologist, and (4) an evaluation of whether the proposed project has the potential to result in impacts to sensitive habitats or special status species. The study included a general reconnaissance of the site by HBG Senior Environmental Scientist Gary Deghi on October 17, 2019.

PROPOSED PROJECT

The subject project site consists of Assessor's Parcel Numbers (APN) 199-235-47 and APN 199-235-48 located at 183 Sunset Way, in Muir Beach. The approximately 0.5-acre site is a currently vacant, wooded property that slopes down to the beach at the Pacific Ocean. The landowner is C:\Users\mh\Dropbox\MHA - Active Projects\MHA - 183 Sunset\Consultant - Biological\Muir Beach BSA 10-29-19.docx

applying to the County of Marin to construct a single-family house on the property at 183 Sunset Way. Conceptual plans developed to date propose construction of the house near the middle of the property. A carport or garage is proposed off of Sunset Way and stairs will lead down to the house located further down the slope. The foundation for the house will be cut into the hillside and cut material will be used to expand a flat area for the house by depositing it behind a retaining wall further down the slope. Setbacks as required by Marin County will dictate that the house will be between 50 and 100 feet from the bluff edge. A septic system is also proposed and the septic leachfield is proposed at least 50 feet from the bluff edge to comply with County requirements. The septic leachfield may need to be installed above the house near the carport/garage. A number of non-native trees are present on the property, and although plans are conceptual at this time, it appears that several of the non-native trees will need to be removed to accommodate the proposed structures and leachfield.

A future Project Description would include implementation of Best Management Practices to control erosion and sedimentation and preconstruction bird nesting surveys if construction occurs during the nesting season.

EXISTING BIOLOGICAL SETTING

The description of the biological setting for the property is based on a field visit to the site by HBG Senior Environmental Scientist Gary Deghi on October 17, 2019. The survey on this date included observations of the composition and distribution of plant species, wildlife observations, identification of sensitive habitats and a comparison of site characteristics for similarity to sites known to support special status species within the area.

The property slopes steeply downward from Sunset Way to the south and towards the beach. The southern end of the property drops precipitously to a rocky beach of the Pacific Ocean below. Based on a survey of the property prepared by J.L. Engineering dated August 2019 and the Point Bonita USGS 7.5-minute quadrangle map, elevations on the property range from about 130 feet msl near Sunset Way to about 10 feet msl adjacent to the beach. A seawall constructed approximately 40 years ago extends from the base of the adjacent property to the west and onto the subject property along the shoreline. The proposed project site is vegetated with a number of planted non-native trees and other shrubs and groundcover vegetation. The soil type throughout the entire site is Cronkite-Barnabe complex, 30 to 50 percent slopes (USDA 2019). Redwood Creek flows into the Pacific Ocean approximately 300 feet east of the property. Redwood Creek is a 4.7-mile long stream that drains a 7-square-mile watershed.

The project site is within the Marin County Coastal Zone and also subject to relevant policies of the Unit I Local Coastal Program (LCP) (County of Marin 1981). Unit I of the LCP was certified in 1981 and includes the communities of Muir Beach, Stinson Beach, Seadrift, and Bolinas. The primary goal of the LCP is to ensure that the local government's land use plans, zoning ordinances, zoning district maps, and implementing actions meet the requirements of, and implement the provisions and policies of, the Coastal Act at the local level.

Like other portions of northern California, Muir Beach experiences a Mediterranean climate characterized by warm, dry summers and cool, wet winters. Coastal low clouds and fog are common, especially during the late night and early morning hours. Average annual precipitation in the Inverness area is slightly less than 40 inches, with most rain in the Bay Area's winter "rainy season" (November through March).

Plant Communities

Vegetation communities and habitats at the project site were identified based on the currently accepted List of Vegetation Alliances and Associations (or Natural Communities List) (CDFW 2010). The list is based on A Manual of California Vegetation, Second Edition (Sawyer and Keeler-Wolf 2009), which is the National Vegetation Classification applied to California. The project site contains several habitat types according to this classification: Monterey Cypress Forest, Central Coast Scrub, and Non-native grassland.

The site is a mostly wooded site vegetated with non-native tree species. The tree canopy consists mainly of planted Monterey cypress (*Cupressus macrocarpa*) and Monterey pine (*Pinus radiata*) along with several blackwood acacia (*Acacia melanoxylon*) and Eucalyptus (*Eucalyptus* sp.). Vegetation throughout much of the site consists of species planted for landscaping purposes in the neighborhood including Pride of Madeira (*Echinum candicans*), Aloe (*Aloe* sp.), belladonna lily (*Amaryllis belladonna*), holly (*Ilex aquifolium*), firethorn (*Pyracantha augustifolia*), and a variety of succulents. Other common herbaceous non-native species include Italian thistle (*Carduus pycnocephalus*), sweet fennel (*Foeniculum vulgare*), and garden nasturtium (*Tropaeolum majus*), among others. The eastern portion of the site is best described as Central Coast Scrub with shrubs including native species such as coyote brush (*Baccharis pilularis*), Coastal sagebrush (*Artemisia californica*), and Pacific aster (*Symphyotrichum chilense*), and invasive, non-native species such as French broom (*Genista monspessulana*) and giant reed (*Arundo donax*). Groundcover species are mostly non-native grasses including species such as little quaking grass (*Briza minor*), dogtail (*Cynosurus cristatus*), rip-gut brome (*Bromus diandrus*), Italian ryegrass (*Festuca perrenis*), and veldt grass (*Ehrharta erecta*), among others. A couple of invasive pampas grass (*Cortaderia selloana*) are also present near the top of the bluff.

Animal Populations

The habitats on site and in the immediately surrounding area support a number of wildlife species, mostly those typically found in forested habitats in West Marin and those adapted for life in disturbed forested environments. Trees and other vegetation on the property provide nesting and roosting sites for birds, and cover and foraging habitat for species of birds, mammals, reptiles and amphibians. A number of wildlife species were documented at the site during the fall season field review conducted by Gary Deghi of HBG on October 17, 2019. Nearly all species documented are common to abundant in the region and would be expected in the habitats present at the site.

Birds species documented at the site during the October 17, 2019 field review included Anna's hummingbird (*Calypte anna*), California scrub-jay (*Aphelocoma californica*), common raven (*Corvus corax*), downy woodpecker (*Dryobates pubescens*), black phoebe (*Sayornis nigricans*), Bewick's wren (*Thryomanes bewickii*), ruby-crowned kinglet (*Regulus calendula*), brown creeper (*Certhia americana*), pygmy nuthatch (*Sitta pygmaea*), California towhee (*Melospiza crissalis*), white-crowned sparrow (*Zonotrichia leucophrys*), Lincoln's sparrow (*Melospiza lincolni*), song sparrow (*Melospiza melodia*), and Townsend's warbler (*Setophaga townsendi*). The rocky shore and beach below the site is suitable habitat for species such as sanderling (*Calidris alba*) and black turnstone (*Arenaria melanocephala*), but the only species seen over the water were Western gull (*Larus occidentalis*) and brown pelican (*Pelicanus occidentalis*).

Amphibians expected in the area are likely to include Pacific treefrog (*Pseudacris regilla*), western toad (*Bufo boreas*), arboreal salamander (*Aneides lugubris*), and California slender salamander (*Batrachoseps attenuatus*), among others. No reptiles were observed during the survey but expected species include Western fence lizard (*Sceloporus occidentalis*), Northern alligator lizard (*Gerrhonotus coeruleus*), Pacific gopher snake (*Pituophis melanoleucus*), and common garter snake (*Thamnophis sirtalis elegans*). Evidence of mammals at the site in October 2019 included dens of Botta's pocket gopher (*Thomomys bottae*), scats of mule deer (*Odocoileus hemionus*), and the odor of striped skunk (*Mephitis mephitis*). Other mammals that could be present would be those adapted to disturbed forested environments such as Western gray squirrel (*Sciurus griseus*), Virginia opossum (*Didelphis virginiana*), deer mouse (*Peromyscus maniculatus*), and raccoon (*Procyon lotor*).

Sensitive Habitats

Regulatory Requirements

Sensitive habitats are those habitats which have been identified by local, state, or federal agencies as areas which provided special functions or values. These habitats are subject to regulation under various local, state, and federal regulations such as the following:

Waters of the United States. The Department of the Army, acting through the U.S. Army Corps of Engineers (Corps), has the authority to permit the discharge of dredge or fill material in waters of the U.S. under Section 404 of the Clean Water Act (CWA). Waters of the U.S. include both wetlands and "other waters of the U.S." Wetlands and other waters of the U.S. are described by U.S. Environmental Protection Agency (EPA) and Corps regulations (40 CFR § 230.3(s) and 33 CFR § 328.3(a), respectively). EPA and the Corps define wetlands as "...those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (EPA regulations at 40 CFR § 230.3(t); Corps regulations at 33 CFR § 328.3(b)). Both natural and manmade wetlands and other waters (not vegetated by a dominance of rooted emergent vegetation) are subject to

regulation. The geographic extent of wetlands is defined by the collective presence of a dominance of wetland vegetation, wetland hydrology conditions, and wetland soil conditions as determined following the USACE' 1987 Wetlands Delineation Manual (1987 Manual); the USACE' 2008 Regional Supplement to Corps of Engineers Wetland Delineation Manual: Arid West, Version 2.0 (Arid West Regional Supplement); and supporting guidance documents. The geographic extent of other waters of the U.S. is defined by an ordinary high water mark (OHWM) in non-tidal waters (33 CFR. §328.3(e)) and by the High Tide Line within tidal waters (33 CFR. §328.3(d)).

Waters of the State. Waters of the State are defined more broadly than “waters of the US” to mean “any surface water or groundwater, including saline waters, within the boundaries of the state” (Water Code section 13050(e)). Examples include, but are not limited to, rivers, streams, lakes, bays, marshes, mudflats, unvegetated seasonally ponded areas, drainage swales, sloughs, wet meadows, natural ponds, vernal pools, diked baylands, seasonal wetlands, and riparian woodlands. Waters of the State include all waters within the state’s boundaries, whether private or public, including waters in both natural and artificial channels. They include all “waters of the United States”; all surface waters that are not “waters of the United States, e.g. non-jurisdictional wetlands; groundwater; and the territorial seas. The State Water Quality Control Board (SWQCB) and its Regional Boards, including the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB), routinely rely on the USACE/US EPA jurisdictional determinations as they have no adopted methodology for the identification and delineation of wetlands or other waters of the State. However, as a matter of policy the SWQCB/SFBRWQCB consider wetlands and waters determined non-jurisdictional by the USACE/USEPA under *SWANCC* or *Rapanos* guidance to remain jurisdictional as waters of the State subject to SWQCB/SFBRWQCB jurisdiction.

California Department of Fish and Wildlife Regulations. The California Department of Fish and Wildlife (CDFW) regulates lakes and streams under Section of 1602 of the California Fish and Game Code (FGC). CDFW’s regulations implementing the FGC define the relevant rivers, streams and lakes over which the agency has jurisdiction to constitute “all rivers, streams, lakes, and streambeds in the State of California, including all rivers, streams and streambeds which have intermittent flows of water.” (Title 14 *California Code of Regulations* [CCR] § 720). The CDFW takes jurisdiction under its Lake and Streambed Alteration Agreement Program for any work undertaken in or near a river, stream, or lake that flows at least intermittently through a bed or channel. The CDFW does not have a methodology for the identification and delineation of the jurisdictional limits of streams except for the general guidance provided in *A Field Guide to Lake and Streambed Alteration Agreements, Section 1600-1607 California Fish and Game Code* (CDFG 1994). In making jurisdictional determinations, CDFW staff typically rely on field observation of physical features that provide evidence of water flow through a bed and channel such as observed flowing water, sediment deposits and drift deposits and that the stream supports fish or other aquatic life. Riparian habitat is not specifically defined by the FGC but CDFW takes jurisdiction over areas within the flood plain of a body of water where the

vegetation (grass, sedges, rushes, forbs, shrubs, and trees) is supported by the surface or subsurface flow.

Sensitive plant communities are those natural plant communities identified in local or regional plans, policies, ordinances, regulations, or by the CDFW which provide special functions or values. The CDFW natural plant communities considered sensitive are those CDFW ranks as 'threatened' or 'very threatened' and keeps records of occurrences of these sensitive communities in the CNDDDB. All known occurrences of sensitive habitats are mapped onto 7.5-minute USGS topographic quadrangle maps maintained by the CNDDDB. Sensitive plant communities are also identified by CDFW on their List of California Natural Communities Recognized by the CNDDDB. Impacts to sensitive natural communities must be considered and evaluated under CEQA.

California Coastal Act/Marin County Requirements. The project site is within the Marin County Coastal Zone and also subject to relevant policies of the Unit I Local Coastal Program (LCP) (County of Marin 1981). Unit II of the LCP was certified in 1981 and includes the communities of Muir Beach, Stinson Beach, Seadrift, and Bolinas. The primary goal of the LCP is to ensure that the local government's land use plans, zoning ordinances, zoning district maps, and implementing actions meet the requirements of, and implement the provisions and policies of, the Coastal Act at the local level.

Natural Resource policies of the Unit II LCP include those related to stream corridors. Certain streams and creeks are protected by LCP policies, and this protection extends to both the stream itself and the riparian vegetation growing adjacent to it. The LCP defines a stream as a perennial or intermittent watercourse mapped by the United States Geological Survey (USGS) on the most current 7.5-minute quadrangle series or identified in a local coastal program. For streams meeting this definition, the Unit I LCP requires a riparian protection area that includes all existing riparian vegetation on both sides of the stream and a stream buffer area. Wetlands are also protected by the Coastal Act. The Coastal Act defines wetlands as land "which may be covered periodically or permanently with shallow water." Coastal Act criteria require the establishment of wetland buffer areas of a minimum of 100 feet.

Marin Countywide Plan requirements pertaining to sensitive habitats, particularly requirements associated with the presence of Stream Conservation Areas (SCAs) and Wetland Conservation Areas (WCAs), are applicable countywide. Policies of the Marin County General Plan related to Stream Conservation Areas include the establishment buffer zones called Stream Conservation Areas for the protection of riparian systems, streams, and related habitats. A Stream Conservation Area consists of a watercourse, surrounding banks, and a strip of land (a riparian setback) extending laterally from the top of both banks. Only certain uses are allowed in SCAs.

Sensitive Habitat Findings

On October 17, 2019, Gary Deghi of HBG conducted an initial reconnaissance investigation of the study area for the presence of wetlands and other “waters of the U.S.” potentially subject to federal jurisdiction under the Clean Water Act or state or local jurisdiction under the Porter-Cologne Act or California Coastal Act. The review included an investigation of existing land forms, vegetation, hydrology, and soil conditions, but consisted of a preliminary review of the area for wetland habitats. No areas were found that would be regulated by the Corps of Engineers as a water of the U.S. under Section 404 of the Clean Water Act or by the SFBRWQCB as a water of the state of California under the Porter-Cologne Act. Likewise, no areas at the site would be considered a stream course subject to the jurisdiction of the CDFW pursuant to Section 1602 of the California Fish and Game Code. No areas satisfying Marin LCP or California Coastal Act criteria as a wetland or stream were found on the property. The nearest blue line stream is Redwood Creek with flows into the Pacific Ocean 315 feet east of the property.

Special Status Species

Sensitive species include those species listed by the federal and state governments as endangered, threatened, or rare or candidate species for these lists. Endangered or threatened species are protected by the federal Endangered Species Act of 1973 as amended, the California Native Plant Protection Act of 1977, and the California Endangered Species Act of 1970. The California Environmental Quality Act (CEQA) provides additional protection for unlisted species that meet the “rare” or “endangered” criteria defined in Title 14, California Code of Regulations Section 15380.

CDFW maintains records for the distribution and known occurrences of sensitive species and habitats in the California Natural Diversity Database (CNDDDB). The CNDDDB is organized into map areas based on 7.5-minute topographic maps produced by the US Geological Survey. All known occurrences of sensitive species and important natural communities are mapped on the quadrangle maps. The database gives further detailed information on each occurrence, including specific location of the individual, population, or habitat (if possible) and the presumed current state of the population or habitat. The project site is located in the Point Bonita 7.5-minute quadrangle. A search of the CNDDDB for records of occurrence of special status animals and plants and natural communities within this quadrangle indicated that no special status species or natural communities are known to occur on the project site itself.

Table 1 presents a list of special status animals and plants that have been reported in coastal Marin County in the project vicinity. The table includes an evaluation of the potential for sensitive species to occur at the site.

Regulatory Requirements

Federal Endangered Species Act (FESA). The FESA is intended to help protect the ecosystems upon which endangered and threatened species depend. The FESA establishes an official listing process for plants and animals considered to be in danger of extinction; requires development of specific plans of action for the recovery of listed species; and restricts activities perceived to

harm or kill listed species or affect critical habitat. The FESA prohibits the “take” of endangered or threatened wildlife species. “Take” can be defined as any act that kills or injures a federally listed species, including significant habitat modification or degradation. The FESA also requires federal agencies to ensure that their actions do not jeopardize the continued existence of listed species or adversely modify critical habitat, and accomplish this in consultation with the U.S. Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS) pursuant to Section 7 of the FESA. If formal consultation is required, USFWS or NMFS will issue a biological opinion stating whether the permit action is likely to jeopardize the continued existence of the listed species, recommending reasonable and prudent measures to ensure the continued existence of the species, establishing terms and conditions under which the project may proceed, and authorizing incidental take of the species.

California Endangered Species Act (CESA). CDFW administers the California Endangered Species Act (CESA). CESA directs agencies to consult with CDFW on projects or actions that could affect state-listed species, directs CDFW to determine whether jeopardy would occur, and allows CDFW to identify “reasonable and prudent alternatives” to the project consistent with conserving the species. The CESA prohibits the taking of state-listed endangered or threatened plant and wildlife species. CDFW exercises authority over mitigation projects involving state-listed species, including those resulting from CEQA mitigation requirements. CDFW may authorize taking if an approved habitat management plan or management agreement that avoids or compensates for possible jeopardy is implemented. CDFW requires preparation of mitigation plans in accordance with published guidelines.

Protections for Nesting Birds. The Migratory Bird Treaty Act (MBTA) implements international treaties devised to protect migratory birds and any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. The regulations governing migratory bird permits are in 50 CFR part 13 General Permit Procedures and 50 CFR part 21 Migratory Bird Permits. On December 22, 2017, the U.S. Department of Interior’s Office of the Solicitor issued Memorandum M-37050, which states an interpretation that the Migratory Bird Treaty Act does not prohibit the accidental or “incidental” taking or killing of migratory birds. The State of California has incorporated the protection of nongame birds and birds of prey, including their nests, in Sections 3800, 3513, 3503, and 3503.5 of the California Fish and Game (CFG) Code. Section 3503 of the Fish and Game Code makes it unlawful to take, possess, or needlessly destroy the nests or eggs of any bird. Section 3503.5 makes it unlawful to take or possess birds of prey (hawks, eagles, vultures, owls) or destroy their nests or eggs.

Special Status Plant Species

A list of special status plants with potential to occur on the property was developed from the CDFW’s California Natural Diversity Data Base. A complete list of special status plant species occurring in the vicinity of the property is included in Table 1. The table includes all coastal Marin County species mentioned in the CNDDDB within approximately five miles of the site.

Special status plant species include: (i) species that are listed or proposed for listing as threatened or endangered under the federal Endangered Species Act; (ii) species that are listed, or proposed for listing by the state of California as threatened or endangered under the California Endangered Species Act; (iii) plants considered by the California Native Plant Society (CNPS) to be rare, threatened, or endangered in California and elsewhere; and (iv) plant species that meet the definition of rare or endangered under CEQA.

All special status plant species found in this part of Marin County require habitat conditions that are not found at the site of the proposed improvements.

Special Status Animal Species

Animal species noted in the CNDDDB as occurring within a 5-mile radius of the site, or that are known to occur in the general vicinity based on the knowledge of HBG biologists, are discussed in Table 1. Special status species of animal are noted in the CNDDDB from near the subject property within the community of Muir Beach. These include species associated with Redwood Creek and such as coho salmon (*Oncorhynchus kisutch*), steelhead (*Oncorhynchus mykiss*), California red-legged frog (*Rana draytonii*), and Western pond turtle (*Emys marmorata*), and also an overwintering population of monarch butterflies. Also, there is concern in West Marin with possible nesting by Northern Spotted Owl (*Strix occidentalis caurina*). These species are discussed in detail below.

Other special status species that are known from further upstream in Redwood Creek include state species of special concern such as California giant salamander (*Dicamptodon ensatus*) and foothill yellow-legged frog (*Rana boylei*). The riparian corridor of Redwood Creek could also support possible nesting by Yellow Warbler (*Setophaga petechia*), a state species of special concern. These species are included in Table 1 and are addressed there. None of the species mentioned above nor any of the species discussed in Table 1 are expected to occur on the subject property. This finding is made based on the habitat requirements of species listed in the table, and is based on field review of habitats present at the site and the immediate vicinity and an evaluation of the suitability of on-site habitats to support these species.

Coho Salmon and Steelhead Trout

Populations of coho salmon (*Oncorhynchus kisutch*) within the Central California Environmentally Sensitive Unit (ESU) are federally-listed between Punta Gorda and the San Lorenzo River and are state listed south of San Francisco Bay. This salmonid requires beds of loose, silt-free, coarse gravel for spawning, and also needs cover, cool water and sufficient dissolved oxygen. According to the CNDDDB, the species occurs in Redwood Creek.

Central California populations of steelhead trout (*Oncorhynchus mykiss*) were federally-listed as threatened in August 1997. Steelhead have been divided into ESUs, all of which were listed as threatened under the Federal Endangered Species Act in August 1997. Steelhead in the Central Coast ESU occur from the Russian River south to Soquel Creek and to, but not including the

Pajaro River and including San Francisco and San Pablo Bays. Like coho salmon, these fish require well-oxygenated streams with riffles and loose, silt-free gravel substrate for spawning.

Steelhead and coho salmon spawning migrations occur during the period from late November through April in years of normal runoff. Most upstream migration occurs during and immediately following periods of heavy storm runoff. All coho salmon die after spawning. Steelhead, however, begin a return migration to the ocean soon after completion of spawning. Both juvenile steelhead and coho salmon require a period of residency in the stream before migrating downstream to the ocean. The length of freshwater residency may vary from one to three years or more depending on the living conditions in the stream. The major downstream migration of juvenile steelhead and coho salmon occurs during the period from February through June, depending on the water year and pattern of winter-spring runoff. Fish habitat is physically reduced to a minimum during the low-flow period of July through October. At this time, the actual physical habitat supporting fish life is at its minimum and the amount of available habitat becomes a limiting factor in the health and survival of fish populations.

Redwood Creek provides a critical spawning and rearing habitat for coho salmon and steelhead. Spawning migrations in Redwood Creek begin after heavy late fall or winter rains breach the sandbar at Muir Beach allowing the fish to move upstream (usually in December and January). Spawning populations of coho salmon and steelhead have declined significantly from historic numbers in Redwood Creek. Redwood Creek has been a focus for restoration by the National Park Service to create rearing pools for juvenile salmonids; remove invasive, non-native vegetation in the riparian corridor; and restore the lagoon that once existing at the mouth of the stream at Muir Beach. In its recent status reviews, NMFS reaffirmed that the Central California Coast coho salmon population is currently in danger of extinction.

California Red-legged Frog. The California red-legged frog (*Rana draytonii*) is a federally-listed threatened species and California species of special concern. The historical range of the California red-legged frog extended from the vicinity of Point Reyes National Seashore in Marin County southward to northwestern Baja California, Mexico and inland to approximately Redding in Shasta County. The frog has sustained a 70 percent reduction in its geographic range. The project area is not part of the critical habitat designated under the Endangered Species Act for the California red-legged frog. California red-legged frogs have been observed in a number of aquatic and terrestrial habitats, including marshes, streams, lakes, reservoirs, ponds and other permanent, or near permanent, sources of water. Although they occur in ephemeral streams or ponds, California red-legged frogs are expected to thrive in permanent deep-water pools with dense stands of overhanging willows (*Salix* spp.) and emergent vegetation. However, they have been observed in a variety of aquatic environments, including stock ponds and artificial pools with little to no vegetation. California red-legged frogs usually are observed near water, but can move long distances over land between water sources during the rainy season. California red-legged frogs are known from the watersheds of various watercourses in Coastal Marin, including Redwood Creek. The nearest documented California

red-legged frogs are from a small pond adjacent to Redwood Creek near the mouth of the creek in Muir Beach. This location is more than 300 feet from the project site. It is unlikely that California red-legged frogs disperse through the project site.

Western Pond Turtle. The Western pond turtle (*Emys marmorata*) is a state species of special concern. Pond turtles occupy ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. The turtles prefer aquatic habitats with calm waters, vegetated banks and emergent logs or rocks to use as basking sites. The turtles also rely on suitable upland areas of scrub and woodlands for aestival refugia, and may use upland habitats up to 0.5 km from water for activities such as egg-laying. Pond turtles living in streams may vacate flood-prone areas during the rainy season. Western pond turtles occur broadly in suitable habitats throughout the state of California. The nearest location for Western pond turtle noted in the CNDDDB is from Redwood Creek in Muir Beach not far from the Muir Beach parking lot. The species is not likely to occur on the site given the distance to the nearest known location and the lack of habitat for this species.

Monarch Butterfly. The monarch butterfly (*Danuas plexippus*) is considered California Rare and is a CDFW ranked S3 (state vulnerable) species. The species is well-known for its north-south migrations from Canada to Mexico which span the lives of several generations. Monarch butterfly winter roost sites, typically used between October and February, extend along the West Coast from Mendocino County in northern California, south to Baja California in Mexico. Winter roosts consist of hundreds or thousands of monarchs in wind-protected tree groves close to sources of nectar and water. On the California coast, these roosts usually form in eucalyptus, but Monterey pine and Monterey cypress groves are also used. Monarch populations across North America have fallen by as much as 90 percent in the last two decades and in February 2015, the USFWS showed that nearly a billion monarchs had vanished from overwintering sites since 1990. The main reason for the decline has been attributed to herbicides used by farmers and homeowners on milkweed, the butterfly's larval host plant. An overwintering site for monarchs is recorded in the CNDDDB at the Muir Beach Community Center, which is approximately 0.15 miles from the project site. The project site habitat is not suitable for establishment of a monarch overwintering site.

Northern Spotted Owl. The Northern Spotted Owl is listed as a threatened species pursuant to the federal Endangered Species Act and as a threatened species by the state of California pursuant to the California Endangered Species Act. Northern Spotted Owls reach the southern limit of their range in Marin County, California. In the northern portion of their range, Northern Spotted Owls are typically found in mature coniferous forests usually from 150 to 200 years old. In Marin County they reside in second growth Douglas-fir, Coast redwood, Bishop pine, mixed conifer-hardwood and evergreen hardwood forests with a nearly closed canopy and moderate to heavy undergrowth and much woody debris. Dusky-footed woodrat is the preferred prey for Northern Spotted Owl in Marin and Sonoma Counties (Shuford 1993, Evens 2008). Nesting Northern Spotted Owls have been found throughout forested habitats in Marin County and use

a variety of tree species for nesting. This owl species does not construct a nest, so existing nest structures or cavities must be available. Northern Spotted Owl nesting territories are usually occupied over successive years by nesting pairs, therefore sites occupied in previous years can be assumed to be occupied in subsequent years. Some habituation and sensitization of Spotted Owls to human presence does occur, and successful nesting has been documented with 50 to 100 yards of existing roads (USFWS 2006). The nesting season for Northern Spotted Owl is considered to include the period between February 1 and July 15.

HBG conducted a review of National Park Service and USFWS data regarding known spotted owl nesting territories in the vicinity of the project site and data available from the CNDDDB. The data indicates the location of known activity centers for nesting pairs of the species and locations in the vicinity of the nest sites where occurrences of Northern spotted owl individuals have been documented. This information revealed that the nearest activity center of known territories of Northern spotted owl and the nearest recorded individuals were reported approximately 10,420 feet (1.97 miles) from the property.

BIOLOGICAL IMPACTS

Standards of Significance

According to CEQA Guidelines (Appendix G), the project would be considered to have a significant impact on biological resources 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 Wildlife and Game or U.S. Fish and Wildlife Service.
- b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service.
- c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- 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 sites.
- e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

- 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.

Impacts

1) Would the project 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 Wildlife or U.S. Fish and Wildlife Service?

The Project would not result in any significant adverse impacts on special-status plant or animal species and would not substantially reduce the number or restrict the range of a rare, endangered or threatened species of fauna. None of the plant or animal species discussed in Table 1 have the potential to occur at the construction site. The proposed project would not result in any significant adverse impacts on special status plant or animal species as explained below. The project would not substantially reduce the number or restrict the range of a rare, endangered or threatened species of fauna.

A number of special status species could be present within Redwood Creek which empties into the Pacific Ocean about 315 feet east of the project site. Federally-listed species of fish such as coho salmon and steelhead are known to spawn in Redwood Creek. Other species that are known to be associated with Redwood Creek in Muir Beach include California red-legged frog and Western pond turtle; species such as California giant salamander and foothill yellow-legged frog are known to occur further upstream. Yellow warbler (a species of concern) could nest in the riparian canopy. All of the work associated with construction of the new single-family home or any of the ancillary facilities (including garage/carport and septic leachfield system) would be more than 300 feet from Redwood Creek. No indirect impact would occur to special status organisms that could be found in Redwood Creek including fish species such as coho salmon and steelhead. All of the work on the site will be setback from the Redwood Creek riparian by at least 300 feet and this setback will protect other special status species that could occur along the creek such as the California red-legged frog, Western pond turtle, California giant salamander, foothill yellow-legged frog or potential nesting by Yellow Warbler. There is also no chance that sediments resulting from site erosion during construction or other contaminants in runoff during the life of the project would result in any pollution in Redwood Creek. Although a monarch overwintering site exists in Muir Beach, the tree canopy on the subject property is not well developed enough to support and overwintering site for this species.

There is the possibility that site erosion could result in sedimentation of the waters of the Pacific Ocean below the site. The landowner will require the contractor to follow all applicable Best Management Practices from the California Stormwater Quality Best Management Practices Handbook for Construction Activities (see Item #2 below). The proposed

implementation of Best Management Practices will ensure that no migration of soil occurs into the waters below the site.

Further information regarding coho salmon and steelhead is provided below along with a discussion of the potential for impacts to Northern Spotted Owl.

Coho salmon and steelhead. Redwood Creek, located about 300 feet east of the project site, is a documented spawning stream for coho salmon and steelhead. Off-site migration of soil leading to possible siltation of salmon streams is an important consideration as excessive siltation can result in covering of spawning gravels, a decreased respiratory function in fish, increasing turbidity levels and diminishing light penetration to submergent vegetation, and raising of water temperature, all potentially resulting in adverse impacts to fish populations. Although some disruption of the soil will be necessary to develop the single-family home on the site, none of the work will take place within an area where drainage patterns could result in sedimentation or other indirect impacts that could affect fish populations within Redwood Creek. With the implementation of Best Management Practices included in the project description there would be little possibility of siltation within stormwater runoff that could adversely affect the water quality of any nearby stream, or result in adverse impacts to special status species, including coho salmon and steelhead, that may occur there.

Northern Spotted Owl. Data from the USFWS and NPS in the CNDDDB documents the nearest activity center of known territories of Northern Spotted Owl occur nearly 2 miles from the property. HBG evaluated the potential for construction to result in harassment to Northern Spotted Owl based on models developed in the U.S. Fish and Wildlife Service 2006 memorandum "Transmittal of Guidance, Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California." The conditions of the proposed project fall under Scenario 3 as described in the models that include a moderate anticipated sound level that would be generated by the type of construction needed for the proposed residential addition (assuming some small trucks and some power tools) and existing ambient sound levels with low human sound-generating activity (some human activities typified by small power tools, light vehicular traffic moving at slow speeds, and rural residential activities). Under this scenario the models used by the USFWS indicate that impacts to Northern Spotted Owl would occur if the species was nesting fairly close to construction activity (visual harassment from construction would likely occur within up to a maximum of 100m or about 330 feet from the activity center for nesting owls, and auditory harassment would occur within about 30m or approximately 100 feet).

According to CDFW, disturbances in the vicinity of nest sites may reach the level of "take" when at least one of the following conditions occur: (i) project-generated sound exceeds ambient nesting conditions by 20 to 25 decibels (dB), (ii) project-generated sound, when added to ambient sounds, exceeds 90 dB, or (iii) human activities occur within a visual line-of-sight distance of 40 meters (approximately 130 feet) from a nest. If nesting Northern Spotted Owl is

known to occur within 0.25 miles of construction, a project applicant can either conduct construction operations during the non-nesting season or conduct nesting-season protocol surveys that definitively demonstrate that owls are not nesting in the vicinity of the construction operations. If construction work must be completed during the nesting season and Northern Spotted Owls are nesting within 0.25 miles of the site, CDFW may require that the applicant obtain an Incidental Take Permit (ITP) pursuant to CESA.

The nearest activity center of known territories of Northern Spotted Owl and the nearest observation of the species occurs nearly 2 miles from the project area. Based on information available from National Park Service and USFWS data, construction would take place beyond the distances predicted by the USFWS models within which harassment of nesting owls could occur, and the construction would also not exceed the decibel limits or line-of-sight distance limits specified in the CDFW guidelines to prevent disturbance to nesting Northern Spotted Owls. No nests are known from within 0.25 miles of the site. Construction activities would not affect nesting Northern spotted owls according to review criteria of USFWS or CDFW.

Special Status Plants. Nearly all of the ground cover vegetation at the site is non-native landscape or ornamental species and does not provide habitat for special status plant species. All of the species mentioned in Table 1 require habitat conditions that are not found at the site of the proposed residential construction. No impacts to special status species of plant would result from the proposed residential improvements.

2) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?

The proposed residence would not conflict with any Stream Conservation Area on or near the property. There are no creeks located on the subject property or in the vicinity of the project. The nearest stream as defined by the Unit I Marin County LCP or by criteria used by CDFW is Redwood Creek which is located just over 300 feet from the property. No construction would occur within 100 feet of a creek, so no direct or indirect impacts to riparian habitat or Stream Conservation Areas would result from construction of the proposed improvements.

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

As no wetlands or waters of the U.S. or state are found on the property, development of the property as proposed would not result in filling (direct impacts) or any indirect impacts to any area that would be subject to the Clean Water Act jurisdiction of the U.S. Army Corps of Engineers, the Porter-Cologne Act jurisdiction of the SFBWQCB, the Section 1602 Fish and Game Code jurisdiction of CDFW, or to regulation by Marin County under the Local Coastal Program or Marin Countywide Plan. No permits from the USACE, SFBWQCB, or CDFW would be required.

4) Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Although a number of bird and other animal species were observed on the property during field surveys, the construction of the improvements as planned would occur within an area consisting of non-native trees and mostly non-native shrubs and grasses. The site development will require removal of vegetation including the removal of a number of non-native trees including Monterey cypress, Monterey pine, blackwood acacia and eucalyptus. As the construction activities would take place within habitats vegetated with mostly non-native trees and other species, the proposed construction would not result in substantial change to animal populations at the site. Valuable habitats for various species can be found in the forested habitats throughout much of the remainder of the site and the area surrounding the site, so ample habitats are present to support the small number of individual animals that may be forced to relocate from the construction zone. The project will not cause a fish or wildlife population to drop below self-sustaining levels.

Even though the trees are non-native, cavities and other features of the trees and shrubs and other vegetation could provide substrate for nesting birds. Therefore, the project applicant has included bird nesting surveys as part of the Project Description to ensure that no nesting birds are harmed during construction and to ensure compliance with the MBTA and California Fish and Game code sections pertaining to protection of nesting birds. If vegetation is to be removed during the February 1 to August 31 nesting season, a qualified biologist will conduct a preconstruction breeding bird survey in areas of suitable habitat within 15 days prior to the onset of construction activity. If active bird nests are found, appropriate buffer zones will be established around the active nests to protect nesting adults and their young from construction disturbance. Size of buffer zones will be determined per recommendations of the biologist based on site conditions and species involved and will be maintained until it can be documented that either the nest has failed or the young have fledged.

During all activities involving land disturbance, the applicant will require the contractor to follow all applicable best management practices from the California Stormwater Quality Best Management Practices Handbook for Construction Activities. With the implementation of best management practices, including the use of straw wattles, covering of stockpile areas and other practices, there would be little possibility of siltation within stormwater runoff that could adversely affect the water quality of nearby streams.

5) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The project would not conflict with any policies of the Unit I LCP, the Marin Countywide Plan or other ordinances of the County of Marin. No wetlands or riparian corridors would be affected by construction of the residence on the property. The project is consistent with the minimum

setback requirements from sensitive biological resources as stipulated by the California Coastal Act and the County's LCP or the Marin Countywide Plan. No native trees will need to be removed to accommodate the proposed residential development.

6) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

There is no adopted Habitat Conservation Plan, Natural Community Conservation Plan or other approved local, regional, or state habitat conservation plan applicable to the project site.

As a result of this Biological Site Assessment, we find that the proposed new construction at 183 Sunset Way in Muir Beach will be consistent with requirements of the Coastal Act and the County's LCP and Marin Countywide Plan. If you have any questions regarding this Biological Site Assessment report for the property at 183 Sunset Way in Muir Beach, please call either me or Dr. Terry Huffman at 415-925-2000.

Sincerely,

DRAFT

Gary Deghi
Vice President/Senior Environmental Scientist

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Table 1. Special Status Animal and Plant Species Documented in the Project Vicinity

SPECIES	STATUS ² FED/STATE/CNPS	HABITAT	OCCURRENCE ON THE PROJECT SITE
ANIMALS			
INVERTEBRATES			
Sandy beach tiger beetle (<i>Cicindela hirticollis gravida</i>)	--/--	Inhabits areas adjacent to non-brackish water along the coast of California from San Francisco Bay northern Mexico. Found in clean, dry, light-colored sand in the upper zone, and subterranean larvae prefer moist sand not affected by wave action.	Not present. Suitable habitat is not found at the site.
Robust walker (<i>Pomatiopsis binneyi</i>)	--/--	Found in freshwater habitats. Believed to occur in the area, but no specific records based on collected or observed specimens in the CNDDDB.	Not present. Suitable habitat not present on site.
Obscure bumble bee (<i>Bombus caliginosus</i>)	--/--	Found in Coastal areas from Santa Barbara County north to Washington State. Food plant genera include <i>Baccharis</i> , <i>Cirsium</i> , <i>Lupinus</i> , <i>Lotus</i> , <i>Grindelia</i> and <i>Phacelia</i> .	This uncommon species could occur almost anywhere in the general area of the site and is included in the CNDDDB due to a general decline in bee populations in recent years.
Western Bumble Bee (<i>Bombus occidentalis</i>)	--/--	This species was once common and widespread, but the species has declined precipitously from Central California to Southern British Columbia, perhaps from disease.	This widespread and once common species could occur almost anywhere in the general area of the site and is included in the CNDDDB due to a general decline in bee populations in recent years.
Opler's Longhorn Moth (<i>Adela oplerella</i>)	FSC/--	Serpentine grassland; larva feed on <i>Platystemon californicus</i> .	Not present. Suitable habitat is not found at the site.
Monarch butterfly	Rare	Winter roost sites extend along the coast	Not present. Winter roosting

Table 1. Special Status Animal and Plant Species Documented in the Project Vicinity

SPECIES	STATUS ² FED/STATE/CNPS	HABITAT	OCCURRENCE ON THE PROJECT SITE
<i>(Danaus plexippus)</i>		from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress) with nectar and water sources nearby.	sites are not present at the site. An overwintering is known from the Muir Beach Community Center.
Mission Blue Butterfly <i>(Plebejus icarioides missionensis)</i>	FE/--	Inhabits grasslands mainly on the San Francisco Peninsula. Larval host plants are <i>Lupinus albifrons</i> , <i>L. variicolor</i> , and <i>L. formosus</i> .	Not present. Suitable habitat not present at the site.
Marin hesperian <i>(Vespericola marinensis)</i>	-/-	Found in moist spots in coastal brushfields and chaparral vegetation in Marin County. Found under leaves of cow-parsnip, around spring seeps, in leafmold along streams and in alder woods and mixed evergreen forest.	Not present. Suitable habitat is not present at the site.
FISH			
Coho salmon – central California ESU <i>(Oncorhynchus kisutch)</i>	FE/CE	Requires beds of loose, silt-free, coarse gravel for spawning. Also need cover, cool water and sufficient dissolved oxygen. Nearest spawning stream is Redwood Creek.	Not present. Suitable habitat is not present at the site. Known to occur in Redwood Creek. No direct or indirect impact would occur to Redwood Creek as a result of the project.
Steelhead – Central CA Coast ESU <i>(Oncorhynchus mykiss)</i>	FT/CSC	Well-oxygenated streams with riffles; loose, silt-free gravel substrate Pine Gulch Creek to the north. Nearest spawning stream is Redwood Creek.	Not present. Suitable habitat is not present at the site. Known to occur in Redwood Creek. No direct or indirect impact would occur to Redwood Creek as a result of the project.

Table 1. Special Status Animal and Plant Species Documented in the Project Vicinity

SPECIES	STATUS ² FED/STATE/CNPS	HABITAT	OCCURRENCE ON THE PROJECT SITE
Tidewater goby (<i>Eucyclogobius newberryi</i>)	FE/--	Brackish water habitats along the California Coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	Not present. Suitable habitat is not present at the site.
Longfin smelt (<i>Spirinchus thaleichthys</i>)	FC/CE,CSC	Found in open waters of estuaries, mostly in the middle or bottom of the water column. Euryhaline, nektonic and anadromous. Prefers salinities of 15030 ppt but can be found in both freshwater and seawater.	Not present. Suitable habitat is not present at the site.
AMPHIBIANS			
California red-legged frog (<i>Rana draytonii</i>)	FT/CSC	Mostly found in lowlands and foothills in/near permanent sources of deep water but will disperse far during and after rain. Prefers shorelines with extensive vegetation. Requires 11-20 weeks of permanent water for larval development and requires access to aestivation habitat. Known from several locations along Redwood Creek.	Not present. Suitable habitat is not present at the site. Known to occur in Redwood Creek. No direct or indirect impact would occur to Redwood Creek as a result of the project.
California giant salamander (<i>Dicamptodon ensatus</i>)	--/CSC	Known from wet coastal forests near streams and seeps from Mendocino County south to Monterey County and east to Napa County. Aquatic larvae are found in cold, clear streams, occasionally in lakes and ponds. Adults are found in wet forests under rocks and logs near streams and lakes.	Not present. Suitable habitat is not present at the site. Known to occur in Redwood Creek. No direct or indirect impact would occur to Redwood Creek as a result of the project.

Table 1. Special Status Animal and Plant Species Documented in the Project Vicinity

SPECIES	STATUS ² FED/STATE/CNPS	HABITAT	OCCURRENCE ON THE PROJECT SITE
Foothill Yellow-legged Frog (<i>Rana boylei</i>)	--/CSC	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Need at least some cobble-sized substrate for egg-laying; larvae need at least 15 weeks to attain metamorphosis.	Not present. Suitable habitat is not present at the site. Known to occur in Redwood Creek. No direct or indirect impact would occur to Redwood Creek as a result of the project.
REPTILES			
Western pond turtle (<i>Emys marmorata</i>)	--/CSC	Aquatic turtle of ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Needs basking sites and suitable upland habitat for egg-laying (sandy banks or grassy open fields).	Not present. Suitable habitat is not present at the site. Known to occur in Redwood Creek. No direct or indirect impact would occur to Redwood Creek as a result of the project.
BIRDS			
Great blue heron (<i>Ardea herodias</i>) (Rookery)	-/-	Colonial nester in tall trees, cliff sides, and sequestered spots on marshes. Rookery sites in close proximity to foraging areas: marshes, lake margins, tide-flats, rivers and streams, wet meadows.	Not present. Suitable habitat for a rookery is not present at the site.
White-tailed kite (<i>Elanus caeruleus</i>) [nesting]	-/CFP	Open grassland and agricultural areas throughout Central California.	Not present. Suitable habitat not present on site. Species likely forages on or near the site, especially in winter.
Cooper's hawk (<i>Accipiter cooperii</i>) [nesting]	-/WL	Nests primarily in deciduous riparian forests; forages in open woodlands.	Not present. Suitable habitat not present on site. Species likely forages on or near the site, especially in winter.

Table 1. Special Status Animal and Plant Species Documented in the Project Vicinity

SPECIES	STATUS ² FED/STATE/CNPS	HABITAT	OCCURRENCE ON THE PROJECT SITE
Osprey (<i>Pandion haliaetus</i>) [Nesting]	--/WL	Breeds in northern California from the Cascade Ranges south to Lake Tahoe, and along the coast south to Marin County. Associated strictly with large, fish-bearing waters, primarily in Ponderosa pine through mixed conifer habitats.	Not present. Occurs in the area and was observed flying over the site, but suitable nesting habitat was not observed at the project site or immediate vicinity.
American Peregrine Falcon (<i>Falco peregrinus anatum</i>)	Delisted,BCC/Delisted, FP	Nests in woodland, forest and coastal habitats, on cliffs or banks, and usually near wetlands, lakes, rivers, sometimes on human-made structure. In non-breeding seasons found in riparian areas and coastal and inland wetlands.	Not present. Occurs in the area but suitable nesting habitat is not present at the site.
Ridgway's (California clapper) Rail (<i>Rallus obsoletus</i>)	FE/CE,FP	Found in saltwater marshes traversed by tidal sloughs in the vicinity of San Francisco Bay; associated with abundant growths of pickleweed; feeds on mollusks obtained from mud-bottomed sloughs.	Not present. Suitable habitat not present at the site.
California black rail (<i>Laterallus jamaicensis coturniculus</i>)	--/CT,FP	Mainly inhabits salt-marshes bordering larger bays. Occurs in tidal salt marsh with dense growths of pickleweed; also occurs in freshwater and brackish marshes.	Not present. Suitable habitat is not present at the site.
Northern spotted owl (<i>Strix occidentalis caurina</i>)	FT/--	In the northern portion of their range, Northern spotted owls are typically found in mature coniferous forests. In Marin County they reside in second growth Douglas-fir, coast redwood, bishop pine, mixed conifer-hardwood, and evergreen hardwood forests. Nesting Northern spotted owls have been found throughout forested habitats in Marin.	Not present. Suitable habitat is not found at the site. Nearest activity center is nearly 2 miles from the site.

Table 1. Special Status Animal and Plant Species Documented in the Project Vicinity

SPECIES	STATUS ² FED/STATE/CNPS	HABITAT	OCCURRENCE ON THE PROJECT SITE
Saltmarsh common yellowthroat (<i>Geothlypis trichas sinuosa</i>)	BCC/CSC	Requires thick continuous cover down to water surface for foraging; tall grasses, tule patches, willows for nesting.	Not present. Suitable habitat is not present at the site.
Yellow Warbler (<i>Dendroica petechia</i>) [nesting]	BCC/CSC	Breeds in deciduous riparian woodlands, widespread during fall migration.	Not present. Suitable nesting habitat is not present at the site. May occur as a transient during fall migration.
MAMMALS			
Point Reyes jumping mouse (<i>Zapus trinotatus orarius</i>)	--/CSC	Primarily bunch grass marshes, also coastal scrub grassland and meadows. Builds grassy nest on ground under vegetation and burrows in winter.	Not present. Suitable habitat is not present at the site.
Salt Marsh harvest mouse (<i>Reithrodontomys raviventris</i>)	FE/CE,FP	Inhabits saline emergent wetlands in the San Francisco Bay and its tributaries. Pickleweed is the primary habitat.	Not present. Suitable habitat not present at the site.
American badger (<i>Taxidea taxus</i>)	--/CSC	Drier open stages of most shrub, forest, and herbaceous habitats; needs sufficient food, friable soils and open, uncultivated ground.	Not present. Suitable habitat is not present at the site.
Townsend's Big-eared Bat (<i>Corynorhinus townsendii</i>)	--/CCT,CSC	Found in desert scrub and coniferous forests. Roost in caves or abandoned mines and occasionally are found to roost in buildings.	Not present. Suitable habitat is not present at the site.
PLANTS			
Napa false indigo (<i>Amorpha californica</i> var. <i>napensis</i>)	--/1B.2	Broadleafed upland forest, chaparral, cismontane woodland. Openings in forest or woodland or in chaparral. 150-2000m.	Not present. Suitable habitat is not found at the site.
Bent-flowered fiddleneck (<i>Amsinckia lunaris</i>)	--/1B.2	Cismontane woodland, valley and foothill grassland. 5-500m	Not present. Suitable habitat is not found at the site.

Table 1. Special Status Animal and Plant Species Documented in the Project Vicinity

SPECIES	STATUS ² FED/STATE/CNPS	HABITAT	OCCURRENCE ON THE PROJECT SITE
Mt. Tamalpais manzanita (<i>Arctostaphylos montana</i>)	--/--/1B	Chaparral, valley and foothill grassland. Known from fewer than 20 occurrences in the Mt. Tamalpais area, Marin County. Serpentine slopes in chaparral and grassland: 160-760 m.	Not present. Suitable habitat is not found at the site.
Marin manzanita (<i>Arctostaphylos virgata</i>)	--/--/1B.2	Broadleaved upland forest, closed-cone coniferous forest, chaparral, north coast coniferous forest. Only known from about 20 EOS in Marin County. On sandstone or granitic soil 60–700 m.	Not present. Suitable habitat is not found at the site.
Coastal marsh milk-vetch (<i>Astragalus pycnostachyus</i> var. <i>pycnostachyus</i>)	-/--/1B.2	Mesic sites in coastal dunes or along streams or coastal salt marshes. 0-30m.	Not present. Suitable habitat is not found at the site.
Thurber's Reed Grass (<i>Calamagrostis crassiglumis</i>)	--/--/2B.1	Usually found in marshy swales surrounded by grassland or coastal scrub. 10-45m.	Not present. Suitable habitat is not found at the site.
Coastal bluff morning-glory (<i>Calystegia purpurata</i> ssp. <i>saxicola</i>)	--/--/1B.2	Found Coastal dunes, Coastal scrub, Coastal bluff scrub and North coniferous forest. 5-430m.	Not present. Suitable habitat is not found at the site.
Lyngbye's sedge (<i>Carex lyngbyei</i>)	-/--/2B.2	Marshes and swamps (brackish or freshwater) at sea level.	Not present. Suitable habitat is not found at the site.
Point Reyes bird's salty beak (<i>Chloropyron maritimum palustre</i>)	-/--/1B.2	Usually in coastal salt marsh with <i>Salicornia</i> , <i>Distichlis</i> , <i>Jaumea</i> , <i>Spartina</i> , etc.	Not present. Suitable habitat is not found at the site.
San Francisco Bay spineflower (<i>Chorizanthe cuspidata cuspidata</i>)	--/--/1B.1	Found on sandy soil on terraces and slopes within coastal bluff scrub, coastal dunes, coastal prairie and coastal scrub. 5-550m.	Not present. Suitable habitat is not found at the site.
Franciscan thistle (<i>Cirsium andrewsii</i>)	-/--/1B.2	Coastal bluff scrub, broadleaved upland forest and coastal scrub. Sometimes found in serpentine seeps.	Not present. Suitable habitat is not found at the site.

Table 1. Special Status Animal and Plant Species Documented in the Project Vicinity

SPECIES	STATUS ² FED/STATE/CNPS	HABITAT	OCCURRENCE ON THE PROJECT SITE
Mt. Tamalpais thistle (<i>Cirsium hydrophilum</i> var. <i>vaseyi</i>)	--/--/1B.2	Broadleaved upland forest, chaparral. Endemic to Marin County. Serpentine seeps and streams in chaparral and woodland. 265–620 m.	Not present. Suitable habitat is not found at the site.
Western leatherwood (<i>Dirca occidentalis</i>)	-/--/1B.2	Occurs on brushy slopes and mesic sties in in broadleaved upland forest, chaparral, close-cone coniferous forest and a variety of other forested habitats. 30-550m.	Not present. Suitable habitat is not found at the site.
Tiburon buckwheat (<i>Eriogonum luteolum</i> var. <i>caninum</i>)	--/--/1B.2	Found in serpentine soils in sandy to gravelly sites within chaparral, valley and foothill grassland, cismontane woodland and coastal prairie. 0-700 m.	Not present. Suitable habitat is not found at the site.
Minute pocket moss (<i>Fissidens pauperculus</i>)	--/--/1B.2	Found in North Coast coniferous forest. This moss grows on damp soil along the Coast and found in dry streambeds and on stream banks. 10-1024 m.	Not present. Suitable habitat is not found at the site.
Marin checker lily (<i>Fritillaria lanceolata</i> var. <i>tristulis</i>)	--/--/1B.1	Coastal bluff scrub, coastal scrub, coastal prairie. Endemic to Marin County. Occurrences reported from canyons and riparian areas as well as rock outcrops; often on serpentine. 30–300 m..	Not present. Suitable habitat is not found at the site.
Blue coast gilia (<i>Gilia capitata</i> ssp. <i>chamissonis</i>)	-/--/1B.1	Coastal dunes and coastal scrub. 2-200m.	Not present. Suitable habitat is not found at the site.
Dark-eyed gilia (<i>Gilia millefoliata</i>)	--/--/1B	Coastal dunes. 2-20m.	Not present. Suitable habitat is not found at the site.

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SPECIES	STATUS ² FED/STATE/CNPS	HABITAT	OCCURRENCE ON THE PROJECT SITE
Diablo helianthela (<i>Helianthela castenea</i>)	--/--/1B.2	Broadleaved upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland. Usually in chaparral/oak woodland interface in rocky, azonal soils. Often in partial shade. 25-1150m.	Not present. Suitable habitat is not found at the site.
Santa Cruz tarplant (<i>Holocarpha macradenia</i>)	FT/CE/1B	Sandy soil or sandy clay in coastal prairie and valley and foothill grassland. 10-260m.	Not present. Suitable habitat is not found at the site.
Point Reyes horkelia (<i>Horkelia marinensis</i>)	-/--/1B.2	Coastal dunes, coastal prairie and coastal scrub; in sandy flats and dunes of grassland or scrub habitats near the coast. 5-30m.	Not present. Suitable habitat is not found at the site.
Thin-lobed horkelia (<i>Horkelia tenuiloba</i>)	--/--/1B.2	Coastal scrub, chaparral. Sandy soils, mesic openings. 45–500 m.	Not present. Suitable habitat is not found at the site.
Small groundcone (<i>Kopsiopsis hookeri</i>)	--/--/2B.3	North Coast coniferous forest. Found in open woods and shrubby places, generally on Gaultheria shallon. 120-1435 m.	Not present. Suitable habitat is not found at the site.
Marsh microseris (<i>Microseris paludosa</i>)	-/--/1B.2	Closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland. 5-300m.	Not present. Suitable habitat is not found at the site.
Marin County navarretia (<i>Navarretia rosulata</i>)	--/--/1B.2	Closed-cone coniferous forest, chaparral. Known only from Marin and Napa Counties. Dry, open rocky places; can occur on serpentine. 200–635 m.	Not present. Suitable habitat is not found at the site.
White-rayed pentachaeta (<i>Pentachaeta bellidiflora</i>)	FE/CE/1B.1	Mostly on soils derived from serpentine bedrock or open, dry rocky slopes and grassy areas of valley and foothill grassland. 35-620m.	Not present. Suitable habitat is not found at the site.

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SPECIES	STATUS ² FED/STATE/CNPS	HABITAT	OCCURRENCE ON THE PROJECT SITE
Hairless popcornflower (<i>Plagiobothrys glaber</i>)	--/--/1A	Found in meadows and seeps, marshes and swamps. Coastal salt marshes and alkaline meadows. 5-125m.	Not present. Suitable habitat is not found at the site.
Oregon polemonium (<i>Polemonium carneum</i>)	--/--/2B.2	Found in Coastal prairie, coastal scrub and lower montane coniferous forest. 0-1830m.	Not present. Suitable habitat is not found at the site.
Tamalpais oak <i>Quercus parvula</i> var. <i>tamalpaisensis</i>	-/-/1B.3	Lower montane coniferous forest. 100-750m.	Not present. Suitable habitat is not found at the site.
Marin checkerbloom (<i>Sidalcea hickmanii</i> ssp. <i>viridis</i>)	--/--/1B.1	Found in serpentine or volcanic soils in chaparral. Sometimes appears after burns. 1-425 m.	Not present. Suitable habitat is not found at the site.
Scouler's catchfly (<i>Silene scouleri</i> ssp. <i>scouleri</i>)	--/--/2B.2	Found in Coastal Bluff Scrub, Coastal Prairie, and valley and foothill grasslands. 5-315 m.	Not present. Suitable habitat is not found at the site.
Santa Cruz microseris (<i>Stebbinsoseris decipiens</i>)	--/--/1B	Found in broadleaved upland forest, closed-cone coniferous forest, chaparral, coastal prairie and coastal scrub. Occurs in open areas on seaward slopes in loose or disturbed soil, usually derived from sandstone, shale or serpentine. 10-500m.	Not present. Suitable habitat is not found at the site.
Tamalpais jewel-flower (<i>Streptanthus batrachopus</i>)	--/--/1B.3	Closed-cone coniferous forest, chaparral. Endemic to Marin County. Talus serpentine outcrops. 410-650 m.	Not present. Suitable habitat is not found at the site.
Mt. Tamalpais bristly jewelflower (<i>Streptanthus glandulosus</i> spp. <i>pulchellus</i>)	--/--/1B.2	Serpentine slopes in chaparral and valley and foothill grassland. 125-670 M.	Not present. Suitable habitat is not found at the site.
Two-fork clover (<i>Trifolium amoenum</i>)	FE/-/1B.1	Valley and foothill grassland, coastal bluff scrub, sometimes on serpentine soil. 5-560m.	Not present. Suitable habitat is not found at the site.

Table 1. Special Status Animal and Plant Species Documented in the Project Vicinity

1. Source: California Natural Diversity Data Base, Natural Heritage Division, California Department of Fish and Wildlife for the Point Bonita 7.5 Minute Quadrangle Map and surrounding areas, October 2019.

2. Status Codes:

FE	Federal-listed Endangered	CE	California State-listed Endangered
FT	Federal-listed Threatened	CT	California State-listed Threatened
FPE	Federally Proposed Endangered	CR	California Rare
FPT	Federally Proposed Threatened	FP	California Fully Protected
BCC	USFWS Bird Species of Conservation Concern	CSC	CDFW Species of Special Concern
		WL	CDFW Watch List Species

California Rare Plant Rank 1A:	Plants presumed extirpated in California and either rare or extinct elsewhere.
California Rare Plant Rank 1B:	Plants rare, threatened, or endangered in California and elsewhere.
California Rare Plant Rank 2A:	Plants presumed extirpated in California, but more common elsewhere.
California Rare Plant Rank 2B:	Plants rare, threatened, or endangered in California, but more numerous elsewhere.
California Rare Plant Rank 3:	Plants about which more information is needed – a review list.
California Rare Plant Rank 4:	Plants of limited distribution – a watch list.

CNPS Threat Ranks

0.1-Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)

0.2-Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)

0.3-Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)