

# Huffman-Broadway Group, Inc.

ENVIRONMENTAL REGULATORY CONSULTANTS

828 MISSION AVENUE, SAN RAFAEL, CA 94901 • 415.925.2000 • WWW.H-BGROUP.COM

March 2, 2022

Kodiak Drewry  
50 Juniper Ave  
San Geronimo, CA 94963

**Subject: Biological Site Assessment for 50 Juniper Road, San Geronimo, Marin County, California**

Dear Mr. Drewry:

Huffman-Broadway Group, Inc. (HBG) has completed a Biological Site Assessment report for proposed residential construction for the residence at 50 Juniper Road, San Geronimo, Marin County, California. This 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."

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 and wetland scientist Robert Perrera on November 22, 2021.

## **1.0 PROPOSED PROJECT**

The subject property is an approximately 2.7-acre property consisting of assessor parcel (APN) No. 169-331-16 at 50 Juniper Road, San Geronimo, Marin County, California. HBG has reviewed a survey of the property prepared by Ray Carlson and Associates, Inc. dated September 14, 2021. The approximately 2.7-acre site is a currently undeveloped parcel with access via an unimproved driveway to Juniper Road. The regional location of the Project Site is shown in Figure 1. Figure 2 shows the location of the site on the San Geronimo 7.5-minute USGS quadrangle map. Figure 3 shows an aerial photo of the Project Site and the surrounding area.

The landowner proposes to construct a new 1,940 square-foot, two-story dwelling with a 492 square foot attached garage, 886 square feet of concrete patio and stairs, and 261 square feet of deck. The footprint of the new residence would be 1,339 square feet. The project also includes the construction of approximately 6,135 square feet of asphalt driveway with fire department truck turn around, wood and concrete retaining walls from 2 feet to 9 feet tall to support new driveway and backyard, and rip-rap storm water dissipators located downhill of the driveway. Utilities include installation of approximately 86 linear feet of underground 1-inch water line to the main house; approximately 38 linear feet of 6-inch water line from Juniper Road to a new fire hydrant; and 110 linear feet of electrical line (underground) from Juniper Road to main house. Utilities would also include a septic system to include a 1,000-gallon sump pump tank and 1500-gallon septic tank adjacent to new dwelling and approximately 155 linear feet of leach field approximately 80-100 feet south of new dwelling location. The site plan (grading and drainage plan) prepared by Peter Moeck, P.E., will be submitted to the County under separate cover.

## 2.0 REGULATORY BACKGROUND

The following provides regulatory background information regarding special status species and sensitive habitats:

### 2.1 Sensitive Habitats

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:

City or County Tree Ordinances	The California Endangered Species Act
City or County General Plan Land Use Areas	The Federal Clean Water Act
City, County, State, or Federal Special Habitat Management Areas	The Federal Endangered Species Act (listed species or critical habitat)
The California Porter-Cologne Act	The Federal Migratory Bird Treaty Act
The California Coastal Act	The Bald and Golden Eagle Protection Act
The California Environmental Quality Act (CEQA)	The National Environmental Protection Act
Habitats such as serpentine soils or vernal pools supporting plant species on California Native Plant Society (CNPS) Lists 1 and 2 which are considered special status habitats under CEQA.	The Federal Magnuson-Stevens Fishery Conservation and Management Act
The California Department of Fish and Wildlife Lake and Streambed Alteration Agreement Program	The Federal Coastal Zone Management Act

Sensitive habitats potentially found within the Project Area include:

**Waters of the United States.** The Department of the Army, acting through the U.S. Army Corps of Engineers (USACE), 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 (US EPA) and USACE regulations (40 CFR § 230.3(s) and 33 CFR § 328.3(a), respectively). US EPA and the USACE 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” (US EPA regulations at 40 CFR § 230.3(t); USACE 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)).

*Navigable Waters Protection Rule.* In 2020, the Trump Administration obtained approval of the Navigable Waters Protection Rule (NWPR) that altered the reach of the nation’s Clean Water Act. The NWPR has four categories of jurisdictional waters and twelve categories of excluded waters/features. There is no standalone interstate waters category and no case-specific significant nexus analysis. Key changes were made for defining tributary, adjacent wetland, ditches, lakes, ponds, and impoundments, and new definitions for defining typical year versus normal, perennial, intermittent, ephemeral, snowpack, and ditches were created. No change was made to the definition of wetlands or the methodology for defining wetlands. Under the NWPR, WOTUS includes 1) territorial seas and traditional navigable waters; 2) tributaries; 3) lakes and ponds, and impoundments of jurisdictional waters; and 4) adjacent wetlands.

A ruling in the U.S. District Court for the District of Arizona on August 30, 2021, in the case of *Pascua Yaqui Tribe v. U.S. Environmental Protection Agency*, may result in the Final NWPR being overturned permanently. The Environmental Protection Agency (USEPA) and U.S. Army Corps of Engineers (USACE/Corps) are reviewing the U.S. District Court’s order vacating and remanding the NWPR, have halted implementation of the Navigable Waters Protection Rule, and are currently interpreting “waters of the United States” consistent with the pre-2015 WOTUS definition and USEPA and USACE regulatory policies and guidance regime until further notice.

**Waters of the State.** Both surface and ground water are regulated under State Water Quality Control Board State Water Quality Control Board. 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 SWQCB and its Regional Boards also regulated the discharge of dredged and fill material into state waters under their federally delegated (USEPA) CWA Section 401 State Water Quality Certification Program.

The SWQCB and its Regional Boards, including the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB), routinely rely on the USACE/USEPA jurisdictional determinations as the Water Boards 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. Similarly, the SWQCB/SFBRWQCB typically takes jurisdiction over wetlands and other waters where the USACE/USEPA has determined that a wetland or other water of the US is exempted or excluded from jurisdiction or where the USACE/USEPA determines that the proposed project activity is exempt from regulation.

**Lakes, Streams, Riparian Habitats, Sensitive Plant Communities.** 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. This includes ephemeral streams, desert washes, and watercourses with a subsurface flow. It may also apply to work undertaken within the flood plain of a body of water.

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 Fish and Game Code 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 that CDFW ranks as sensitive communities that are 'threatened' or 'very threatened' and keeps records of their occurrences in its California Natural Diversity Data Base (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.

**Marin Countywide Plan.** 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. The most recent Marin Countywide Plan was approved in 2007 (Marin County 2007), however, due to ongoing litigation, this Plan does not apply to the San Geronimo Valley. The Marin Countywide Plan applicable to the project site in the San Geronimo Valley is the Plan approved in 1994 (Marin County 1994, as amended).

Policies of the 1994 Marin Countywide Plan related to Stream Conservation Areas include the establishment buffer zones called Stream Conservation Areas (SCA) for the protection of riparian systems, streams, and related habitats. An SCA consists of a "watercourse itself between the tops of banks and a strip of land extending laterally from the top of both banks to a width of 100 feet on each side." Only certain uses are allowed in SCAs such as necessary water supply and flood control projects, improvements to fish and wildlife habitat, grazing, agriculture, maintenance of channels for erosion control, water monitoring installations, and trails. Prohibited uses include but are not limited to roads and utility lines (except at crossings), confinement of livestock, dumping, use of motorized vehicles, and new structures. If the proposed use is not one of the permitted uses in the SCA but is allowed under the existing zoning, an applicant can apply for a development permit if the parcel either (1) falls entirely within the Stream Conservation Area; or (2) development on any other portion of the parcel (outside of the SCA) would have greater impacts on water quality.

The Marin Countywide Plan states that an SCA is established to protect the active channel, water quality and flood control functions and associated fish and wildlife habitat value along streams. SCAs can be established along perennial, intermittent, and ephemeral streams, and is to encompass jurisdictional wetlands or unvegetated other waters within the stream channel. The Plan indicates that development shall be set back to protect the stream and provide an upland buffer. The 1994 Marin Countywide Plan indicates that ephemeral streams should be subject to policies within Stream Conservation Areas if it supports riparian vegetation for a length of 100 feet or more. Best management practices are to be adhered to in all designated SCAs.

## **2.2 Special Status Species**

**Federal Endangered Species Act (ESA).** The ESA is intended to help protect the ecosystems upon which endangered and threatened species depend. The ESA 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 ESA 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 ESA also requires federal agencies to ensure that their actions do not jeopardize the continued existence of listed species or adversely modify critical habitat, and to 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 ESA. 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.

**California Environmental Quality Act Review.** Special status species to be evaluated in reviews pursuant to the California Environmental Quality Act (CEQA) 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. Special status species also include those species listed by CDFW as Species of Concern (species that face extirpation in California if current population and habitat trends continue), those listed as Fully Protected by CDFW (a designation that provides additional protection to those animals that were rare or faced possible extinction), and bird species designated as Bird Species of Conservation Concern by the USFWS. These state and federal Species of Concern must be evaluated in the context of evaluation under CEQA. Special status species included in CEQA review also include bat species protected by the California Fish and Game Code and that have been designated with conservation priority by the Western Bat Working Group. CEQA also requires evaluation of impacts to plant species on California Native Plant Society (CNPS) Lists 1 and 2.

### **2.3 Protections for Migratory 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. 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. In response to the Trump Administration's attempted changes to the MBTA, eight states, including California, filed suit in September of 2018, arguing that the new interpretation inappropriately narrows the MBTA and should be vacated. On August 11, 2020, the Southern District of New York ruled in favor of the long-standing interpretation of the MBTA to protect migratory birds, reinstating the historical ban on incidental take. Just days before leaving office, the Trump Administration finalized its pullback of MBTA regulations, despite the ruling of the federal court. On his first day in office, new President Joe Biden placed Trump's changes to the MBTA on hold, pending further review.

The State of California also incorporates 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. In December of 2018, California issued new guidance specifying that state law includes "a prohibition on incidental take of migratory birds, notwithstanding any federal reinterpretation of the Migratory Bird Treaty Act" by the Department of Interior.

To ensure compliance with the above regulations, bird nesting surveys are generally required if construction work requires vegetation removal during the bird nesting season. CDFW generally considers the nesting season to be from February 1 to August 31 for most bird species. Required setbacks to protect active nests from construction activity are usually in the order of about 250 feet for passerines (songbirds) and 500 feet or more for raptors (birds of prey).

### **2.4 Protections for Bat Populations**

Bats and other non-game mammals are protected in California. Section 4150 of the Fish and Game Code states that all non-game mammals or parts thereof may not be taken or possessed except as otherwise provided in the code or in accordance with regulations adopted by the Fish and Game Commission. Thus, destruction of an occupied, non-breeding, bat roost, resulting in the death of bats, or disturbance that causes the loss of a maternity colony of bats (resulting in the death of young), is prohibited.

Bats in this region use a wide variety of roosts, including man-made roosts such as buildings, bridges, and culverts; they also use trees that contain suitable roost habitat. Bats are nocturnal, and select day roosts for rest, protection, pup-rearing and overwintering, and night roosts during seasonal periods of activity during foraging flights. Often, the same day roost provides night roost habitat. Colonial bats roost in groups ranging from several to thousands of

individuals, while solitary bats roost in tree foliage, either alone, or consisting of a female and her pup(s). Bats are particularly vulnerable to loss or disturbance of their day roosts, even more so during pup-rearing when bats are not volant (flying) and during winter months when bats are in torpor or hibernation.

Bats in this region of California are also not active year-round. During the maternity season, non-volant young (those unable to fly) of colonial bats remain in the roost until late summer (end of August), after which they may either disperse from the natal roost, or remain into or throughout the winter. During winter months, bats typically enter torpor, the onset of which is dependent upon environmental conditions, primarily temperature and rainfall. To prevent direct mortality of either non-volant young or torpid bats during winter months, roosts must not be disturbed or destroyed until bats are seasonally active, and only after they have been provided a means of escape from the roost. Therefore, bats may be safely evicted in this region between March 1 (or when evening temperatures are above 45F and rainfall is less than ½" in 24 hours) and April 15 (prior to parturition of pups). The next acceptable period for eviction is September 1 through October 15 (after pups become self-sufficiently volant or prior to evening temperatures dropping below 45F and onset of rainfall greater than ½" in 24 hours).

## **2.5 Marin County Code**

Marin County Code Sections require procedures to protect roosting bats, nesting birds, and the state and federally listed Northern spotted owl. In areas where a Biological Site Assessment identifies a high probability for the presence roosting bats, Code Section 22.20.040(E) requires a two-step process for removal of trees with potential bat habitat during certain times of the year. If a Biological Site Assessment identifies areas with a high probability of the presence of nesting birds and the project requires tree removal, grading, or other site disturbances during the nesting season, Code Section 22.20.040(F) requires pre-construction bird nesting surveys and, if nesting birds are found, establishment of appropriate buffer zones and installation of exclusion fencing to ensure no disturbance to active nests until young have fledged. In addition, Marin County Code Section 22.20.040(G) requires special conditions to protect Northern spotted owl be implemented if a Biological Site Assessment identifies a Northern spotted owl nest within 500 feet of proposed outdoor construction activity involving tree removal, grading, or other site disturbances.

Tree replacement policies from the Marin County Code may also be relevant to a proposed project. Specifically, Section 22.26.040 (Landscaping Objectives) states "any trees that are to be removed and for which a Tree Removal Permit is required shall be replaced at a minimum ratio of two new, appropriately sized and installed trees for each tree removed, unless a greater replacement ratio is determined to be appropriate." Section 22.27.040 indicates that "in the event that tree planting on the site is not feasible or appropriate, the Director may require in lieu of planting on the specific property, the payment of money in the amount of \$500 per replacement tree to be deposited into the Tree Preservation Fund managed by the Marin County Parks and Open Space Department for planting, maintenance, and management of trees and other vegetation.



### 3.0 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 November 22, 2021. 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 downward to the north toward Juniper Road. Based on a survey of the property prepared by Ray Carlson and Associates dated September 14, 2021, LIDAR data available from the County, and the San Geronimo USGS 7.5-minute quadrangle map, elevations on the property range from about 470 feet msl in the northeastern portion of the property near Juniper Road to approximately about 770 feet msl in the southeastern portion of the site near the top of the ridge. The soil type throughout approximately 95% of the property is Dipsea-Barnabe very gravelly loam, 50 to 75% slopes. An area totaling about 0.1 acres (5% of the project site) along the western boundary of the property is Henneke stony clay loam, 15 to 50% slopes. The Henneke soil series is a serpentine soil (USDA 2021).

Like other portions of northern California, San Geronimo 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 area is slightly less than 40 inches, with most rain in the Bay Area's winter "rainy season" (November through March).

#### 3.1 Plant Communities

Vegetation communities and habitats at the project site were identified based on the currently accepted List of Natural Communities (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 one habitat type according to this classification: Mixed Evergreen Forest.

Tree canopy within the Mixed Evergreen Forest found in the eastern portion of the property (where new residential construction is proposed) consists of Douglas fir (*Pseudotsuga menziesii*), with Coast redwood (*Sequoia sempervirens*) and tan oak (*Notholithocarpus densiflorus*), along with a small number of California bay (*Umbellularia californica*). Higher up on the ridge, above the area of proposed construction, tree canopy includes numbers of madrone (*Arbutus menziesii*). Understory vegetation in the eastern (development) portion of the property includes large numbers of young tan oak and other vegetation such young ash (*Fraxinus* sp.), hazelnut (*Corylus cornuta*), California huckleberry (*Vaccinium ovatum*), western wood fern (*Dryopteris arguta*), and California blackberry (*Rubus ursinus*). Further up on the ridge the understory includes manzanita (*Arctostaphylos* sp.).

### 3.2 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 of Marin County. 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. Many mature trees in the forested portions of the site are old enough to have developed cavities in trunks and branches that may harbor cavity nesting birds or serve as roost sites for any of a number of species of bats. Understory vegetation provides nesting substrate for various bird species.

A number of wildlife species were documented at the site during the fall season field review conducted by Gary Deghi of HBG on November 22, 2021. Nearly all species documented are common to abundant in the region and would be expected in the habitats present at the site. Bird species documented in the project area during the November 22, 2021 field review included hairy woodpecker (*Dryobates villosus*), band-tailed pigeon (*Patagioenas fasciata*), hermit thrush (*Catharus guttatus*), brown creeper (*Certhia americana*), and common raven (*Corvus corax*).

No amphibians were observed at the site despite looking under several rotting logs, but amphibian species expected in the area would include Pacific treefrog (*Pseudacris regilla*), western toad (*Bufo boreas*), California slender salamander (*Batrachoseps attenuatus*), arboreal salamander (*Aneides lugubris*), and Ensatina salamander (*Ensatina eschscholtzii*). 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*), ringneck snake (*Diadophis punctatus*), and common garter snake (*Thamnophis sirtalis elegans*). Evidence of mammals at the site in November 2021 included Botta's pocket gopher (*Thomomys bottae*) (dens) and mule deer (*Odocoileus hemionus*)(scats). Other mammals expected in the area would include Western gray squirrel (*Sciurus griseus*), Virginia opossum (*Didelphis virginiana*), deer mouse (*Peromyscus maniculatus*), dusky-footed woodrat (*Neotoma fuscipes*), striped skunk (*Mephitis mephitis*), and raccoon (*Procyon lotor*). Other mammals such as bobcat (*Lynx rufus*) and gray fox (*Urocyon cinereoargenteus*) are possible in this rural area.

### 3.3 Sensitive Habitats

On November 22, 2021, Robert Perrera 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 "waters of the state" potentially subject to state jurisdiction under the Porter-Cologne Act. The review included an investigation of existing landforms, vegetation, hydrology, and soil conditions, but consisted of a preliminary review of the area for wetland habitats. Prior to the November 22, 2021 field review, HBG had received a map from the County suggesting the possibility of a small stream forming within the property on the south side of Juniper Road, passing under Juniper and continuing downslope under Juniper Road.

Robert Perrera conducted an investigation of the area noted as a possible stream on the County's map during the November 22 field review, and he found no evidence within the highlighted area (or any portion of the site) with a bed or bank nor any areas with wetland or riparian vegetation, hydric soils, or wetland hydrology. 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 Countywide Plan criteria as a wetland or stream were found on the property. A small off-site ephemeral stream was observed flowing to the north downslope from Juniper Road.

The nearest blue line stream as shown on the USGS San Geronimo quadrangle is an unnamed intermittent stream located at the bottom of the canyon approximately 400 feet (0.7 miles) to the southwest of the property.

### **3.4 Special Status Species**

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 San Geronimo 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 and nearby areas indicated that a number of special status species have occurred in the project vicinity but that no special status species or natural communities have been known to occur on the project site itself.

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

#### **3.4.1 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 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.

Most of the special status plant species noted in Table 1 are species that occur in habitats and soil types that do not occur on the subject property. These include alkali flats and alkali wetlands, salt and brackish marshes and claypan vernal pools, coastal dunes, and coastal bluff scrub, all of which are not found on the property. A number of additional special status plant species are found on serpentine soils (which occur in the westernmost portion of the property) and in chaparral (which can be found in the southern portion of the property high on the ridge). Both the area of serpentine soils and all areas of chaparral vegetation are far removed from the development portions of the site.

Approximately 1% of the soils on the 2.7-acre property (0.1 acres) are Henneke series soils that are derived from parent material consisting of ultramafic serpentinite rocks. The Henneke soil type (derived from serpentine) is found along the western border of the project site. Serpentine soils do not occur within the development portion of the site. A review of the special status plant species included in Table 1 shows that several species that are adapted to serpentine soils occur in the area, but these plants are found in habitat types such as grasslands, chaparral and rocky slopes that are not found within the development portion of the site.

A number of special status plant species listed in Table 1 are known to occur in the immediate vicinity of the proposed project. These include Marin manzanita (*Arctostaphylos virgata*), Mt. Tamalpais manzanita (*Arctostaphylos montana* ssp. *montana*), and Mt. Tamalpais thistle (*Cirsium hydrophilum* var. *vaseyi*), all on CNPS List 1B and none of which would be found on the project site for the reasons cited below.

- Marin manzanita occurs in broadleafed upland forest, closed-cone coniferous forest, chaparral, and north coast coniferous forest. This species occurs on sandstone or granitic soils, which do not occur on the property. No manzanita species were observed on the property except high on the ridge in locations removed from the development portion of the site.
- Mt. Tamalpais manzanita occurs in serpentine soil within chaparral and valley and foothill grassland habitats, mostly in the area of Mt. Tamalpais. Although serpentine soil occurs in the westernmost portion of the site and chaparral occurs high up on the ridge, serpentine soil and chaparral are not present anywhere near where residential development is proposed.
- Mt. Tamalpais thistle is found in serpentine seeps and streams in broadleafed upland forest and chaparral. Although serpentine soil occurs in the westernmost portion of the site and chaparral occurs high up on the ridge, serpentine soil and chaparral are not present anywhere near where residential development is proposed and seeps and streams are not present on the site.

### 3.4.2 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 noted in the CNDDDB from near the subject property are possible nesting by Northern spotted owl (*Strix occidentalis caurina*), and also coho salmon (*Oncorhynchus kisutch*), steelhead (*Oncorhynchus mykiss*), California giant salamander (*Dicamptodon ensatus*), and foothill yellow-legged frog (*Rana boylei*). These species are discussed in greater detail below. None of the other animal species discussed in the table have the potential to occur on the site. 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.

Some subspecies of dusky-footed woodrat are considered species of special concern (e.g., those subspecies that occur on the San Francisco and Monterey Peninsulas). Although the subspecies occurring in West Marin is not on the list of designated species of concern, dusky-footed woodrat populations in West Marin are important as they serve as the primary source of prey for the federally listed threatened Northern spotted owl which is known to nest in West Marin.

**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. 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. Nesting Northern spotted owls have been found throughout forested habitats in Marin County and use a variety of tree species for nesting. The Bishop pine and Douglas fir forests in West Marin support a healthy population of Northern spotted owls (Shuford 1993). Most of these owl territories are in canyon bottoms or mid slope locations on the more mesic north-facing slopes or the leeward slope of the ridge where there is higher precipitation, protection from onshore wind and weather, and fairly dense vegetative cover (Evens 2008).

Northern spotted owls do 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 within 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. Dusky-footed woodrat is the preferred prey for Northern spotted owl in Marin and Sonoma Counties (Shuford 1993, Evens 2008).

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 known nest of Northern spotted owl has occurred approximately 420 feet (0.08 miles) to the south of the property. An additional activity center of Northern spotted owl nesting activity is very close to the aforementioned nest approximately 500 (0.09 miles) feet from the proposed project.

As multiple Northern spotted owls have been known to nest within 400 to 500 feet of the project, the project site is located in close proximity to a Northern spotted owl nesting territory. This nesting territory is located to the south of the subject property, beyond the ridge along the southern property boundary. The field review conducted by HBG documented that the forested areas of the project site provide suitable foraging habitat for Northern spotted owl. The activity centers for the owls south of the project site are in an area within the canyon to the south that have been subject to little prior disturbance. In contrast, the portion of the project site proposed for construction of the residence, access driveway, and septic system, is in an area with rural residences, roadways (including Juniper Road), and previous on-site disturbances that include the grading of two dirt access roadways into the property. Although the mature trees could provide suitable nesting sites for Northern spotted owl, because of these disturbances, the construction site would not be attractive as a Northern spotted owl nesting area. The intervening ridge between the known Northern spotted owl activity centers and the proposed residential construction site provides visual and auditory separation between known nesting sites and areas of proposed construction.

Dusky-footed woodrat serves as the favored prey for Northern spotted owl in Marin County, so a preliminary search for dusky-footed woodrat nest houses was conducted within the proposed construction area during the November 22 field review. No dusky-footed woodrat nest houses were found in the construction area during this review, nevertheless, such nest houses likely occur on the project site. The forested area of the project site provides suitable foraging habitat for Northern spotted owl, and foraging on the site by the species undoubtedly occurs.

### ***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 Olema, San Geronimo and Lagunitas Creeks, and Devils Gulch. It is believed that these streams provide spawning habitat for approximately 10% of California's coho salmon. The Lagunitas Creek Watershed is important

with respect to California coho salmon, as approximately 550 spawning adult Coho return yearly to this watershed (Walder and Steiner 2002).

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.

In the fall and winter of 2001-2002, staff from the Salmon Protection and Watershed Network (SPAWN) conducted 58 spawning surveys in eight tributaries to San Geronimo Creek. During the survey, 43 coho redds were found in four creeks (Woodacre, North Fork San Geronimo, Larsen and Arroyo Creeks). Forty-one unidentified redds (either Coho or Steelhead) were found in Woodacre, Bates Canyon, Larsen, Arroyo, El Cerrito, Barranca and North Fork San Geronimo Creeks (Walder and Steiner 2002).

**California Giant Salamander.** The California giant salamander (*Dicamptodon ensatus*) is also a designated species of special concern in California. Adult California giant salamander can be between 6.7 and 12 inches in total length. The California giant salamander is endemic to Northern California and lives up to 6,500 feet in wet coastal forests near streams and seeps from Mendocino County south to Monterey County and east to Napa County. These salamanders move from terrestrial habitats to breed in streams. The aquatic larvae are found in cold, clear streams, and occasionally in lakes and ponds. Adults are found in wet forests under rocks and logs near streams and lakes. A small ephemeral stream was observed flowing downslope south of Juniper Road, but no streams or drainages occur on the project site. California giant salamander may occur downslope south of Juniper Road, but it is extremely unlikely that California giant salamander occurs on the project site. The nearest blue line stream as shown on the USGS San Geronimo quadrangle is an unnamed intermittent stream

located at the bottom of the canyon approximately 400 feet (0.7 miles) to the southwest of the property.

***Foothill Yellow-legged Frog.*** The foothill yellow-legged frog (*Rana boylei*) is also a designated species of special concern in California. Foothill yellow-legged frogs can be found in a variety of habitat types but require partly-shaded, shallow streams and riffles with a rocky substrate. The frogs require at least some cobble-sized substrate for egg-laying. The larvae need at least 15 weeks to attain metamorphosis. No streams or drainages occur on the project site. An ephemeral stream flowing downhill south of Juniper Road does not provide the inundation of other characteristics necessary to support foothill yellow-legged frog. It is extremely unlikely that foothill yellow-legged frog occurs on the project site. The nearest blue line stream as shown on the USGS San Geronimo quadrangle is an unnamed intermittent stream located at the bottom of the canyon approximately 400 feet (0.7 miles) to the southwest of the property.

#### **4.0 BIOLOGICAL EVALUATION**

##### **4.1 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.

## 4.2 Evaluation

### **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?**

A number of requirements have been incorporated into the Project Description for the project as described in this section to ensure impacts to special status plant and animal species do not occur and that the project would not substantially reduce the number or restrict the range of a rare, endangered, or threatened species of fauna, especially the Northern spotted owl.

#### **Special Status Plants**

Although serpentine soil (which can provide habitat for many species of special status plant) occurs in the westernmost portion of the site, this area is far removed from the site of proposed residential construction. Chaparral habitat that can support rare species occurs in the portion of the site high up on the ridge, but, again, these areas are not near areas proposed for construction. The area of proposed construction does not provide habitat suitable for harboring special status species of plant known to occur in the vicinity of the project. The special status plant species mentioned in Table 1 generally require habitat conditions that are not found at the site of the proposed new construction. No impacts to special status species of plant would result from construction of the proposed residence and ancillary facilities, including the access driveway and septic system.

#### **Special Status Animals.**

Nesting Northern spotted owls have been known to occur within less than 500 feet from the proposed residential project, and the forested portion of the project site provides suitable foraging habitat for the species. Certain items have been included in the project description, including restrictions on the timing of construction operations, that will protect this species. Streams distant from the project site, notably San Geronimo and Lagunitas Creeks, are known to support coho salmon and steelhead, but no impacts to these streams would occur because Best Management Practices for erosion control would be implemented to eliminate downstream impacts. Although California giant salamander and foothill yellow-legged frog may occur in streams found in the San Geronimo Valley, streams are not found on the property, and no evidence of suitable habitat or the presence of these species was observed at the site during the field review.

Additional detail on Northern spotted owl, coho salmon and steelhead, California giant salamander, and foothill yellow-legged frog is provided below.

**Northern Spotted Owl.** Multiple Northern spotted owls have been documented as nesting within 400 to 500 feet to the south of the project, therefore, the construction necessary for the project will be conducted in close proximity to Northern spotted owl nesting territories. The activity centers for the owls south of the project site are in an area within the canyon that have been subject to little prior disturbance, unlike the portions of the project site proposed for construction of the residence, access driveway, and septic system, which is in an area with rural residences, roadways (including Juniper Road), and previous on-site disturbances that include the grading of two dirt access roadways into the property. Although the mature trees could provide suitable nesting sites for Northern spotted owl, because of these disturbances, the construction site would not be attractive as a Northern spotted owl nesting area. The intervening ridge between the known Northern spotted owl activity centers and the proposed residential construction site provides visual and auditory separation between known nesting sites and areas of proposed construction.

Dusky-footed woodrat serves as the favored prey for Northern spotted owl in Marin County, so a preliminary search for dusky-footed woodrat nest houses was conducted within the proposed construction area during the November 22 field review. No dusky-footed woodrat nest houses were found in the construction area during this review, nevertheless, such nest houses likely occur on the project site and possibly within the vicinity of proposed construction. The forested area of the project site provides suitable foraging habitat for Northern spotted owl, and foraging on the site by the species undoubtedly occurs.

The need for tree removal was studied by the project arborist as part of a Tree Protection Plan dated February 21, 2022 (Urban Forestry Associates, Inc. 2022) and submitted to the County under separate cover. Out of the 36 trees studied on the property, the project description requires the removal of 11 trees, 8 of them considered either Protected Trees or Heritage Trees as determined by the project arborist. These 11 trees are listed by tree number, species, size, protected status, and reason for removal in the following table.

**Table A. Tree Removal Requirements as per the Project Arborist**

<u>Tree #</u>	<u>Species</u>	<u>Size (DBH) in.</u>	<u>Protected Status</u>	<u>Reason for Removal</u>
5	Coast Redwood	27	Protected	Proximity to retaining wall
6	Coast Redwood	20	Protected	Proximity to retaining wall
9	Coast Redwood	17.5	Protected	Proximity to retaining wall
11	Coast Redwood	19	Protected	Hammerhead footprint
12	Coast Redwood	18.5	Protected	Hammerhead footprint
15	Douglas Fir	55	Heritage	Proximity to retaining wall
16	Douglas Fir	34	Heritage	Driveway footprint
17	Coast Redwood	51	Heritage	Proximity to retaining wall
27	Douglas Fir	59	Exempt	Safety reasons

28	Douglas Fir	41	Exempt	Safety reasons
32	Douglas Fir	34	Exempt	Residence footprint

According to the project arborist, 8 of these trees in Table A will require replacement pursuant to Marin County Code Section 22.26.040. Section 22.26.040 states “any trees that are to be removed and for which a Tree Removal Permit is required shall be replaced at a minimum ratio of two new, appropriately sized and installed trees for each tree removed, unless a greater replacement ratio is determined to be appropriate.” In the event that tree planting on the site is not feasible or appropriate, the Director may require payment of in lieu fees to the Tree Preservation Fund. Tree replacement for this project is important for maintaining suitable habitats conditions, especially as foraging habitat, for Northern spotted owl.

The Tree Protection Plan (Urban Forestry Associates Inc, 2022) provides a number of appropriate mechanisms that will be implemented by the applicant to protect trees not slated for removal during construction of the project. The arborist has also proposed a Tree Replacement Plan for the proposed project. The Tree Replacement Plan proposes 16 replacement trees (2 trees planted for each tree removed) and, given the number of large redwood trees and Douglas firs that will remain on the site after construction, has suggested planting understory trees and large shrubs such as vine maple (*Acer circinatum*), huckleberry (*Vaccinium ovatum*), or beaked hazelnut (*Corylus cornuta*) as replacements. These species will provide habitat for wildlife including dusky-footed woodrats that serve as the main prey species for Northern spotted owl in this area. Ultimately, the County will need to determine if this is sufficient tree replacement to comply with Section 22.26.040 and to compensate for the loss of a spotted owl foraging habitat within a nesting territory for the species.

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 residence (assuming an excavator or back-hoe, 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 nesting owls, and auditory harassment would occur within about 30m or approximately 100 feet).

HBG also evaluated the potential for impacts to Northern spotted owl according to criteria used by CDFW. 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.

Based on the location of known Northern spotted owl activity centers, it cannot be determined with certainty that the construction would take place beyond the distances predicted by the USFWS models within which harassment of nesting owls could occur. Construction would likely take place beyond the 130 foot line-of-sight distance from an active nest, especially given that an intervening ridge between the activity centers and the construction area would eliminate visual impacts. The presence of the intervening ridge would also help to ensure that construction would not exceed the decibel limits specified in the CDFW guidelines to prevent disturbance to nesting Northern spotted owls. However, because the construction work would take place well within 0.25 miles from the nearest known activity center, the project could require an ITP from CDFW if construction were to take place during the nesting season.

In this case, rather than conducting nesting-season protocol surveys to definitively demonstrate that owls are not nesting in the vicinity of the construction operations, the applicant has proposed conducting construction operations during the non-nesting season. The project description assumes that construction activity, especially involving use of large construction equipment, would take place during the non-nesting period of the species (between July 15 and February 1).

As detailed above, significant impacts to Northern spotted owl are not likely to occur due to construction proposed at the site as long as the following are included in the project description for the project: (1) construction would be timed such that no construction involving the use of large equipment would occur during the February 1 to July 15 nesting season for the species; (2) implementation of the recommendations from the licensed arborist pertaining to Implementation of a Tree Replacement Plan developed pursuant to Marin County Code Section 22.26.040 and implementation of the Best Management Practices related to tree protection developed by the arborist as part of the Tree Protection Plan (Urban Forestry Associates, Inc. 2022); (3) no sooner than 30 days prior to the start of ground disturbance a preconstruction survey for dusky-footed woodrat nest houses will be conducted by a qualified biologist who will flag any and all nest houses in the field so they can be avoided to the extent possible during construction activities; and (4) a restriction on the timing of tree removal so that trees providing foraging habitat for Northern spotted owl are not removed within an hour after sunrise or an hour before sunset, when foraging owls are most likely to be present.

**Coho salmon and steelhead.** No streams occur on the project site and ephemeral streams that may flow downhill south of Juniper Road do not harbor coho salmon or steelhead nor do they provide habitat for coho salmon or steelhead. Ephemeral streams in the area eventually flow downhill to the nearest blue line stream which is located at the bottom of the canyon approximately 400 feet to the southwest of the property. These streams are tributary to and eventually flow into San Geronimo Creek, which is an important stream for spawning salmonids. 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.

During all activities involving land disturbance, the applicant will ensure that Best Management Practices (BMPs) and all requirements as detailed in the Marin County Stormwater Pollution Prevention Plan (SWPPP) will be implemented to control erosion and migration of sediments off-site. Implementation of water quality controls will be consistent with the BMP requirements in the most recent version of the California Stormwater Quality Association Stormwater Best Management Handbook-Construction. With 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 downstream watercourses. In addition: (i) vegetation will only be cleared from the permitted construction footprint; (ii) areas cleared of vegetation, pavement, or other substrates will be stabilized as quickly as possible to prevent erosion and runoff; (iii) sterile straw and natural fibers will be used; and (iv) erosion control materials with plastic netting will be avoided.

**California giant salamander.** No impacts would occur to California giant salamander as no habitat for this species was found at the project site. It is therefore unlikely that this species is found at the project site. Even if the species was present in the nearest stream (located about 400 feet to the north), project construction would have no effect on these animals.

**Foothill Yellow-legged Frog.** No impacts would occur to foothill yellow-legged frog no habitat for this species occurs on the project site. It is therefore unlikely that this species is found at the project site.

**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 construction of the residence, access driveway, and septic system would not conflict with a Stream Conservation Zone or associated buffer zone on or near the property. There are no creeks located on the subject property or in the immediate vicinity of the project. The nearest blue line stream identified on USGS topographic maps is located at the bottom of the canyon approximately 400 feet to the southwest of the property. No construction would

occur within 100 feet of a creek, so no direct or indirect impacts to riparian habitat or a 100-foot riparian buffer zone would result from construction of the proposed improvements.

No sensitive natural communities or habitats as defined by state, federal or local regulations or as defined by the California Environmental Quality Act (CEQA) are present at the site or in the immediate vicinity of the site. No impacts to these habitats would result from implementation of the applicant's plans for the property.

**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 state Clean Water Act 401 or Porter-Cologne Act jurisdictions of the SFBWQCB, the Section 1602 Fish and Game Code jurisdiction of CDFW, or to regulation by Marin County pursuant to the 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?**

Native trees, shrubs and herbaceous plants occur throughout much of the property. Plans for the project show that the proposed construction will require the removal of 11 trees (6 coast redwoods and 5 Douglas firs), 8 of them (6 coast redwoods and 2 Douglas firs) Protected or Heritage trees that will require planting of replacement trees. The 11 trees to be removed provide habitat for nesting birds and may contain cavities that could harbor cavity nesting birds or bat roosts. Understory vegetation may also provide substrate for nesting birds. Nesting birds and bats are discussed below.

Although a number of bird and other animal species were observed on the property during field surveys, the construction of the residence, access and a new septic system as planned 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 site and 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.

During all activities involving land disturbance, the applicant will ensure that Best Management Practices (BMPs) and all requirements as detailed in the Marin County Stormwater Pollution Prevention Plan (SWPPP) will be implemented to control erosion and migration of sediments off-site. Implementation of water quality controls will be consistent with the BMP requirements in the most recent version of the California Stormwater Quality Association Stormwater Best

Management Handbook-Construction. With 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. In addition: (i) vegetation will only be cleared from the permitted construction footprint; (ii) areas cleared of vegetation, pavement, or other substrates will be stabilized as quickly as possible to prevent erosion and runoff; (iii) sterile straw and natural fibers will be used; and (iv) erosion control materials with plastic netting will be avoided.

**Nesting Birds.** Construction of the residence, accessways, and the septic system will require the removal of native trees and shrubs. These trees and shrubs provide suitable substrate for nesting birds. Some trees may contain cavities that could provide suitable substrate for nesting birds including cavity 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 clearing of vegetation is to be conducted during the February 1 to August 31 bird nesting season, a qualified biologist will conduct a preconstruction breeding bird survey of construction areas 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.

**Roosting Bats.** Many mature trees throughout the site may provide cavities or exfoliating bark that could attract bats, and the removal of trees with cavities may result in elimination of cavities suitable to support roosting bats. The applicant has committed to procedures to assure that bats are not harmed during tree removal activities. Prior to removal of the trees, a bat habitat assessment will be conducted by a qualified biologist. If habitat for bats is found, a detailed investigation of every cavity will be conducted to show that no bats are present, including those in a state of torpor (winter) or raising non-volant young (summer). Not all trees can be surveyed in detail prior to removal as some have very deep or inaccessible cavities or crevices. If a bat habitat tree cannot be fully investigated and uncertainty remains regarding the potential presence of roosting bats, the tree will be removed during periods of bat activity (March 1 to April 15 and September 1 to October 15) using a two-step removal process.

If necessary, the two-step process will be conducted over two consecutive days during the prescribed periods in spring and fall. With this method, small branches and small limbs not containing cavities, crevices or exfoliating bark on habitat trees as identified by a qualified biologist (who must be present on the site during the first day of tree trimming or cutting) are removed on the first day using only chainsaws. The following day, the remainder of the tree is removed. The disturbance caused by chainsaw noise and vibration, coupled with the physical alteration, has the effect of causing bats to abandon the roost tree after nightly emergence for

foraging. Removing the tree the next day prevents re-habituation and re-occupation of the altered tree. No impacts to roosting bats would occur using this method.

**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 or ordinances of the County of Marin. No wetlands or riparian corridors would be affected by proposed construction on the property. The project is in compliance with Marin County Code Section 22.20.040(G) as the following items are included in the project description and will be implemented: (1) a preconstruction bird nesting survey if work is conducted during the February 1 to August 31 bird nesting season coupled with establishment of buffer zones from any nesting birds (see response to Item #4); (2) a preconstruction bat habitat assessment coupled with sensitive removal of trees possibly containing roosting bats (also response to Item #4); and (3) restricting the timing of construction activity, especially involving use of large construction equipment, to the non-nesting season of the Northern spotted owl (between July 15 and February 1) along with other items necessary to protect foraging habitat for the species (see response to Item #1 above).

Eight Protected or Heritage trees will be removed to accommodate the proposed construction and a licensed arborist has conducted an evaluation of these trees and proposed necessary compensation for the tree removal and has prepared a Tree Protection Plan to protect trees remaining on the site during construction operations (these recommendation will be submitted to the County under separate cover). The implementation of arborist recommendations related to Tree Replacement and Tree Protection will ensure compliance with Marin County Code Section 22.26.040.

**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.

**Summary.** The applicant has committed to include the following items into the project description for the project to ensure that there are no significant biological impacts resulting from the proposed project:

- restrictions on the timing of construction such that no construction involving the use of large equipment would occur during the February 1 to July 15 nesting season for Northern spotted owl;
- recommendations from a licensed arborist pertaining to implementation of a Tree Replacement Plan developed pursuant to Marin County Code Section 22.26.040 and recommendations for Best Management Practices related to tree protection developed by the licensed arborist within the context of a Tree Protection Plan to project foraging habitat for the Northern spotted owl;



- no more than 30 days prior to the onset of construction activity a preconstruction survey for dusky-footed woodrat nest houses (dusky-footed woodrat being the main prey species of Northern spotted owl) by a qualified biologist who would flag any and all nest houses in the field so they can be avoided to the extent possible during construction activities;
- a restriction on the timing of tree removal so that trees providing foraging habitat for Northern spotted owl are not removed within an hour after sunrise or an hour before sunset, when foraging owls are most likely to be present;
- the completion of a bird nesting survey as described in response to Item #4 if construction is to occur during the bird nesting season (February 1 to August 31). If active bird nests are found, appropriate buffer zones will be established as described in item #4;
- the completion of a bat habitat assessment and other procedures described herein to ensure that bats are not harmed during tree removal activities;
- implementation of Best Management Practices to provide erosion control to prevent downstream migration of soil and impacts to fish and other animal species in downstream waters.

With these commitments incorporated into the Project Description for the project, this Biological Site Assessment finds that the proposed new construction at 50 Juniper Road in San Geronimo will be consistent with requirements of the Marin Countywide Plan, and significant biological impacts would not likely result from construction of the residential project at the site.

If you have any questions regarding this Biological Site Assessment report for the property at 50 Juniper Road in San Geronimo, please call either me or Robert Perrera at 415-925-2000.

Sincerely,

*Gary Deghi*

Gary Deghi  
Senior Environmental Scientist

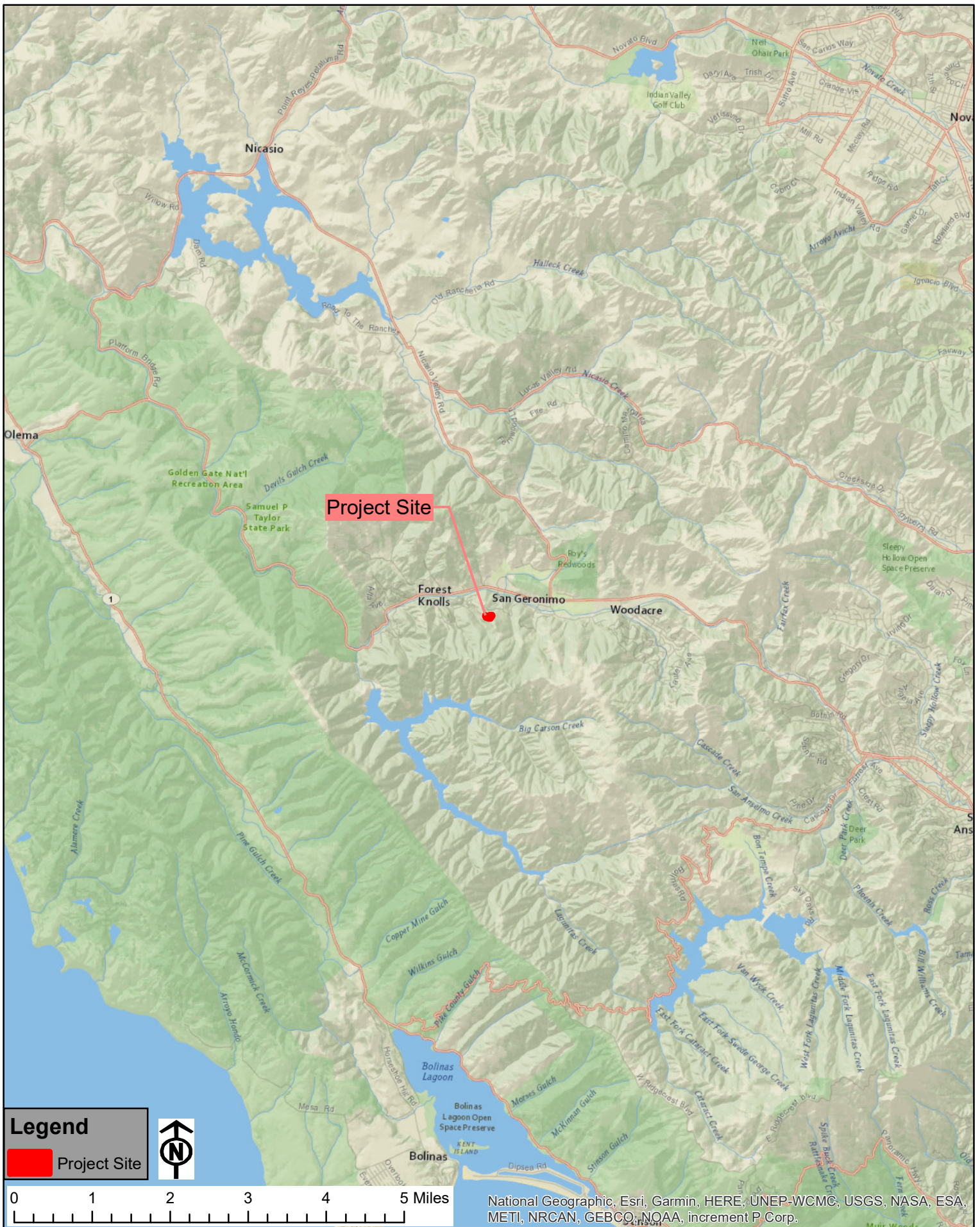
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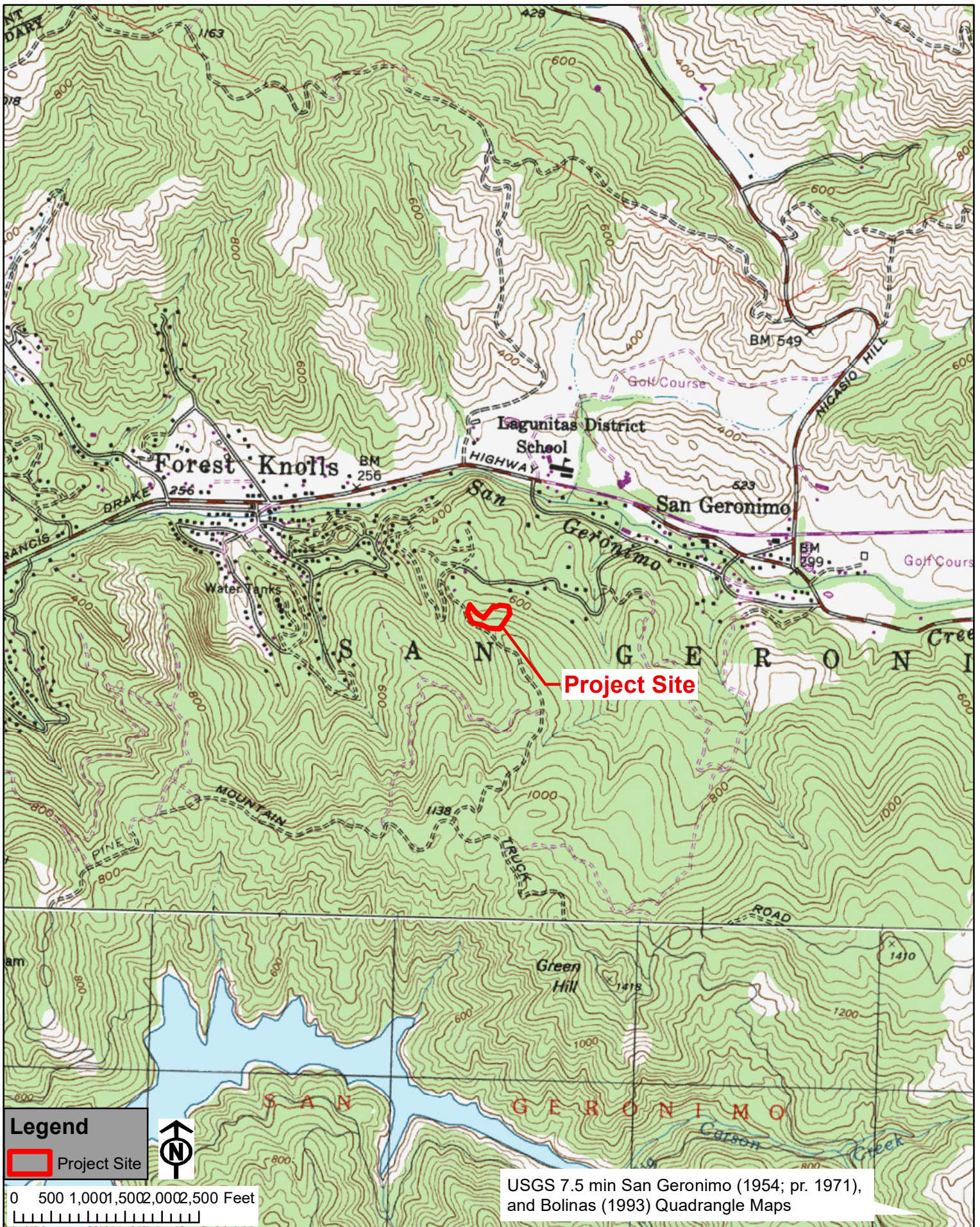
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**Figure 1. Location Map of Project Site**

50 Juniper Road  
Marin County, California

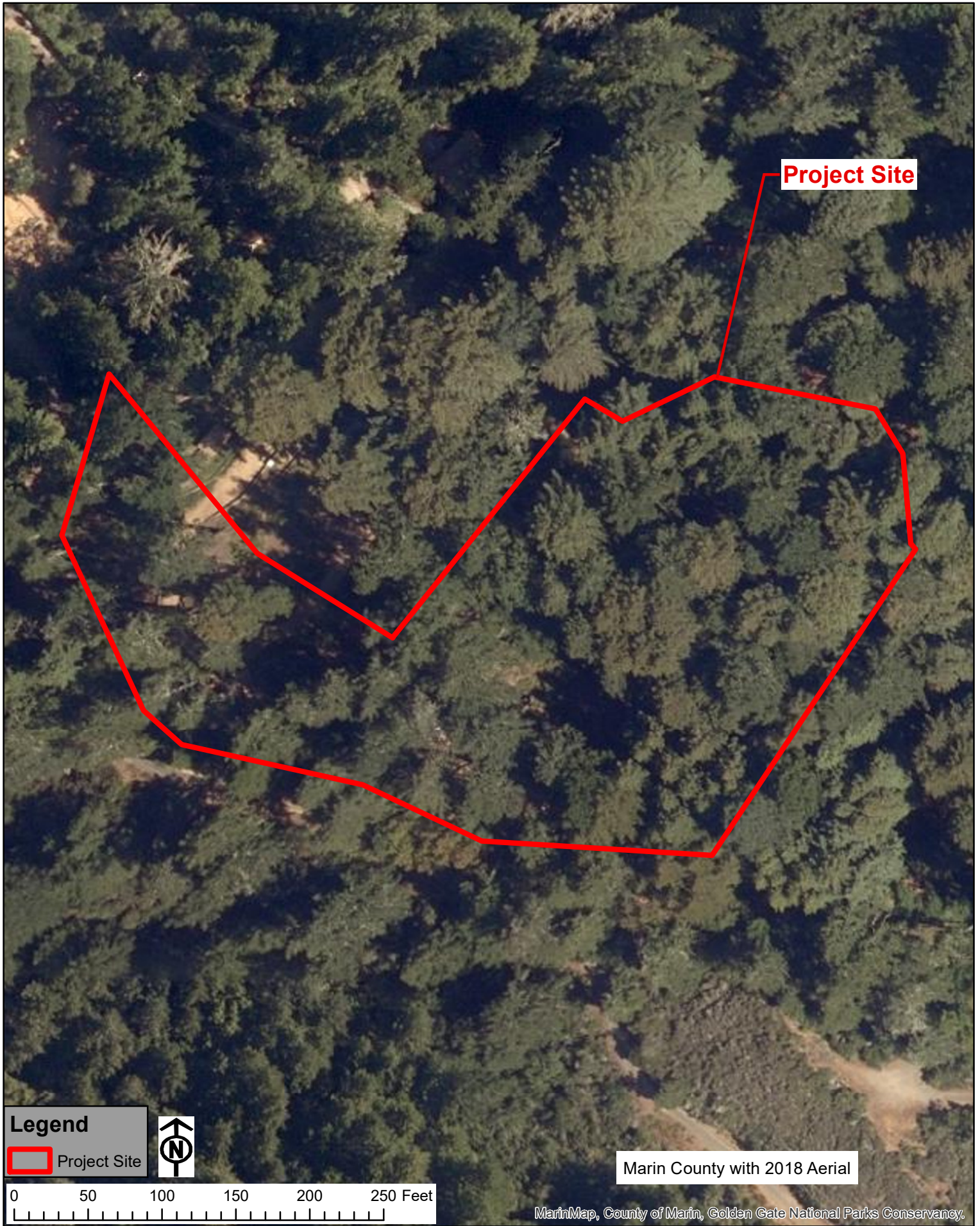
**Huffman-Broadway Group, Inc.**  
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**Figure 2. USGS Topographic Map of the Project Site**

50 Juniper Road  
Marin County, California

**Huffman-Broadway Group, Inc.**  
ENVIRONMENTAL REGULATORY CONSULTANTS



**Figure 3. Recent Aerial Photograph of the Project Site**  
50 Juniper Road  
Marin County, California

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

SPECIES	STATUS <sup>2</sup> FED/STATE/CNPS <sup>6</sup>	HABITAT	OCCURRENCE ON THE PROJECT SITE
<b>ANIMALS</b>			
<b>INVERTEBRATES</b>			
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 recent general decline in bee populations in recent years.
Opler's Longhorn Moth <i>(Adela oplerella)</i>	--/--	Serpentine grassland; larva feed on <i>Platystemon californicus</i> .	Not present. Suitable habitat is not found at the site.
Marin elfin butterfly <i>(Incisalia mossii)</i>	--/--	Found only in redwood forests in Marin County. Larvae collected and reared on broadleaf stonecrop ( <i>Sedum spathulifolium</i> ).	Not present. Suitable habitat is not found at the site.
California freshwater shrimp <i>(Syncaris pacifica)</i>	FE/CE	Found in low elevation, low gradient streams where riparian cover is moderate to heavy. Prefers shallow pools removed from the main flow. In winter, prefers undercut banks with exposed roots; in summer low flows, clings to submerged portions of overhanging tree shrub branches.	Not present. Suitable habitat is not found at the site.



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SPECIES	STATUS <sup>2</sup> FED/STATE/CNPS <sup>6</sup>	HABITAT	OCCURRENCE ON THE PROJECT 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 leaf mold along streams and in alder woods and mixed evergreen forest.	Not present. Suitable habitat is not found at the site.
<b>FISH</b>			
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 San Geronimo Creek.	Not present. Suitable habitat is not present at the site. No impacts possible as a result of off-site soil migration with implementation of erosion control measures.
Steelhead – Central CA Coast ESU ( <i>Oncorhynchus mykiss</i> )	FT/CSC	Well-oxygenated streams with riffles; loose, silt-free gravel substrate. Also need cover, cool water, and sufficient dissolved oxygen. Nearest spawning stream is San Geronimo Creek.	Not present. Suitable habitat is not present at the site. No impacts possible as a result of off-site soil migration with implementation of erosion control measures.
<b>AMPHIBIANS</b>			
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 at the site. May be present in creeks in the project vicinity but no possibility of indirect impacts to the stream environment.

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

SPECIES	STATUS <sup>2</sup> FED/STATE/CNPS <sup>6</sup>	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 found at the site.
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.	Not present. Suitable habitat is not found at the site.
<b>REPTILES</b>			
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 documented from the project area.	Not present. Suitable habitat is not found at the site.
<b>BIRDS</b>			
Cooper's hawk ( <i>Accipiter cooperii</i> ) [nesting]	-/WL	Nests primarily in deciduous riparian forests; forages in open woodlands.	Not present. Suitable habitat is not found at the site. Species likely forages on or near the site, especially in winter.
Sharp-shinned Hawk ( <i>Accipiter striatus</i> ) [nesting]	--/WL	Breeds in ponderosa pine, black oak, riparian deciduous, mixed conifer, and Jeffrey pine habitats. Prefers, but not restricted to, riparian habitats. All habitats except alpine, open prairie, and bare desert used in winter.	Not present. Suitable habitat is not found at the site. May forage during the winter.

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

SPECIES	STATUS <sup>2</sup> FED/STATE/CNPS <sup>6</sup>	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. Suitable habitat is not found at the site.
Peregrine falcon ( <i>Falco peregrinus</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 found 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 found at the site.
Northern spotted owl ( <i>Strix occidentalis caurina</i> )	FT/CT	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.	Possible. Species nests nearby and has been observed foraging nearby. Project site is not suitable nesting habitat but is suitable foraging habitat for this species. Project Description includes a construction schedule that avoids disturbance to Northern spotted owls nesting nearby and other items to protect foraging habitat.
San Pablo Song Sparrow ( <i>Melospiza melodia samuelis</i> )	BCC/CSC	Tidal, brackish or salt marshes, San Pablo Bay.	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 <sup>2</sup> FED/STATE/CNPS <sup>6</sup>	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. Has occurred at the Tomales Bay Ecological Reserve at the south end of Tomales Bay.	Not present. Suitable habitat is not found at the site.
Yellow warbler ( <i>Dendroica petechia</i> ) [nesting]	BCC/CSC	Breeds in deciduous riparian woodlands, widespread during fall migration. Marsh.	Not present. Suitable habitat for nesting is not found at the site. May occur during spring and fall migration.
<b>MAMMALS</b>			
Point Reyes mountain beaver ( <i>Aplodontia rufa phaea</i> )	--/CSC	Coastal area of Point Reyes in areas of springs or seepages. North facing slopes of hills and gullies in areas overgrown with sword ferns and thimbleberries.	Not present. Suitable habitat is not found 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 found at the site.
Pallid bat <i>Antrozous pallidus</i>	--/CSC	Roosts primarily in oak woodland and ponderosa pine habitats; forages in open areas.	Not present. Suitable habitat is not found at the site.
Hoary bat ( <i>Lasivurus cinereus</i> )	--/--	Prefers open habitats with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees.	Not present. Suitable habitat is not found 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 found at the site.

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

SPECIES	STATUS <sup>2</sup> FED/STATE/CNPS <sup>6</sup>	HABITAT	OCCURRENCE ON THE PROJECT SITE
<b>PLANTS</b>			
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.
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	Broadleafed upland forest, closed-cone coniferous forest, chaparral, north coast coniferous forest. Only known from about 20 sites in Marin County. On sandstone or granitic soil 60–700 m.	Not present. Suitable habitat is not found at the site.
Seaside bittercress ( <i>Cardamine angulata</i> )	--/--/2B.2	Found in wet areas and streambanks within North coast coniferous forest and lower montane coniferous forest. 5-515 M.	Not present. Suitable habitat is not found at the site.
Tiburon paintbrush ( <i>Castilleja affinis</i> ssp. <i>neglecta</i> )	FE/ST/1B.2	Rocky serpentine sites within valley and foothill grassland. 75-400m.	Not present. Suitable habitat is not found at the site.
Nicasio ceanothus ( <i>Ceanothus decornutus</i> )	--/--/1B.2	Found on serpentine, rocky, or sometimes clay soils in chaparral and maritime chaparral. 235-290 M.	Not present. Suitable habitat is not found at the site.
Mason's ceanothus ( <i>Ceanothus masonii</i> )	--/Rare/1B.2	Chaparral. Endemic to Marin County. Serpentine ridges or slopes in chaparral or transition zone. 180–460.	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 <sup>2</sup> FED/STATE/CNPS <sup>6</sup>	HABITAT	OCCURRENCE ON THE PROJECT SITE
Mt. Tamalpais thistle ( <i>Cirsium hydrophilum</i> var. <i>vaseyi</i> )	--/--/1B.2	Broadleafed 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 broadleafed 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.
Koch’s cord moss ( <i>Entosthodon kochii</i> )	--/--/1B.3	Grows on river banks in cismontane woodland. 185-365 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.
Fragrant fritillary ( <i>Fritillaria liliacea</i> )	--/--/1B.2	Coastal scrub, valley and foothill grassland, coastal prairie. Often on serpentine; various soils reported though usually clay, in grassland. 3-410m.	Not present. Suitable habitat is not found at the site.
Woolly-headed gilia ( <i>Gilia capitata</i> ssp. <i>tomentosa</i> )	-/--/1B.1	Coastal bluff scrub. Rocky outcrops on the coast. 15–155 m.	Not present. Suitable habitat is not found at the site.
Congested-headed hayfield tarplant ( <i>Hemizonia congesta</i> ssp. <i>congesta</i> )	--/--/1B.2	Found in valley and foothill grassland, grassy valleys and hills, often in fallow fields and sometime along roadsides. 20-560 M.	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 <sup>2</sup> FED/STATE/CNPS <sup>6</sup>	HABITAT	OCCURRENCE ON THE PROJECT SITE
Marin western flax ( <i>Hesperolinon congestum</i> )	FT/CT/1B.1	Chaparral, valley and foothill grassland. Found in serpentine barrens and serpentine grassland and chaparral. 30-365 m.	Not present. No suitable habitat in the project vicinity.
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.
Tamalpais lessingia ( <i>Lessingia micradenia</i> var. <i>micradenia</i> )	-/--/1B.2	Chaparral, valley and foothill grassland. Endemic to Marin County. Usually on serpentine, in serpentine grassland or serpentine chaparral. Often on roadsides. 100–305 m.	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.
North Coast semaphore grass ( <i>Pleuropogon hooverianus</i> )	--/CT/1B.1	Broadleafed upland forest, meadows and seeps, north coast coniferous forest. Wet grassy, usually shady areas, sometimes freshwater marsh; associated with forest environments. 10–1150 m.	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.
Point Reyes checkerbloom ( <i>Sidalcea calycosa</i> ssp. <i>rhizomata</i> )	--/--/ 1B.2	Freshwater marshes and swamps near the coast. 5-75m.	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.

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

SPECIES	STATUS <sup>2</sup> FED/STATE/CNPS <sup>6</sup>	HABITAT	OCCURRENCE ON THE PROJECT 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 glaudulosus</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.

1. Source: California Natural Diversity Data Base, Natural Heritage Division, California Department of Fish and Wildlife for the San Geronimo 7.5 Minute Quadrangle Map and surrounding areas, November 2021.

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)