COUNTY OF SAN MATEO

PLANNING AND BUILDING DEPARTMENT

DATE: October 12, 2022

TO: Planning Commission

FROM: Planning Staff

SUBJECT: EXECUTIVE SUMMARY: Consideration of a Coastal Development Permit to construct public access improvements at Tunitas Creek Beach County Park in the unincorporated San Gregorio area of San Mateo County. This project is appealable to the California Coastal Commission.

County File Number: PLN 2021-00485
(San Mateo County Parks Department)

PROPOSAL

The applicant, San Mateo County Parks Department (Parks Department), is proposing to construct improvements to Tunitas Creek Beach and the surrounding areas in order to increase coastal access and recreational opportunities for public use and protect natural resources present on the property. The proposed project includes construction of a parking facility, pathways, overlooks, restrooms, ranger shed, picnic areas, small amphitheater, ranger residence, and related amenities. The Parks Department will operate and maintain the park and its amenities.

RECOMMENDATION

Approve the Coastal Development Permit, County File Number PLN 2021-00485, by adopting the required findings and conditions of approval in Attachment A.

SUMMARY

The proposed project has been reviewed for consistency with the Local Coastal Program (LCP) and General Plan policies, specifically with respect to Protection of

Archaeological/Paleontological Resources, Agricultural Resources, Protection of Sensitive Habitats, Visual Resources, Shoreline Access, and Park and Recreation Resources. The County Parks Department prepared and circulated a draft Mitigated Negative Declaration (MND) for a 28 day public review period, pursuant to the California Environmental Quality Act (CEQA). The MND determined that the proposed Public Park, as designed and incorporating the proposed mitigation measures, will have a less than significant impact upon the environment. Comments on the draft MND were received by Parks and responses were prepared and incorporated into a Final MND, which was certified by the Coastal Conservancy on March 24, 2022. Planning staff has reviewed the project and concluded that the project, as conditioned, complies with the County's General Plan and Local Coastal Program.

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COUNTY OF SAN MATEO
PLANNING AND BUILDING DEPARTMENT

DATE: October 12, 2022

TO: Planning Commission

FROM: Planning Staff

SUBJECT: Consideration of a Coastal Development Permit, pursuant to Section 6328.4 of the County Zoning Regulations, to construct public access improvements at Tunitas Creek Beach County Park in the unincorporated San Gregorio area of San Mateo County. This project is appealable to the California Coastal Commission.

County File Number: PLN 2021-00485
(San Mateo County Parks Department)

PROPOSAL

The applicant, San Mateo County Parks Department (Parks Department) is proposing to construct improvements to Tunitas Creek Beach and the surrounding areas in order to increase coastal access and recreational opportunities for public use and protect natural resources present on the property. The project components can be broken into three zones:

Top Bluff Area

At the present time, visitors to Tunitas Creek Beach park along the shoulder of Cabrillo Highway and climb down the bluff to the beach. There is no accessible path to the beach, resulting in visitors climbing down the bluffs and causing erosion. Additionally, the parking area along the highway is unpaved and slightly below the grade of the adjacent pavement. During the rainy season, this dirt parking area can become muddy, and users track sediment onto the highway, which then migrates down slope into the highway's drainage system and eventually, Tunitas Creek.

In this zone, the proposed project will include a parking area, overlooks, pathways, and stormwater control facilities to improve public access to Tunitas Creek Beach. Existing social trails will be closed and restored to prevent further erosion of the bluffs and reduce potential injuries.

The parking area will accommodate 80 parking stalls, including standard, accessible, electric charging and paratransit parking. This area also includes an unpaved parking lot which could serve buses or other large vehicles at its southern end.

A pedestrian loading/unloading zone will be located near the entrance to Cabrillo Highway and provide a pedestrian connection to the Mid Bluff zone, either through the ADA compliant pathway or the existing driveway. In addition, a portion of the California Coastal Trail will be installed along the western frontage of the proposed parking area.

Several trails have been cut into the bluff by pedestrians walking to the beach. The project will block these trails from access with fences, installation of signage for habitat restoration, planting of native species, and installation of erosion control measures.

Mid Bluff Area

To gain access to the Mid Bluff area, an ADA accessible pedestrian pathway will be constructed from the parking area. Due to the significant elevation difference between the two areas and the need to maintain a slope of less than 8.3% for accessibility, the pathway will be approximately 1,800 feet in length and be constructed of either asphalt and/or a stabilized decomposed granite. A secondary trail, approximately 95 feet in length, will be constructed between the passenger loading area and the primary accessible pathway. The primary accessible pathway will include several seating areas and overlooks along the route. To construct the pathway, the project must remove four (4) significant size trees (two Monterey cypress and two Monterey pine). The existing paved driveway will remain but will only be accessible for vehicles operated by Parks Department staff or for emergency services.

Safety and security lighting will be provided along the pathway from the Top to Mid Bluff zones and around the proposed ranger residence (described below). Light levels in the park will be kept low after hours to provide for safety/security but are not intended to promote use of the park after it is closed. All lights will feature light emitting diode technology for energy conservation, be night sky friendly, and operate at a temperature/intensity suitable for humans and animals. Motion sensors will be installed to intensify light levels when movement is detected.

The Mid Bluff area will be designed to serve as a gathering point for visitors. The existing residence at this location will be demolished and a small overlook amphitheater will be constructed in its place. The amphitheater will be used to provide educational programs regarding Tunitas Creek Beach and the coastline, as well as providing an additional location for gathering and viewing the beach and ocean. The Mid Bluff area will also include picnic areas and a restroom building, and a small ranger shed for use by Parks Department staff. The proposed restroom building will be waterless and prefabricated, similar to other park restroom facilities throughout the County. The ranger shed will be used to hold tools and equipment for maintaining the park.

A ranger's residence is proposed in the Mid Bluff area. This residence will be occupied by a Parks Department ranger who will live on-site full time acting as a caretaker. The residence will be a prefabricated structure of about 1,000 sq. ft., equipped with sprinklers for fire suppression. In order to construct the residence, a potable water source is required. Provision of potable water to the proposed ranger residence is discussed in detail below.

A loop trail is also proposed to connect the parking area at the Top Bluff to the beach, extending through the southern portion of the project site. This proposed trail will be approximately 4-foot-wide and unpaved. This loop trail will require a stream crossing, which will be either a rock ford or a clear span bridge. The final crossing design will be determined as part of the final design for the proposed improvements.

In addition to the loop trail, a short nature walk is proposed for the area to the north of the existing residential driveway. This trail will be approximately 4-foot-wide, and surfaced with stabilized decomposed granite, with educational signage along the route. In addition, the trail will feature benches at lookouts along the route.

Beach Access

Currently, a 10-foot-wide unpaved trail leads down to the beach from the Mid Bluff area and cuts through the slope between two (2) active landslides. As part of the proposed project, this existing trail will be widened and covered with gravel to allow for vehicular access to the beach for emergency response and maintenance. Timber steps will be installed next to the travel way to facilitate pedestrian access, while keeping a lane for emergency vehicles. To repair the slope and accommodate the trail widening, the Parks Department proposes to remove the landslide debris and rebuild the slope, thereby reducing the slope of the hillside by shifting the toe of the slope westward by approximately 5 feet.

Also within the beach area, the Parks Department proposes to remove invasive species. Consistent with the recommendations in the Western Snowy Plover Avoidance and Minimization plan, potential breeding areas for snowy plover will be identified prior to the breeding season. These areas will be delineated using temporary signage to alert beach visitors to the potential presence of western snowy plover and explaining the sensitivity of the area. Breeding areas may also be further delineated using a rope line tied to t-posts or stakes to prevent intrusion during the breeding season.

Water

With the exception of the proposed residence, the proposed uses at the park will require minimal water. Additional water use will center primarily on irrigation for the drought tolerant landscaping until it becomes established and water to clean the restrooms. The Parks Department is proposing to truck this water in as necessary. Per California Health and Safety Code, the proposed ranger's residence must have an adequate and potable water source that meets the County's quantity and quality requirements. The vacant residence on the project site obtained its water from an off-site spring. However, this source has stopped functioning and is no longer available.

Previous investigations completed at the site identified no groundwater to depths as much as 400 feet below ground surface. To provide potable water for the proposed ranger residence, the Parks Department proposes to extract raw water from Tunitas Creek. The proposed water system will include installation of a well either adjacent to or within the creek to sufficient depth to provide the minimum water supply necessary to support the residence. Alternatively, the project could install an intake directly within the creek. Based upon modeling prepared for this project (by the Parks Department), a maximum of approximately 35,000 gallons of raw water will be taken from Tunitas Creek during the month of February and no water will be drawn from the creek during the dry season (June-September).

From the well head, the raw water will be transported upslope via a pump system through a pipe anchored to the top of the ground to an area adjacent to the residence where the water can be treated and stored. As the raw water may contain minerals, particles, bacteria, and or/ parasites, it will be processed using a small treatment system. The treatment system will include a series of filters or reverse osmosis as well as either ultraviolet light or ozone to disinfect the raw water for potable use. The project will store the water for both fire and domestic use in two 30,000-gallon tanks that are about 30 feet in diameter and 15 feet tall. The tanks are appropriately sized to store water during dry periods of the year. The fire water would serve as potable water to periodically flush the water tanks. The Parks Department has applied to the California

Water Resources Control Board (WRCB) for the necessary approvals to extract water from Tunitas Creek. As of publication of this report, WRCB approval remains pending. Without this approval, the ranger's residence will not be allowed.

Habitat Restoration

As part of the proposed project, invasive species will be removed within the project limits to the maximum extent feasible. There are several non-native Eucalyptus and Palm trees on the project site, ranging in size from 1-inch to three feet in diameter, that will be removed to facilitate planting of native species. All areas disturbed by grading activities will be treated with a hydroseed mix appropriate for coastal San Mateo County. Also, as described previously, existing social trails that have been cut along the top of the bluff as well as the bluff face will be blocked from access with fences and signage, and then replanted with native species.

RECOMMENDATION

Approve the Coastal Development Permit, County File Number PLN 2021-00485, by adopting the required findings and conditions of approval contained in Attachment A.

BACKGROUND

Report Prepared By: Michael Schaller, Senior Planner

Applicant: San Mateo County Parks Department

Owner: San Mateo County
Public Notification: Ten (10) day advanced notification for the hearing was mailed to property owners within 300 feet of the project parcel and a notice for the hearing posted in a newspaper (San Mateo Times and Half Moon Bay Review) of general public circulation. In addition advance notice of the hearing was mailed to interested parties.

Location: 20901 Cabrillo Highway, San Gregorio

APN(s): 081-060-020, -030, and -130

Existing Zoning: Resource Management – Coastal Zone (RM-CZ) and Planned Agricultural District (PAD)

General Plan Designation: Agriculture

Parcel Legality: Parcel legality for 081-060-020 and -030 confirmed by Certificate of Compliance, Type B (PLN 2017-00190). Certificate recorded on August 31, 2017. Parcel legality for 081-060-130 confirmed by Certificate of Compliance, Type A (COC 98-0006). Certificate recorded on November 20, 1998.

Existing Land Use: Prior to acquisition by the County, the project site was privately-owned and developed for residential use. The site currently supports a single-family residence in poor condition. A small concrete-lined pond, associated waterfall, patio area, and ornamental landscaping surround the residence. A paved driveway connects the residential property to Highway 1. Several areas of miscellaneous trash are present, likely from illegal dumping at the site. A single cabin remains in its original location just uphill and to the east of the existing residence and is accessed via a short spur off the main driveway. Remnants of five other damaged and/or overgrown cabins are also located on the project site. All of the cabins are unsalvageable. The remainder of the project site is undeveloped.

Flood Zone: Along the top of the bluff (where the abandoned residence is) the flood zone designation is Zone X (Areas of Minimal Flood Hazard). On the beach, the designation is Zone VE (Coastal Flood Zone with velocity hazard (wave action) also commonly referred to as Tsunami Zone). FEMA Community Panel 06081C-0357F, Effective Date: August 2, 2017.

Environmental Evaluation: The Parks Department prepared an Initial Study/Mitigated Negative Declaration which was circulated for public comment from September 2, 2021, to October 1, 2021. The Board of Supervisors certified the Mitigated Negative Declaration on December 14, 2021. Parks filed a Notice of Determination with the County Recorder on December 22, 2021.

Setting: The project site is located between Tunitas Creek Road and Star Hill Road and west of Highway 1. Tunitas Creek borders the project site to the north, the Pacific Ocean borders the site to the west, and rural semi-developed coastal property borders the site to the south. The project site consists of a relatively flat to sloping surface, which descends from a ridge on the east down to the Pacific Ocean beach on the west. Slope inclinations within the project site vary from 1.5:1 to 4:1 (horizontal:vertical).

Prior to acquisition by the County, the project site was privately-owned and developed for residential use. The site currently supports a single-family residence in poor condition. A small concrete-lined pond, associated waterfall, patio area, and ornamental landscaping surround the residence. A paved driveway connects the

residential property to Highway 1. Several areas of miscellaneous trash are present, likely from illegal dumping at the site.

Due to illicit activities including large parties, poaching, and vandalism of the residence, the Parks Department installed fencing and a gate closing the driveway from Highway 1 that accesses the site. However, pursuant to State law, the beach below the Mean High Tide Line is accessible to the public by other access points. Parking surveys conducted for this informal parking area found up to 63 parked vehicles on a warm sunny day with visitors remaining at the beach for about 2 hours. Approximately two thirds of visitors to the project site arrive from the southbound direction. Beachgoers also park along Tunitas Creek Road and walk under Highway 1 and along Tunitas Creek to access the beach.

DISCUSSION

A. KEY ISSUES

1. Conformance with the County General Plan

The County's Local Coastal Program (LCP) is a subset of the County General Plan, and the two documents are internally consistent. The following analysis of the project's consistency with the LCP, which is more specific than the General Plan with regard to issues raised by this project, also addresses, by extension, the project's consistency with the County's General Plan.

2. Conformance with the Local Coastal Program

a. Locating and Planning New Development

Policy 1.8 (*Land Uses and Development Densities in Rural Areas - Amount of Development Allowed for Visitor-Serving, Commercial Recreation, and Public Recreation Uses*). This policy contains several sub-policies that are applicable to this project. The first part of the policy allows new development in rural areas only if it is demonstrated that it will not: (1) have significant adverse impacts, either individually or cumulatively, on coastal resources and (2) diminish the ability to keep all prime agricultural land and other land suitable for agriculture (as defined in the Agriculture Component) in agricultural production.

While the project could have significant adverse impacts on coastal resources, as discussed in the Mitigated Negative Declaration, measures have been proposed (in that document and included as conditions of approval for this permit) which will reduce the potential level of impact to a less than significant level. Compliance of the project with the specific resource policies will be discussed later in this report. With regards to agriculture, there are no prime soils on the project parcels. There is no evidence that agriculture has ever been practiced on the project parcels. The lands on the east side of Highway 1 show some evidence of being used for grazing purposes. The proposed project is contained entirely on the west side of Highway 1 and there is no evidence to suggest that the proposed improvements to this County Park will inhibit the use of the lands on the east side of the highway for grazing in the future.

Policy 1.8 (1) (*Require Density Credits for Non-Agricultural Uses*). Policy 1.8 further requires the use of density credits for all new or expanded non-agricultural land uses in rural areas, including all residential uses. The number of density credits on a rural property are determined based on the ratios established by Table 1.3 of the LCP. All legal parcels are entitled to at least one density credit. In this instance, the project site is comprised of three legal parcels, each with one density credit.

Policy 1.8 (3) (*Amount of Development Allowed for Visitor-Serving, Commercial Recreation, and Public Recreation Uses*). For new or expanded visitor-serving, commercial recreation, and public recreation uses, one density credit shall be required for the first 945 gallons, or fraction thereof, of average daily water use during the two months of highest water use in a year. One additional density credit shall be required for each 630 gallons, or fraction thereof, of average daily water use during the two months of highest water use in a year. The amount of development allowed for each density credit (or the first density credit when multiple density credits are available), is either 1 1/2 times the amount stated in Table 1.5 (of the LCP) in the column headed “Number of Measuring Units Per Density Credit Based on Peak Daily Water Use with Conservation Fixtures,” or the amount stated in that column **and** a residential dwelling unit associated with a visitor serving facility that is occupied by the facility owner or operator.

In this instance, the proposed ranger's residence will qualify as the "caretaker" residential unit as discussed above. This will leave all three density credits for other uses on the project site. The other applicable category of uses in Table 1.5 is the number of park users permitted per density credit. The number of park users in Table 1.5 is predicated upon the availability of drinking water (for the park users). The project, however, proposes no drinking water for park users, either for consumption or for use in bathrooms. While the park user category in Table 1.5 is therefore not directly applicable to the proposed project, it is the closest category available for purposes of analysis. Per Table 1.5, one density credit will allow for 126 park users at any given time. Thus, all three density credits will allow for a theoretical maximum of 378 park users at any given time.

By its very nature, this is a public beach and is open to all residents. There will be no entry gate that would allow the County to regulate the exact number of users at any given moment. The closest analog to "number of park users" that can be feasibly used in this instance is the number of parking spaces that are proposed. The project plans indicate a total of approximately 94 parking spaces are proposed. Assuming two persons per car, that would translate into 188 park users at maximum capacity which is below the 378 park users discussed above.

Policy 1.25 (*Protection of Archaeological/Paleontological Resources*). This policy requires an archaeological reconnaissance of project sites when they are in areas of potentially high sensitivity for archaeological or paleontological resources. In the attached Initial Study prepared for this project, there is an extensive discussion of the potential for historical and/or archaeological resources on the project site. While there are references from the 1940's to an archaeological site at the project site, no evidence can be found of that resource at the present time. It is possible that this archaeological site was destroyed during the residential development of the site in the 1950's. The existing abandoned structures currently on the site do not qualify as historical resources per State regulations. However, it was recognized in the Initial Study that there is the potential for historical/ archaeological resources to be uncovered during the construction of the proposed park facilities. To address this potential, mitigation measures were included in the Initial Study and have been included as Conditions of

Approval 19 and 20 in Attachment A. With the inclusion of these conditions, the requirements of Policy 1.25 are addressed.

Policy 1.35 (*All New Land Use Development and Activities Shall Protect Coastal Water Quality*). The project plans include construction phase erosion control plans and a permanent storm water control plan that have been reviewed and approved by the Department's Stormwater Review section as complying with the County's Regional Stormwater Permit.

b. Public Works Component

Policy 2.44 (*Route 1 and Route 92 Phase I Capacity Limits*). This policy limits improvements on Cabrillo Highway to (1) slow vehicle lanes on uphill grades and the following operational and safety improvements within the existing alignment or lands immediately adjacent: elimination of sharp curves, lane widening, lane reconfiguration, acceleration/deceleration lanes, wider shoulders to allow passage for bicycles, emergency vehicles and signals at major intersections.

The project does not propose to add additional traffic lanes to Cabrillo Highway, with all proposed work within the right-of-way focused upon providing safe access to and from the highway as well as sufficient parking to meet the anticipated public demand for beach access. The project site is not, at the present, officially open to the public for coastal access. However, the public has continued to travel across the property for a number of years, to gain access to the shoreline. There is a large unpaved pullout area along the west side of the highway that the public has utilized for parking. Access onto this unpaved area is not controlled and repeated use has resulted in the tracking of gravel and dirt onto the roadway resulting in soil deposition within the roadway prism as well as a safety issue due to flying rocks. Additionally, because there is no acceleration/deceleration lane, cars pulling off or onto the highway can create a conflict with faster travelling cars passing through this stretch of the highway.

The proposed parking lot component will remedy both conflicts by providing paved access from the highway into the lot and a dedicated

right turn deceleration lane for southbound traffic so that cars can safely exit the highway without conflicting with through traffic.

c. Agricultural Component

Policy 5.4 (*Designation of Lands Suitable for Agriculture*). This policy calls for the designation of any parcel, which contains lands suitable for agriculture, as Agriculture on the Local Coastal Program Land Use Plan Map. The two northern parcels of the site are zoned Resource Management-Coastal Zone but are designated as "Agriculture" on the General Plan and LCP land use maps. The southerly parcel is zoned Planned Agricultural Development and is also designated as "Agriculture" on the General Plan and LCP land use maps. None of the soils on the project site meet the definition of "prime" contained within the LCP. There is no evidence that agriculture has been practiced on the project site since the abandoned home was constructed in the late 1950's. In order to establish agriculture on the project site, the existing vegetation would need to be removed. This vegetation possibly contains listed plant species as well as potentially providing habitat for listed bird and animal species. Agriculture, even cattle grazing, would also require some form of water source for irrigation. Previous test wells drilled on the northerly parcels did not find ground water. While it is unlikely that the subject parcels could be actively used for agriculture, the project does not completely preclude some form of agriculture from being established on portions of the southerly parcel.

Policy 5.6 (*Permitted Uses on Lands Suitable for Agriculture Designated as Agriculture*). This policy conditionally permits several uses on agriculturally designated lands, including public recreation and shoreline access trails. The project will provide recreational access to the Tunitas Creek beach and conditions of approval addressing a number of issues are included in Attachment A.

Policy 5.10 (*Conversion of Land Suitable for Agriculture Designated as Agriculture*). This policy prohibits the conversion of lands suitable for agriculture within a parcel to conditionally permitted uses unless all of the following can be demonstrated:

(1) All agriculturally unsuitable lands on the parcel have been developed or determined to be undevelopable.

As discussed previously, active farming of these parcels would require the removal of a significant amount of vegetation which could contain listed plant species as well as potentially providing habitat for listed animal species. In addition, due to the steep slopes on the project site (when moving from east to west) field crops or any other form of agriculture that requires tilling of the land is inadvisable and would likely lead to erosion issues. As mentioned previously, limited grazing may be possible, but given the small size of the project site and lack of water, it is questionable if this could be conducted economically.

(2) Continued or renewed agricultural use of the soils is not feasible as defined by Section 30108 of the Coastal Act.

As discussed previously, there is no evidence that the project site has been actively used for agriculture in over 50 years.

(3) Clearly defined buffer areas are developed between agricultural and non-agricultural uses.

The nearest identified agricultural uses are on the east side of Cabrillo Highway, where limited cattle grazing is occurring. The highway serves as an effective buffer between this and any future agricultural uses and the proposed public recreation use.

(4) The productivity of any adjacent agricultural lands is not diminished.

There is no evidence to suggest that conversion of the subject parcels to a public recreation use will inhibit the ability to use the adjacent lands on the other side of Cabrillo Highway for continued cattle grazing.

(5) Public service and facility expansions and permitted uses do not impair agricultural viability, including by increased assessment costs or degraded air and water quality.

The proposed project will not extend or create new water or sewer infrastructure that would facilitate development of adjacent lands. There is no portion of this project that will increase development pressure on adjacent lands thus threatening conversion of additional agricultural lands.

d. Sensitive Habitats Component

Policy 7.1 (*Definition of Sensitive Habitats*). This policy defines sensitive habitats as any area in which plant or animal life or their habitats are either rare or especially valuable, and includes endangered species habitat, perennial streams, coastal tide lands, and sand dunes. As discussed in the CEQA document prepared for this project, the project site contains several areas which meet the definition of sensitive habitats:

Coastal Terrace Prairie. A small patch of coastal terrace prairie is located on the project site. Plants observed in this community include Pacific reed grass, sour grass, cut leaf geranium, Douglas iris, and fescue.

Coastal Strand and Coastal Dunes. This community is more heavily concentrated toward the northern end of the site south of the mouth of Tunitas Creek. Plant species observed in the coastal strand include salt grass, coastal sand verbena, and beach morning glory. The coastal dunes community occurs between the coastal strand and the beach and shoreline. Plants observed within the dunes include scattered patches of American dune grass, beachgrass, sea rocket, beach morning glory, coastal sand verbena, and ice plant.

Streams. Tunitas Creek is a perennial stream that flows from King's Mountain to Tunitas Creek Beach and the Pacific Ocean. The lower portions of the creek, including the mouth of Tunitas Creek (also referred to Tunitas Lagoon), are located on or adjacent to the project site. A red alder riparian forest community is associated with Tunitas Creek. Central California Coast steelhead are known to occur in Tunitas Creek, which they use to migrate to potential spawning habitat upstream of the project site.

In addition to these sensitive habitat areas, the project site provides habitat for several listed species: coastal marsh milk-vetch, Central California Coast steelhead, California Giant Salamander and Santa Cruz Black Salamander, California Red-legged Frog, Western Pond Turtle, San Francisco Garter Snake, Western Snowy Plover, San Francisco Common Yellowthroat, White-tailed Kite, and San Francisco Dusky-Footed Woodrat.

Policy 7.5 (*Permit Conditions*). This policy requires, as part of the development review process, that the applicant demonstrate that there will be no significant impact on sensitive habitats or species. This is achieved by submission of a biological report outlining what resources exist at the project location and how the project may impact those resources. A biological resources report was prepared for this project's CEQA document. The information from that report is available in the project's IS/MND (Attachment D).

Policy 7.9 (*Permitted Uses in Riparian Corridors*). Under this policy trails and scenic overlooks on public land(s), and necessary water supply projects are permitted, subject to the issuance of a CDP. As discussed previously, Tunitas Creek and its associated riparian habitat are within the project footprint and will be impacted by the project.

Construction of the proposed water system will require removal of riparian vegetation and placement of structures within Tunitas Creek and atop the creek bank, including a well head, pump, and pipe to draw water from the creek and transport it to the holding tanks at the top/mid bluff.

The proposed project also includes a loop trail through the southern portion of the project site, from the parking area to the beach. The loop trail will require a stream crossing, which could impact the intermittent stream located in the south quadrant of the site. The loop trail may also impact riparian scrub vegetation associated with the intermittent and ephemeral streams. The construction of this trail will allow for an alternate route to reach the beach as well as provide scenic views along its entire length.

As discussed earlier, previous attempts to identify a groundwater source on the property have been unsuccessful. The only other water

source available is Tunitas Creek. The Parks Department is in the process of obtaining the State permit required to use this water source. As discussed previously, there is a history of unpermitted nighttime activity on the beach. One goal of this project is to establish a permanent Park Ranger's presence at this isolated location to prevent illegal nighttime parties and other criminal activity from continuing to occur at this beach. However, the Ranger's residence requires, per State and County health regulations, a permanent on-site water supply.

Policy 7.10 (*Performance Standards in Riparian Corridors*). This policy requires development permitted in corridors to: (1) minimize removal of vegetation, (2) minimize erosion and runoff by appropriately grading and replanting modified areas, (3) prevent depletion of groundwater supplies and substantial interference with surface and subsurface waterflows and (4) minimize alteration of natural streams. While the final design of the water withdrawal mechanism has not been determined, the applicant (in conjunction with the California Water Resources Control Board (WRCB)) has committed to implementing the necessary measures to restore any disturbed riparian vegetation to avoid habitat loss and erosion. These measures have been included as Conditions of Approval 11 - 14 in Attachment A.

Policy 7.33 (*Permitted Uses (in Habitats of Rare and Endangered Species)*). This policy restricts activities in sensitive habitats to a handful of uses, including pedestrian trails that have no adverse impact on the species or its habitat. As discussed previously, there are a number of listed species that have the potential to utilize portions of the project site as habitat. These species (and their potential to be on or around the areas of construction) are discussed in detail in the CEQA document (Attachment D). Mitigation measures to address potential impacts to these species were proposed in the CEQA document and have been included as Conditions of Approval 3 - 10 in Attachment A.

e. Visual Resources Component

Policy 8.4 (*Cliffs and Bluffs*). This policy prohibits development on bluff faces except public access stairways, where deemed necessary.

Bluff top development and landscaping shall be set back from the bluff edge sufficiently far to ensure it is not visually obtrusive when viewed from the shoreline except in special cases where a public facility is required to serve the public safety, health, and welfare.

Currently, access to the beach from the upper portions of the site is via an existing dirt road (approx. 8-10 feet wide) which was cut into the bluff face at some point in the past by a previous property owner. Portions of this existing road traverse through a landslide area. The project proposes to improve this dirt road in order to provide safe vehicular access for County vehicles (for maintenance and emergency response) as well as an integrated staircase for pedestrian access to the beach. In order to improve this existing dirt road, the landslide area must be removed and re-constructed with engineered fill. Then a gravel surface can be placed onto the road cut and the pedestrian stairs constructed. All disturbed areas will be planted with an erosion control seed mix to stabilize the work area and visually restore them to match adjacent undisturbed areas. This work is necessary to provide public access to the shoreline. Alternative locations for this access would require substantial new disturbance of untouched areas with no guarantee of diminished visual impacts.

In addition to the previously discussed ranger's residence, the project also proposes to construct two new buildings (a public restroom and a ranger's office/kiosk), and a small picnic area and lecture amphitheater. All of these structures are proposed in the area currently occupied by the abandoned house. This is intended to reduce the amount of new disturbance on the site. The two buildings will not exceed 12 feet in height and are of a standard design seen at other State and County parks in San Mateo County. The picnic areas and amphitheater will be no higher than waist height and tucked into the hillside. Visibility of these structures should be minimal from the shoreline and because of the use of earthen colored building materials, will not be obtrusive.

Policy 8.5 (*Location of Development*). This policy requires that development be located on a portion of a parcel where it is least visible from State and County Scenic Roads, is least likely to significantly impact views from public viewpoints; and best preserves the visual and open space qualities of the parcel overall. The project

site is within the boundaries of the Cabrillo Highway County Scenic Corridor. A significant portion of the project is the construction of a formal parking area (with stairs leading down to the picnic area) within the Cabrillo Highway right of way. No walls or other visual impediments are proposed that would block views of the ocean. This portion of the project will change the visual character of this portion of the highway. However, the proposed parking will facilitate easier public access to those views by creating safer exiting from the highway (the southbound right turn pocket) and by creating an all-weather surface that vehicles can safely negotiate even in inclement weather.

The proposed ADA compliant walkway from the parking lot down to the picnic area will also alter the existing visual character of the project. However, the use of earthtone materials in the construction of this walkway (as well as the other man-made structures) will mute the impact of this change to a less than significant level. The proposed project concentrates development (and the associated visual changes) to previously disturbed areas of the project parcels. The vast majority of the project parcels will be left undeveloped and in a natural state. Construction of the proposed improvements will facilitate the closing off of existing volunteer trails along the southern portions of the site. These volunteer trails have had a negative impact upon the native vegetation as well as exacerbating erosion issues along the southerly bluff faces, where people have “blazed” their way down to the beach.

Policy 8.6 (*Streams, Wetlands, and Estuaries*). This policy prohibits structural development which will adversely affect the visual quality of perennial streams and associated riparian habitat, except for those permitted by Sensitive Habitats Component Policies. As discussed previously, the project proposes to withdraw water from Tunitas Creek in order to provide a water supply for the proposed Ranger’s residence as well as other park functions. Depending upon the approval from the State Water Resources Control Board, the withdrawal will be either by a well adjacent to the creek or direct intake box within the creek. Water will then be pumped up to storage tanks near to the proposed Ranger residence. This infrastructure will initially be visible until the disturbed areas are revegetated. As discussed previously, this water withdrawal infrastructure is a permitted use under Policy 7.9 (*Permitted Uses in Riparian Corridors*).

Policy 8.9 (*Trees*). This policy prohibits the removal of trees in scenic corridors except as necessary for development approved in compliance with LCP policies and for opening up the display of important views from public places, i.e., vista points, roadways, trails, etc. The project plans indicate 8 – 10 trees will be removed in order to construct the ADA compliant walkway from the parking area down to the Mid-Bluff area. The trees are a mix of Monterey pine and cypress as well as non-native eucalyptus and fan palm trees. These trees are not readily visible from Cabrillo Highway because they sit below the grade of the existing roadway, so their removal will not be a significant impact when viewed from the highway. The removal of these trees will allow for the construction of this trail which is intended to provide public access to the shoreline. The proposed landscaping plan for this project calls for the planting of Coast Live Oak or Toyon as replacements for the trees removed. Per the County's Significant Tree Regulations, a 1:1 replacement ratio is required for any trees 12 inches in diameter or greater. A condition of approval has been added to reflect this requirement. The final number of replacement trees will be established at the time of final plan preparation.

Policy 8.15 (*Coastal Views*). This policy seeks to prevent development (including buildings, structures, fences, unnatural obstructions, signs, and landscaping) from substantially blocking views to or along the shoreline from coastal roads, roadside rests and vista points, recreation areas, trails, coastal accessways, and beaches. No solid walls or other structures are proposed that will substantially block coastal views either from the highway or along the proposed pedestrian paths down to the shoreline.

Policy 8.17 (*Alteration of Landforms; Roads and Grading*). This policy requires that development be located and designed to conform with, rather than change, landforms. The alteration of landforms as a consequence of grading, cutting, excavating, filling or other development shall be minimized. As discussed previously, there is evidence of a recent landslide in the area of the existing beach access trail. This trail is to be widened to safely accommodate vehicular access to the beach as well as provide a consistent ADA compliant slope. Because of the landslide, this area will be excavated, and a stable slope rebuilt. This will result in the angle of the bluff being

slightly reduced at this location. The goal of the grading at this location is to produce a natural appearing slope that blends in with the adjacent, untouched bluff face. Once the erosion control plantings have taken hold, it should be difficult to discern that the bluff face has been altered. With regards to the parking area and the accessible pathway down to the Mid Bluff area, grading will be limited to only those areas necessary to achieve the goal of the project. The vast majority of the project parcels will not be touched or altered by the project.

Policy 8.18 (*Development Design*). This policy requires that development blend and be subordinate to the environment and the character of the area where located. The colors of exterior materials shall harmonize with the predominant earth and vegetative colors of the site. Materials and colors shall absorb light and minimize reflection. Exterior lighting shall be limited to the minimum necessary for safety. All lighting, exterior and interior, must be placed, designed, and shielded so as to confine direct rays to the parcel where the lighting is located. As discussed previously, there are three proposed buildings – the ranger's residence, public bathroom, and a small equipment storage building. All three will use natural materials (wood or Hardiboard textured to look like wood) and painted in earthtone colors. The proposed ranger's residence will be located within a grove of Monterey cypress and pine trees on the north side of the existing driveway. While not invisible, this location and use of materials should reduce the visibility of the building such that it does not distract from the overall open space qualities of the site. Other structures on the site, such as benches and picnic tables, will also employ natural materials and earthtone colors. Moreover, these are the types of structures that the public would expect to see at a formal park facility such as this one.

Policy 8.22 (*Utilities in State Scenic Corridors*). This policy requires that existing overhead distribution lines be undergrounded when they must be relocated in conjunction with street improvements. As discussed in the project description section, the existing power lines adjacent to Cabrillo Highway will be undergrounded as part of the parking lot construction.

f. <u>Hazards Component</u>

Policy 9.3 (*Regulation of Geologic Hazard Areas*). This policy requires the application of certain regulations from the Resource Management (RM) Zoning Ordinance to designated geologic hazard areas, specifically in this instance the Tsunami Inundation Area Criteria. This criteria prohibits the placement of habitable structures within Tsunami Inundation Areas other than park and recreational facilities. The FEMA flood maps for this site indicate that the shoreline area up to the base of the bluffs is within what is commonly referred to as a Tsunami zone. No habitable structures are proposed within the shoreline area.

Policy 9.8 (*Regulation of Development on Coastal Bluff Tops*). This policy permits bluff and cliff top development only if design and setback provisions are adequate to assure stability and structural integrity for the expected economic life span of the development (at least 50 years) and if the development (including storm runoff, foot traffic, grading, irrigation, and septic tanks) will neither create nor contribute significantly to erosion problems or geologic instability of the site or surrounding area. The bluff top structural development proposed by this project (picnic tables, benches, vault toilet, storage shed) have a relatively low economic life span in comparison to a single-family house. As such, the threshold for evaluating the stability and structural integrity of these bluffs is lower than if the project were the development of a habitable structure. As a point of comparison, the proposed ranger residence is approximately 150 feet away from the bluff top edge, which at that location is less defined. An evaluation of the geotechnical conditions at the project site has been performed in order to determine whether the proposed pathway (from the parking lot to the Mid-Bluff area) and the beach access ramp are feasible.

The 2017 Geotechnical Investigation by Romig Engineers (see Attachment F) states that there is no evidence to suggest that the portion of the bluff on which improvements are proposed has been experiencing bluff retreat. However, due to the underlying soil conditions of the parcel as a whole, the bluffs are experiencing land sliding issues, which will be discussed further under Policy 9.10.

Policy 9.9 (*Regulation of Development in Floodplains*). This policy regulates alterations of stream channels to necessary water supply projects, flood control projects, and wildlife enhancement projects.

The portion of Tunitas Creek along the northern border of the project site has a flood zone designation of Zone A (Areas of 100-year flood, no base elevation established).

As discussed previously, the project includes stream withdrawals out of Tunitas Creek to support the ranger's residence. Given the history of unregulated nighttime activities on the beach, the County has determined that a continuous presence at the site to prevent further incidents is essential. This continuous presence can only happen if there is a developed source of water to support the residence. The nature of the stream withdrawal equipment has not been finalized at this time and is subject to the State's Water Resources Control Board oversight which will dictate methods of withdrawal and necessary mitigation measures to prevent exacerbation of any flood hazards that the equipment might generate.

Policy 9.10 (*Geological Investigation of Building Sites*). This policy requires, when appropriate, site specific geotechnical investigations to determine mitigation measures for the remedy of such hazards as may exist for structures of human occupancy and/or employment. The Romig Engineers report addresses the identified landslides on the project site and remediation of those hazards as follows:

Existing Vacant Residence

The existing vacant residence is located near the current bluff face. There are no indications of slope movement/landsliding at this location during the lifetime of the structure (constructed in approximately 1959), either as sliding along the adjacent bluff face or as deep-seated movement under the structure. However, our air photo interpretation suggests that the currently active landslides along the bluff south of the structure previously (prior to 1943) extended northward and possibly included the structure location. In addition, the shallow swale east (upslope) of the residence adjacent to Highway 1 may have formed as a landslide headscarp graben. The bluff at the residence location is lower than to the south, which would reduce the potential for future landsliding, and there are no indications of deep seated landslide movement underlying the residence structure since at least 1943.

Road/Path Down to Beach

We have been tasked with recommending one or more geologically feasible access paths or roads to the beach. A previously constructed path originates from north of the existing residence and descends down to the beach. The path is evident on aerial photos, and dates from prior to 1943. We were not able to access the path as it was inaccessible due to vegetation growth. However, as viewed on aerial photographs and from the beach below, the pathway appears essentially unchanged from its initial excavation, including its crossing of the shallow dormant landslide northwest of the existing residence. The slope at this location currently appears to be relatively stable and inclines less steeply than the slope to the south, impacted primarily by deposition of soil onto the path by erosion and gradual gravity movement of soil from the upslope cut. Elsewhere to the south, a potential graded path would require extensive excavation into higher and relatively steeper potentially unstable slopes and/or placement of fill on the downslope side. Thus, in our opinion, the optimum location for the proposed path would be reusing the existing path north of the residence, which would reduce both construction impact as well as future maintenance (although periodic maintenance would be required over time

This report has been reviewed by County staff who have concurred with the report's findings regarding the geotechnical stability of the site. Moreover, it is acknowledged that some of these landslide areas (specifically the pathway from the parking lot to the Mid Bluff area and the access path down to the beach) will need to be excavated and the slopes reconstructed in order to provide safe and stable public access down to the shoreline.

Shoreline Access Component

Policy 10.9 (*Public Safety*). This policy requires the provision of safe access to the following shoreline destinations which are large enough to accommodate public safety improvements and public use: (1) beaches which are large enough to provide space for easy retreat from normal tidal action, (2) bluffs which are large enough and of a physical character to accommodate safety improvements and which provide room for public use as a vista point, and (3) beaches and bluffs designated appropriate for public use in the Site Specific Recommendations for Shoreline Destinations (Table 10.6). This policy also discourages the public use of access trails which are hazardous because safety improvements have not been provided

or cannot be built due to physical limitations. Specifically, close undeveloped trails which are hazardous when an alternative safe existing or potential access is available for the same beach or bluff.

The project site was previously identified as having a high potential to provide safe public access to the shoreline in Table 10.6 of the LCP. The beach is large enough to provide easy retreat from tidal action. The bluff location where the access ramp down to the beach can, with the previously discussed grading, easily accommodate ADA compliant access down to the sand. Also, the project complies with the second part of this policy with regards to the closing off and restoration of the hazardous "undeveloped" trails that traverse the project parcel to the south of the proposed improvements.

Policy 10.19 (*Maintenance*). In order to eliminate trash and debris, provide trash cans and keep trails safe for public use in new or improved public areas. One of the primary reasons that the access ramp (with its associated bluff reconstruction) down to the beach is needed is to allow for park rangers to access trash cans and generally clean the beach as needed.

Policy 10.21 (*Access for the Disabled*). This policy states "In all areas where topography permits, provide shoreline access for the disabled by building paths and ramps for wheelchairs without altering major landforms". The design of this project and a significant amount of the proposed grading is to provide ADA compliant access down to the shoreline. Because of the steep topography from the parking area down to the Mid-Bluff area, the trail will need to incorporate a number of switchbacks with level landings at the turning points, consistent with ADA requirements. The same considerations have partially dictated the proposed improvements to the beach access ramp. To reduce the grade of this existing trail, the toe will be extended out slightly from its current end point and widened to provide safer access. The widening of the trail will necessitate the reconstruction of this portion of the bluff as previously discussed. As proposed, the project will be consistent with this policy.

Policy 10.22 (*Parking*). This policy states, in part "Locate new parking facilities on sites where it is possible to blend them into the landscape or screen them by topography or vegetation". At the present time, there is no official parking area for accessing Tunitas Creek. Most visitors generally park in the large pull-out area alongside Highway 1 and then hike down one

of the several volunteer trails down the bluffs to the beach. The project will create a formal parking area with landscaping. This location will, by its nature, be visually prominent. However, an extensive landscaping plan for this area is proposed. This landscape plan has a dual function of softening the visual impact of the parking area as well as provide bioretention of stormwater flows during storms. With these measures in place, the project complies with this policy.

Policy 10.38 (*California Coastal Trail*). This policy states that the Coastal Trail (CCT) is intended to (1) provide a continuous walking and hiking trail as close to the ocean as possible; (2) ensure that the trail has connections to trailheads, parking areas, interpretive kiosks, inland trail segments, etc., at reasonable intervals; and (3) maximizes ocean views and scenic coastal vistas. This project includes a trail, running the length of the parking area, that is intended to be a segment of the CCT. Connecting trails down to the shoreline will provide a safe opportunity for the public to access the coast and will maximize ocean views and scenic vistas. As such, this project is an important link in the eventual completion of the CCT.

g. Recreation/Visitor-Serving Facilities Component

Policy 11.24 (*Priorities for the Expenditure of Public Funds*). This policy encourages the use of County funds to acquire and develop for recreational use, lands which would introduce a public recreation area into a section of the Coastal Zone where no public recreation areas now exist. The County has worked collaboratively with the Peninsula Open Space Trust to acquire the subject parcels and develop the plans for this proposed County Park. The proposal is consistent with this policy.

3. Compliance with San Mateo County Zoning Regulations

The Coastal Act of 1976 requires that the County's Local Coastal Program (LCP) include zoning ordinances, zoning district maps and any other actions necessary to implement the requirements of the Coastal Act in San Mateo County. To that end, all projects, including government projects, must show compliance with not only the LCP, but with the applicable zoning regulations. As discussed previously, the project site includes two different zoning districts – Resource Management-Coastal Zone and Planned

Agricultural Development. Project compliance with the RM-CZ regulations shall be discussed first.

Compliance with RM-CZ Zoning Regulations

Section 6905 - *Permitted Uses*. Within the RM-CZ district, Public Recreation is a permitted use.

Section 6912.2 - *Site Design Criteria*.

(b) *All roads, buildings and other structural improvements or land coverage shall be located, sited and designed to fit the natural topography and shall minimize grading and modification of existing landforms and natural characteristics*.

As discussed previously, the project will involve grading in three distinct areas: the parking lot, the accessible path down to the Mid-Bluff area and slide repair along the beach access ramp. The grading has been designed to maintain existing topography as much as possible and is focused on just the areas where improvements are proposed. The proposed Ranger's residence will be tucked into an existing flat area pad area and screened from view by existing and proposed trees and vegetation.

(e) *All development shall be sited and designed to minimize the impacts of noise, light, glare and odors on adjacent properties and the community-at-large*.

The County intends to restrict park usage to daylight hours, consistent with the Parks Department's standard operating procedures for non-camping parks. Ground level lighting will be provided along the accessible pathway to assist users exiting the park in the evening. Light levels in the park will be kept low after hours to provide for safety/security but are not intended to promote nighttime use of the park. All outdoor lighting fixtures will be downward casting. Motion sensors will be installed to intensify light levels when movement is detected. Light associated with the ranger residence will be similar to existing rural residential uses in the project vicinity.

(h) *The development shall employ colors and materials which blend in with, rather than contrast with, the surrounding soil and vegetative cover of the site. In grassland, or grassland/forest areas, all exterior materials shall be of the same earth and vegetative tones as the predominant colors of the site (as determined by on-site inspections). Highly reflective surfaces and colors are discouraged*.

The project will utilize natural materials (wood, painted metal) or textured man-made materials (Hardi-board) and earth tone or neutral (concrete for example) colors for all structures. No highly reflective or bold colors will be used.

Compliance with PAD Zoning Regulations

a. Permitted Uses

Section 6353 - *Uses Permitted Subject To The Issuance Of A Planned Agricultural Permit*. This policy outlines permitted used on non-prime agriculturally zoned lands. The parcel that comprises the southern portion of the project site is zoned Planned Agricultural Development (PAD). However, there is no evidence that agriculture has been practiced on this parcel in over 50 years. Nor is there evidence that the adjacent parcels to the north and south have been used for agriculture during that period. Subsection B(4) (*Uses permitted on "Lands Suitable for Agriculture" and "Other Lands"*) lists Public Recreation Trails as a permitted use subject to the Issuance of a Planned Agriculture Permit. The only portion of the overall project that will occur on the southern parcel is the Muscle Rock loop trail which will begin at the southern end of the parking lot and then loop around, following the existing contours to a point at the southern end of the beach.

b. Substantive Criteria for Issuance of a Planned Agricultural Permit

Section 6355 - *Substantive Criteria for Issuance of a Planned Agricultural Permit*. Each application for conversion of PAD zoned land must be found consistent with the following criteria:

General Criteria

1. *The encroachment of all development upon land which is suitable for agricultural use shall be minimized*. The entire project area is extremely rugged with no real flat areas. The entire project site is unsuitable for active agricultural use due to the topography and the presence of sensitive habitat at various locations on the parcel. The soil is highly erodible and generally unsuited for traditional row crops.

2. *All development permitted on a site shall be clustered*. The nature of the proposed use does not necessarily lend itself to clustering as is typical with structural development. But the areas proposed for trail development/improvement is already partially disturbed by past land use on the site (Old Ocean Shore Railroad right-of-way, construction of Cabrillo Highway) and as stated previously, no agriculture is practiced on the project site.

Water Supply Criteria

The existing availability of an adequate and potable well water source shall be demonstrated for all non-agricultural uses and be located on that parcel. As discussed previously, there are no potable water sources on the project site, at this time. However, unlike other non-agricultural uses (such as residential uses), the proposed hiking trail does not require a potable water source as part of its plan of operation. The expectation is that people wishing to hike the trail will bring their own water with them.

Criteria for the Conversion of Lands Suitable for Agriculture and Other Land

All lands suitable for agriculture and other lands within a parcel shall not be converted to uses permitted by a Planned Agricultural Permit unless all of the following criteria are met:

1. *All agriculturally unsuitable lands on the parcel have been developed or determined to be undevelopable*. As stated above, the entire project area is extremely rugged with the only relatively flat areas around the old residence (Mid-Bluff area). The entire project area is unsuitable for active agricultural use due to the lack of a viable water supply, the topography and the presence of sensitive habitat.

2. *Clearly defined buffer areas are developed between agricultural and non-agricultural uses*. As stated previously, there is no active

agriculture occurring on the parcels to the north and south of the project site. Cabrillo Highway effectively provides a buffer between the low intensity grazing activities on the east side of the Highway and the project site.

3. *The productivity of any adjacent agricultural lands is not diminished, including the ability of the land to sustain dry farming or animal grazing*. As stated previously, there is only low intensity cattle grazing occurring on the lands to the east of Cabrillo Highway. There is no evidence to suggest that construction and usage of the Muscle Rock trail will result in a loss in productivity on these lands.

4. *Public service and facility expansions and permitted uses do not impair agricultural viability, either through increased assessment costs or degraded air and water quality*. As stated previously, there is limited, low intensity cattle grazing occurring to the east of the project site. The entire project site is publicly owned by the County, and its use as a public park will not result in an increase of assessment costs to surrounding land, or have an adverse impact on agricultural viability.

4. Compliance with the County Grading Ordinance

The Coastal Act of 1976 requires that the County's Local Coastal Program (LCP) include, in addition to zoning ordinances as discussed above, grading regulations as these regulations are also necessary to implement the requirements of the Coastal Act in San Mateo County. To that end, all projects, including government projects, must show compliance with not only the LCP, but with the County's grading regulations.

Section 9284 (*Exemptions*) of the County Grading Regulations exempts work conducted in any County Street, land, or right of way when the work is for a public facility, public utility or other public purposes, or is controlled by other permits. A significant portion of the proposed grading will occur within the CalTrans right of way for Cabrillo Highway. This work will require an encroachment permit from CalTrans and must meet their requirements for grading, drainage, and construction within the State right of way. For those portions of the grading that are on County owned land, the purpose of the proposed grading is to construct a public recreation facility, where the discretionary approval is controlled by a Coastal Development Permit.

Therefore, the proposed grading activities are exempt from the need to obtain a separate grading permit.

B. ENVIRONMENTAL REVIEW

The County prepared an Initial Study and Mitigated Negative Declaration, with a public review period of September 2, 2021, to October 1, 2021. The County addressed comments received in the Final Initial Study/Mitigated Negative Declaration (included as Attachment D). The Board of Supervisors certified the Mitigated Negative Declaration on December 14, 2021.

C. REVIEWING AGENCIES

California Coastal Commission
California Department of Fish and Wildlife
CalTrans
Regional Water Quality Control Board
U.S. Fish and Wildlife Service
MidPeninsula Regional Open Space District
SMC Building Department – Geotechnical Review Section
SMC Building Department – Drainage Review Section
Department of Public Works
Environmental Health Services
San Mateo County Fire

As of the publication of this report, Staff has only received comments from the California Coastal Commission on the project referral, which the applicant's consulting team has responded to below.

(*Please note: due to the length of the comments and responses, both have been summarized below. The full response document from the applicant's consultant is included as Attachment G of this staff report.*)

CCC Comment 1. *Bluff Development* *- We raised concerns with Policy 8.17 which requires that development be located and designed to conform with, rather than change, landforms and that the alteration of landforms as a consequence of grading, should be minimized. We also asked for an alternatives analysis and a full hazards analysis as required by Policy 9.8. Please provide a complete alternatives analysis that describes what alternative paths were considered that involve less grading and shorter pathways so as to limit the alteration of the bluff*

and in order to determine what the least environmentally damaging feasible alternative, and most LCP consistent project, is in this case.

Applicant's response: The proposed design of the project seeks to remain within the area that was developed in the 1950's for use as a residence. To construct the residence, the previous developers installed a paved roadway to the mid bluff where they graded the area to construct the home, driveway, and patio area. Additionally, they graded a non-paved roadway from the mid bluff to the beach. Accessing the beach at this location is difficult as the elevation change from State Route 1 to Tunitas Creek Beach is approximately 150 feet. The bluffs along this segment of the coast are nearly vertical except near the throat of Tunitas Creek where landform processes have reduced their steepness. Thus, the original developers of the residence at the site took advantage of this topography when they constructed the access road to the beach. For this project, the road serves as access for people walking toward the beach as well as for vehicles responding to emergencies. Thus, it must be at least 10 feet in width and reasonably smooth to accommodate a vehicle such as an ambulance.

While it is possible to provide an alternative roadway to the beach, such a route would have to be much steeper than the existing roadway. This would require extensive grading and vegetation removal to create a roadway that is about 10 feet wide, relatively smooth, and has a running slope of no more than 20%. Furthermore, as the bluff face is nearly vertical, constructing this alternative roadway would require significant earthwork to reach the beach. The stability of the slope is a key in planning for the project's features. For instance, routing the roadway to the beach south of the existing house is complicated by the presence of an active slide. Constructing the roadway along this route would require remedial grading to stabilize the bluff. Please note that the existing roadway is also located on a slide area, but it is dormant. The project proposes to stabilize this slide to ensure the public's access for the foreseeable future.

(Construction of the) alternative route increases the area of disturbance as it requires re-grading of the slope on both sides of the path. Furthermore, it will be visually impactful as it will require both cutting and filling of the existing bluff creating an unnatural profile that is inconsistent with LCP policy 8.18

While the proposed project does re-grade the bluff downslope, it does so by matching the general contours of the bluff only with a slight adjustment in the profile. As previously noted, a key to the project is to ensure the public's access to the beach without traveling along unsafe segments of the bluff creating erosion

and damage to environmental resources. Buttressing the slope as included in the project enhances its stability supporting the economic life span of the project consistent with LCP Policy 9.8

Comment 2. ***Coastal Hazards*** *– As mentioned above, we also asked for a full hazards analysis as required by LUP policy 9.8 which requires that development on blufftops be allowed only if designed and set back adequately to assure stability and structural integrity for the expected economic life span of the development (which the LCP measures as at least 50 years). Additionally, LCP Policy 9.8(b) requires the submittal of a site stability evaluation report. Given the project is located on a bluff face with a large active slide along the northeast side of the property this area would qualify as a hazardous area as defined by policy 9.1 and would require a full analysis meeting the above-mentioned requirements of LUP Policy 9.8. Please provide an analysis in order to be able to evaluate the proposed siting and design of the ranger residence and the amphitheater on the mid-bluff in addition to the parking/view area on the upper bluff.*

Applicant's response: Please find attached an evaluation of geotechnical alternatives for the Tunitas Creek Beach project. This report addresses existing hazards and potential mitigations consistent with LCP Policy 9.8. The evaluation has the following conclusions:

- The potential of surface rupture due to primary faulting at the site is considered low.
- Significant ground acceleration is possible due to seismic event.
- The potential for liquefaction is low.
- The potential for lateral spreading is low.
- The potential for seismically induced subsidence is low.
- The potential for ground lurching due to a seismic event is low.
- There are mapped older, recent, and active landslides on the property. These slides as well as bluff erosion could be exacerbated by future sea level rise scenarios. The attached sea level rise assessment illustrates the potential encroachment of wave action resulting from the 100-year event and future ocean levels in 2070 and 2100. In both cases waves will reach the bluff as it exists today.

The project evaluated repairing these landslides, however it was concluded that it is not feasible and economically impractical. Many of the dormant slides are deep. To repair these slides would require extensive excavation which would require removal and reconstruction of much of the bluff. This would be expensive and disrupt a large area of the bluff and beach. Thus, the project relies on the following elements to mitigate earth movement as well as prevent damage from landslides:

1. Buildings are not placed on active landslides.

2. Major improvements are set back from the bluff edge.

3. The project integrates drainage features designed to prevent concentration of runoff on slopes, which lead to erosion and landslide.

4. The project does not add fill on the existing terrain that could add weight, which could contribute to slope failure.

5. Site paving is limited to ensuring accessible access to the Park.

6. Buildings are prefabricated units placed on rigid foundations. These building are brought to the site nearly complete and can be moved as needed. The following figure illustrates a potential restroom.

Comment 3. *Biological Resources* *– Staff raised concerns regarding biological resources give that the project description proposes development that includes a 4-foot-wide unpaved trail that would require a stream crossing either via a rock ford or a clear-span bridge, along with vault toilets and associated treatment system and storage, a proposed water system that would require removal of riparian vegetation or placement of structures within Tunitas Creek and a beach boardwalk which would all be within the 100-year flood hazard area and through/adjacent to sensitive habitats.*

The contractor's response acknowledges that impacts to Tunitas Creek and its associated riparian vegetation are anticipated to accommodate proposed water supply infrastructure for the ranger residence. While policy 7.9 allows necessary water supply projects in riparian corridors, as mentioned above, staff would like to

review alternatives to ranger residence placement. Additionally, LUP Policy 11.12 states that recreation and visitor-serving facilities can be permitted uses adjacent to sensitive habitats only when (1) there is adequate distance or separation by barriers such as fences, (2) the habitat is not threatened, and (3) there would not be substantial impacts on habitat, topography, and water resources. Development standards and management practices must be adequate to protect the resources, consistent with Policy 11.18 and the Sensitive Habitats Component. The County should provide more information to support and be consistent with the aforementioned LCP policies.

Applicant's response: The following are specific responses to the above comments:

- Boardwalk. County Parks has deleted this element from the project.
- Loop Trail. The loop trail crosses an intermittent watercourse. Per Policy 7.9, "trails and scenic overlooks on public land" are a permitted use in riparian corridors.

The development of a ranger residence on the site resulted from the public's request to have a permanent on-site presence to prevent poaching, vandalism, and damage to environmental resources at Tunitas Creek Beach. During the outreach process, stakeholders felt it was imperative to have a 24-hour presence at the site. The design process developed a location for the residence that was on a stable portion of the site and was located away from prominent visitor amenities. The house will not be visible from State Route 1.

As required by the LCP, a residence cannot be constructed without a water supply. County Parks installed test wells but was unable to find ground water at the site. Other options were explored including harvesting, storing, and treating of rainwater, but this is currently not permitted under the regulations of the State of California. Trucking water and storing it at the site is not allowed under County regulations. Thus, the project proposes extracting water as allowed by the LCP and the Water Resources Control Board from Tunitas Creek.

As Tunitas Creek is a perennial stream, the buffer will be 50 feet. Access to the extraction system will only be required during installation and during annual maintenance. This work will be supervised by biologists to ensure environmental resources are not disrupted. The extraction system features a baffle system to prevent ingestion of wildlife.

The proposed project within the Tunitas Creek buffer is consistent with Policy 7.12 of the LCP, as a residential use is allowed on the property and there is no other source of potable water. Policy 7.12 states the following:

> *Within buffer zones, permit only the following uses: (1) uses permitted in riparian corridors; (2) residential uses on existing legal building sites, set back 20 feet from the limit of riparian vegetation, only if no feasible alternative exists, and only if no other building site on the parcel exists;*

Finally, County Parks will operate and maintain the Tunitas Creek Beach Park consistent with its Routine Maintenance Program Manual (Maintenance Manual) dated July 2020. This manual provides guidance for protection of biological resources, vegetation management, and repairs of park facilities.

Comment 4. *Cultural Resources -* *Staff encouraged the County to reach out to the appropriate Native American representatives via other methods such as phone call or email. While the County of San Mateo has conducted outreach pursuant to the consultation requirements of AB 52, we still encourage the County to attempt other methods of communication other than a formal notification by mail.*

Applicant's response: County Parks is currently collaborating with local tribes to integrate a land acknowledgement sign into the project.

ATTACHMENTS

A) Recommended Findings and Conditions of Approval
B) Location Map
C) Project Plans
D) Final Initial Study/Mitigated Negative Declaration
E) Project Biotic Resources Report
F) Project Geotechnical Investigation and Geologic Feasibility Study
G) Parks Department Response memo to Coastal Commission comments

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Attachment A

County of San Mateo
Planning and Building Department

RECOMMENDED FINDINGS AND CONDITIONS OF APPROVAL

Project File Number: PLN 2021-00485 Hearing Date: October 12, 2022

Prepared By: Michael Schaller, Senior Planner For Adoption By: Planning Commission

RECOMMENDED FINDINGS

Regarding the Environmental Review, Find:

1. That, the Mitigated Negative Declaration adopted by the Board of Supervisors on December 14, 2021, adequately analyzes the proposed project pursuant to the California Environmental Quality Act ("CEQA"), and that no subsequent environmental review is required pursuant to CEQA Guidelines Section 15162 (*Subsequent EIRs and Negative Declarations*).

Regarding the Coastal Development Permit, Find:

2. That the project, as described in the application and accompanying materials required by Zoning Regulations Section 6328.7 and as conditioned in accordance with Section 6328.14, conforms with the plans, policies, requirements, and standards of the San Mateo County Local Coastal Program with regards to the protection of biotic and visual resources, as well as shoreline access and recreation resources.
3. Where the project is located between the nearest public road and the sea, or the shoreline of Pescadero Marsh, that the project is in conformity with the public access and public recreation policies of Chapter 3 of the Coastal Act of 1976 (commencing with Section 30200 of the Public Resources Code) and Chapter 3 of the Coastal Act of 1976. As discussed throughout the staff report, the intended purpose of the project is to provide safe public access to Tunitas Beach where no authorized access currently exists.

4. That the project conforms to the specific findings required by policies of the San Mateo County Local Coastal Program. As discussed in Section A (2) of this staff report, protection measures will be implemented to prevent any impact to biological resources, including San Francisco garter snake and California red-legged frog.

RECOMMENDED CONDITIONS OF APPROVAL

Current Planning Section

1. The approval applies only to the proposal as described in this report and materials submitted for review and approval by the Planning Commission on October 12, 2022. The Community Development Director may approve minor revisions or modifications to the project if they are found to be consistent with the intent of and in substantial conformance with this approval.

2. **Mitigation Measure AIR-1:** In order to meet the BAAQMD fugitive dust threshold, the following BAAQMD Basic Construction Mitigation Measures shall be implemented:

    a) Any exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.

    b) All haul trucks transporting soil, sand, or other loose material off-site shall be covered.

    c) All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

    d) All vehicle speeds on unpaved roads shall be limited to 15 mph.

    e) All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.

    f) Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of

Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

g) All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

h) Post a publicly visible sign with the telephone number and person to contact at the County of San Mateo Parks Department regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

3. **Mitigation Measure BIO-1:** To the extent feasible, the previously mapped CNDDB occurrences of the coastal marsh milk-vetch shall be avoided and set back from the proposed project development by at least 50 feet.

a) Prior to the initiation of construction activities, a qualified botanist shall conduct protocol-level surveys to verify the absence of the special-status plant species listed on Table A: Special-Status Species Evaluated for the Project of the Initial Study. The surveys shall be conducted in accordance with the California Department of Fish and Wildlife (CDFW's) *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*. A series of pre-construction special-status plant surveys shall be conducted multiple times during the growing season to account for both early and late-blooming plant species. The surveys shall be conducted by a qualified biologist within the proposed project footprint and within a 50-foot buffer to allow for assessment of required avoidance setbacks from any special-status plants identified. The proposed project shall be at least 50 feet away from any special-status plant detected during pre-construction surveys. The previously mapped occurrences of coastal marsh milk-vetch shall be avoided and set back from the proposed project development by at least 50 feet.

b) If special-status plants are found in the project site, the population size and occupied area of special-status plant populations identified during the field survey, and with potential to be impacted, will be estimated. A "population" will be defined as the group of individuals of a species present within a 0.10-mile radius. In addition, the population shall be photographed and flagged to

maximize avoidance, as well as to estimate the percentage of the population affected. If feasible, the project shall be redesigned or modified to avoid direct and indirect impacts on special-status plant species.

c) Special-status plants to be avoided shall be protected from disturbance by installing environmentally sensitive area fencing (orange construction barrier fencing or a suitable alternative). Protective fencing shall be installed under the direction of a qualified biologist as necessary to protect the plant and its habitat; where feasible, the environmentally sensitive area fencing shall be installed at least 50 feet from the edge of the population. The location of the fencing shall be shown on the site plans and marked in the field with stakes and/or flagging. The specifications shall contain clear language that prohibits construction activities, vehicle operation, material and equipment storage, and other surface disturbing activities within the fenced environmentally sensitive area.

d) If impacts to special-status plants are unavoidable and less than 5% of a population would be impacted, prior to any ground-disturbing activities, the County shall preserve the seed bank within the impact area by removing and retaining the topsoil prior to the implementation of construction activities. Following completion of construction, the County shall monitor the impact area for two years. Any non-native invasive plant species occurring within this area during the monitoring period shall be removed under the supervision of a qualified biologist.

e) If appropriately timed focused botanical surveys cannot be conducted prior to construction activities in areas identified by a qualified biologist as potentially supporting listed plants, then the County will assume presence of the plant species in question.

4. **Mitigation Measure BIO-2**: If trees within the Monterey pine forest are impacted (trimmed or removed), a focused monarch butterfly survey shall be conducted to determine if monarchs roost in the on-site trees. If found, potential impacts to the trees shall be avoided, especially during the winter when monarchs are more likely to be present. The following measures, as adapted from the County of San Mateo Routine Maintenance Program Environmental Impact Report, shall be considered in order to avoid potential impacts to existing or suitable roost sites:

a) If, based on a review of current CNDDB records or the latest information available from the Xerces Society (https://xerces.org/state-of-the-monarch-

butterfly-overwintering-sites-in-california/) historically or currently occupied overwintering habitat for the monarch butterfly is determined to exist in or adjacent to the work area where ground disturbing activities are planned to occur, the County shall implement applicable protection measures as follows:

b) Areas supporting overwintering habitat for the monarch butterfly shall be identified by a qualified biologist and maintenance activities during fall and winter months when monarch butterflies are present shall be avoided to the extent practicable.

c) Historically or currently occupied trees/groves shall be protected from disturbance by the establishment of a 100-foot buffer zone around the tree/grove. The buffer shall be measured from the outside edge of the dripline of the monarch grove. If maintenance activities within 100 feet of a historically or currently occupied tree/grove are unavoidable, the County shall prepare and implement an impact minimization plan in consultation with the U.S. Fish and Wildlife Service (USFWS).

d) No herbicides or pesticides shall be applied to the buffer area, and to the extent feasible, maintenance personnel and equipment shall not operate within such areas.

5. **Mitigation Measure BIO-3:** For ground-disturbing activities within and in proximity to creeks or within riparian woodlands or riparian scrub habitats, the following measures shall be implemented to reduce potential impacts to special-status amphibian and reptile species, including California red-legged frog, San Francisco garter snake, California giant salamander, Santa Cruz black salamander, and western pond turtle. Where applicable, these measures were adapted from the County of San Mateo Routine Maintenance Program Environmental Impact Report.

a) A qualified biologist shall conduct employee education training for personnel working on construction or demolition activities. Personnel shall be required to attend the presentation, which shall describe the life cycles and ecology of the California red-legged-frog, San Francisco garter snake, California giant salamander, Santa Cruz black salamander, western pond turtle, and all other special-status species that could occur on the project site. The training shall also include materials concerning the following topics: sensitive resources, resource avoidance, permit conditions, and possible consequences for violations of State or Federal environmental laws. The training shall cover the mitigation measures, environmental permits, and regulatory compliance

requirements, as well as the roles and authority of the monitors and biologists. Printed training material and an attendance sheet shall be provided at the session.

b) Prior to implementation of construction work, the County or County's biologist shall submit to the USFWS and CDFW for its review and approval the qualifications of proposed wildlife biologists who will perform pre-activity surveys and on-site monitoring.

c) No more than 24 hours prior to the date of initial ground disturbance, a pre-activity survey for the California red-legged frog, San Francisco garter snake, California giant salamander, Santa Cruz black salamander, and western pond turtle shall be conducted by a qualified biologist in the construction area. The survey shall consist of walking the work area limits to ascertain the possible presence of the species. The qualified biologist shall investigate all potential areas that could be used by these species, including examination of mammal burrows. If any adults, subadults, juveniles, tadpoles, or eggs are found, the qualified biologist shall contact the USFWS and/or CDFW to determine if moving any of the individuals is appropriate. If the USFWS/CDFW approves moving animals, the biologist and USFWS/CDFW shall identify a suitable relocation site, and the County shall ensure the qualified biologist is given sufficient time to move the animals from the work site before ground disturbance is initiated. Only qualified biologists shall capture, handle, and monitor the California red-legged frog, San Francisco garter snake, California giant salamander, Santa Cruz black salamander, and western pond turtle.

d) To minimize harassment, injury, death, and harm to these species, one of the following two measures shall be implemented:

(1) An approved, qualified biologist(s) shall be on-site during all initial construction activities, such as clearing and grubbing of vegetation that may result in take of or impacts to the California red-legged frog, San Francisco garter snake, California giant salamander, Santa Cruz black salamander, and western pond turtle as determined by the biologist; or

(2) Prior to pre-activity surveys, personnel shall enclose the work area with an exclusion fence with a minimum height above grade of 42 inches. Where installation of exclusion fencing completely around the work area is not feasible, exclusion fencing shall be installed between the work area and any adjacent vegetation or sensitive habitat where special-status wildlife species

could occur. The bottom of the fence shall either be buried a minimum of 6 inches below ground or otherwise secured in a manner approved by the USFWS/CDFW and shall remain in place during all construction activities in order to prevent special-status amphibians and reptiles from entering the work area. Escape ramps, funnels, or other features that allow animals to exit the work area, but which will prohibit the entry of such animals, shall be provided in the exclusion fencing. A qualified biologist shall conduct a pre-activity survey of the fence installation area immediately prior to (i.e., the day of) the commencement of installation and shall be present to monitor fence installation. The exclusion fencing shall be inspected daily by construction personnel and maintained for the duration of the project.

e) The qualified biologist(s) shall be given the authority to freely communicate verbally, by telephone, electronic mail, or in writing at any time with construction personnel, any other person(s) at the work area, otherwise associated with the construction work, the USFWS, the CDFW, or their designated agents. The qualified biologist shall have oversight over implementation of all mitigation measures and shall have the authority and responsibility to stop work activities if they determine any of the associated requirements are not being fulfilled. If the qualified biologist(s) exercises this authority, the USFWS/CDFW shall be notified by telephone and electronic mail within 24 hours.

f) The project shall minimize adverse impacts to the California red-legged frog, San Francisco garter snake, California giant salamander, Santa Cruz black salamander, and western pond turtle by limiting, to the maximum extent possible, the number of access routes, ground disturbance area, equipment staging, storage, parking, and stockpile areas. Prior to initiating construction work that involves ground-disturbing activities, equipment staging areas, site access routes, sediment removal, and transportation equipment and personnel parking areas, debris storage areas, and any other areas that may be disturbed shall be identified, surveyed by the qualified biologist, and clearly identified with fencing. The fencing shall be inspected by construction personnel and maintained daily until construction is complete.

g) To the extent feasible, construction activities shall be conducted from April through October during the dry season when these semi-aquatic species are less likely to be found in a work area. To the extent practicable, ground-disturbing activities shall be avoided from October through April because that is the time period when California red-legged frogs and other semi-aquatic

species are most likely to be moving through upland areas. When ground-disturbing activities occur between November 1 and March 31, the County shall ensure that daily monitoring by the qualified biologist is completed for California red-legged frogs and other special-status amphibians and reptiles.

h) To avoid harassment, injury, death, and harm to individual San Francisco garter snakes, immediately prior to (i.e., the day of) the initiation of construction e activities that have potential for take of the San Francisco garter snake, a USFWS and CDFW-approved biologist shall conduct daytime surveys throughout the project site. The approved biologist shall be present during initial ground-disturbing activities (i.e., clearing and grubbing) within 250 feet of the work area to monitor for individual garter snakes. If a San Francisco garter snake is observed within the work area, either during the pre-activity survey or at any time, activities that could potentially harm the individual shall cease and the USFWS and CDFW shall be contacted immediately. Work shall not re-commence without written approval from CDFW. The on-site biologist shall be the contact for any employee or contractor who might inadvertently kill or injure a garter snake or anyone who finds a dead, injured, or entrapped San Francisco garter snake.

i) For vegetation removal in suitable San Francisco garter snake habitat, vegetation shall be cut down to 3 inches by hand-tools (weedwhacker, etc.). Once the ground is visible, a visual survey for San Francisco garter snakes shall be conducted. If no special-status amphibians or reptiles are found in the area, removal of vegetation may continue very slowly with a biological monitor walking in front of the equipment to observe.

j) When a California red-legged frog, San Francisco garter snake, California giant salamander, Santa Cruz black salamander, or western pond turtle is encountered in the work area, all activities that have the potential to result in the harassment, injury, or death of the individual shall be immediately halted. The qualified biologist shall then assess the situation in order to select a course of action that shall avoid or minimize adverse impacts to the animal. To the maximum extent possible, contact with the animal shall be avoided and the individual shall be allowed to move out of the work area to a secure location on its own volition.

k) California red-legged frogs, San Francisco garter snakes, California giant salamanders, Santa Cruz black salamanders, and western pond turtles that are in danger shall be relocated and released by the qualified biologist outside the

work area within the same riparian area or watershed. If relocation of the individual outside the work area is not feasible (i.e., too many individuals are observed per day), the biologist shall relocate the animals to a USFWS/CDFW pre-approved location. Prior to the initial ground disturbance, the County shall obtain approval of the relocation protocol from the USFWS/CDFW in the event that a California red-legged frog, San Francisco garter snake, California giant salamander, Santa Cruz black salamander, or western pond turtle is encountered and needs to be moved away from the work site. Under no circumstances shall the animal be released on a site unless the written permission of the landowner has been obtained by the County. The qualified biologist shall limit the duration of the handling and captivity of the animals to the minimum amount of time necessary to complete the task. If the animal must be held in captivity, it shall be kept in a cool, dark, moist, aerated environment, such as a clean and disinfected bucket or plastic container with a damp sponge. The County shall immediately notify the USFWS and CDFW once the animal and the site is secure.

l) If California red-legged frog egg masses are present and work cannot be postponed until after hatching, a buffer of vegetation at least 10 feet in diameter shall be left around any egg masses found. The County shall keep a record of any sites where egg masses are found and will conduct vegetation removal between June 15 and October 15. Work within the channel shall avoided in order to avoid dislodging egg masses. Construction activities shall be performed from the banks.

m) If California giant salamander eggs or larvae are found, the qualified biologist shall establish a buffer around the location of the eggs/larvae and work may proceed outside of the buffer zone. No work shall occur within the buffer zone. Work within the buffer zone shall not occur until the time that eggs have hatched and/or larvae have metamorphosed, or the County shall contact CDFW to develop site appropriate avoidance and minimization measures.

n) If an active western pond turtle nest is detected within the activity area, a 10-foot buffer zone around the nest shall be established and maintained during the breeding and nesting season (April 1 – August 31). The buffer zone shall remain in place until the young have left the nest, as determined by a qualified biologist.

o) To minimize harassment, injury, death, and harm in the form of temporary habitat disturbances, all vehicle traffic shall be restricted to established roads,

sediment removal and access areas, equipment staging, storage, parking, and stockpile areas. These areas shall be included in pre-activity surveys and, to the maximum extent possible, established in locations disturbed by previous activities to prevent further adverse impacts. Vehicles shall observe a 20-mile per hour speed limit within work areas, except on Highway 1. Off-road traffic outside of designated and fenced work areas shall be prohibited.

p) A litter control program shall be instituted at the project site. All workers shall ensure their food scraps, paper wrappers, food containers, cans, bottles, and other trash are deposited in covered or closed trash containers. The trash containers shall be removed from the site at the end of each working day.

q) For on-site storage of pipes, conduits and other materials that could provide shelter for special-status amphibians and reptiles, materials shall be securely capped prior to storage, or an open-top trailer will be used to elevate the materials above ground. This method is intended to reduce the potential for animals to climb into the conduits and other materials.

r) To the maximum extent practicable, no construction activities shall occur during rain events or within 24-hours following a rain event. Prior to maintenance activities resuming, a qualified biologist shall inspect the work area and all equipment/materials for the presence of special-status amphibians and reptiles. The animals shall be allowed to move away from the work site of their own volition or moved by the qualified biologist.

s) To the maximum extent practicable, night-time construction activities shall be minimized or avoided by the County. Because dusk and dawn are often the times when the California red-legged frog most actively moving and foraging, to the maximum extent practicable, earth-moving and other project activities shall cease no less than 30 minutes before sunset and shall not begin again prior to 30 minutes after sunrise. Artificial lighting in the work area shall be prohibited during the hours of darkness.

t) Plastic monofilament netting (erosion control matting), loosely woven netting, or similar material in any form shall not be used at the project site because amphibians and reptiles can become entangled and trapped in them. Any such material found on site shall be immediately removed by the qualified biologist, maintenance personnel, or County contractors. Materials utilizing fixed weaves (strands cannot move), polypropylene, polymer or other synthetic materials shall not be used.

u) Trenches or pits 1-foot or deeper that are going to be left unfilled for more than 48 hours shall be securely covered with boards or other material to prevent special-status amphibians and reptiles from falling into them. If this is not possible, the County shall ensure wooden ramps or other structures of suitable surface that provide adequate footing for the animal are placed in the trench or pit to allow for their unaided escape. Auger holes or fence post holes that are greater than 0.1-inch in diameter shall be immediately filled or securely covered so they do not become pitfall traps for the animal. The qualified biologist or trained construction personnel shall inspect the trenches, pits, or holes prior to their being filled to ensure no animals are in them. The trench, pit, or hole also shall be examined by the qualified biologist each workday morning at least one hour prior to initiation of work and in the late afternoon no more than one hour after work has ceased to ascertain whether any individuals have become trapped. If the escape ramps fail to allow the animal to escape, the qualified biologist shall remove and transport it to a safe location or contact the USFWS/CDFW for guidance.

v) As part of the U.S. Army Corps of Engineers (Corps) permit application, a USFWS take permit (Biological Opinion) may be needed for the California red-legged frog and San Francisco garter snake, since they are federally listed species. CDFW may recommend a Section 2081 Incidental Take Permit if the proposed project has the potential to impact the San Francisco garter snake, since this species is listed by the State of California. The Parks Department shall comply with all conditions of incidental take permits issued for the project. Conditions may include, but are not limited to, development of revegetation and restoration plans and procedures, environmental awareness training, pre-construction wildlife surveys, and/or biological monitoring, some, or all of which are already included as part of the mitigation measures described herein. (None of the other remaining special-status species are State-listed).

6. **Mitigation Measure BIO-4A:** If construction activities occur between February 1 and August 31, pre-activity survey for nesting birds (special-status and common bird species) shall be conducted by a qualified biologist to ensure that no nests would be disturbed during project implementation. These surveys shall be conducted no more than seven days prior to the initiation of construction activities. During this survey, the biologist shall inspect all trees and other potential nesting habitats (e.g., trees, shrubs, coastal strand, coastal dunes, structures) in and immediately adjacent to the impact areas for nests. If an active nest is found sufficiently close to work areas to be disturbed by these activities, the biologist shall

determine the extent of a construction-free buffer zone to be established around the nest (typically 300 feet for raptors and 100 feet for other species), to ensure that no nests of species protected by the Migratory Bird Treaty Act and/or California Fish and Game Code would be disturbed during project implementation. The boundary of each buffer zone shall be marked with fencing, flagging, or other easily identifiable marking if construction work occurs immediately outside the buffer zone. No trees or shrubs shall be disturbed that contain active bird nests until all eggs have hatched, and young have fully fledged (are no longer being fed by the adults and have completely left the nest site), or if the nest is determined by the biologist to no longer be active.

If possible, all potential nesting substrates (e.g., bushes, trees, grasses, and other vegetation) that are planned for removal as part of the project shall be removed prior to the start of the nesting season (e.g., prior to February 1).

7. **Mitigation Measure BIO-4B:** To the extent feasible, construction activities within 600 feet of suitable snowy plover breeding habitat shall occur outside the plover breeding season of March 1 through September 14. If construction activities occur within 600 feet of suitable snowy plover breeding habitat during the nesting season (March 1 through September 14), a pre-activity survey shall be conducted by a qualified biologist within 7 days prior to the start of the activity to determine whether active nests are present. If an active snowy plover nest is detected within 600 feet of the construction area, the qualified biologist, in coordination with USFWS personnel, shall determine an appropriate buffer that should remain free from construction activities. The buffer shall be determined based on the sensitivity of the nest, the presence of visual barriers (such as dunes) between the construction activities and the nest, and the level and proximity of existing human activity around the nest when it was established. The buffer shall remain in place until the nest is no longer active. If broods of unfledged snowy plover young are present, no construction activities shall occur within 300 feet (or as otherwise determined by a qualified biologist in coordination with the USFWS) of a brood.

   As part of the Corps permit application, a USFWS take permit (Biological Opinion) may be needed for the western snowy plover, since this species is federally listed. The Parks Department shall comply with all conditions of incidental take permits issued for the project.

8. **Mitigation Measure BIO-5:** No more than two weeks prior to the beginning of ground disturbance that could disturb San Francisco Dusky-Footed Woodrat (SFDFW) houses, a qualified biologist shall survey the work areas. If SFDFW

houses are found, the houses shall be flagged and construction fencing or flagging that will not impede the movement of the SFDFW shall be placed around the nest to create a 10-foot buffer (where feasible). If a SFDFW house is identified in a work area, the following shall be implemented:

a) Physical disturbance of the house shall be avoided if feasible. If possible, a minimum 10-foot buffer shall be maintained between maintenance construction activities and each nest to avoid disturbance. In some situations, a smaller buffer shall be allowed if in the opinion of a qualified biologist removing the nest would be a greater impact than that anticipated as a result of the project.

b) If a Dusky-footed woodrat nest cannot be avoided, prior to the beginning of construction activities, a qualified biologist shall disturb the SFDFW house to the degree that all SFDFW leave the house and seek refuge outside of the maintenance activity area. Relocation efforts shall avoid the nesting season (February - July) to the maximum extent feasible. Disturbance of the SFDFW house shall be initiated no earlier than one hour before dusk to minimize the exposure of woodrats to diurnal predators. Subsequently, the biologist shall dismantle and relocate the house material by hand. All material from dismantled houses shall be placed in a pile, preferably against a log or tree trunk, in suitable habitat located at least 20 feet from, but otherwise as close as possible to, the original house locations, to provide material for SFDFW to construct new houses. During the deconstruction process, the biologist shall attempt to assess if juveniles SFDFW are present in the house. If immobile juveniles are observed, the deconstruction process shall be discontinued until a time when the biologist believes the juveniles will be fully mobile. A 10-foot-wide no-disturbance buffer shall be established around the nest until the juveniles are mobile. The house may be dismantled once the biologist has determined that adverse impacts on the juveniles would not occur. All disturbances to SFDFW houses shall be documented in a construction monitoring report and submitted to CDFW.

c) A qualified biologist shall set two traps around each of the SFDFW houses to be relocated. Traps shall be set within one hour prior to sunset, and baited with a mixture of peanut butter, oats, and apples, or other suitable bait. Traps shall also be equipped with cotton bedding and covered with cardboard. The traps shall be checked the following morning, within one-and-a-half hours of sunrise. If a SFDFW is captured, it shall be placed in a quiet area while its house material is relocated; the SFDFW will then be released at the relocated structure. If no SFDFW are captured after the first night, the biologist shall set

the traps for one additional evening to increase the probability of capturing the SFDFW and ensuring a safe relocation. If no SFDFW are captured at a given house after two nights, it shall be assumed that the house is not currently occupied. Trapping shall only be conducted outside the breeding season, which for SFDFW is from February through the end of July. If a litter of young is found or suspected while dismantling a house for relocation, the house material shall be replaced, any trapped SFDFW shall be returned to the house, and the house shall be left alone for 2 to 3 weeks, after which time the house shall be rechecked to verify that the young are capable of independent survival, as determined by the qualified biologist, before proceeding with dismantling of the house.

9. **Mitigation Measure BIO-6A:** Prior to demolition, a qualified biologist should conduct an additional survey during the summer maternity season (ideally June) to determine whether the unoccupied house supports a Townsend's big-eared bat maternity colony or whether the site is only used by wintering bats or by males. If the roost is occupied, and can be avoided, a qualified biologist should develop a plan to preserve and secure the roost for future use by bats.

   a) Prior to building demolition or modification, a qualified biologist should conduct a focused survey for bats within any structures to be demolished. If any bats are found, but they do not represent an active maternity roost, they shall be excluded from the building through installation of one-way doors, closure of potential entry points, or use of acoustic deterrents. Alternatively, opening up the structure (i.e., removal of boards from windows and doors, removal of roof sections) should increase wind flow through the structure and may also deter bats from roosting. A qualified biologist shall consult on the methods used to exclude bats.

   b) If a maternity colony is present, then no demolition or modification of the roost site, nor of any areas within 100 feet of the roost site and any points of ingress or egress, should occur during the period April 1 to August 31 (or until young are demonstrated to be flying well). After August 31 (or after the young are flying), then bat exclusion can proceed. No exclusion should occur during rainy or cold conditions.

   c) If a Townsend's big-eared bat maternity colony is confirmed in the unoccupied house, and demolition or modification (to the point that bats no longer use the building) of this structure cannot be avoided, replacement maternity roost habitat should be provided on the site. Note that bat boxes and bat

condominiums do not provide suitable replacement habitat for Townsend's big-eared bats. Rather, larger, more cavernous bat structures are required to replace maternity roost habitat for this species. The replacement roost structure should be designed and sited in consultation with a qualified biologist. The structure should be monitored for a period of 5 years to determine whether it is occupied. Success of the habitat replacement should be achieved if the roost structure is determined by a qualified biologist to provide similar thermal and light conditions to those that exist in the unoccupied house that is currently being used as a roost site.

10. **Mitigation Measure BIO-6B:** A qualified biologist shall conduct a survey to look for evidence of bat use within two weeks prior to the onset of work activities. If evidence of bat occupancy is observed, or if high-quality roost sites are present in areas where evidence of bat use might not be detectable (such as a tree cavity), an evening survey and/or nocturnal acoustic survey may be necessary to determine if roosting bats are present and to identify the specific location of the bats. If no active maternity colony or non-breeding bat roost is located, project work can continue as planned. If an active maternity colony or non-breeding bat roost is located, the construction work shall be redesigned to avoid disturbance of the roosts, if feasible. If an active maternity colony is located, and the project cannot be redesigned to avoid removal or disturbance of the occupied tree or structure, disturbance shall not take place during the maternity season (March 15 – July 31), and a disturbance-free buffer zone (determined by a qualified bat biologist) shall be established during this period. If an active non-breeding bat roost is located, and the project cannot be redesigned to avoid removal or disturbance of the occupied tree or structure, the individual bats shall be safely evicted between August 1 and October 15 or between February 15 and March 15 (as determined in consultation with CDFW). Bats may be evicted through exclusion only after notifying and obtaining approval from CDFW. Trees with roosts that need to be removed shall first be disturbed at dusk, just prior to removal that same evening, to allow bats to escape during the darker hours. Roosts may only be removed once the bats are no longer occupying the roost, at which time, a plan approved by CDFW may be implemented for removal of the roost. The plan shall describe appropriate methods for the removal of the roost. As part of CDFW's approval, a new roost site may be required to be created on the project site. Active day roosts of tree-foliage bats may be removed upon permission of CDFW.

    a) If feasible, trees planned for pruning or removal as a part of the project, shall be pruned or removed during the fall to avoid the maternity roosting period of resident bats (mid-April to August season). Western red bats are less likely to

be present and roosting in the trees on and adjacent to the project site during the spring and summer, but other bats may be roosting during this period. Because bats may be present at any time, a pre-construction survey by a qualified biologist shall be required as outlined above regardless of timing of tree or structure removal and a suitable buffer zone established around detected roosts.

b) Pruned limbs or cut trees shall be left on the ground in place for at least 24 hours after cutting to allow any bats that may be roosting in the trees to leave the roosts prior to chipping the branches or removing the cut material from the site. Before any construction activities begin in the vicinity of the identified bat roosts on the project site, an approved biologist shall conduct a training session for all construction personnel. At a minimum, the training shall include a description of the bats and their habitat, the specific measures that are being implemented to conserve the bat roosts for the project, and the boundaries within which the project may be accomplished. Brochures, books, and briefings may be used in the training session. A qualified biologist shall conduct the training session.

11. **Mitigation Measure BIO-7A:** If native riparian trees or shrubs are impacted during project construction, the impacted trees shall be replaced at a minimum 1.5:1 ratio meaning 1.5 acres of riparian habitat shall be restored/created for every 1 acre of riparian habitat impacted by the project. The native riparian species shall be replaced in-kind preferably from phytophthera-free container stock as appropriate, propagated from local genetic stock (i.e., San Francisco Bay region). Any temporarily disturbed areas within the riparian woodland shall be seeded with an appropriate native seed mix. Appropriate permits from CDFW and possibly RWQCB would need to be obtained and any monitoring and reporting requirements stated within the permits, including preparation and implementation of a mitigation and monitoring plan would have to be completed.

12. **Mitigation Measure BIO-7B:** If needed, the project shall design and construct low impact stream crossings that would include a wooden walkway/boardwalk, or similar structure to avoid potential impacts to the streams. The crossings shall be designed to accommodate high flows and be regularly maintained. Footings for the crossings shall be sited fully outside of the banks and channel of the streams.

13. **Mitigation Measure BIO-7C:** The project contractor shall implement applicable BMPs, and conservation measures detailed in the County of San Mateo Watershed

Protection Program's Maintenance Standards and the San Mateo Countywide Pollution Prevention Program Construction BMPs during construction.

14. **Mitigation Measure BIO-7D:** To protect water quality during construction and maintenance, the following measures shall be included on the construction specifications, with construction oversight by a qualified biologist or biological monitor:

    a) Stationary equipment such as motors, generators, and welders located within 100 feet of the stream shall be stored overnight at staging areas and shall be positioned over drip pans.

    b) Any hazardous or toxic materials deleterious to aquatic life that could be washed into a basin shall be contained in watertight containers or removed from the project site.

    c) All construction debris and associated materials stored in staging areas shall be removed from the work site upon completion of the project.

    d) Whenever possible, refueling of equipment shall take place within turnouts or staging areas at least 50 feet from the top of bank or other wetland.

    e) All refueling shall be conducted over plastic bags filled with sawdust or other highly absorbent material. Clean-up materials for spills shall be kept on hand at all times. Any accidental spills of fuel or other contaminants shall be cleaned up immediately. The project contractor shall install protective fencing prior to and during construction to keep construction equipment and personnel from impacting riparian vegetation outside of work limits. A qualified biologist or biological monitor with the education and experience necessary to delineate riparian vegetation shall supervise the installation of protective fencing.

15. **Mitigation Measure BIO-7E:** The Parks Department shall obtain a Coastal Development Permit as required for project activities. The Parks Department shall comply with all conditions of permit issued for the project. Conditions may include, but are not limited to, development of revegetation and restoration plans and procedures, environmental awareness training, pre-construction wildlife surveys, and/or biological monitoring, some, or all of which are already included as part of the mitigation measures described above.

16. **Mitigation Measure BIO-7F:** A Revegetation Plan shall be prepared by a qualified biologist to revegetate and restore impacted habitat. This plan shall include a list of appropriate species, planting specifications, monitoring procedures, success criteria, and a contingency plan if success criteria are not met.

17. **Mitigation Measure BIO-8A:** Impacts to areas of wetland and other water shall be avoided to the greatest extent possible. If impacts to areas of wetlands and other water is unavoidable, the area impacted shall be confined to the smallest area possible.

18. **Mitigation Measure BIO-8B:** For project activities that impact wetlands or other waters requiring permits from the Corps, RWQCB, and/or CDFW, the project proponent shall obtain permits and comply with all permit requirements. For on-site, in-kind mitigation, the County shall mitigate impacts to wetlands by restoring, preserving, and managing wetlands and aquatic habitats, or substantially improve the quality of highly degraded wetlands and aquatic habitats at a ratio of 1.5:1 (meaning 1.5 acres of wetlands or other waters shall be restored/created for every 1 acre of wetlands and other waters permanently impacted by the project). For off-site, in-kind mitigation, the County shall acquire, preserve, enhance, and manage lands that provide similar ecological functions and values to the wetlands and other waters impacted by project. The acquisition and preservation/enhancement of these higher quality lands shall occur at a ratio of 3:1 (meaning 3 acres of wetlands or other waters shall be acquired, preserved, and enhanced for every 1 acre of wetlands and other waters impacted by the project). Enhancement may include modification of existing management, limited planting, or invasive plant removal, or other activities to enhance wetland/aquatic habitat functions and values.

19. **Mitigation Measure CULT-1A:** Archaeological Monitoring. During project construction, archaeological monitoring shall be conducted for any ground-disturbing activities in the project site, including grubbing or removal of vegetation. A qualified archaeologist shall (1) identify any archaeological resources that may be present; and (2) ensure that if human remains are identified they are treated in an appropriate and respectful manner and provisions outlined in Section 7050.5 of the California Health and Safety Code are followed. If previously unidentified cultural materials are unearthed during construction, work shall be halted in that area until a qualified archaeologist can assess the significance of the find. If major adjustments are made to the horizontal or vertical extent of the project site, then an archaeologist shall be consulted to determine if further identification efforts are recommended.

20. **Mitigation Measure CULT-1B:** Unidentified Archaeological Resources. The potential for encountering previously unidentified buried archaeological cultural resources in the project site is moderate based on the geological landforms and on the presence of previously recorded archaeological sites identified within and adjacent to the project site. If deposits of prehistoric or historical archaeological materials are encountered during project activities that are not monitored, all work within 50 feet of the discovery shall be redirected and a qualified archaeologist contacted to assess the situation and make recommendations regarding the treatment of the discovery. Project personnel shall not collect or move any archaeological materials or human remains and associated materials. Archaeological cultural resources shall be avoided by project activities. If such resources cannot be avoided, they shall be evaluated for their CRHR eligibility, under the direction of a qualified professional archaeologist, to determine if they qualify as a historical resource under CEQA. If the deposit is not eligible, a determination shall then be made as to whether it qualifies as a unique archaeological resource under CEQA.

    If the deposit is not a historical, unique archaeological or tribal cultural resource, avoidance is not necessary. If the deposit is eligible for the CRHR or is a unique archaeological resource and cannot be avoided by project actions that may result in impacts, such impacts must be mitigated. Mitigation may consist of, but is not limited to, recording the resource; recovery and analysis of archaeological deposits; preparation of a report of findings; and accessioning recovered archaeological materials at an appropriate curation facility. Public educational outreach may also be appropriate. Upon completion of the study, the archaeologist shall prepare a report documenting the methods and results of the investigation and provide recommendations for the treatment of the archaeological materials discovered. The report shall be submitted to the County and to the Northwest Information Center.

21. **Mitigation Measure GEO-1:** If paleontological resources are encountered during the course of ground disturbance, work in the immediate area of the find shall be redirected and a paleontologist shall be contacted to assess the find for scientific significance. If determined to be significant, the fossil shall be collected from the field. The paleontologist may also make recommendations regarding additional mitigation measures, such as paleontological monitoring. Scientifically significant resources shall be prepared to the point of identification, identified to the lowest taxonomic level possible, cataloged, and curated into the permanent collections of a museum repository. If scientifically significant paleontological resources are collected, a report of findings shall be prepared to document the collection.

22. **Mitigation Measure HAZ-1:** The Parks Department shall hire a qualified contractor to prepare a site-specific Health and Safety Plan (HSP). The HSP shall establish soil management and control specifications for excavation, grading, and construction activities, including procedures for evaluation of soil disposal options, and health and safety provisions for monitoring the exposure of construction workers to contaminants. The HSP shall be submitted to the County for review and approval. The County shall review and approve the HSP, and the project contractor shall implement the recommended soil management and control specifications.

23. **Mitigation Measure UTIL-1:** Prior to issuance of the Coastal Development Permit, the Parks Department shall prepare a study examining the hydrologic conditions of the site to determine if there is adequate water to supply the residence and if the water extracted will not adversely affect a water-dependent sensitive habitat or result in depletion of the aquifer. The study shall also determine whether the water quality meets potable water standards. If the study determines that insufficient water supply is available, then the proposed ranger residence shall be removed from the project design.

    a) In addition, the Parks Department shall coordinate with the State of California Water Resources Control Board to secure an approval of the right to extract water from Tunitas Creek. If approval is denied and another water source cannot be secured, the ranger residence shall be removed from the project design.

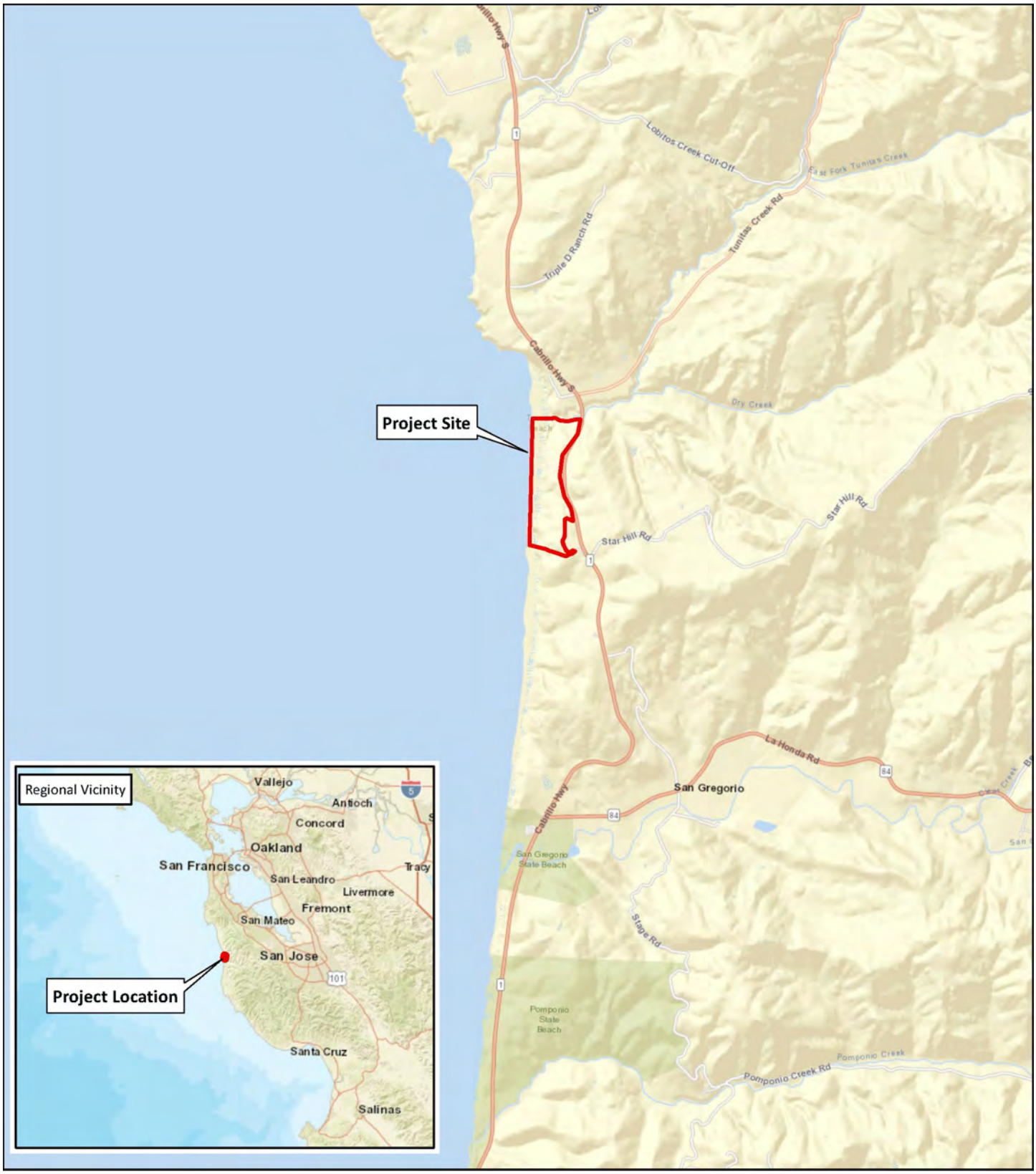
    b) If the ranger residence is constructed, for the first three years, the County shall monitor the impact of the water extraction on groundwater and surface levels, water quality, and plant and animal species of water-dependent sensitive habitats to determine if the preliminary pumping restrictions adequately protect the sensitive habitats and what measures should be taken if and when adverse effects occur. If monitoring shows impacts to water-dependent sensitive habitats, the pumping rate shall be reduced until it is clear that such impacts will not occur.

24. All significant size trees (12-inch diameter or greater) removed for this project, shall be replaced at a 1:1 ratio, with native, drought tolerant species.

MJS:mda – MJSGG0301_WMU.DOCX

County of San Mateo - Planning and Building Department

ATTACHMENT B



San Mateo County Planning Commission Meeting

Owner/Applicant: SMC Parks Department Attachment: B

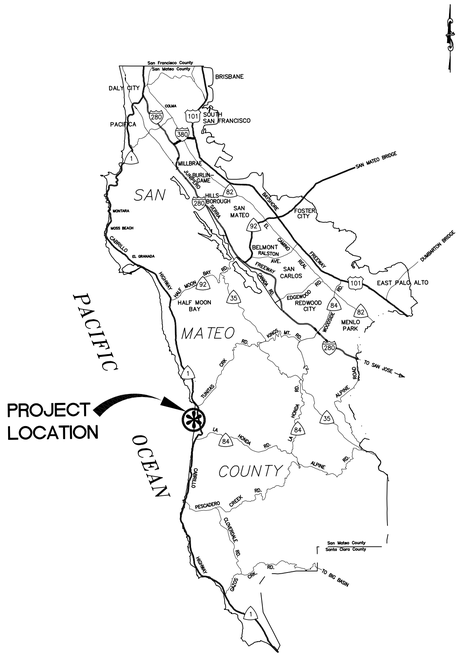
File Numbers: PLN 2016-00398

County of San Mateo - Planning and Building Department

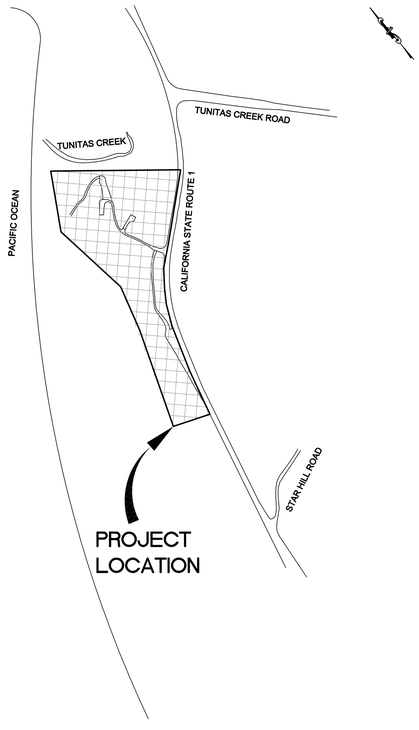
ATTACHMENT C

COUNTY OF SAN MATEO
CALIFORNIA

TUNITAS CREEK BEACH IMPROVEMENT
TOTAL PROJECT LENGTH, APPROXIMATELY 0.28 MILE(S)



VICINITY MAP
NO SCALE



LOCATION MAP
NO SCALE

ABBREVIATIONS:

AC	ASPHALT CONCRETE
ADA	AMERICANS WITH DISABILITIES ACT
APPROX	APPROXIMATE
BS	BOTTOM OF STEP
CL	CENTER LINE
CONC	CONCRETE
DI	DROP INLET
(E)	EXISTING
EG	EXISTING GRADE
EV	ELECTRIC VEHICLE
ETW	EDGE OF TRAVEL WAY
FS	FINISH SURFACE
FG	FINISHED GRADE
FT	FEET
GB	GRADE BREAK
HT	HEIGHT
HWY	HIGHWAY
INV	INVERT
LF	LINEAR FEET
(N)	NEW
PA	PLANTER AREA
PM	POSTMILE MARKER
PVMT	PAVEMENT
R	RADIUS
Rd	ROAD
S	SLOPE
SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
STA	STATION
TC	TOP OF CURB
TG	TOP OF GRATE
TS	TURNING STRUCTURE
TW	TOP OF WALL
tw	TOE OF WALL
TYP	TYPICAL
VIF	VERIFY IN FIELD

LINETYPES

EXISTING		PROPOSED
	BOUNDARY LINE	
	CALTRANS LEASE AREA	
	CENTERLINE	
30	CONTOUR - MAJOR	30
	CONTOUR - MINOR	
	EDGE OF SHOULDER	
	FENCE	
	FLOWLINE / SWALE	
	GRADE BREAK	
	GUARDRAIL	
JT	JOINT TRENCH	JT
N/A	LIMIT OF DISTURBED AREA	
N/A	LIMIT OF GRADING	
OH	OVERHEAD UTILITY	OH
	PROPERTY / LOT LINE	
	RAILING	
	LANDSCAPE WALL	
	RIGHT OF WAY	
	STORM DRAIN	
	TOE OF BANK	
	TOP OF BANK	
	WHITE STRIPING	
	LEVEL LANDING	
	DECKING	
	ALL WEATHER SURFACE	
	PAVEMENT	
	PLANTER AREA	
	CONCRETE	
	DIRT TRAIL	
	RIPRAP	
	OLD LANDSLIDE AREA	
	RECENT LANDSLIDE AREA	
	ACTIVE LANDSLIDE AREA	
	BIORETENTION AREA	

SYMBOLS

EXISTING		PROPOSED
	BOLLARD	
	SIGN	
	TREE / TREE TO BE REMOVED	
	LIGHT - POST MOUNTED	
	STREETLIGHT	
	STORM DRAINAGE – TURNING STRUCTURE	
	STORM DRAINAGE – DROP INLET	
PP	POWER POLE	PP

NOTES:

1. CONTRACTOR SHALL CONFINE HIS OPERATIONS AND ACTIVITIES WITHIN THE PROJECT LIMITS, CONSISTING OF ROAD RIGHT–OF–WAY, RIGHTS OF ENTRY AND/OR PROJECT CONFORMS, AS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER.
2. CONTINUOUS DUST CONTROL SHALL BE PROVIDED AS REQUIRED BY SECTION 17 OF THE SPECIAL PROVISIONS AND AS DIRECTED BY THE ENGINEER.
3. LOCATIONS AND DEPTHS OF EXISTING UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE UTILITIES TO DETERMINE EXACT LOCATIONS AND DEPTHS. CONTRACTOR SHALL CALL USA NORTH 811 (USA) UNDERGROUND SERVICE ALERT A MINIMUM OF FORTY–EIGHT (48) HOURS IN ADVANCE OF ANY EXCAVATION OR TRENCHING WORK. USA MAY BE CONTACTED EITHER ON–LINE AT USANORTH811.ORG OR BY PHONE BY DIALING (800) 227–2600 OR 811. WHEN CALLING, BE PREPARED TO GIVE LOCATION AND NATURE OF WORK, START DATE, COMPANY NAME, ADDRESS AND TELEPHONE NUMBER.
4. PLANS MAY NOT SHOW ALL EXISTING WATER, GAS OR SANITARY SEWER LATERALS. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION AND PRESERVATION OF ALL SUCH FACILITIES WHICH ARE NOT TO BE RELOCATED.
5. CONTRACTOR IS ADVISED THAT EXCAVATION MAY CONFLICT WITH SANITARY SEWER LATERALS, GAS LINES, WATER LINES AND OTHER UNDERGROUND UTILITIES. ANY DAMAGE TO EXISTING FACILITIES CAUSED BY THE CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
6. DRIVEWAY OPENINGS AND CONFORM LOCATIONS SHOWN ARE APPROXIMATE ONLY. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER. SURFACED SHOULDER CONFORM LIMITS ARE AS INDICATED AT 3 FEET FROM OUTSIDE EDGE OF THE GUTTER, UNLESS DIRECTED OTHERWISE BY THE ENGINEER OR OTHERWISE NOTED ON THE PLANS.
7. NO TREES, VEGETATION OR IMPROVEMENTS (INCLUDING FENCES) SHALL BE REMOVED WITHOUT THE PRIOR WRITTEN CONSENT AND APPROVAL OF THE ENGINEER. VEGETATION AND IMPROVEMENTS WHICH ARE DESIGNATED TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. REFER TO PROJECT SPECIAL PROVISIONS SECTION 16 REGARDING REQUIREMENTS FOR ADVANCE NOTIFICATION OF PROPERTY OWNERS.
8. THE CONTRACTOR'S ATTENTION IS DIRECTED TO SECTION 5–1.07 OF THE STANDARD SPECIFICATIONS. THE SURVEY AND ASSOCIATED STAKING SHALL BE IN CONFORMANCE WITH SECTION 100, CONSTRUCTION STAKING AND LAYOUT OF THE SPECIAL PROVISIONS.
9. WHEN DIRECTED BY THE ENGINEER, CUT AND FILL SLOPE RATIOS SHALL BE VARIED TO AVOID TREES OR OTHER EXISTING IMPROVEMENTS.
10. CONTRACTOR SHALL EXERCISE CARE WHEN EXCAVATING NEAR TREES AND ROOTS OF TREES TO REMAIN. SEE SECTION 19 OF THE SPECIAL PROVISIONS.
11. ANY DAMAGE, AS A RESULT OF THE CONTRACTOR'S OPERATION, TO PAVEMENT AND BASE MATERIAL THAT IS TO REMAIN SHALL BE REPAIRED, OR REMOVED AND REPLACED WITH SAME TYPE OF MATERIAL OR APPROVED EQUAL, AS DIRECTED BY THE ENGINEER, AND AT THE SOLE EXPENSE OF THE CONTRACTOR. THE ENGINEER SHALL BE THE SOLE JUDGE OF THE ADEQUACY OF THE COMPLETED REMEDIAL WORK.

BASIS OF TOPOGRAPHY:

BOUNDARY AND TOPOGRAPHIC INFORMATION SHOWN HEREON PREPARED BY IFLAND SURVEY DATED MARCH 2, 2017. SUPPLEMENTAL TOPOGRAPHIC INFORMATION IS BASED ON FIELD SURVEYS PERFORMED ON 6/1/2020 AND 7/21/2021 AND AN AERIAL SURVEY PERFORMED ON 6/1/2020 PREPARED BY CSW/ST2.

BENCHMARKS:

THE VERTICAL DATUM IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 PER OPUS SOLUTIONS ON 6/1/2020.

BASIS OF BEARINGS:

THE HORIZONTAL DATUM IS CALIFORNIA COORDINATE SYSTEM OF 1983, ZONE III (2010.00).

APPLICABLE 2018 CALTRANS STANDARD PLANS:

A20A	–	PAVEMENT MARKERS AND TRAFFIC LINES – TYPICAL DETAILS
A77P	–	MIDWEST GUARDRAIL SYSTEM – TYPICAL LAYOUTS FOR EMBANKMENTS
A88A	–	CURB RAMP DETAILS

SHEET INDEX:

PAGE	SHEET NO.	TITLE
1	C1.0	TITLE SHEET & GENERAL NOTES
2	C2.1	HORIZONTAL CONTROL PLAN – OVERVIEW
3	C2.2	HORIZONTAL CONTROL PLAN ENLARGEMENT – APPROACH
4	C2.3	HORIZONTAL CONTROL PLAN ENLARGEMENT – PARKING LOT
5	C2.4	HORIZONTAL CONTROL PLAN ENLARGEMENT – EXIT
6	C2.5	HORIZONTAL CONTROL PLAN ENLARGEMENT – TRAIL
7	C2.6	HORIZONTAL CONTROL PLAN ENLARGEMENT – MIDBLUFF
8	C2.7	HORIZONTAL CONTROL PLAN ENLARGEMENT – LOOP TRAIL
10	C3.1	GRADING & DRAINAGE PLAN – OVERVIEW
11	C3.2	GRADING & DRAINAGE PLAN ENLARGEMENT – APPROACH
12	C3.3	GRADING & DRAINAGE PLAN ENLARGEMENT – PARKING LOT
13	C3.4	GRADING & DRAINAGE PLAN ENLARGEMENT – EXIT
14	C3.5	GRADING & DRAINAGE PLAN ENLARGEMENT – TRAIL
18	C3.6	GRADING & DRAINAGE PLAN ENLARGEMENT – MIDBLUFF
25	C6.0	UTILITY PLAN
24	C7.0	JOINT TRENCH PLAN
27	C8.0	SECTIONS
28	C8.1	SECTIONS
29	C8.2	SECTIONS
30	C8.3	SECTIONS
31	C8.4	DETAILS
32	C8.5	DETAILS
34	C8.7	DETAILS
36	C9.0	STORMWATER CONTROL PLAN
37	C9.1	STORMWATER CONTROL DETAILS
38	L–001	SITE PLAN NORTH
39	L–002	SITE PLAN SOUTH
40	L–101	LAYOUT PLAN 1
41	L–102	LAYOUT PLAN 2
42	L–103	LAYOUT PLAN 3
43	L–104	LAYOUT PLAN 4
44	L–111	MATERIALS PLAN 1
45	L–112	MATERIALS PLAN 2
46	L–113	MATERIALS PLAN 3
47	L–114	MATERIALS PLAN 4
48	L–121	GRADING PLAN 1
49	L–122	GRADING PLAN 2
50	L–123	GRADING PLAN 3
51	L–124	GRADING PLAN 4
52	L–131	PLANTING PLAN 1
53	L–132	PLANTING PLAN 2
54	L–133	PLANTING PLAN 3
55	L–134	PLANTING PLAN 4
56	L–201	ENLARGEMENT PLANS
57	L–202	ENLARGEMENT PLANS
58	L–203	ENLARGEMENT PLANS
59	L–301	SECTIONS
60	L–302	SECTIONS
61	L–501	SITE DETAILS
73	L–601	PLANTING DETAILS
74	L–701	PUBLIC RESTROOM CUT SHEET
75	L–702	RANGER SHED CUT SHEET
76	L–703	RANGER RESIDENCE CUT SHEET

APPROVED:

DATE: _____

REGISTERED PROFESSIONAL ENGINEER ANN MADER STILLMAN C 47882 EXPIRES 12/31/23 CIVIL STATE OF CALIFORNIA

ANN MADER STILLMAN,
INTERIM DIRECTOR OF PUBLIC WORKS
R. C. E. # 47882 / EXPIRES 12–31–2023

APPROVED DATE: _____

ROBERT C. STEVENS, P.E.
R.C.E. # 058660 EXPIRES 12/31/2022

REGISTERED PROFESSIONAL ENGINEER ROBERT C. STEVENS No. C 058660 CIVIL STATE OF CALIFORNIA

COUNTY OF SAN MATEO PUBLIC WORKS

REVISION	DATE

DESIGNED BY: CSW/ST2 (BRB)
CHECKED BY: CSW/ST2 (JAH)
DRAWN BY: MTM

TITLE SHEET & GENERAL NOTES
TUNITAS CREEK BEACH IMPROVEMENT

SCALE:
DATE: 03/04/2022
FILE NO.2019–20–006

ANN MADER STILLMAN,
INTERIM DIRECTOR OF PUBLIC WORKS
COUNTY SAN MATEO

555 COUNTY CENTER, 5th FLOOR
REDWOOD CITY, CALIFORNIA 94063

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3 4

C1.0
SHEET 1 OF 75

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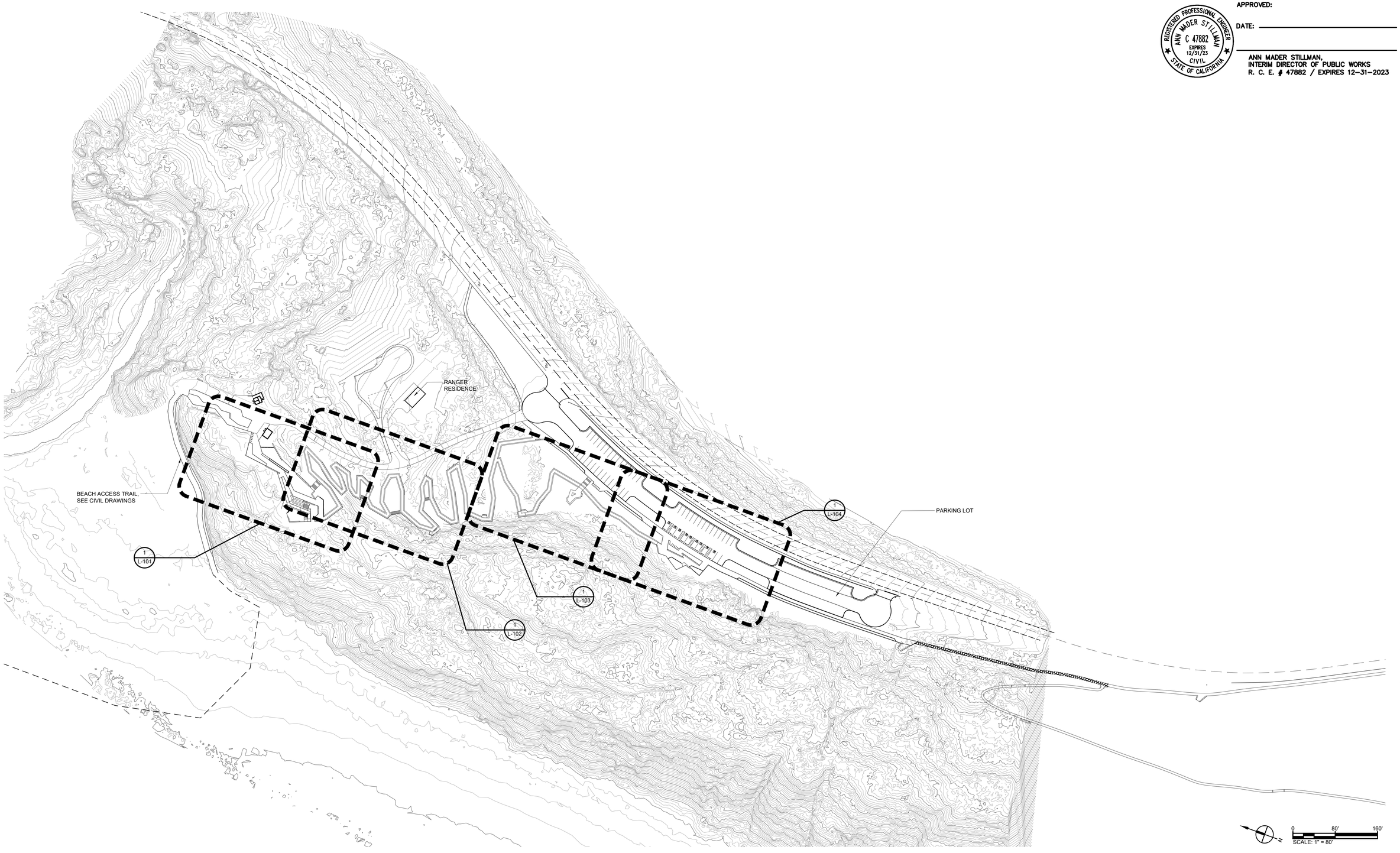
APPROVED:

DATE: _____

ANN MADER STILLMAN,
INTERIM DIRECTOR OF PUBLIC WORKS
R. C. E. # 47882 / EXPIRES 12-31-2023



APPROVED DATE:

ROBERT C. STEVENS, P.E.
R.C.E. # 058660 EXPIRES 12/31/2022

REGISTERED PROFESSIONAL ENGINEER ROBERT C. STEVENS No. C 058660 CIVIL STATE OF CALIFORNIA

COUNTY OF SAN MATEO PUBLIC WORKS

REVISION	DATE		
		DESIGNED BY: CSW/ST2 (BRB)	SITE PLAN
		CHECKED BY: CSW/ST2 (JAH)	
		DRAWN BY: MTM	TUNITAS CREEK BEACH IMPROVEMENT
		ANN MADER STILLMAN, INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063

SCALE:
DATE: 03/04/2022
FILE NO.2019-20-008

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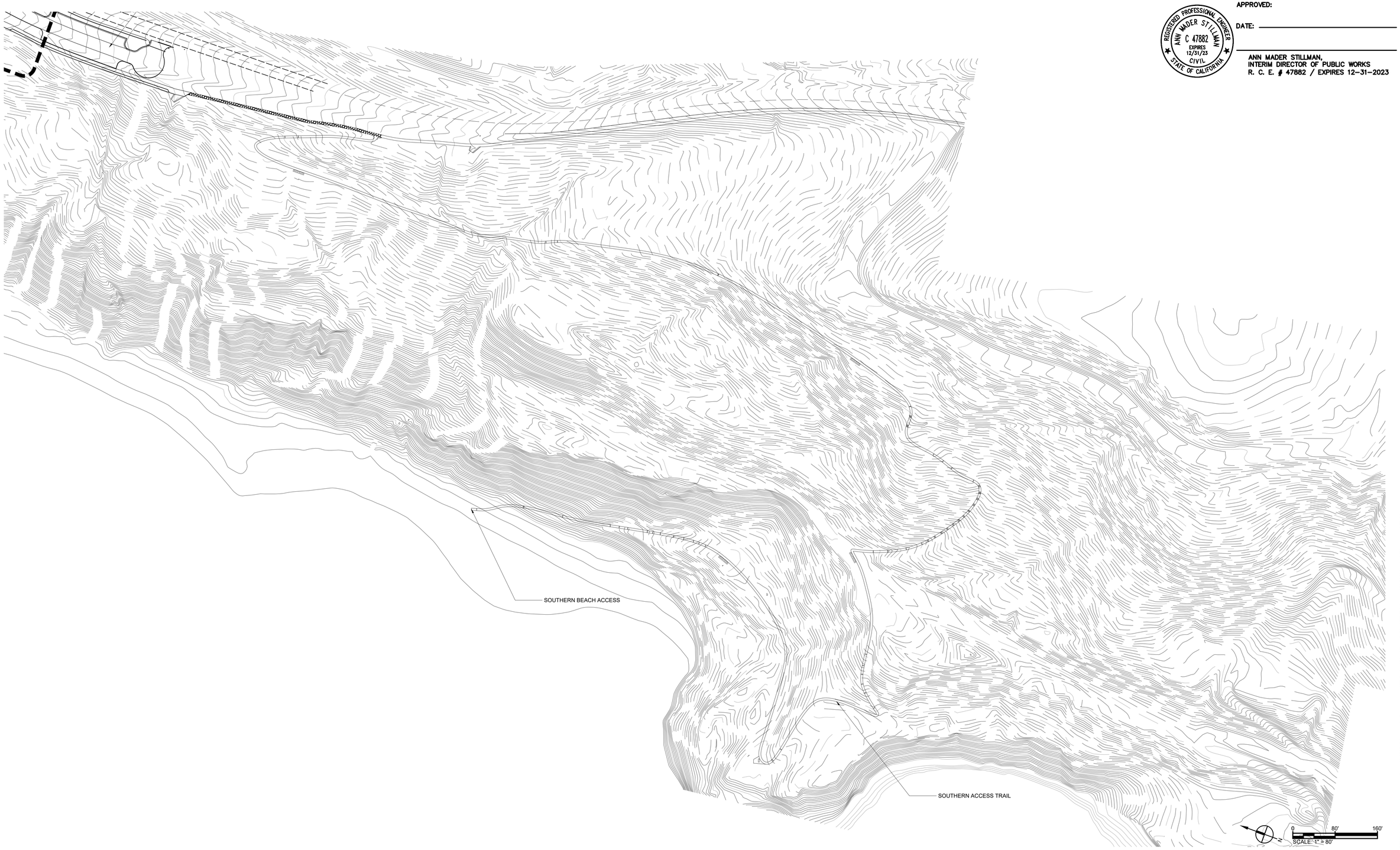
APPROVED:

DATE: _____

ANN MADER STILLMAN,
INTERIM DIRECTOR OF PUBLIC WORKS
R. C. E. # 47882 / EXPIRES 12-31-2023

REGISTERED PROFESSIONAL ENGINEER
ANN MADER STILLMAN
C 47882
EXPIRES 12/31/23
CIVIL
STATE OF CALIFORNIA



APPROVED DATE:

ROBERT C. STEVENS, P.E.
R.C.E. # 058660 EXPIRES 12/31/2022

REGISTERED PROFESSIONAL ENGINEER
ROBERT C. STEVENS
No. C 058660
CIVIL
STATE OF CALIFORNIA

COUNTY OF SAN MATEO
PUBLIC WORKS

REVISION	DATE		
		DESIGNED BY: CSW/ST2 (BRB)	SITE PLAN
		CHECKED BY: CSW/ST2 (JAH)	
		DRAWN BY: MTM	TUNITAS CREEK BEACH IMPROVEMENT
		ANN MADER STILLMAN, INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063

SCALE:
DATE: 03/04/2022
FILE NO.2019-20-006

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DATE: _____

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INTERIM DIRECTOR OF PUBLIC WORKS
R. C. E. # 47882 / EXPIRES 12-31-2023

REGISTERED PROFESSIONAL ENGINEER
ANN MADER STILLMAN
C 47882
EXPIRES 12/31/23
CIVIL
STATE OF CALIFORNIA

TUNITAS CREEK

PUMP

WATER LINE

(E) POWER POLE
(TO REMAIN)
(APPROX. LOCATION)

JOINT TRENCH
(SEE SHEET C7.0 -
JOINT TRENCH PLAN)

RANGER
RESIDENCE

30,000 GALLON RAW
WATER TANKS

WATER
TREATMENT
SYSTEM

WATER PUMP

CALTRANS
RIGHT OF WAY

LIMIT OF
DISTURBED AREA

(E) TRANSFORMER
(TO REMAIN)

EX. AC DRIVEWAY

ACCESSIBLE
TRAIL TO
MIDBLUFF

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APPROVED DATE:

ROBERT C. STEVENS, P.E.
R.C.E. # 058660 EXPIRES 12/31/2022

REGISTERED PROFESSIONAL ENGINEER
ROBERT C. STEVENS
No. C 058660
CIVIL
STATE OF CALIFORNIA

COUNTY OF SAN MATEO
PUBLIC WORKS

		DESIGNED BY: CSW/ST2 (BRB)	UTILITY PLAN
		CHECKED BY: CSW/ST2 (JAH)	TUNITAS CREEK BEACH IMPROVEMENT
		DRAWN BY: MTM	
REVISION	DATE	ANN MADER STILLMAN, INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063

SCALE: 1" = 20'
DATE: 03/04/2022
FILE NO.:2019-20-006

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C6.0
SHEET 25 OF 75

APPROVED:

DATE: _____

REGISTERED PROFESSIONAL ENGINEER
ANN MADER STILLMAN
C 47882
EXPIRES 12/31/23
CIVIL
STATE OF CALIFORNIA

ANN MADER STILLMAN,
INTERIM DIRECTOR OF PUBLIC WORKS
R. C. E. # 47882 / EXPIRES 12-31-2023

EMERGENCY AND RANGER VEHICLE ACCESS

TIMBER BENCH

PLANTING, SEE PLANTING PLANS

PEDESTRIAN PATH TO BEACH

ROMTEC 2643 UTILITY BUILDING, OR APPROVED EQUAL; SEE CUT SHEET L-702
- VERTICAL WEATHERED GRAY WOOD SIDING EXTERIOR FINISH

RANGER STORAGE AND OFFICE SPACE

INTERPRETIVE SIGNAGE PANEL

BIKE RACK

INTERPRETIVE GROVE

MATCH LINE SEE L-102

(E) SERVICE ROAD TO REMAIN

PLANTING, SEE PLANTING PLANS

PEDESTRIAN RAMP STAIR

PICNIC TABLE

PICNIC AREA

ADA ACCESSIBLE PICNIC TABLE

ADA

PEDESTRIAN "RAMP" TO MID-BLUFF

PEDESTRIAN RAMP STAIR

SHEET PILE RETAINING WALL

DONOR RECOGNITION WALL

1 L-201 TIERED SEATING AND MID-BLUFF OVERLOOK

2 L-302

1 L-302

PLANTING, SEE PLANTING PLANS

LIMIT OF GRADING

1 L-301

2 L-301

MATCH LINE SEE L-102

0 10' 20'
SCALE: 1" = 10'

N:\8000\8537 Tunitas Creek Beach Improvement Project\4-ACAD\5-Construction Documentation\65% Revised Plans\Sheets\L-100 LAYOUT PLAN.dwg 03/08/2022 - 01:48 PM jlaco 1:1

APPROVED DATE:

ROBERT C. STEVENS, P.E.
R.C.E. # 058660 EXPIRES 12/31/2022

REGISTERED PROFESSIONAL ENGINEER
ROBERT C. STEVENS
No. C 058660
CIVIL
STATE OF CALIFORNIA

COUNTY OF SAN MATEO
PUBLIC WORKS

REVISION	DATE	DESIGNED BY: CSW/ST2 (BRB)	LAYOUT PLAN 1	SCALE:
		CHECKED BY: CSW/ST2 (JAH)		DATE: 03/04/2022
		DRAWN BY: MTM	TUNITAS CREEK BEACH IMPROVEMENT	FILE NO.2019-20-006
		ANN MADER STILLMAN, INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO		555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3 4

L-101
SHEET###OF 75

APPROVED:

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ANN MADER STILLMAN,
INTERIM DIRECTOR OF PUBLIC WORKS
R. C. E. # 47882 / EXPIRES 12-31-2023

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ANN MADER STILLMAN
C 47882
EXPIRES 12/31/23
CIVIL
STATE OF CALIFORNIA

MATCH LINE
SEE L-101

(E) SERVICE
ROAD TO REMAIN

FUTURE
NATURE
WALK

(E) SERVICE
ROAD TO REMAIN

CONNECTION TO
NATURE WALK

PEDESTRIAN "RAMP"
TO MID-BLUFF

PEDESTRIAN
RAMP STAIR

MATCH LINE SEE L-103

8'-0" TYP.

8'-0" TYP.

PLANTING, SEE
PLANTING PLANS

8'-0" TYP.

8'-0" TYP.

PEDESTRIAN
RAMP STAIR

4
L-202
REST
STOP

PLANTING, SEE
PLANTING PLANS

PEDESTRIAN
RAMP STAIR

PICNIC
TABLE

37'-0"

90°

10'-0"

PEDESTRIAN "RAMP"
TO MID-BLUFF

PICNIC AREA

ADA ACCESSIBLE
PICNIC TABLE

ADA

ADA

6'-0"

136.4'

8'-0"

100.1'

7'-0"

14'-0"

113.4'

SHEET PILE
RETAINING WALL

DONOR
RECOGNITION
WALL

1
L-201
TIERED SEATING AND
MID-BLUFF OVERLOOK

5'-0"

LIMIT OF GRADING

MATCH LINE
SEE L-101

N

0 10' 20'
SCALE: 1" = 10'

N:\BOD\8337 Tunitas Creek Beach Improvement Project\4-AC/ADS-Construction Documentation\65% Revised Plans\Sheets\L-100 LAYOUT PLAN.dwg 03/08/2022 - 01:47 PM jjatto 1:1

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COUNTY OF SAN MATEO
PUBLIC WORKS

REVISION	DATE		
		DESIGNED BY: CSW/ST2 (BRB)	LAYOUT PLAN 2
		CHECKED BY: CSW/ST2 (JAH)	
		DRAWN BY: MTM	TUNITAS CREEK BEACH IMPROVEMENT
		ANN MADER STILLMAN, INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063

SCALE:
DATE: 03/04/2022
FILE NO.2019-20-008

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ORIGINAL SCALE IS IN INCHES 0 1 2 3 4

L-102
SHEET###OF 75

APPROVED:

DATE:

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INTERIM DIRECTOR OF PUBLIC WORKS
R. C. E. # 47882 / EXPIRES 12-31-2023

REGISTERED PROFESSIONAL ENGINEER
ANN MADER STILLMAN
C 47882
EXPIRES 12/31/23
CIVIL
STATE OF CALIFORNIA

DROP-OFF WAITING AREA

PLANTING, SEE PLANTING PLANS

TOP-BLUFF WALKWAY

PEDESTRIAN "RAMP" TO MID-BLUFF

PEDESTRIAN RAMP STAIR

6'-0"

20'-0"

8'-3"

BIKE RACK

EV CHARGING STATION

EV

MATCH LINE SEE L-104

PLANTING, SEE PLANTING PLANS

REST STOP

1 L-202

PEDESTRIAN "RAMP" TO MID-BLUFF

(E) DIRT WALKWAY

MATCH LINE SEE L-102

5'-0" TYP.

LIMIT OF GRADING

2 L-202 REST STOP

3 L-202 REST STOP

MATCH LINE SEE L-104

N

0 10' 20'

SCALE: 1" = 10'

N:\8000\8337 Tunitas Creek Beach Improvement Project\4-ACAD\5-Construction Documentation\65% Revised Plans\Sheets\L-100 LAYOUT PLAN.dwg 03/08/2022 - 01:47 PM jjuico 1:1

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STATE OF CALIFORNIA

COUNTY OF SAN MATEO
PUBLIC WORKS

REVISION	DATE	DESIGNED BY: CSW/ST2 (BRB)	LAYOUT PLAN 3	SCALE:
		CHECKED BY: CSW/ST2 (JAH)		DATE: 03/04/2022
		DRAWN BY: MTM	TUNITAS CREEK BEACH IMPROVEMENT	FILE NO.2019-20-006
		ANN MADER STILLMAN, INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO		555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063

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L-103
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STATE OF CALIFORNIA

ANN MADER STILLMAN,
INTERIM DIRECTOR OF PUBLIC WORKS
R. C. E. # 47882 / EXPIRES 12-31-2023

MATCH LINE
SEE L-103

PLANTING, SEE
PLANTING PLANS

HIGHWAY 1

EV

EV CHARGING
STATION

PLANTING, SEE
PLANTING PLANS

(E) DIRT WALKWAY

ADA ACCESSIBLE
PARKING SPACES

13'-2 1/2"

6'-0"

5'-0" TYP.

5'-0" TYP.

TIMBER
CURB STOP

10'-0"

PLANTING, SEE
PLANTING PLANS

PLANTING, SEE
PLANTING PLANS

TOP-BLUFF
WALKWAY

PLANTING, SEE
PLANTING PLANS

1
L-203
TOP-BLUFF
OVERLOOK

3
L-302

LIMIT OF GRADING

MATCH LINE
SEE L-103

N

0 10' 20'
SCALE: 1" = 10'

N:\8000\8337 Tunitas Creek Beach Improvement Project\4-ACAD\5-Construction Documents\dwg\65% Revised Plans\Sheets\L-100 LAYOUT PLAN.dwg 03/08/2022 - 01:47 PM jjatto 1:1

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REGISTERED PROFESSIONAL ENGINEER
ROBERT C. STEVENS
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CIVIL
STATE OF CALIFORNIA

COUNTY OF SAN MATEO
PUBLIC WORKS

REVISION	DATE		
		DESIGNED BY: CSW/ST2 (BRB)	LAYOUT PLAN 4
		CHECKED BY: CSW/ST2 (JAH)	
		DRAWN BY: MTM	TUNITAS CREEK BEACH IMPROVEMENT
		ANN MADER STILLMAN, INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063

SCALE:
DATE: 03/04/2022
FILE NO.2019-20-008

FOR REDUCED PLANS
ORIGINAL SCALE IS IN INCHES 0 1 2 3 4

L-104
SHEET###OF 75

APPROVED:

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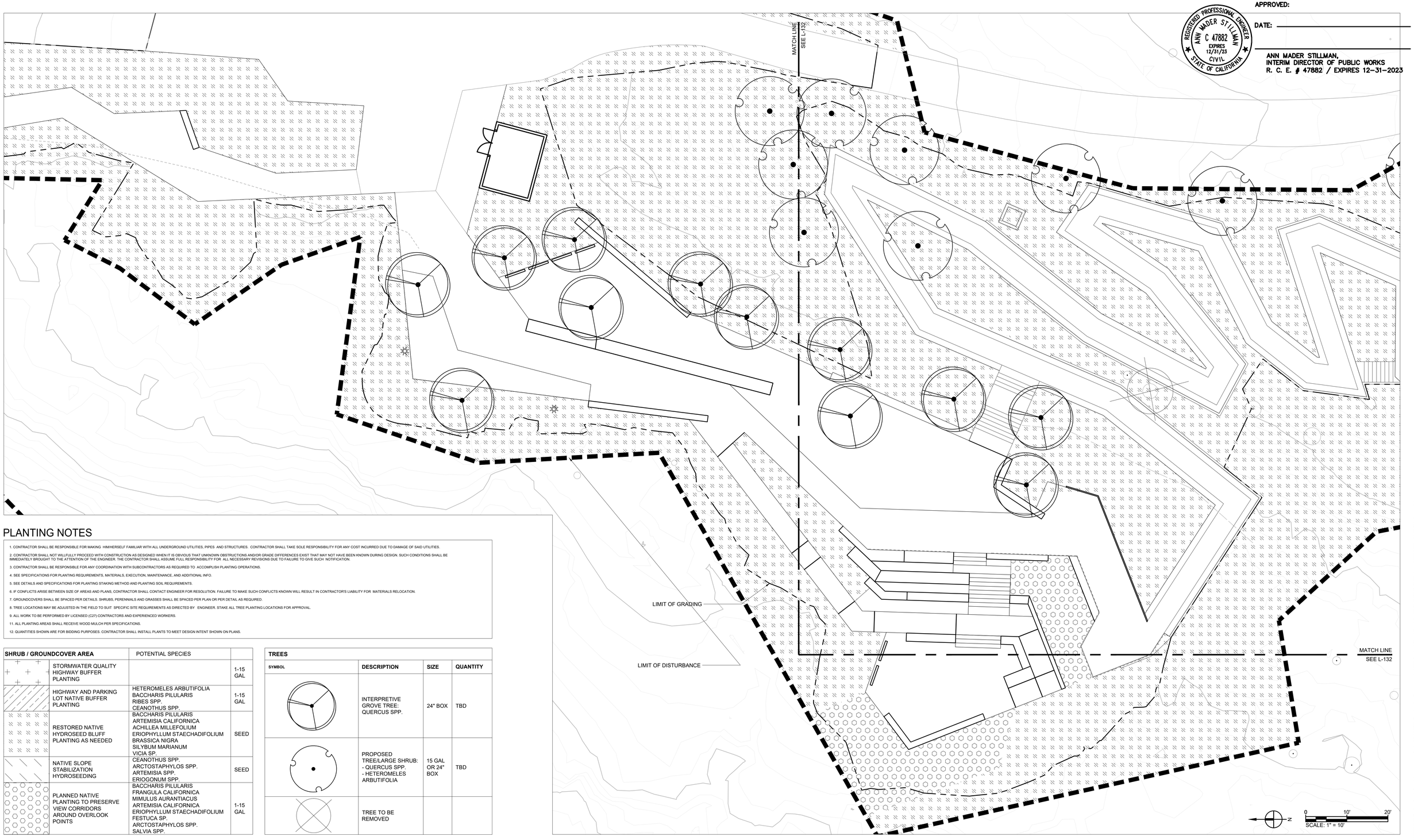
INTERIM DIRECTOR OF PUBLIC WORKS
R. C. E. # 47882 / EXPIRES 12-31-2023

REGISTERED PROFESSIONAL ENGINEER
ANN MADER STILLMAN
C 47882
EXPIRES 12/31/23
CIVIL
STATE OF CALIFORNIA



PLANTING NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING HIM/HERSELF FAMILIAR WITH ALL UNDERGROUND UTILITIES, PIPES AND STRUCTURES. CONTRACTOR SHALL TAKE SOLE RESPONSIBILITY FOR ANY COST INCURRED DUE TO DAMAGE OF SAID UTILITIES.

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4. SEE SPECIFICATIONS FOR PLANTING REQUIREMENTS, MATERIALS, EXECUTION, MAINTENANCE, AND ADDITIONAL INFO.

5. SEE DETAILS AND SPECIFICATIONS FOR PLANTING STAKING METHOD AND PLANTING SOIL REQUIREMENTS.

6. IF CONFLICTS ARISE BETWEEN SIZE OF AREAS AND PLANS, CONTRACTOR SHALL CONTACT ENGINEER FOR RESOLUTION. FAILURE TO MAKE SUCH CONFLICTS KNOWN WILL RESULT IN CONTRACTOR'S LIABILITY FOR MATERIALS RELOCATION.

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SHRUB / GROUNDCOVER AREA	POTENTIAL SPECIES	
STORMWATER QUALITY HIGHWAY BUFFER PLANTING		1-15 GAL
HIGHWAY AND PARKING LOT NATIVE BUFFER PLANTING	HETEROMELES ARBUTIFOLIA BACCHARIS PILULARIS RIBES SPP. CEANOTHUS SPP.	1-15 GAL
RESTORED NATIVE HYDROSEED BLUFF PLANTING AS NEEDED	BACCHARIS PILULARIS ARTEMISIA CALIFORNICA ACHILLEA MILLEFOLIUM ERIOPHYLLUM STAECHADIFOLIUM BRASSICA NIGRA SILYBUM MARIANUM VICIA SP.	SEED
NATIVE SLOPE STABILIZATION HYDROSEEDING	CEANOTHUS SPP. ARCTOSTAPHYLOS SPP. ARTEMISIA SPP. ERIOGONUM SPP.	SEED
PLANNED NATIVE PLANTING TO PRESERVE VIEW CORRIDORS AROUND OVERLOOK POINTS	BACCHARIS PILULARIS FRANGULA CALIFORNICA MIMULUS AURANTIACUS ARTEMISIA CALIFORNICA ERIOPHYLLUM STAECHADIFOLIUM FESTUCA SP. ARCTOSTAPHYLOS SPP. SALVIA SPP.	1-15 GAL

TREES			
SYMBOL	DESCRIPTION	SIZE	QUANTITY
	INTERPRETIVE GROVE TREE: QUERCUS SPP.	24" BOX	TBD
	PROPOSED TREE/LARGE SHRUB: - QUERCUS SPP. - HETEROMELES ARBUTIFOLIA	15 GAL OR 24" BOX	TBD
	TREE TO BE REMOVED		

APPROVED DATE:

ROBERT C. STEVENS, P.E.
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REGISTERED PROFESSIONAL ENGINEER
ROBERT C. STEVENS
No. C 058660
CIVIL
STATE OF CALIFORNIA

COUNTY OF SAN MATEO PUBLIC WORKS

REVISION	DATE	DESIGNED BY: CSW/ST2 (BRB)	CHECKED BY: CSW/ST2 (JAH)	DRAWN BY: MTM

PLANTING PLAN 1

TUNITAS CREEK BEACH IMPROVEMENT

SCALE:
DATE: 03/04/2022
FILE NO.2019-20-008

ANN MADER STILLMAN,
INTERIM DIRECTOR OF PUBLIC WORKS
COUNTY SAN MATEO

555 COUNTY CENTER, 5th FLOOR
REDWOOD CITY, CALIFORNIA 94063

FOR REDUCED PLANS
ORIGINAL SCALE IS IN INCHES
0 1 2 3 4

L-131
SHEET###OF 75

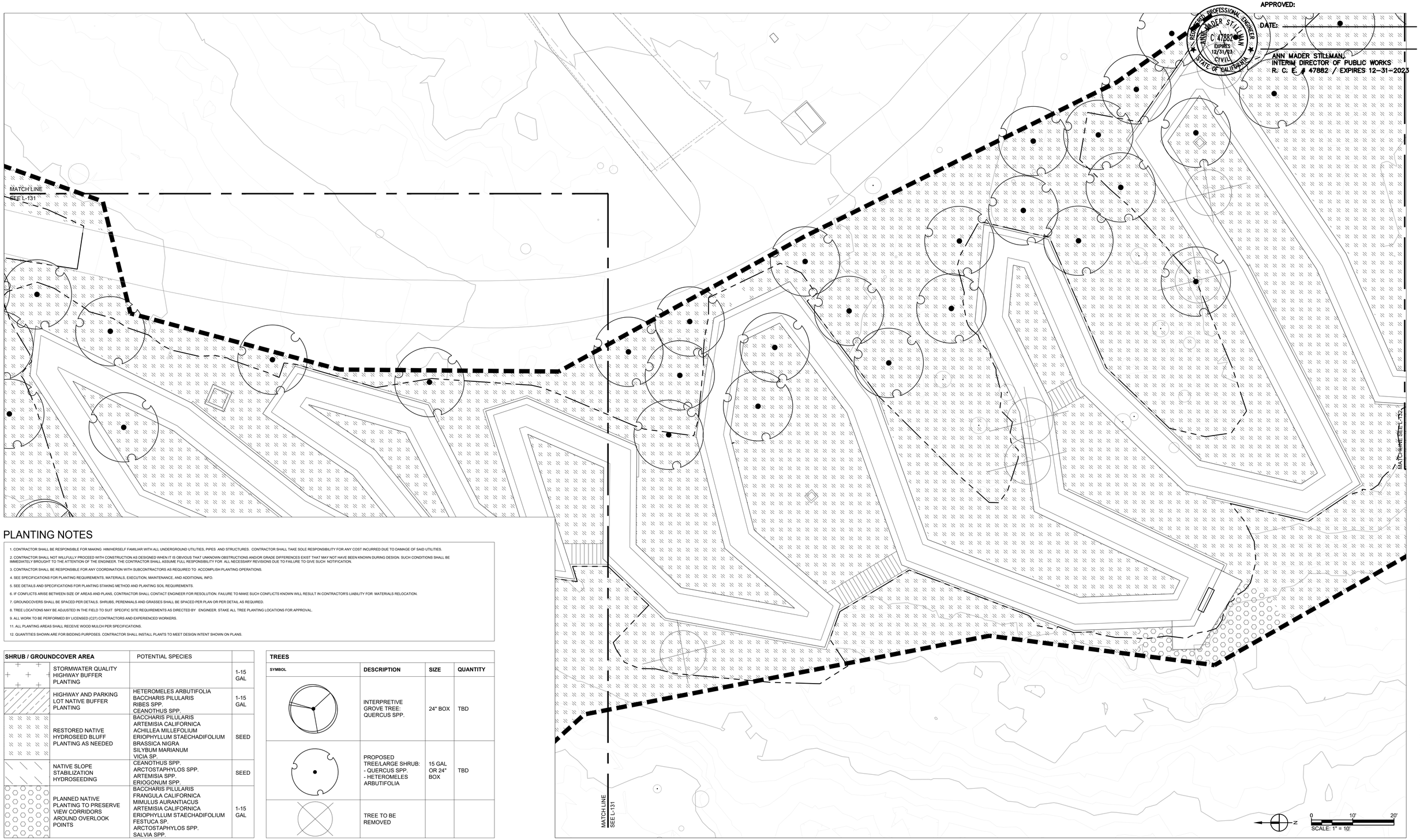
N:\8000\8337 Tunitas Creek Beach Improvement Project\4-ACAD\5-Construction Documentation\65% Revised Plans\Sheets\L-130 PLANTING PLAN.dwg 03/08/2022 - 01:49 PM jlatto 1:1

APPROVED:

DATE:

ANN MADER STILLMAN,
INTERIM DIRECTOR OF PUBLIC WORKS
R. C. E. # 47882 EXPIRES 12-31-2023

REGISTERED PROFESSIONAL ENGINEER
ANN MADER STILLMAN
C 47882
EXPIRES 12/31/23
CIVIL
STATE OF CALIFORNIA



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R.C.E. # 058660 EXPIRES 12/31/2022

REGISTERED PROFESSIONAL ENGINEER
ROBERT C. STEVENS
No. C 058660
CIVIL
STATE OF CALIFORNIA

COUNTY OF SAN MATEO
PUBLIC WORKS

REVISION	DATE	DESIGNED BY: CSW/ST2 (BRB)	PLANTING PLAN 2	SCALE:
		CHECKED BY: CSW/ST2 (JAH)		DATE: 03/04/2022
		DRAWN BY: MTM	TUNITAS CREEK BEACH IMPROVEMENT	FILE NO.2019-20-006
		ANN MADER STILLMAN, INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO		555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063

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L-132
SHEET###OF 75

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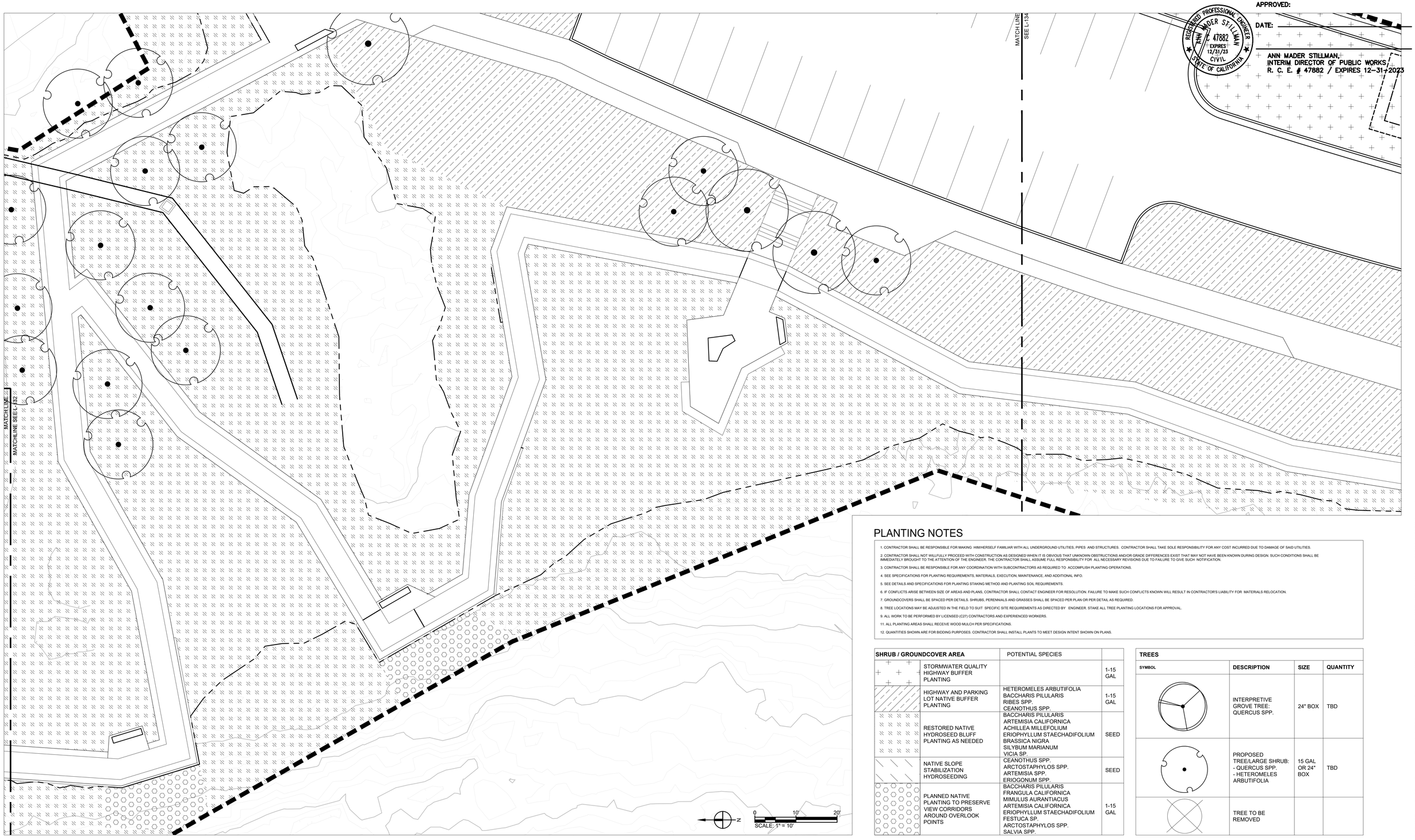

APPROVED:

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ANN MADER STILLMAN,
INTERIM DIRECTOR OF PUBLIC WORKS/
R. C. E. # 47882 / EXPIRES 12-31-2023

REGISTERED PROFESSIONAL ENGINEER
ANN MADER STILLMAN
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R.C.E. # 058660 EXPIRES 12/31/2022

REGISTERED PROFESSIONAL ENGINEER
ROBERT C. STEVENS
No. C 058660
CIVIL
STATE OF CALIFORNIA

COUNTY OF SAN MATEO PUBLIC WORKS

REVISION	DATE

DESIGNED BY: CSW/ST2 (BRB)
CHECKED BY: CSW/ST2 (JAH)
DRAWN BY: MTM

PLANTING PLAN 3

TUNITAS CREEK BEACH IMPROVEMENT

ANN MADER STILLMAN,
INTERIM DIRECTOR OF PUBLIC WORKS
COUNTY SAN MATEO

555 COUNTY CENTER, 5th FLOOR
REDWOOD CITY, CALIFORNIA 94063

SCALE:
DATE: 03/04/2022
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FOR REDUCED PLANS
ORIGINAL SCALE IS IN INCHES 0 1 2 3 4

L-133
SHEET###OF 75

N:\8000\8337 Tunitas Creek Beach Improvement Project\4-ACAD\5-Construction Documentation\65% Revised Plans\Sheets\L-133 PLANTING PLAN.dwg 03/05/2022 - 01:50 PM jlalno 1:1

APPROVED:

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ANN MADER STILLMAN,
INTERIM DIRECTOR OF PUBLIC WORKS
R. C. E. # 47882 / EXPIRES 12-31-2023

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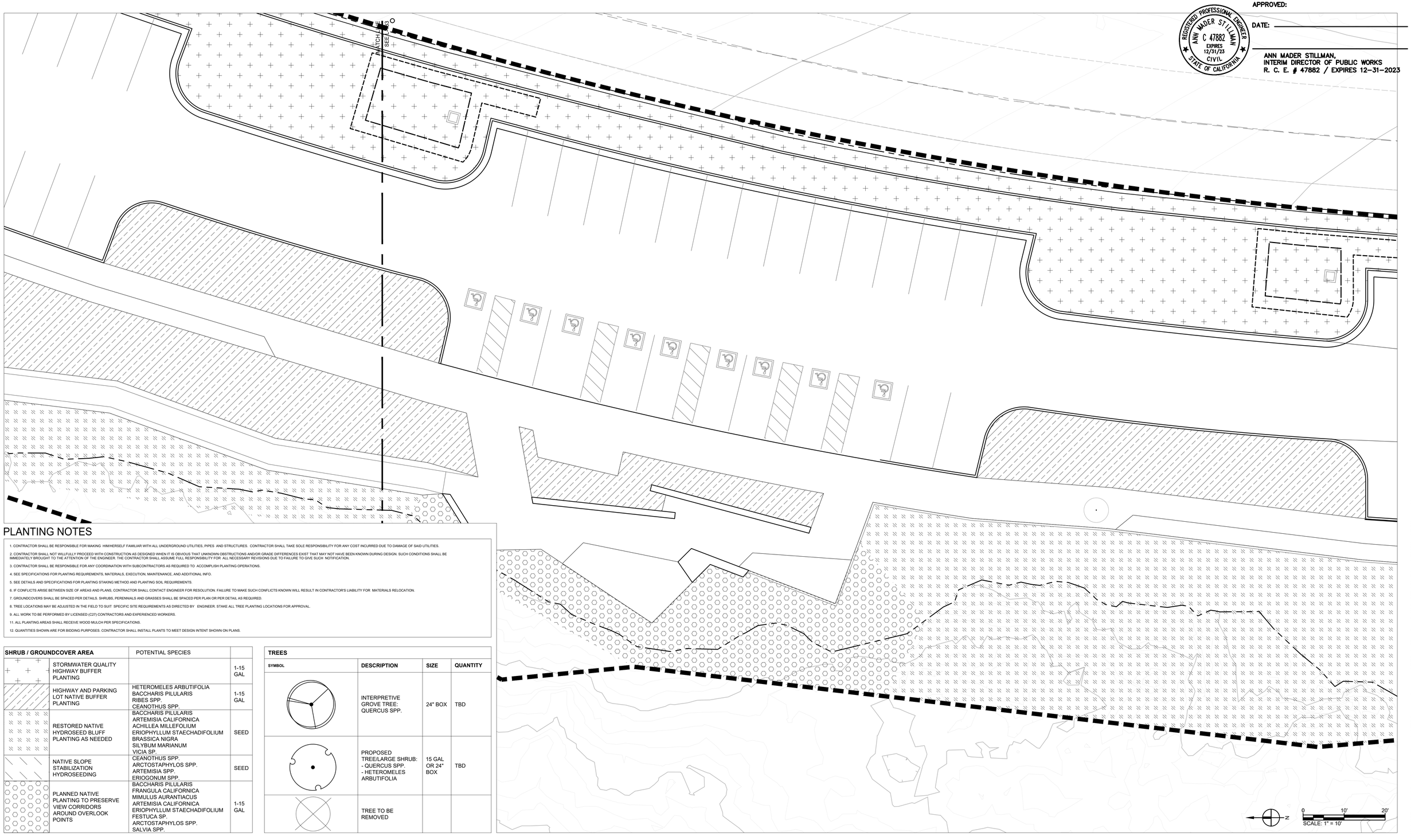


PLANTING NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING HIM/HERSELF FAMILIAR WITH ALL UNDERGROUND UTILITIES, PIPES AND STRUCTURES. CONTRACTOR SHALL TAKE SOLE RESPONSIBILITY FOR ANY COST INCURRED DUE TO DAMAGE OF SAID UTILITIES.

2. CONTRACTOR SHALL NOT WILLFULLY PROCEED WITH CONSTRUCTION AS DESIGNED WHEN IT IS OBVIOUS THAT UNKNOWN OBSTRUCTIONS AND/OR GRADE DIFFERENCES EXIST THAT MAY NOT HAVE BEEN KNOWN DURING DESIGN. SUCH CONDITIONS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ALL NECESSARY REVISIONS DUE TO FAILURE TO GIVE SUCH NOTIFICATION.

3. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COORDINATION WITH SUBCONTRACTORS AS REQUIRED TO ACCOMPLISH PLANTING OPERATIONS.

4. SEE SPECIFICATIONS FOR PLANTING REQUIREMENTS, MATERIALS, EXECUTION, MAINTENANCE, AND ADDITIONAL INFO.

5. SEE DETAILS AND SPECIFICATIONS FOR PLANTING STAKING METHOD AND PLANTING SOIL REQUIREMENTS.

6. IF CONFLICTS ARISE BETWEEN SIZE OF AREAS AND PLANS, CONTRACTOR SHALL CONTACT ENGINEER FOR RESOLUTION. FAILURE TO MAKE SUCH CONFLICTS KNOWN WILL RESULT IN CONTRACTOR'S LIABILITY FOR MATERIALS RELOCATION.

7. GROUNDCOVERS SHALL BE SPACED PER DETAILS. SHRUBS, PERENNIALS AND GRASSES SHALL BE SPACED PER PLAN OR PER DETAIL AS REQUIRED.

8. TREE LOCATIONS MAY BE ADJUSTED IN THE FIELD TO SUIT SPECIFIC SITE REQUIREMENTS AS DIRECTED BY ENGINEER. STAKE ALL TREE PLANTING LOCATIONS FOR APPROVAL.

9. ALL WORK TO BE PERFORMED BY LICENSED (C27) CONTRACTORS AND EXPERIENCED WORKERS.

11. ALL PLANTING AREAS SHALL RECEIVE WOOD MULCH PER SPECIFICATIONS.

12. QUANTITIES SHOWN ARE FOR BIDDING PURPOSES. CONTRACTOR SHALL INSTALL PLANTS TO MEET DESIGN INTENT SHOWN ON PLANS.

SHRUB / GROUNDCOVER AREA		POTENTIAL SPECIES	
	STORMWATER QUALITY HIGHWAY BUFFER PLANTING		1-15 GAL
	HIGHWAY AND PARKING LOT NATIVE BUFFER PLANTING	HETEROMELES ARBUTIFOLIA BACCHARIS PILULARIS RIBES SPP. CEANOTHUS SPP.	1-15 GAL
	RESTORED NATIVE HYDROSEED BLUFF PLANTING AS NEEDED	BACCHARIS PILULARIS ARTEMISIA CALIFORNICA ACHILLEA MILLEFOLIUM ERIOPHYLLUM STAECHADIFOLIUM BRASSICA NIGRA SILYBUM MARIANUM VICIA SP.	SEED
	NATIVE SLOPE STABILIZATION HYDROSEEDING	CEANOTHUS SPP. ARCTOSTAPHYLOS SPP. ARTEMISIA SPP. ERIOGONUM SPP.	SEED
	PLANNED NATIVE PLANTING TO PRESERVE VIEW CORRIDORS AROUND OVERLOOK POINTS	BACCHARIS PILULARIS FRANGULA CALIFORNICA MIMULUS AURANTIACUS ARTEMISIA CALIFORNICA ERIOPHYLLUM STAECHADIFOLIUM FESTUCA SP. ARCTOSTAPHYLOS SPP. SALVIA SPP.	1-15 GAL

TREES			
SYMBOL	DESCRIPTION	SIZE	QUANTITY
	INTERPRETIVE GROVE TREE: QUERCUS SPP.	24" BOX	TBD
	PROPOSED TREE/LARGE SHRUB: - QUERCUS SPP. - HETEROMELES ARBUTIFOLIA	15 GAL OR 24" BOX	TBD
	TREE TO BE REMOVED		

APPROVED DATE:

ROBERT C. STEVENS, P.E.
R.C.E. # 058660 EXPIRES 12/31/2022

REGISTERED PROFESSIONAL ENGINEER
ROBERT C. STEVENS
No. C 058660
CIVIL
STATE OF CALIFORNIA

COUNTY OF SAN MATEO PUBLIC WORKS

REVISION	DATE

DESIGNED BY: CSW/ST2 (BRB)
CHECKED BY: CSW/ST2 (JAH)
DRAWN BY: MTM

PLANTING PLAN 4
TUNITAS CREEK BEACH IMPROVEMENT

ANN MADER STILLMAN,
INTERIM DIRECTOR OF PUBLIC WORKS
COUNTY SAN MATEO

555 COUNTY CENTER, 5th FLOOR
REDWOOD CITY, CALIFORNIA 94063

SCALE:
DATE: 03/04/2022
FILE NO.2019-20-006

FOR REDUCED PLANS
ORIGINAL SCALE IS IN INCHES 0 1 2 3 4

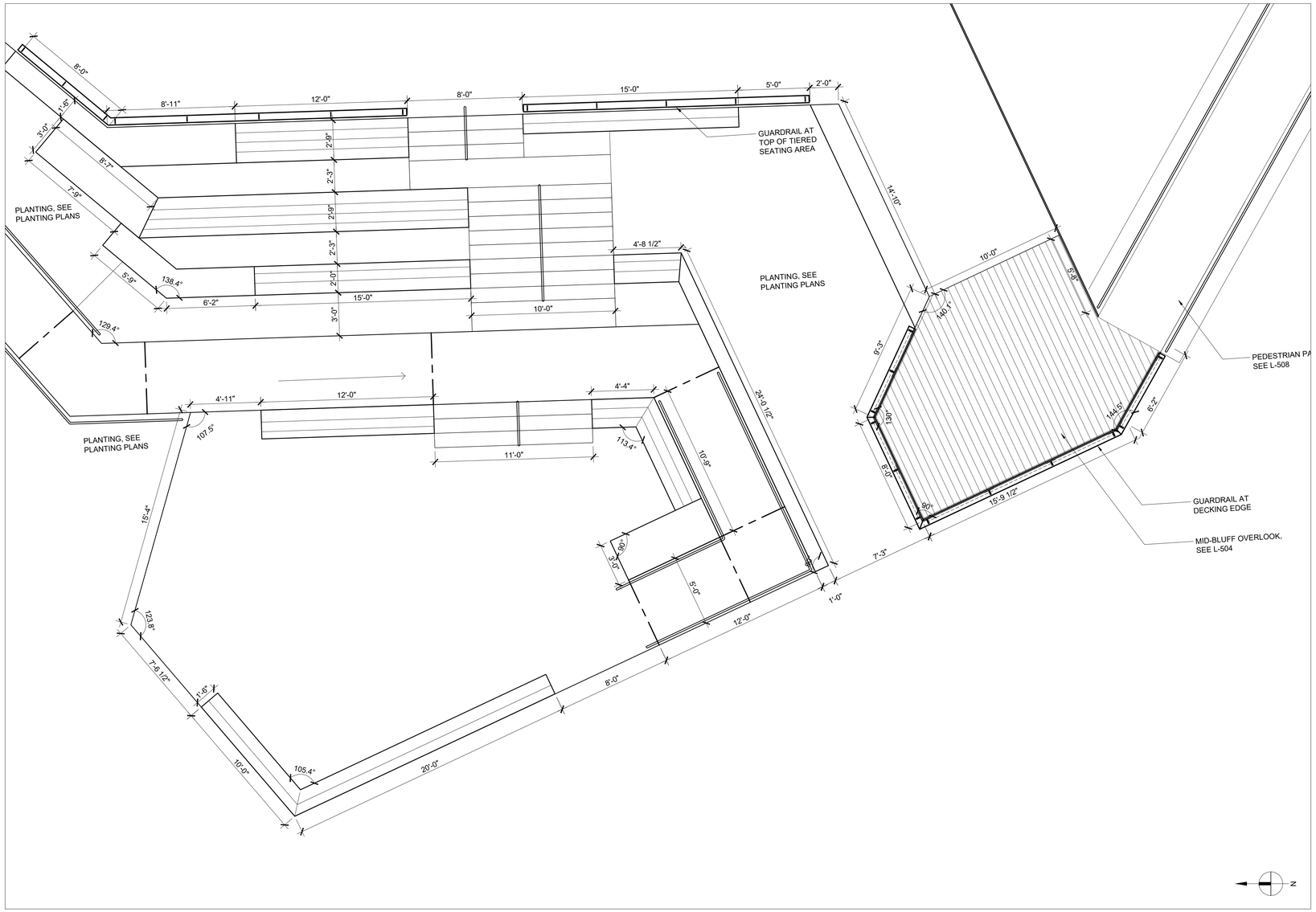
L-134
SHEET###OF 75

N:\8000\8537 Tunitas Creek Beach Improvement Project\4-ACAD\5-Construction Documentation\65% Revised Plans\Sheets\L-130 PLANTING PLAN.dwg 03/08/2022 - 01:50 PM jlatto 1:1

APPROVED:

DATE: _____

ANN MADER STILLMAN,
INTERIM DIRECTOR OF PUBLIC WORKS
R. C. E. # 47882 / EXPIRES 12-31-2023



1 TIERED SEATING AND MID-BLUFF OVERLOOK ENLARGEMENT PLAN
SCALE: 1/4" = 1'-0"

APPROVED DATE:

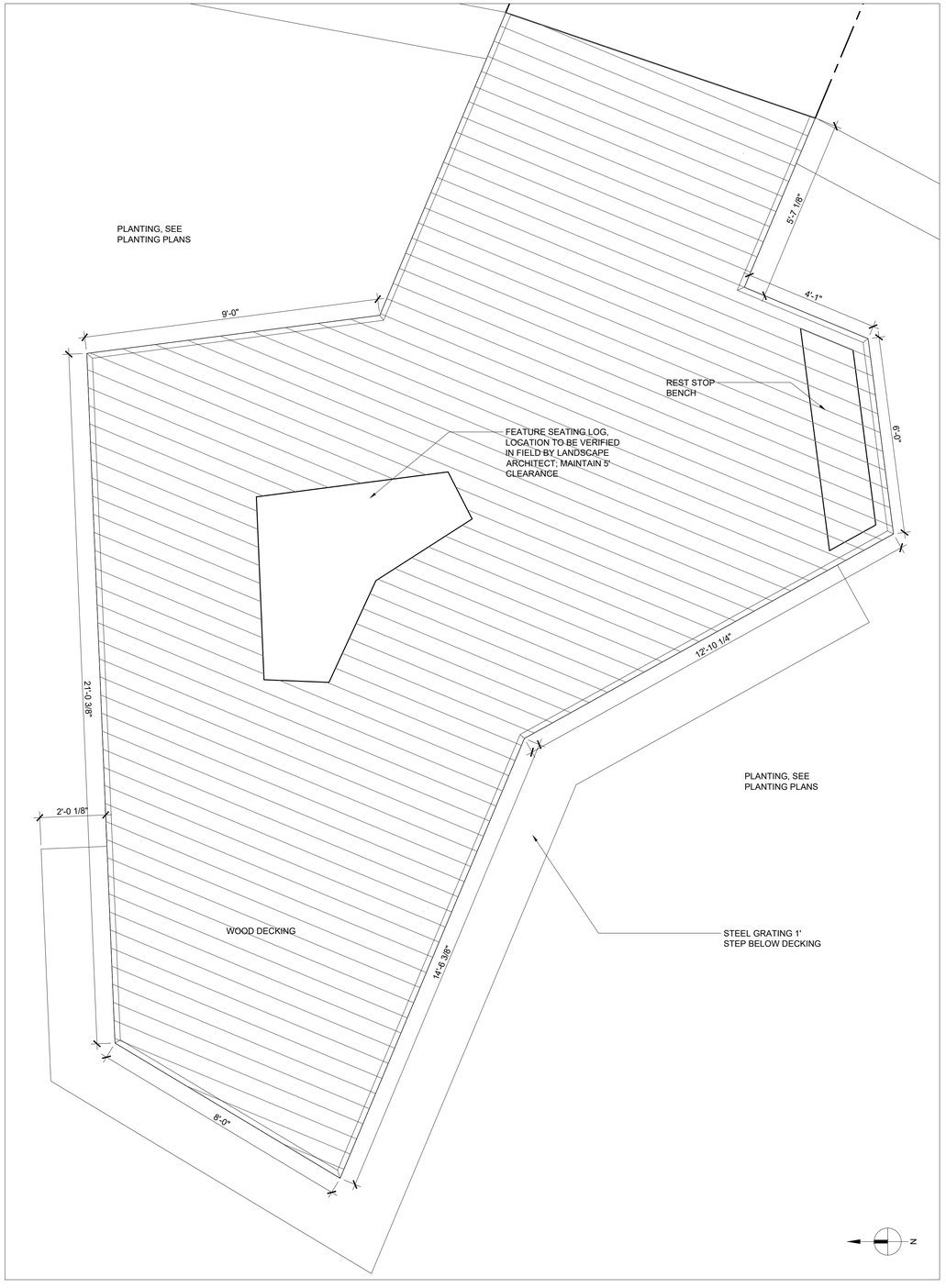
ROBERT C. STEVENS, P.E.
R.C.E. # 058660 EXPIRES 12/31/2022

		DESIGNED BY: CSW/ST2 (BRB)	ENLARGEMENT PLANS	SCALE:
		CHECKED BY: CSW/ST2 (JAH)		DATE: 03/04/2022
		DRAWN BY: MTM	TUNITAS CREEK BEACH IMPROVEMENT	FILE NO.2019-20-006
			ANN MADER STILLMAN, INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063
REVISION	DATE			

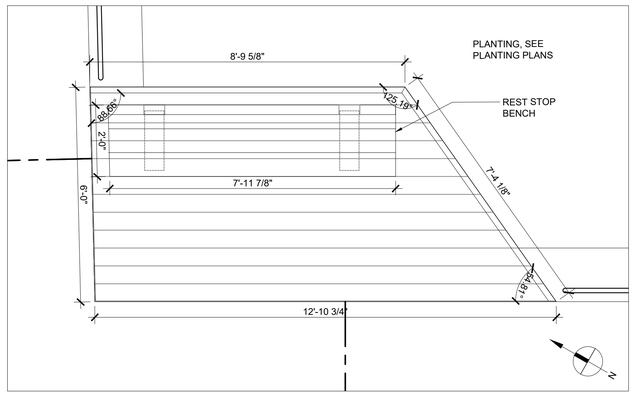
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3 4

L-201
SHEET### OF 75

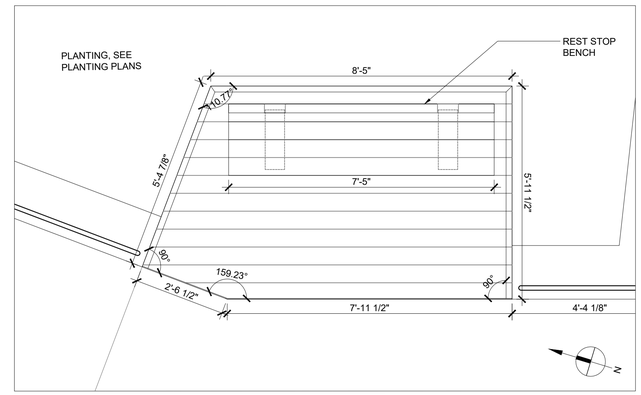
N:\3000\8337 Tunitas Creek Beach Improvement Project\4-ACAD\5-Construction Documentation\65% Revised Plans\Sheets\L-200 ENLARGEMENT PLANS.dwg 03/08/2022 - 01:50 PM jlatto 1:1



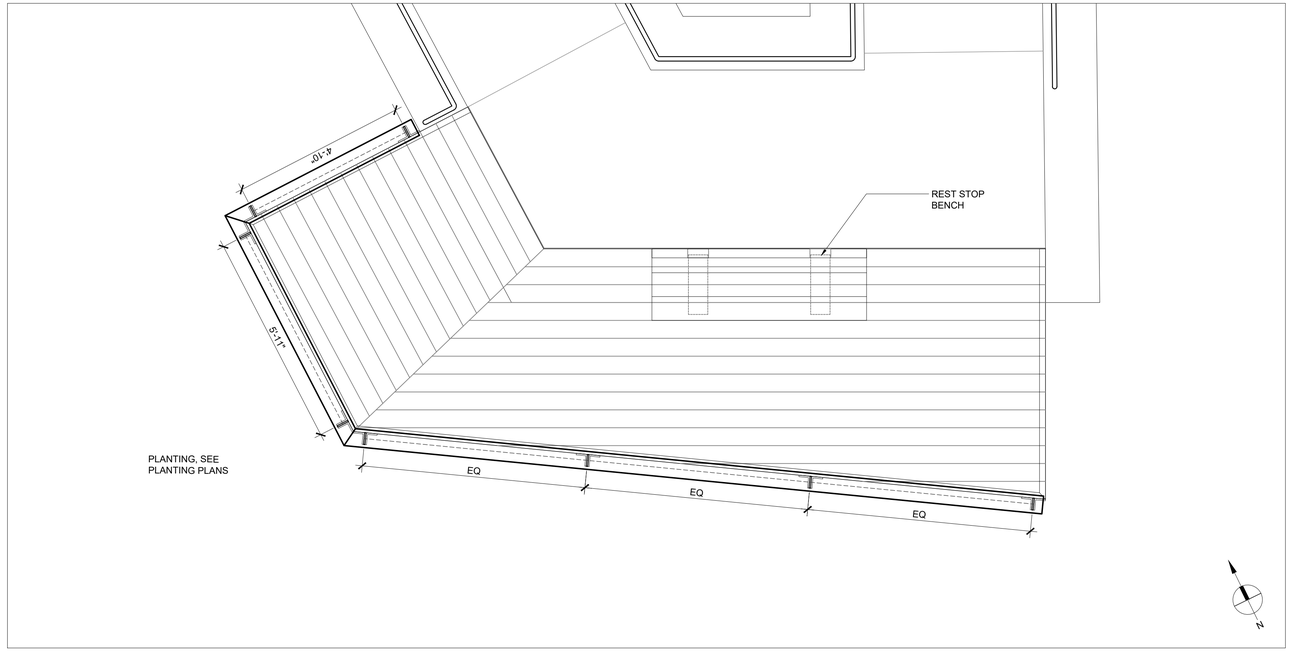
1 REST STOP ENLARGEMENT 1
SCALE: 1/2" = 1'-0"



2 REST STOP ENLARGEMENT 2
SCALE: 1/2" = 1'-0"



3 REST STOP ENLARGEMENT 3
SCALE: 1/2" = 1'-0"



4 REST STOP ENLARGEMENT 4
SCALE: 1/2" = 1'-0"

APPROVED:

DATE: _____

ANN MADER STILLMAN,
INTERIM DIRECTOR OF PUBLIC WORKS
R. C. E. # 47882 / EXPIRES 12-31-2023

REGISTERED PROFESSIONAL ENGINEER
ANN MADER STILLMAN
C 47882
EXPIRES 12/31/23
CIVIL
STATE OF CALIFORNIA

APPROVED DATE: _____

ROBERT C. STEVENS, P.E.
R.C.E. # 058660 EXPIRES 12/31/2022

REGISTERED PROFESSIONAL ENGINEER
ROBERT C. STEVENS
No. C 058660
CIVIL
STATE OF CALIFORNIA

COUNTY OF SAN MATEO
PUBLIC WORKS

REVISION	DATE	DESIGNED BY: CSW/ST2 (BRB)	CHECKED BY: CSW/ST2 (JAH)	DRAWN BY: MTM	ENLARGEMENT PLANS TUNITAS CREEK BEACH IMPROVEMENT	SCALE: DATE: 03/04/2022 FILE NO.:2019-20-006
		ANN MADER STILLMAN, INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO			555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063	

FOR REDUCED PLANS
ORIGINAL SCALE IS IN INCHES 0 1 2 3 4

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SHEET###OF 75

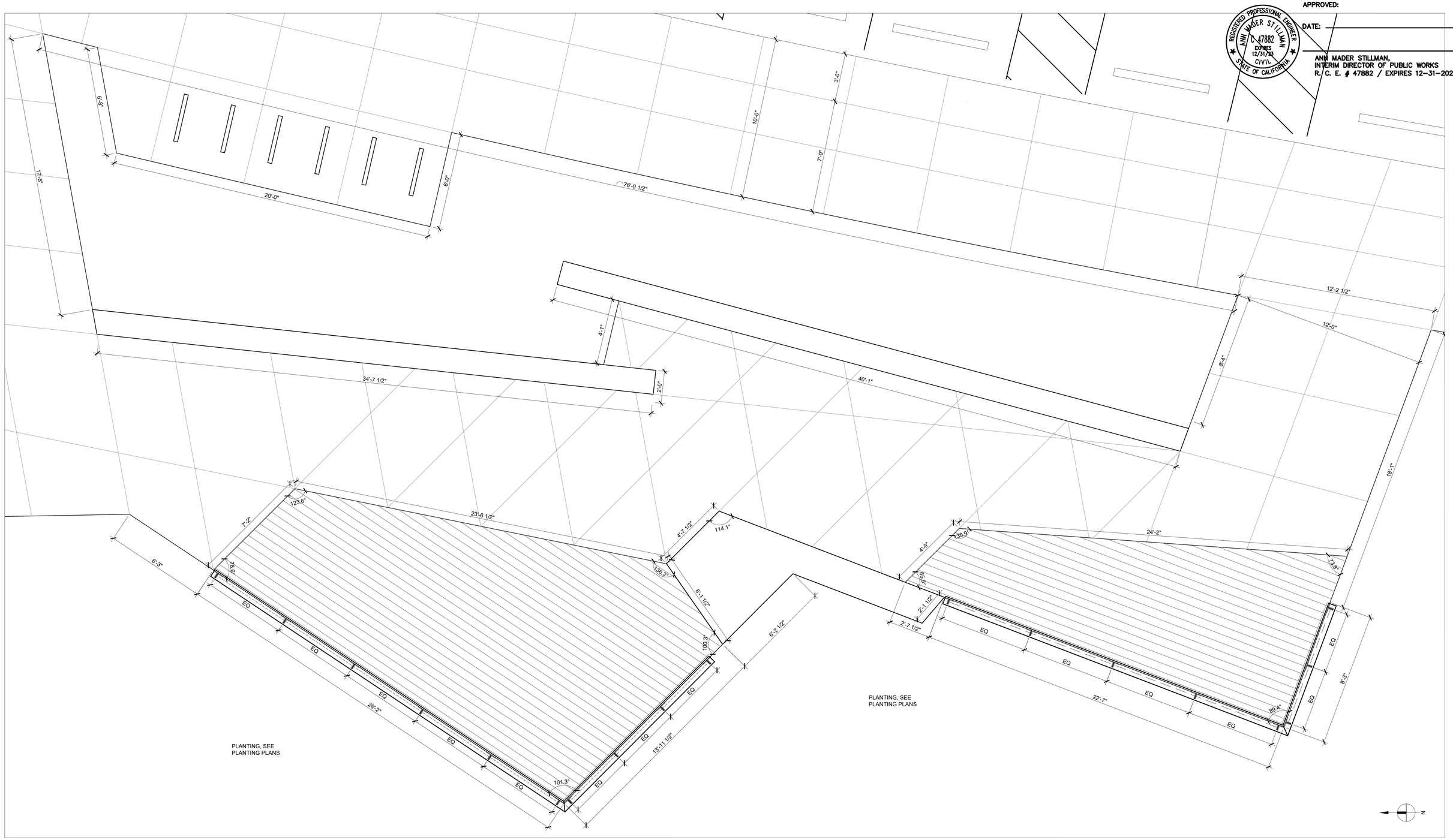
N:\8000\8537 Tunitas Creek Beach Improvement Project\4-AC4D\5-Construction Documentation\65% Revised Plans\Sheets\L-200 ENLARGEMENT PLANS.dwg 03/08/2022 - 01:50 PM jlatco 1:1

APPROVED:

DATE: _____

ANN MADER STILLMAN,
INTERIM DIRECTOR OF PUBLIC WORKS
R. C. E. # 47882 / EXPIRES 12-31-2023

REGISTERED PROFESSIONAL ENGINEER
ANN MADER STILLMAN
47882
EXPIRES 12/31/23
CIVIL
STATE OF CALIFORNIA



1 OVERLOOK ENLARGEMENT 1
SCALE: 3/8" = 1'-0"

APPROVED DATE: _____

ROBERT C. STEVENS, P.E.
R.C.E. # 058660 EXPIRES 12/31/2022

REGISTERED PROFESSIONAL ENGINEER
ROBERT C. STEVENS
No. C 058660
CIVIL
STATE OF CALIFORNIA

COUNTY OF SAN MATEO
PUBLIC WORKS

REVISION	DATE		
		DESIGNED BY: CSW/ST2 (BRB)	ENLARGEMENT PLANS
		CHECKED BY: CSW/ST2 (JAH)	
		DRAWN BY: MTM	TUNITAS CREEK BEACH IMPROVEMENT
		ANN MADER STILLMAN, INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063

SCALE:
DATE: 03/04/2022
FILE NO.2019-20-006

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ORIGINAL SCALE IS IN INCHES 0 1 2 3 4

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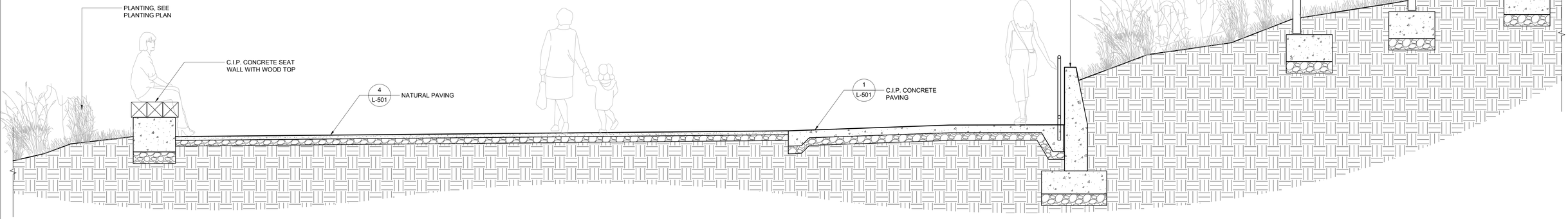
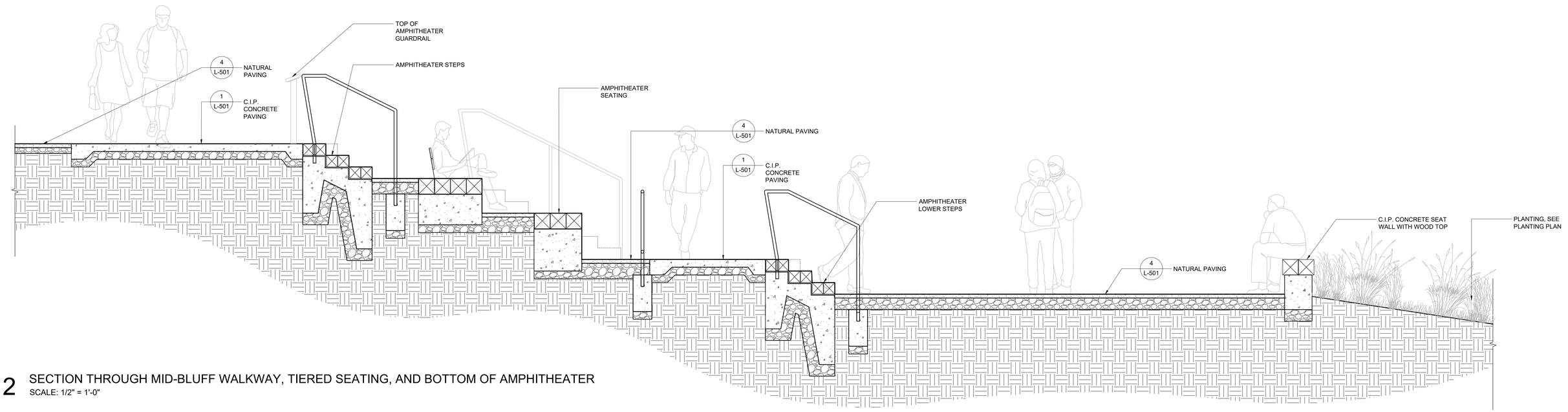
SHEET### OF 75

N:\8000\8537 Tunitas Creek Beach Improvement Project\4-ACAD\5-Construction Documentation\65% Revised Plans\Sheets\L-200 ENLARGEMENT PLANS.dwg 03/09/2022 - 01:51 PM jlatro 1:1



1 SECTION THROUGH BOTTOM OF AMPHITHEATER AND MID-BLUFF OVERLOOK
SCALE: 1/2" = 1'-0"



2 SECTION THROUGH MID-BLUFF WALKWAY, TIERED SEATING, AND BOTTOM OF AMPHITHEATER
SCALE: 1/2" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
ANN MADER STILLMAN
C 47882
EXPIRES 12/31/23
CIVIL
STATE OF CALIFORNIA

APPROVED:

DATE: _____

ANN MADER STILLMAN,
INTERIM DIRECTOR OF PUBLIC WORKS
R. C. E. # 47882 / EXPIRES 12-31-2023

APPROVED DATE: _____

ROBERT C. STEVENS, P.E.
R.C.E. # 058660 EXPIRES 12/31/2022

REGISTERED PROFESSIONAL ENGINEER
ROBERT C. STEVENS
No. C 058660
CIVIL
STATE OF CALIFORNIA

COUNTY OF SAN MATEO
PUBLIC WORKS

REVISION	DATE		
		DESIGNED BY: CSW/ST2 (BRB)	SECTIONS
		CHECKED BY: CSW/ST2 (JAH)	TUNITAS CREEK BEACH IMPROVEMENT
		DRAWN BY: MTM	ANN MADER STILLMAN, INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO
			555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063

SCALE:
DATE: 03/04/2022
FILE NO.2019-20-006

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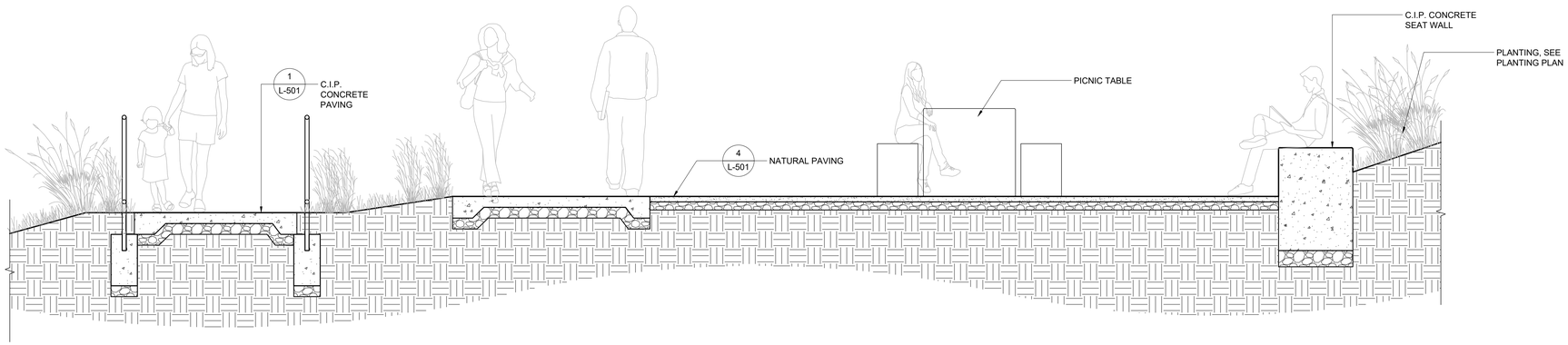
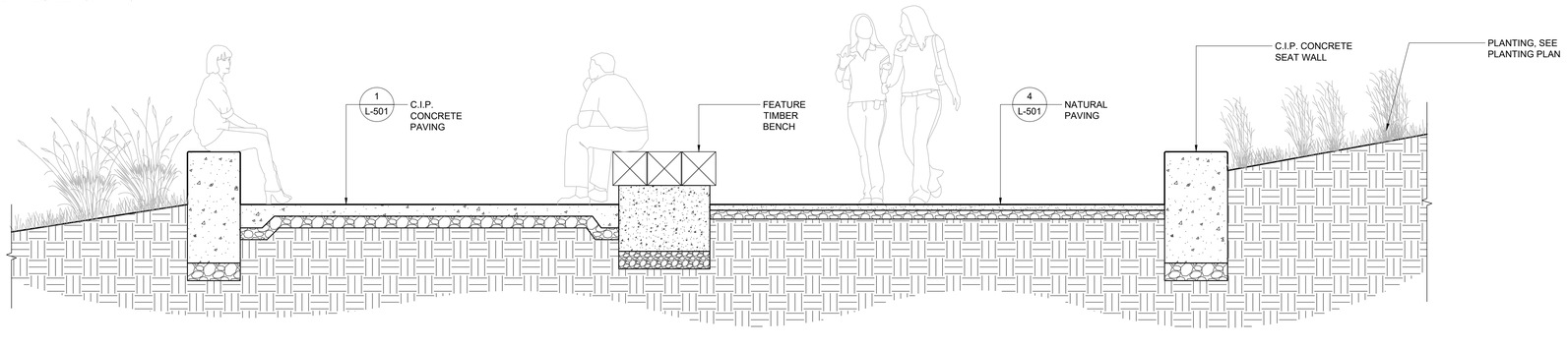
SHEET### OF 75

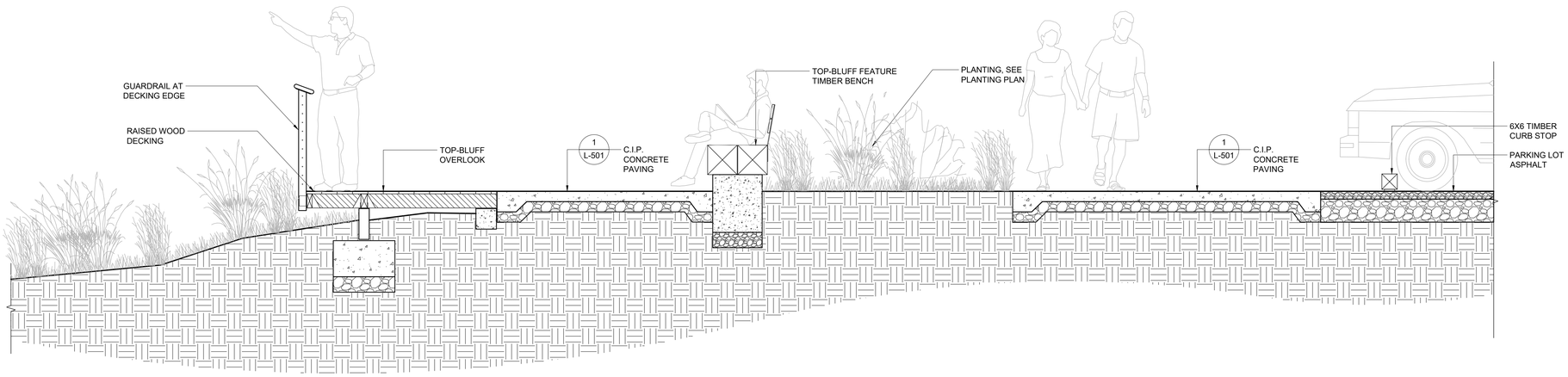
N:\800\8337 Tunitas Creek Beach Improvement Project\4-AC/D\5-Construction Documentation\65% Revised Plans\Sheets\L-300 SECTIONS.dwg 03/08/2022 - 01:51 PM Jlabo 1:1



1 SECTION THROUGH ACCESSIBLE PATHWAY, PLANTING, AND PICNIC AREA
SCALE: 1/2" = 1'-0"



2 SECTION THROUGH MID-BLUFF WALKWAY, FEATURE TIMBER BENCH, INTERPRETIVE GROVE, AND SEAT WALL
SCALE: 1/2" = 1'-0"



3 SECTION THROUGH TOP-BLUFF OVERLOOK AREA AND SEATING, PLANTING BUFFER, WALKWAY, AND PARKING LOT
SCALE: 1/2" = 1'-0"

APPROVED:

DATE: _____

ANN MADER STILLMAN,
INTERIM DIRECTOR OF PUBLIC WORKS
R. C. E. # 47882 / EXPIRES 12-31-2023

REGISTERED PROFESSIONAL ENGINEER
ANN MADER STILLMAN
C 47882
EXPIRES 12/31/23
CIVIL
STATE OF CALIFORNIA

APPROVED DATE: _____

ROBERT C. STEVENS, P.E.
R.C.E. # 058660 EXPIRES 12/31/2022

REGISTERED PROFESSIONAL ENGINEER
ROBERT C. STEVENS
No. C 058660
CIVIL
STATE OF CALIFORNIA

COUNTY OF SAN MATEO
PUBLIC WORKS

REVISION	DATE	DESIGNED BY: CSW/ST2 (BRB)	SECTIONS	SCALE:
		CHECKED BY: CSW/ST2 (JAH)		DATE: 03/04/2022
		DRAWN BY: MTM	TUNITAS CREEK BEACH IMPROVEMENT	FILE NO.2019-20-008
		ANN MADER STILLMAN, INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO		555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3 4

L-302
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N:\8007\8337 Tunitas Creek Beach Improvement Project\4-AC/4D\5-Construction Documentation\65% Revised Plans\Sheets\L-300 SECTIONS.dwg 03/08/2022 - 01:51 PM jjatro 1:1

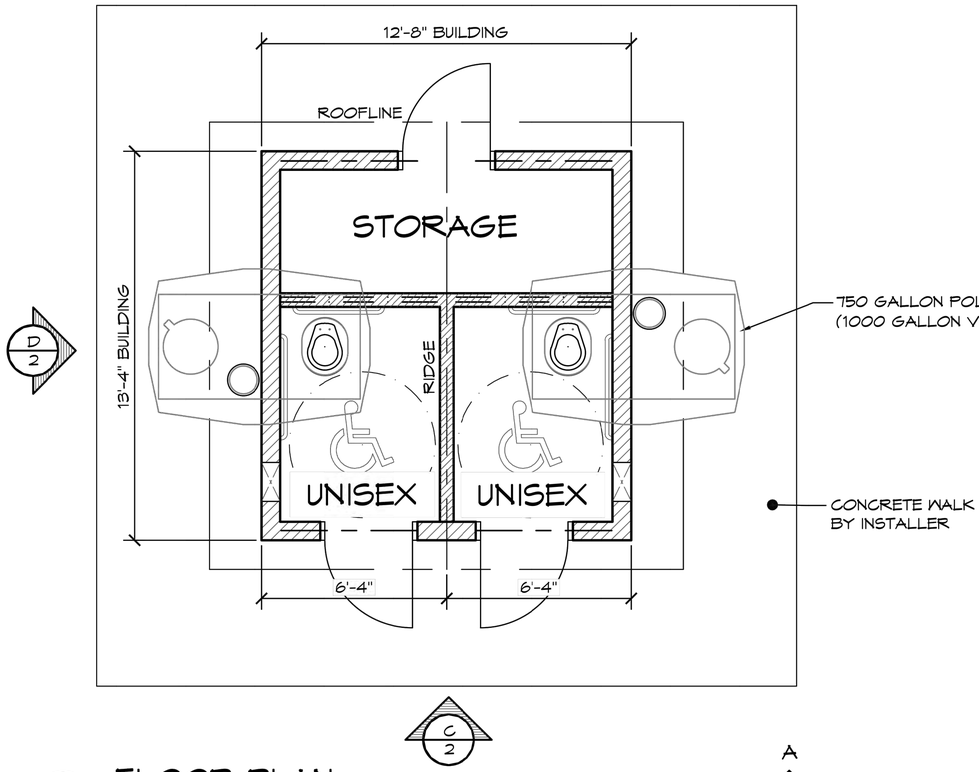
LEGEND		
SYMBOL	DESCRIPTION	AREA/ QUANTITY
—-—	GABLE WINDOW	2
—-—	GABLE VENT	2
═:═	2x6 WOOD FILLER WALL	2
	16" x 24" KICKPROOF WALL VENT	2

THESE PLAN VIEW AND ELEVATION DRAWINGS ARE A PRELIMINARY ARCHITECTURAL REPRESENTATION OF THE BUILDING. ALL DIMENSIONS, FEATURES AND COMPONENTS SHOWN ON THESE PRELIMINARY DRAWINGS MAY OR MAY NOT BE PART OF THE QUOTE. PLEASE REFER TO THE "SCOPE OF SUPPLY AND SERVICES" LETTER PROVIDED WITH YOUR QUOTE FOR ROMTEC'S PROPOSED SCOPE OF SUPPLY.

WALL TYPE SCHEDULE

8" REINFORCED CONCRETE MASONRY BLOCK WALL WITH MORTAR JOINTS, GROUTED SOLID ALL CELLS RUNNING BOND PATTERN.

6" REINFORCED CONCRETE MASONRY BLOCK WALL WITH MORTAR JOINTS, GROUTED SOLID ALL CELLS RUNNING BOND PATTERN.



1 FLOOR PLAN

SCALE: 1/4" = 1'-0"

ROMTEC

18240 NORTH BANK ROAD - ROSEBURG, OR 97470
(541) 496-3541 FAX (541) 496-0803

PRELIMINARY

PROJECT: 1017 SST ASPEN COMPACT DOUBLE WATERLESS RESTROOM W/ STORAGE

CUSTOMER
PROJECT
LOCATION

SHEET TITLE: FLOOR PLAN

PROJECT#: XXXX

MODEL#: 1017

DATE: 00/00/15

REVISIONS

REV.	DATE:	BY

DRAWN BY: TH

SHEET NO. 1

APPROVED:

DATE: _____

REGISTERED PROFESSIONAL ENGINEER ANN MADER STILLMAN C 47882 EXPIRES 12/31/23 CIVIL STATE OF CALIFORNIA

ANN MADER STILLMAN,
INTERIM DIRECTOR OF PUBLIC WORKS
R. C. E. # 47882 / EXPIRES 12-31-2023

1 ROMTEC 1017 SST ASPEN COMPACT DOUBLE WATERLESS RESTROOM W/ VERTICAL WEATHERED GRAY WOOD SIDING; OR APPROVED EQUAL
N.T.S.

APPROVED DATE: _____

ROBERT C. STEVENS, P.E.
R.C.E. # 058660 EXPIRES 12/31/2022

REGISTERED PROFESSIONAL ENGINEER ROBERT C. STEVENS No. C 058660 CIVIL STATE OF CALIFORNIA

COUNTY OF SAN MATEO • PUBLIC WORKS •

REVISION	DATE		
		DESIGNED BY: CSW/ST2 (BRB)	PUBLIC RESTROOM CUT SHEET
		CHECKED BY: CSW/ST2 (JAH)	TUNITAS CREEK BEACH IMPROVEMENT
		DRAWN BY: MTM	ANN MADER STILLMAN, INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO

555 COUNTY CENTER, 5th FLOOR
REDWOOD CITY, CALIFORNIA 94063

SCALE:
DATE: 03/04/2022
FILE NO.2019-20-006

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SHEET###OF 75

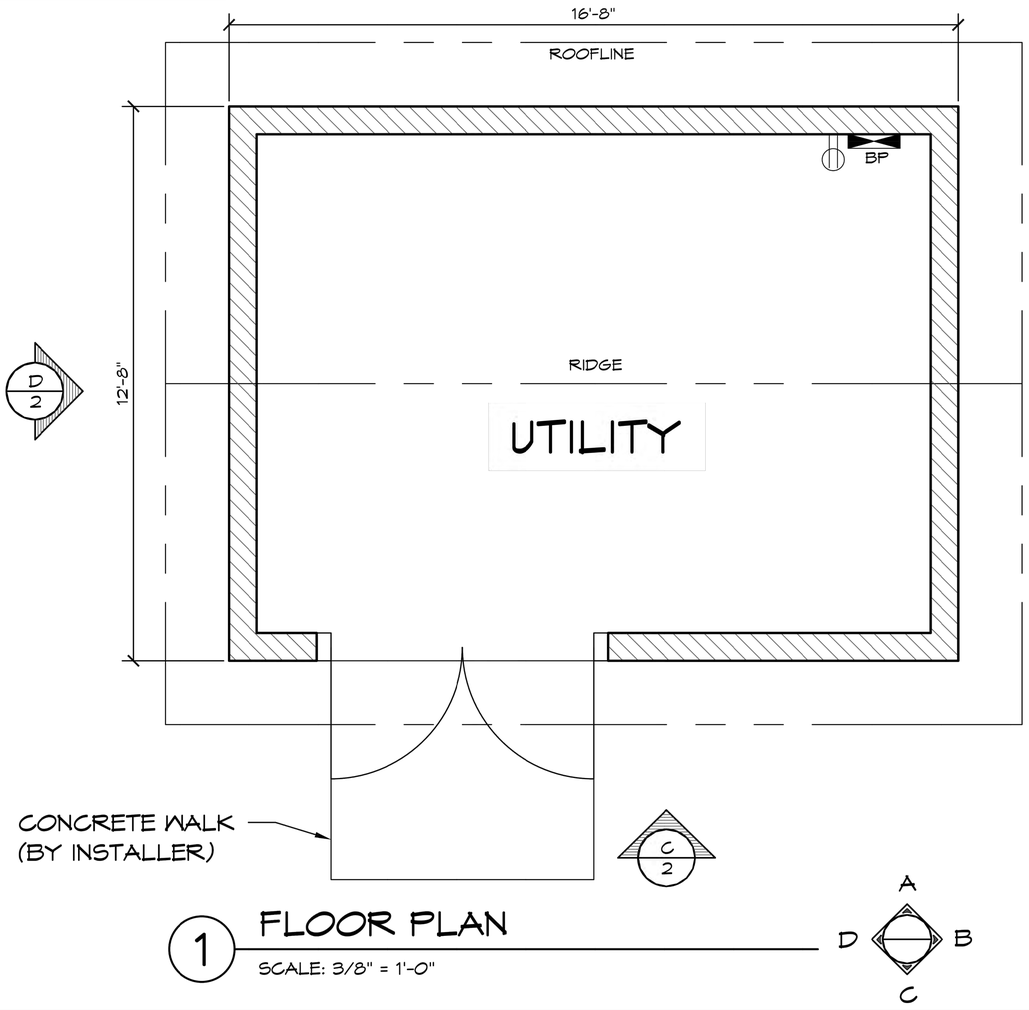
N:\800\08537 Tunitas Creek Beach Improvement Project\4-ACADS-Construction Documentation\65% Revised Plans\Sheets\L-700 CUT SHEETS.dwg 03/08/2022 - 01:52 PM jairo 1:1

LEGEND		
SYMBOL	DESCRIPTION	AREA/ QUANTITY
	EXTERIOR WALL LIGHTS	2
	INTERIOR CEILING LIGHTS	2
⚲	ELECTRICAL OUTLET	1

THESE PLAN VIEW AND ELEVATION DRAWINGS ARE A PRELIMINARY ARCHITECTURAL REPRESENTATION OF THE BUILDING. ALL DIMENSIONS, FEATURES AND COMPONENTS SHOWN ON THESE PRELIMINARY DRAWINGS MAY OR MAY NOT BE PART OF THE QUOTE. PLEASE REFER TO THE "SCOPE OF SUPPLY AND SERVICES" LETTER PROVIDED WITH YOUR QUOTE FOR ROMTEC'S PROPOSED SCOPE OF SUPPLY.

WALL TYPE SCHEDULE

8" REINFORCED CONCRETE MASONRY BLOCK WALL WITH MORTAR JOINTS, GROUTED SOLID ALL CELLS RUNNING BOND PATTERN.



1 FLOOR PLAN
SCALE: 3/8" = 1'-0"

ROMTEC
18240 NORTH BANK ROAD - ROSEBURG, OR 97470
(541) 496-3541 FAX (541) 496-0803

PRELIMINARY

PROJECT: 2643 UTILITY BUILDING
CUSTOMER
PROJECT
LOCATION

SHEET TITLE: FLOOR PLAN

PROJECT#: XXXX
MODEL#: 2643
DATE: 00/00/15
REVISIONS

REV.	DATE:	BY

DRAWN BY: TH

SHEET NO. 1

APPROVED:

DATE: _____

ANN MADER STILLMAN,
INTERIM DIRECTOR OF PUBLIC WORKS
R. C. E. # 47882 / EXPIRES 12-31-2023

REGISTERED PROFESSIONAL ENGINEER
ANN MADER STILLMAN
C 47882
EXPIRES 12/31/23
CIVIL
STATE OF CALIFORNIA

1 ROMTEC 2643 UTILITY BUILDING W/ VERTICAL WEATHERED GRAY WOOD SIDING, OR APPROVED EQUAL
N.T.S.

APPROVED DATE: _____

ROBERT C. STEVENS, P.E.
R.C.E. # 058660 EXPIRES 12/31/2022

REGISTERED PROFESSIONAL ENGINEER
ROBERT C. STEVENS
No. C 058660
CIVIL
STATE OF CALIFORNIA

COUNTY OF SAN MATEO
PUBLIC WORKS

REVISION	DATE		
		DESIGNED BY: CSW/ST2 (BRB)	RANGER STORAGE SHED CUT SHEET
		CHECKED BY: CSW/ST2 (JAH)	TUNITAS CREEK BEACH IMPROVEMENT
		DRAWN BY: MTM	ANN MADER STILLMAN, INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO
			555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3 4

SCALE:
DATE: 03/04/2022
FILE NO.2019-20-006
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SHEET###OF 75

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ORIGIN 1000 **2** BED **2** BATH **1,000** SQ. FT. **45'-8" x 29'-2'** BUILDING AREA

1 BLUHOMES 1,000 SQ FT PREFAB RESIDENCE W/ VERTICAL WEATHERED GRAY WOOD SIDING, OR APPROVED EQUAL
N.T.S.

APPROVED:

DATE: _____

ANN MADER STILLMAN,
INTERIM DIRECTOR OF PUBLIC WORKS
R. C. E. # 47882 / EXPIRES 12-31-2023

REGISTERED PROFESSIONAL ENGINEER — ANN MADER STILLMAN — C 47882 EXPIRES 12/31/23 CIVIL — STATE OF CALIFORNIA

APPROVED DATE: _____

ROBERT C. STEVENS, P.E.
R.C.E. # 058660 EXPIRES 12/31/2022

REGISTERED PROFESSIONAL ENGINEER — ROBERT C. STEVENS — No. C 058660 CIVIL — STATE OF CALIFORNIA

COUNTY OF SAN MATEO — PUBLIC WORKS

REVISION	DATE		
		DESIGNED BY: CSW/ST2 (BRB)	RANGER RESIDENCE CUT SHEET
		CHECKED BY: CSW/ST2 (JAH)	
		DRAWN BY: MTM	TUNITAS CREEK BEACH IMPROVEMENT
		ANN MADER STILLMAN, INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063

SCALE:
DATE: 03/04/2022
FILE NO.2019-20-008

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3 4

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SHEET###OF 75

N:\800\8337 Tunitas Creek Beach Improvement Project\4-ACAD\5-Construction Documentation\65% Revised Plans\Sheets\L-700 CUT SHEETS.dwg 03/08/2022 - 01:52 PM Jalmo 1:1

County of San Mateo - Planning and Building Department

ATTACHMENT D

Initial Study/Mitigated Negative Declaration

TUNITAS CREEK BEACH IMPROVEMENT PROJECT

County of San Mateo

Parks Department

October 2021

Table of Contents

CHAPTER 1. BACKGROUND INFORMATION 1
CHAPTER 2. PROJECT DESCRIPTION 3
2.1 INTRODUCTION 3
2.2 PROJECT LOCATION 3
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A: Best Management Practices
B: Mitigation Monitoring and Reporting Program
C: Response to Comments

CHAPTER 1. BACKGROUND INFORMATION

PROJECT DATA

1. **Project Title:** Tunitas Creek Beach Improvement Project

2. **Lead Agency Name and Address:**
County of San Mateo Parks Department
455 County Center, 4th Floor
Redwood City, CA 94063

3. **Contact Person and Phone Number:**
Mario Nastari, Park Ranger IV
(650) 599-1352

4. **Project Location:** The project site is located in unincorporated San Mateo County, approximately 5 miles south of the City of Half Moon Bay. The project site is located to the west of Highway 1 and extends approximately 0.7 miles south from Tunitas Creek. The approximately 58-acre site comprises three parcels (Assessor Parcel Numbers [APNs] 081-060-030, 081-060-020, and 081-060-130). In addition, the project includes a portion of the State of California Department of Transportation's right of way located to the east, as well as, the portion of the beach located to the west of the project parcels.

5. **Project Proponent:**
County of San Mateo Parks Department
455 County Center, 4th Floor
Redwood City, CA 94063

6. **General Plan:** Agriculture

7. **Zoning:** RM-CZ/CD - Resource Management -Coastal Zone District/Coastal Development District/Coastal Development District and PAD/CD - Planned Agriculture District/Coastal Development District

8. **Project Description:** The County of San Mateo Parks Department (Parks Department) proposes to make improvements to Tunitas Creek Beach and the surrounding areas in order to increase coastal access and recreational opportunities for public use and protect natural resources present on the property. The proposed project includes construction of a parking facility, pathways, overlooks, restrooms, ranger shed, picnic areas, amphitheater, ranger residence, and related amenities. The Parks Department would operate and maintain the park and its amenities. A more detailed description of the proposed project is provided in Chapter 2.

9. **Surrounding Land Use and Setting:** The project site is located between Tunitas Creek Road and Star Hill Road and west of Highway 1. Tunitas Creek borders the project site to the north, the Pacific Ocean borders the site to the west, and rural semi-developed coastal property borders to the site to the south. A more detailed description of the project site and existing site conditions is provided in Chapter 2.

10. **Other Public Agencies Whose Approval is Required:**

- County of San Mateo
- Bay Area Air Quality Management District
- United States Army Corps of Engineers
- National Marine Fisheries Service
- State of California Department of Transportation
- California Coastal Commission
- California State Water Resources Control Board

- United States Fish and Wildlife Services
- California Department of Fish and Wildlife
- Regional Water Quality Control Board

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code Section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?: On July 8, 2020, the County of San Mateo Parks Department provided formal notification by mail to those California Native American tribes that are traditionally and culturally affiliated with the geographic area within which the proposed project is located pursuant to the consultation requirements of AB 52. To date no tribes have requested consultation. The outreach included the following tribes:

- Amah Mutsun Tribal Band
- Costanoan Rumsen Carmel Tribe
- Indian Canyon Mutsun Band of Costanoan
- Muwekma Ohlone Indian Tribe of the San Francisco Bay Area
- The Ohlone Indian Tribe

CHAPTER 2. PROJECT DESCRIPTION

2.1 INTRODUCTION

This Initial Study has been prepared pursuant to the requirements of the California Environmental Quality Act (CEQA). The purpose of an Initial Study is to determine whether the proposed project could significantly affect the environment, requiring the preparation and distribution of an Environmental Impact Report. Based on the following analysis, it is projected that the environmental impacts of the project would be less-than-significant with proposed mitigation, and that the project is eligible for a Mitigated Negative Declaration.

2.2 PROJECT LOCATION

The project site is located in unincorporated San Mateo County, approximately 5 miles south of the City of Half Moon Bay. The project site is located west of Highway 1 and extends approximately 0.7 mile south from Tunitas Creek. The approximately 58-acre site comprises three parcels (Assessor Parcel Numbers [APNs] 081-060-030, 081-060-020, and 081-060-130). In addition, the project includes a portion of the State of California Department of Transportation's (Caltrans) right of way located to the east, as well as the portion of the beach located to the west of the project parcels. Highway 1 and the Toto Ranch/Tunitas Creek Open Space Preserve are located further to the east. The project location is shown on the map in Figure 1.

2.3 BACKGROUND

The County of San Mateo (County) acquired property located along the San Mateo coastline from the Peninsula Open Space Trust to be operated by the County's Parks Department as a new public park. For many years, the property was privately owned. In the recent years prior to the County acquiring the property, illicit activity occurred including large parties, vandalism, and poaching. The Parks Department is working to make improvements to Tunitas Creek Beach to safely open it for public access and recreation.

The Parks Department has worked extensively with community members, including a Citizen's Advisory Committee, to define values for development of the Tunitas Creek Beach Park as a new public park. The process established four core values including: 1) environmental protection, 2) equity and inclusion, 3) education and awareness, and 4) outdoor experience. The project includes physical improvements to the site to meet these values as well as future programming opportunities designed to educate visitors and enhance the user experience.

2.4 PROJECT SITE

The following provides an overview of existing conditions at the project site.

2.4.1 Site History

The project site includes numerous habitat types, including northern (Franciscan) coastal scrub, central coast riparian scrub, Monterey pine forest, red alder riparian forest, stream, landscaped, coastal strand and coastal dune, developed, and coastal and valley freshwater marsh. Native Californians would have used the area for hunting game, fishing, collecting seeds and plants, and collecting mollusks. The project site is within the territory of the ethnographic Cotegen, one of many Ohlone groups. The Ohlone were located directly south of the project site and centered within San Gregorio Valley. Two previously recorded precontact-period cultural resources have been identified on the project site: CA-SMA-2 was recorded in 1949 as the Tunitas Glen Shellmound, a deposit of midden and shell detritus and CRHL-375, recorded in 1940 as the "Tunitas Beach Indian Village Site on Portola Route." It is likely that these two sites are the same. The Tunitas Beach Indian Village Site on the Portola Route is designated as California Historical Landmark #375.

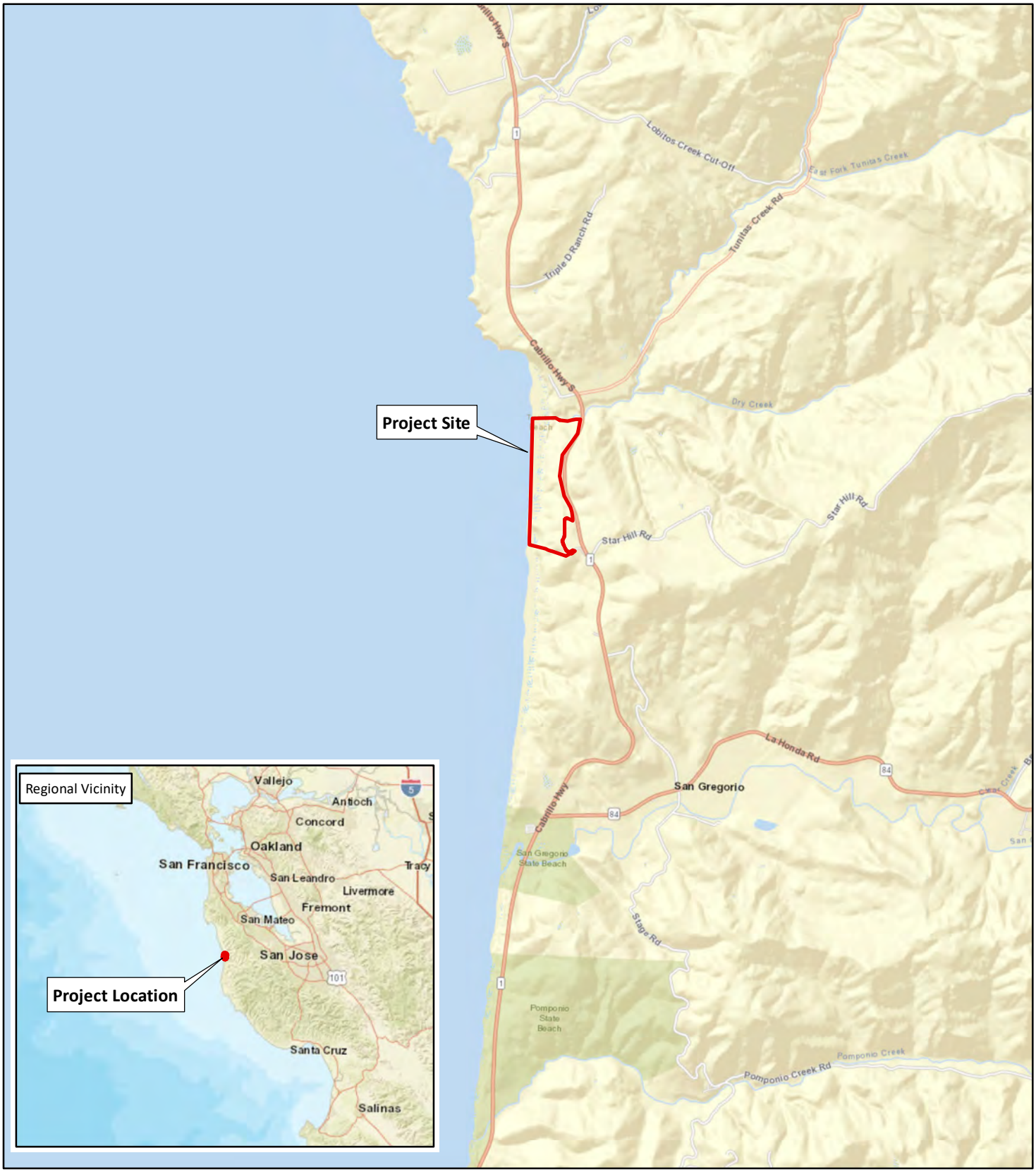

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FIGURE 1

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SOURCE: ESRI World Map (06/19).

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Tunitas Creek Beach Project
Tunitas, San Mateo County, California

Project Vicinity Map

During the Spanish Mission period, the coastal grasslands surrounding the project site supported increasingly vast cattle herds that roamed the hills and valleys; livestock generally ranged freely over the landscape and rapidly multiplied, creating an industry focused on the production of leather goods and tallow. The former Mission cattle ranches that extended into the project area were ultimately divided into two Mexican Period land grants that were separated by Tunitas Creek: Rancho Cañada de Verde y Arroyo de la Purisima on the north side of the creek and Rancho San Gregorio on the south side. Rancho San Gregorio extended along the coast from Tunitas Creek southward to Pomponio Creek and encompassed the entire San Gregorio Valley. These lands were soon subdivided and sold to new immigrants that arrived in California after 1850.

As the demand for coastal agricultural and forest products from the San Mateo County coast side increased, several entrepreneurs attempted to devise methods to load freight ships directly from the coastal bluffs to circumvent the congestion of the bay area ports. One of the more monumental schemes developed into what became known as "Gordon's Chute," which was formerly located just outside of the study area, on the coastal bluffs to the northwest of Tunitas Creek. By the time the Ocean Shore Railroad was constructed near Gordon's Landing around 1905, nothing remained of the chute or the warehouses except for the rusted iron bolts that are still imbedded in the rocks below the cliffs.

By the late 19th century prominent land developers and investors began to envision a railroad route that would link San Francisco to Santa Cruz and beyond, via a corridor that paralleled the open coastline. This route became popularly known as the Ocean Shore Railroad. The project area was the site of the Tunitas Depot, and the enormous trestle spanning Tunitas Creek to reach the depot became the southern terminus of the railroad, which was never completed. In the project area, several parallel rows of cement footings can be seen in the Tunitas Creek stream channel that once support the trestle and it is surmised that the railroad tracks traversed the project site, and that the existing residence was constructed on the level grade created for the railroad tracks. Up until recent years, several of the railroad worker's cottages once stood at various distances from each other along the slope that composes the southern bank of Tunitas Creek. These small houses eventually deteriorated and a succession of mudslides in the early 1980s destroyed several and rendered the two that remain uninhabitable. As described further below, the site currently supports a single-family residence, constructed circa 1958, and several of the worker cabins.

2.4.2 Existing Conditions

The project site is located adjacent to Highway 1, along a shoreline bluff, which affords panoramic views of the Pacific Ocean, Tunitas Creek Beach, and the natural landscape along this portion of the San Mateo County coast. The project site consists of a relatively flat to sloping surface, which descends from a ridge on the east down to the Pacific Ocean beach on the west. Slope inclinations within the project site vary from 1.5:1 to 4:1 (horizontal:vertical). Existing features that detract from these scenic views include overgrown and invasive, non-native vegetation, unsafe or unsanctioned social trails that erode the bluff, overhead utilities such as telephone poles and wires, and cars parking near the edge of the bluff in the existing dirt pullout.

Prior to acquisition by the County, the project site was privately-owned and developed for residential use. The site currently supports a single-family residence in poor condition. A small concrete-lined pond, associated waterfall, patio area, and ornamental landscaping surround the residence. A paved driveway connects the residential property to Highway 1. Several areas of miscellaneous trash are present, likely from illegal dumping at the site. A single cabin remains in its original location just uphill and to the east of the existing residence and is accessed via a short spur off the main driveway. Remnants of five other damaged and/or overgrown cabins are also located on the project site. All of the cabins are unsalvageable. The remainder of the project site is undeveloped.

Due to illicit activities including large parties, poaching, and vandalism of the residence, the Parks Department installed fencing and a gate closing the driveway from Highway 1 that accesses the site. However, pursuant to State law, the beach below the Mean High Tide Line is accessible to the public by other access points. Parking surveys conducted for this informal parking area found up to 63 parked vehicles on a warm sunny day with visitors remaining at the beach for about 2 hours. Approximately two thirds of visitors to the project site arrive from the southbound direction. Beachgoers also park along Tunitas Creek Road and walk under Highway 1 and along Tunitas Creek to access the beach.

2.4.3 Surrounding Land Uses

The project site is located between Tunitas Creek and Star Hill Road and west of Highway 1, which is a designated Scenic Highway. In the vicinity of the project site, Highway 1 has two lanes, carrying approximately 7,800 vehicles per day on average based on traffic counts conducted at the project site in October 2019. As indicated by the traffic count results, traffic flow is generally consistent between the north and southbound direction from 11:00 a.m. to 5:00 p.m.

Across Highway 1 to the east of the project site is the Toto Ranch/Tunitas Creek Open Space Preserve, which is owned and managed by the Midpeninsula Open Space District. This 987-acre property is an actively grazed public open space. Land further to the east consists of rural development including established ranches used primarily for beef cattle production and row crop production.

Rural semi-developed coastal lands border the site to the south. These lands are primarily grazed rangeland with associated residential/farm buildings.

Tunitas Creek borders the project site to the north. Tunitas Creek is a 6.6-mile fast-flowing perennial stream that runs from King's Mountain to the Pacific Ocean, emptying onto Tunitas Beach. The upper mouth of Tunitas Creek is located on the project site. At the mouth of the creek, the stream channel is approximately 20 feet wide and ranges from several inches to several feet deep.

The Pacific Ocean borders the site to the west.

2.5 PROJECT OBJECTIVES

The proposed project is intended to provide convenient and safe parking and access for the public to visit Tunitas Creek Beach as well as to enjoy vistas of the Pacific Ocean. Project implementation would also result in the restoration of native habitat, protection of the sensitive bluff landscape, and amelioration of erosion conditions created by use of unsanctioned social trails that descend from the top of the bluff to the beach. The project would provide outdoor education opportunities, facilities for school groups, ranger programs, and historic and cultural interpretation. With implementation of proposed improvements, including widening of the existing path, emergency services personnel would have improved access to the beach. The existing residence, which is currently in disrepair and unsound, would be removed and converted into an overlook and gathering area. In addition, vehicular safety along Highway 1 would be improved, with the addition of controlled entry/exit points along the roadway at safe sight distances.

2.6 PROJECT DESCRIPTION

The project site can generally be divided into three zones as shown in the aerial photograph in Figure 2 and noted as follows:

- Top Bluff: This area is located along Highway 1 and within the State's right-of-way and would serve as the arrival zone, parking, and overlook area. A segment of the California Coastal Trail and a trailhead for a loop trail providing access throughout the property are also located at the top bluff. Most of the proposed improvements would be located within this area of the project site.
- Mid Bluff: This area includes the site of the existing residence (to be removed) and associated improvements. Proposed development in this area would include restrooms, interpretive education opportunities, ranger shed, amphitheater, and picnic areas.
- Beach: Minimal development is proposed within the beach area with improvements focused on invasive species removal and habitat restoration.

Figure 3 illustrates the overall conceptual site plan. Each of the three project zones is described in further detail below.

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FIGURE 2

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Project Site

Tunitas Creek Beach Improvement Project Initial Study
Aerial Photograph and Proposed Improvement Zones

SOURCES: Google Earth, 9/26/2020; LSA, 2021

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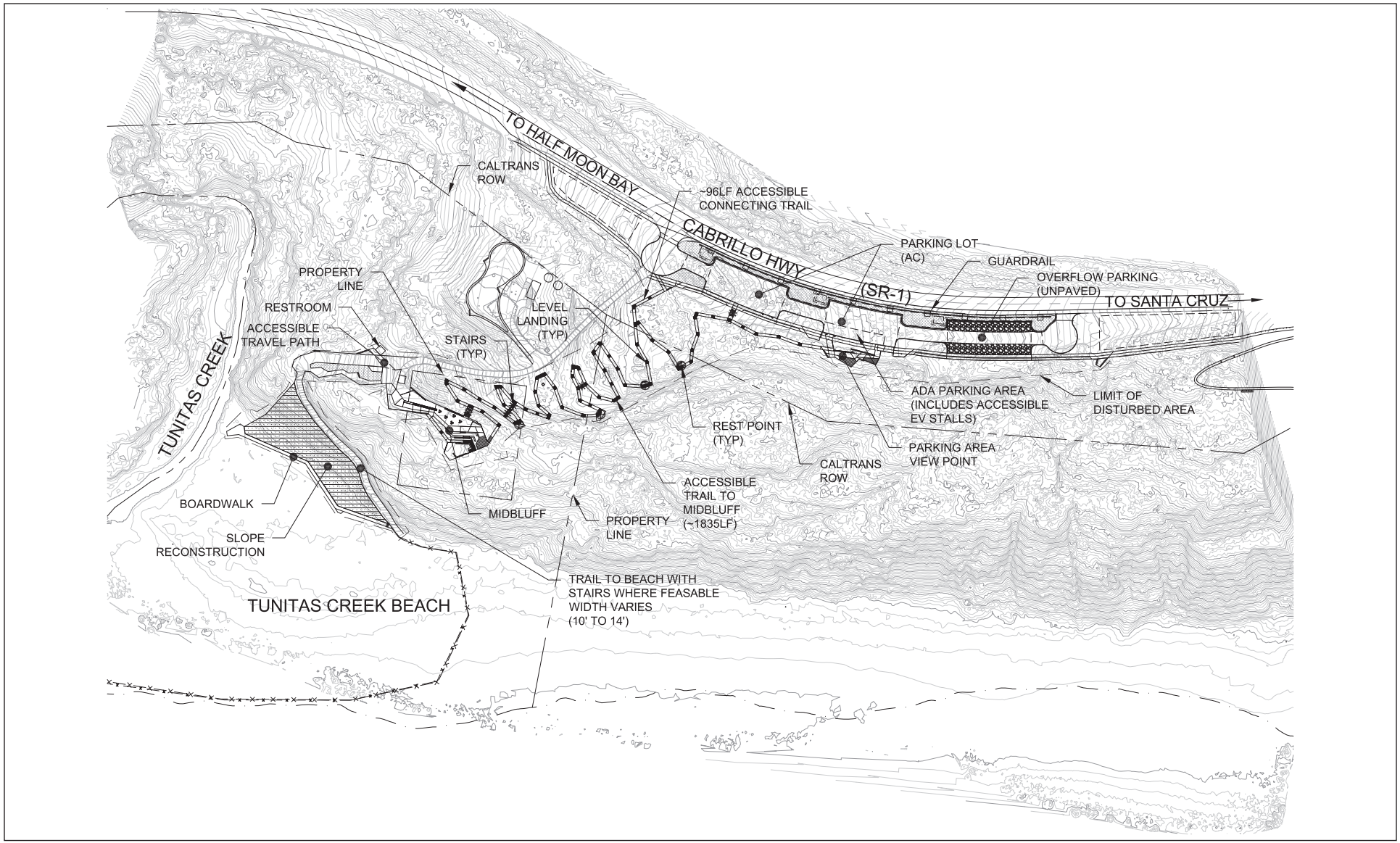

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FIGURE 3

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Tunitas Creek Beach Improvement Project Initial Study
Conceptual Site Plan

SOURCE: CSW-ST2 2021

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2.6.1 Top Bluff

In the current condition, visitors to Tunitas Creek Beach park along the shoulder of Highway 1 and climb down the bluff to the beach. As the parking area is not paved and there is no path to the beach, the climbing is treacherous and the activity erodes the bluff dislodging sediment to the Pacific Ocean. In this zone, the proposed project would include a parking area, overlooks, pathways, and stormwater quality facilities to improve public access to Tunitas Creek Beach and closure/restoration of existing social trails from the bluff to prevent further erosion down the bluff and promote safer access routes provided as part of the project (see Figure 4).

The area within the Top Bluff is located within the State of California Department of Transportation's (Caltrans) right of way. Based upon discussions with Caltrans, the Parks Department would negotiate an airspace lease agreement to use the land for proposed parking and access improvements. In addition, the Parks Department would need to secure approval from Caltrans through either an encroachment permit or approval from the Division of Design.

Within this area, the project could accommodate 80 parking stalls, including standard, accessible, electric charging and paratransit parking. This area includes the unpaved parking lot which could serve buses or other large vehicles at the southern end of the Top Bluff. If a bus parks in this location, it would occupy some of the vehicle parking stalls. A pedestrian loading/unloading zone would be located near the entrance to State Route 1 and provide a pedestrian connection to the Mid Bluff either through the accessible pathway or the existing driveway. In addition, a portion of the California Coastal Trail would be installed along the western-frontage of the proposed parking area. Safety and security lighting would be provided along pathways from the top to mid bluff and around the proposed ranger residence (described below). Light levels in the park would be kept low after hours to provide for safety/security, but are not intended to promote use of the park after the park is closed. All lights would feature light emitting diode technology for energy conservation, be night sky friendly, and operate at a temperature suitable for humans and animals. Motion sensors would be installed to intensify light levels when movement is detected. A visual rendering of proposed improvements along the Top Bluff is provided in Figure 5.

Several trails have been cut into the bluff by pedestrians walking to the beach. The project would block these trails from access with fences, installation of signage for habitat restoration, planting of native species, and installation of erosion control. Although informal access points would be closed, new accessible paths would be constructed to provide safe access down to the beach from the Top Bluff.

2.6.2 Mid Bluff

To gain access to the Mid Bluff, an accessible pedestrian pathway would be installed from the Top Bluff. Due to the significant elevation difference and the need to maintain a slope of less than 8.3 percent for accessibility, the pathway would be approximately 1,800 feet in length and be constructed of either asphalt and/or a stabilized decomposed granite. A secondary trail between the passenger loading area and the primary accessible pathway would be 95 feet in length. The pathway would include several seating areas and overlooks along the route. Lighting would be installed along the pathway. Lighting would consist of low-level bollards that would cast just enough light to enhance safety and security for trail users, while limiting light spillover. The existing paved driveway would remain but would only be accessible for vehicles operated by Parks Department staff or for emergency services.

To complete the trail, the project would remove four trees that include Monterey cypress or Monterey pine trees. These trees have a circumference of 38 inches or greater and are considered a Significant Tree in accordance with San Mateo County Ordinance Code. However, the Parks Department would review all trees prior to construction to determine their health. For any trees an arborist finds to be in fair or poor condition, the Parks Department would remove them prior to construction. For all trees removed, the project would obtain a Tree Cutting Permit from the County's Planning Division. A previous biological investigation of the site completed by H.T Harvey and Associates found that as there are no native stands of Monterey cypress and Monterey Pine trees within the property, they are not considered rare trees by the California Native Plant Society. All trees within the project area that are not removed, would be trimmed to remove low level and/ or dead limbs. The trimming would be completed under the supervision of an arborist.

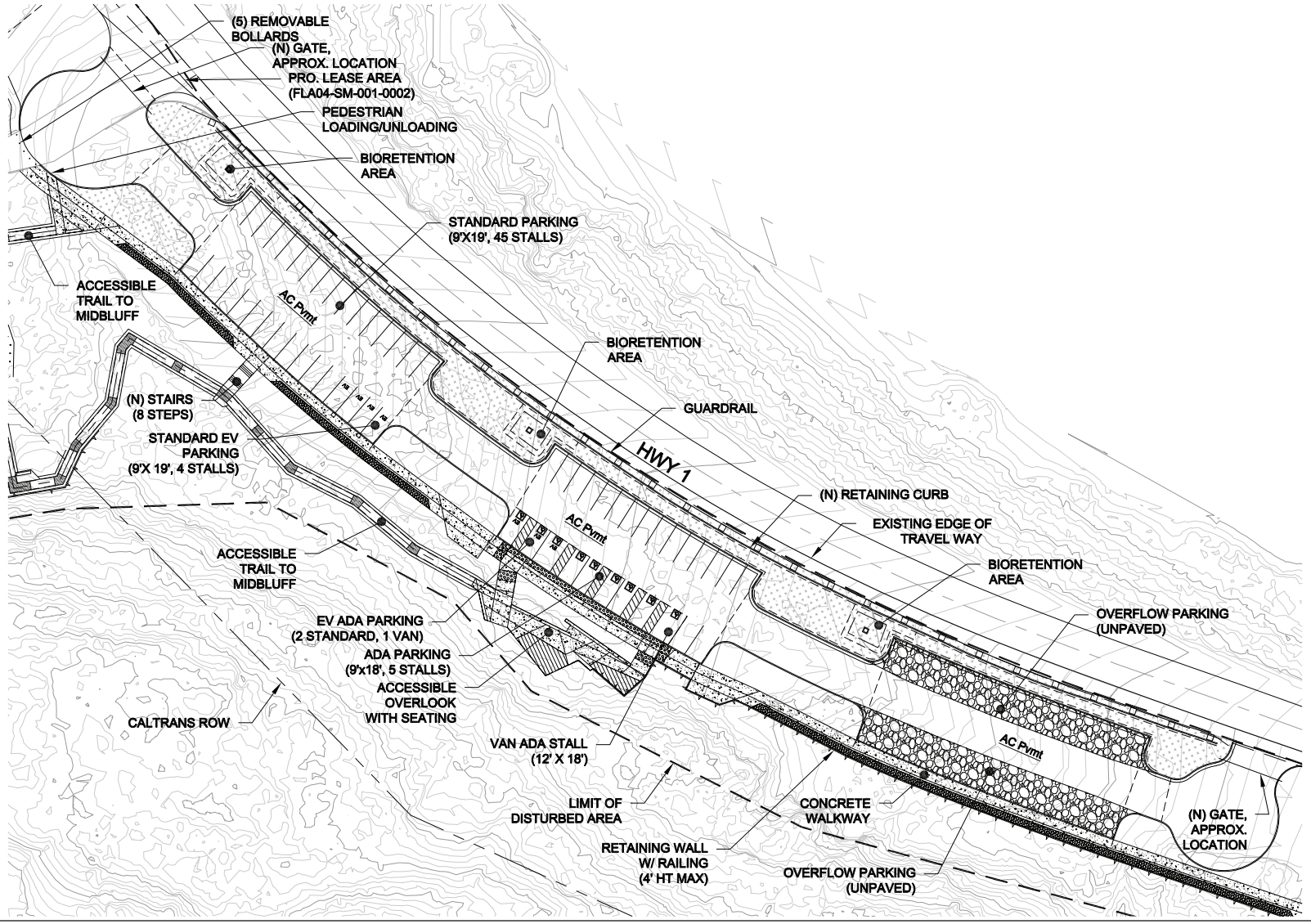

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FIGURE 4

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Tunitas Creek Beach Improvement Project Initial Study

Proposed Improvements - Top Bluff

SOURCE: CSW-ST2 2021

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① Indigenous Peoples land acknowledgment plaque

② Seating areas

③ Existing planting to remain

④ Paved walkway

⑤ Pedestrian access to mid-bluff

⑥ ADA Parking

⑦ Existing utility poles and wires to be undergrounded or relocated

Existing Site Conditions

LSA

FIGURE 5

Tunitas Creek Beach Improvement Project Initial Study
Rendering - Top Bluff

SOURCE: CSW-ST2 2021

P:\STU1902 Tunitas Creek Beach\PRODUCTS\Figures\Figure 5.ai (5/28/2021)

The Mid Bluff would be designed to serve as a gathering point for visitors. The existing residence at the site would be demolished and an overlook amphitheater would be constructed in its place. The amphitheater could be used to provide educational programs regarding Tunitas Creek Beach and the coastline, or for casual gathering and viewing. The Mid Bluff would also include picnic areas and restrooms, and a small ranger shed for use by Parks Department staff. Figure 6 shows the proposed layout of improvements in the Mid Bluff. Visual renderings of proposed improvements are provided in Figures 7A and 7B.

The restroom building would accommodate at a minimum two single-occupant unisex waterless restrooms able to serve up to 90 users per hour. A concrete vault integral to the restroom would store wastewater. The ranger shed would be a building used to hold tools and equipment for maintaining the park. All buildings would be pre-fabricated, or site constructed structures set atop concrete slabs.

A loop trail would be created to connect the parking area at the Top Bluff to the beach, extending through the southern portion of the project site. The trail would consist of an approximately 4-foot-wide, unpaved trail. The loop trail would require a stream crossing, which could either consists of a rock ford or a clear span bridge. The final crossing design would be determined as part of the final design for the proposed improvements. In addition, the project would install a short nature walk north of the main driveway, leading to flexible group programming space. This trail would also be an approximately 4-foot-wide, surfaced with stabilized decomposed granite, with educational signage along the route. In addition, the trail would feature benches at lookouts along the route. Figure 8 shows the proposed loop trail to the beach.

Currently, a 10-foot-wide unpaved trail leads down to the beach from the Mid Bluff and cuts through the slope between two active landslides. As part of the proposed project, this existing trail would be widened and timber steps would be installed to facilitate pedestrian access, while keeping a lane for emergency vehicles. To repair the slope and accommodate the trail widening, the Parks Department proposes to either: 1) remove the landslide debris and rebuild the slope, thereby reducing the slope of the hillside by shifting the toe of the slope westward by approximately 5 feet; or 2) install a retaining wall with anchors to support the slope.

As shown in Figure 6, a ranger residence is proposed in the Mid Bluff area. This residence would serve a Parks Department ranger who would live on the site full time acting as a caretaker. The residence would be a prefabricated structure of about 1,200 square feet, equipped with sprinklers for fire suppression. Additionally, the residence may include solar panels to reduce energy demands. In order to construct the residence, a potable water source would be required. Provision of potable water to the proposed ranger residence is further described in Section 2.6.4.2. Should the project not be able to secure a source of potable water, the ranger residence would not be constructed. In this case, the Parks Department would install a video surveillance system that activates upon detecting motion when the Park is closed to the public. The on-duty ranger would receive notifications from the system and coordinate with the County Sheriff's Office to respond to the site.

2.6.3 Beach

Within the beach area, the Parks Department proposes to remove invasive species and install a wooden boardwalk as illustrated in Figure 9. The boardwalk would be constructed of timber placed atop or slightly embedded within the sand. The primary purpose of the boardwalk is to facilitate users' access to view Tunitas Creek from the beach while minimizing impacts to the beach and creek habitat. Educational signage would be included along the boardwalk, with seating available in select locations. Consistent with the recommendations in the Western Snowy Plover Avoidance and Minimization plan, potential breeding areas for snowy plover would be identified prior to the breeding season. These areas would be delineated using temporary signage to alert beach visitors to the potential presence of western snowy plover and explaining the sensitivity of the area. Breeding areas may also be further delineated using a rope line tied to t-posts or stakes to prevent intrusion during the breeding season.

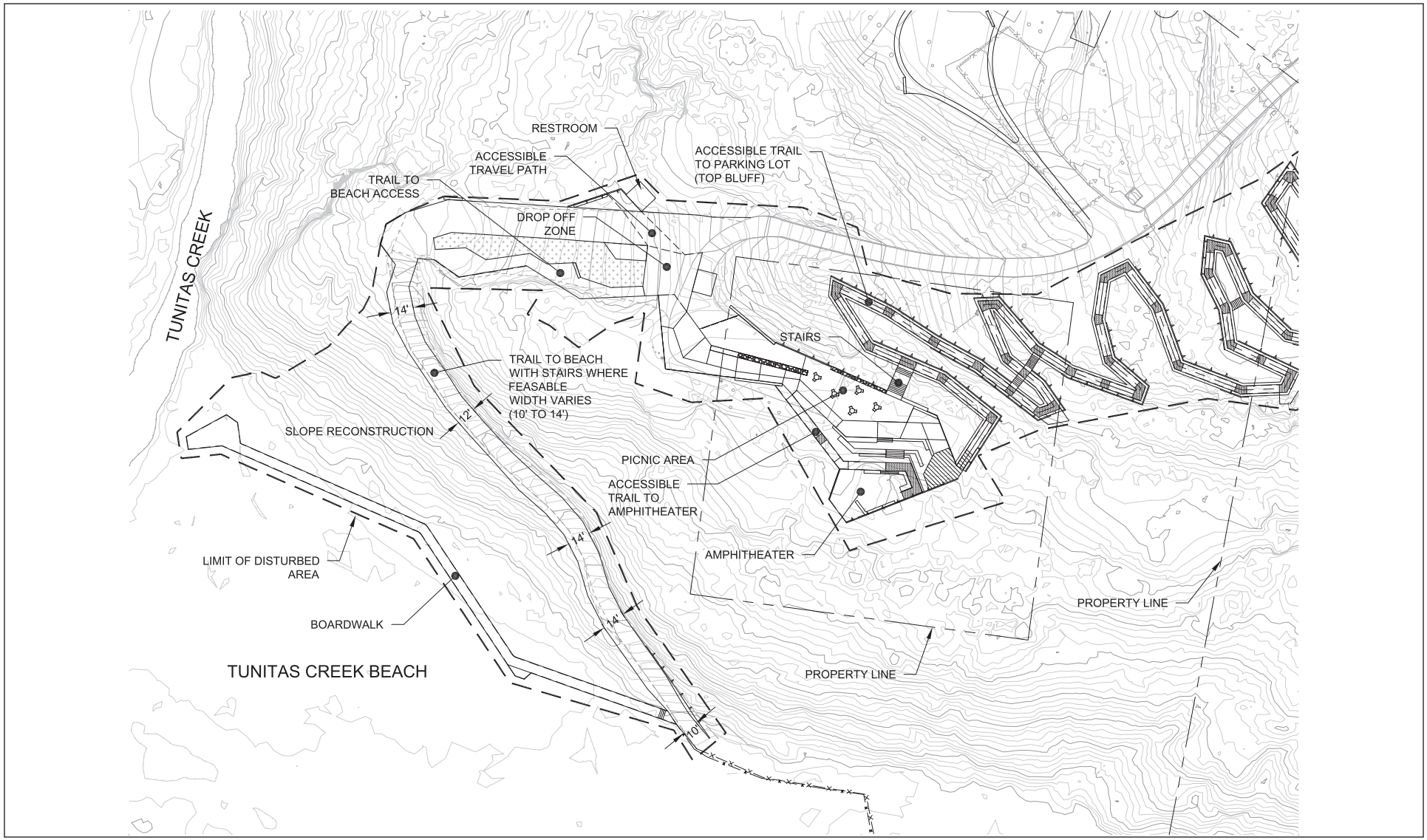

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FIGURE 6

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Tunitas Creek Beach Improvement Project Initial Study
Proposed Improvements - Mid Bluff

SOURCE: CSW-ST2 2021

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1. ADA accessible pedestrian path to the mid-bluff
2. Overlook to beach and southern bluffs
3. Tiered seating space, interpretive panels, and overlook point
4. Picnic Area
5. Grove and seating area with interpretive panels
6. Access driveway for rangers and emergency vehicles
7. Ranger station and storage area
8. Public restroom
9. Restored native planting
10. Access to beach

Existing Mid-Bluff Conditions

LSA

FIGURE 7A

Tunitas Creek Beach Improvement Project Initial Study
Rendering - Mid Bluff

SOURCE: CSW-ST2 2021

P:\STU1902 Tunitas Creek Beach\PRODUCTS\Figures\Figure 7A.ai (5/28/2021)

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FIGURE 7B

Tunitas Creek Beach Improvement Project Initial Study
Rendering - Mid Bluff

SOURCE: CSW-ST2 2021

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Full Loop Trail Around Tunitas Creek Beach

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FIGURE 8

Tunitas Creek Beach Improvement Project Initial Study
Rendering - Proposed Loop Trail

SOURCE: CSW-ST2 2021

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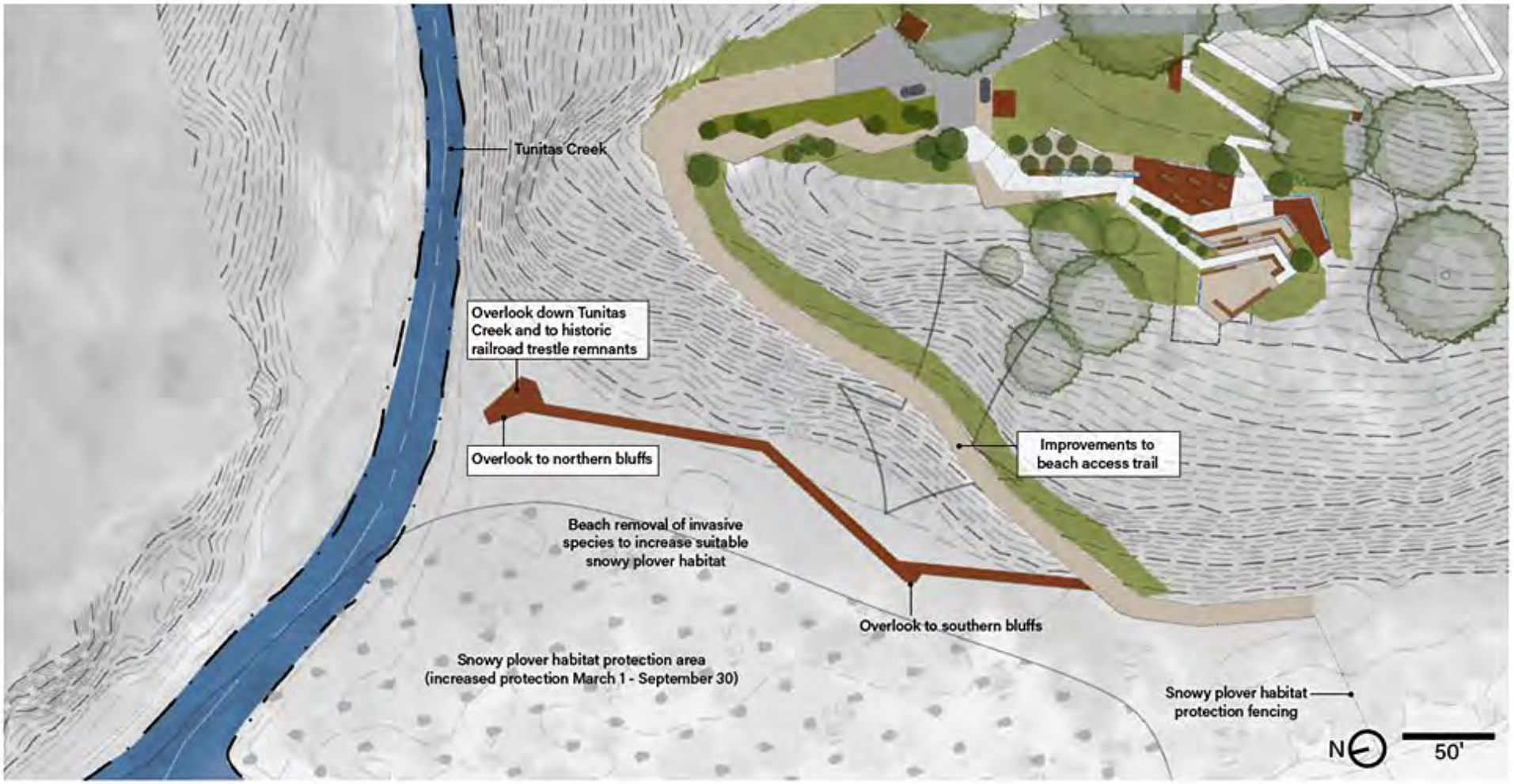

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FIGURE 9

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SOURCE: CSW-ST2 2021

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Tunitas Creek Beach Improvement Project Initial Study
Proposed Improvements - Beach

2.6.4 Utilities and Infrastructure

Utility improvements would be required to accommodate development of park facilities and improvements. Proposed utility infrastructure improvements are described below.

2.6.4.1 Stormwater. The project would be designed to manage stormwater in compliance with the County's Clean Water Program. In addition, runoff would be managed to prevent erosion, as well as reduce the potential to destabilize the bluff. The project would direct stormwater runoff from the parking area to a series of bioretention areas designed for pollutant removal. Stormwater from the accessible trail and mid-bluff area would be directed to adjacent vegetated areas, which would dissipate runoff and remove pollutants. The parking area stormwater runoff would be released at three outfalls that include dissipaters. These dissipaters slow the velocity of runoff to less than one foot per second, which prevents soil erosion.

The Tunitas Creak Beach project site is divided into five (5) watersheds (Figure 10[1]). Implementation of proposed improvements would result in an increase in peak discharge from the watershed that includes the northern area of the parking lot, path from the parking lot to the mid bluff and other mid bluff improvements. All other watershed peak discharge rates would remain the same or be reduced with implementation of the proposed project.

Proposed improvements would result in changes to the drainage patterns and the amount of impervious surface at the site. However, because stormwater from the parking lot area is captured, routed to bioretention areas, and piped to discharge at several locations along the bluff, runoff would be collected and conveyed at a faster rate than the remainder of the watershed. As a result, the peak discharge rates for the parking lot and the remaining watershed occur at different times within a storm event. The parking lot flows would be piped down the bluff, while stormwater in other areas of the watershed would flow in a less concentrated manner. The combined impact of the parking lot and the remaining watershed is less than the peak discharge rate of the predevelopment conditions.

In the existing condition, runoff from the informal parking area at the top of the bluff flows to the north and down the driveway towards the active landslide above Tunitas Creek. This condition likely resulted from the development of Highway 1 and the existing residence at the site. The proposed improvements would restore the pre-development drainage patterns by dispersing runoff across the bluff. The restoration of drainage patterns would reduce the amount of stormwater runoff being concentrated and discharged to the active slide area at Tunitas Creek. Figure 11 shows the proposed stormwater improvements.

2.6.4.2 Water. Other than the residence, proposed uses at the park would require minimal water and would likely be brought to the site by truck. These uses would include water to irrigate the drought tolerant landscaping until it establishes and water to clean the restrooms.

As required by County of San Mateo Local Coastal Program (LCP) policies, the ranger residence must have a reliable potable water supply. There is no municipal potable water source at the project site. The off-site spring, which previously supplied the on-site residence, no longer provides potable water. Previous investigations complete at the site identified no groundwater to depths as much as 400 feet below ground surface (bgs).

To provide potable water for the proposed ranger residence, the project proposes to extract raw water from Tunitas Creek, if the rights to extract water from Tunitas Creek can be obtained. This would likely be accomplished by a Small Domestic Permit as administered by the State of California Water Resources Control Board, which allows a maximum extraction of 4,500 gallons per day. The proposed water system would include installation of a well either adjacent to or within the creek to sufficient depth to provide the minimum water supply necessary to support the residence. Alternatively, the project would install an intake directly within the creek.

[1] Please note that the beach area, totaling approximately 14 acres, is not included in the watershed acreages shown in Figure 10, as this area is the discharge point for stormwater runoff and is not included in the discharge calculations prepared for the project site.

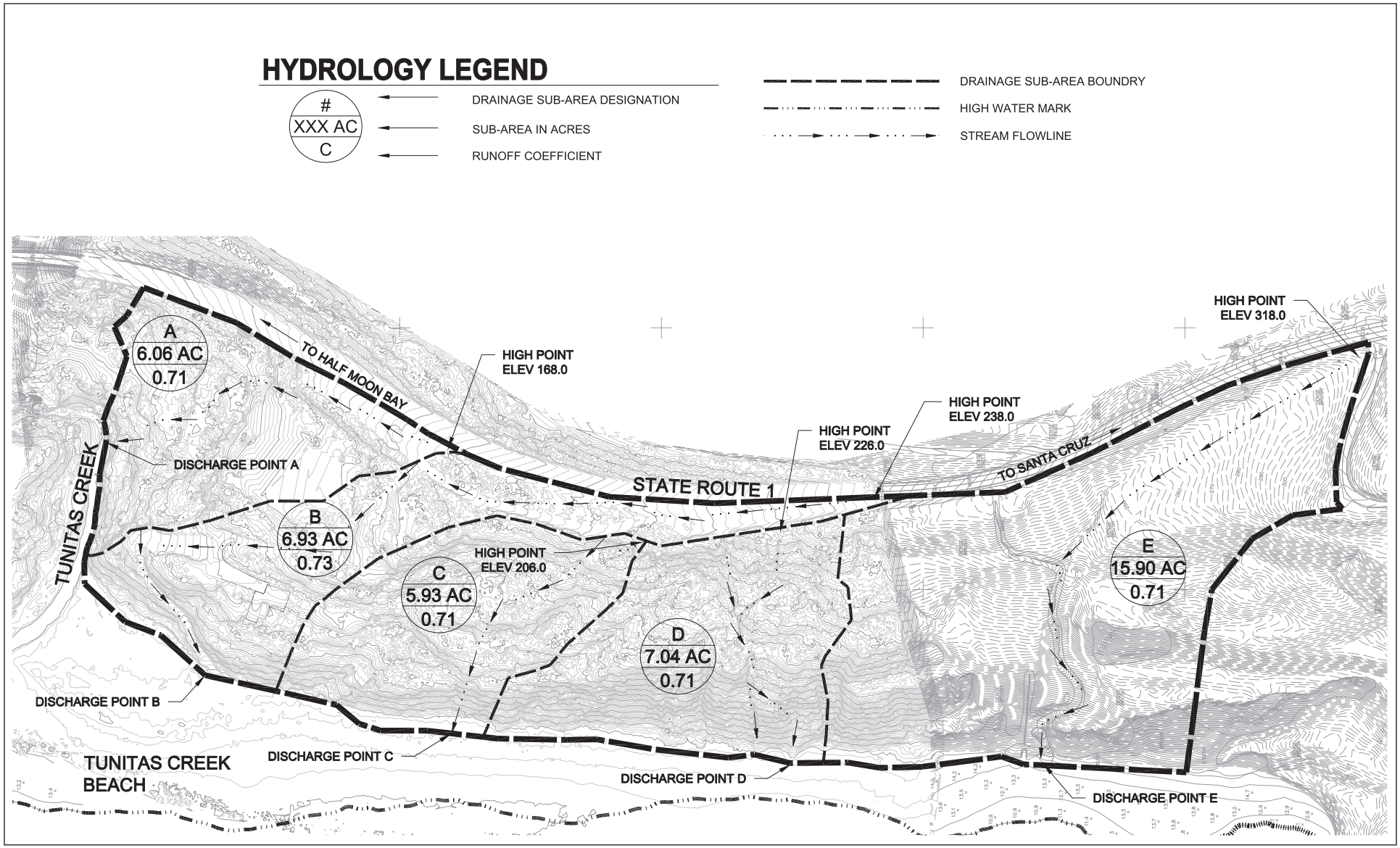

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FIGURE 10

NOT TO SCALE

N

Tunitas Creek Beach Improvement Project Initial Study
Existing Hydrology

SOURCE: CSW-ST2, 2021

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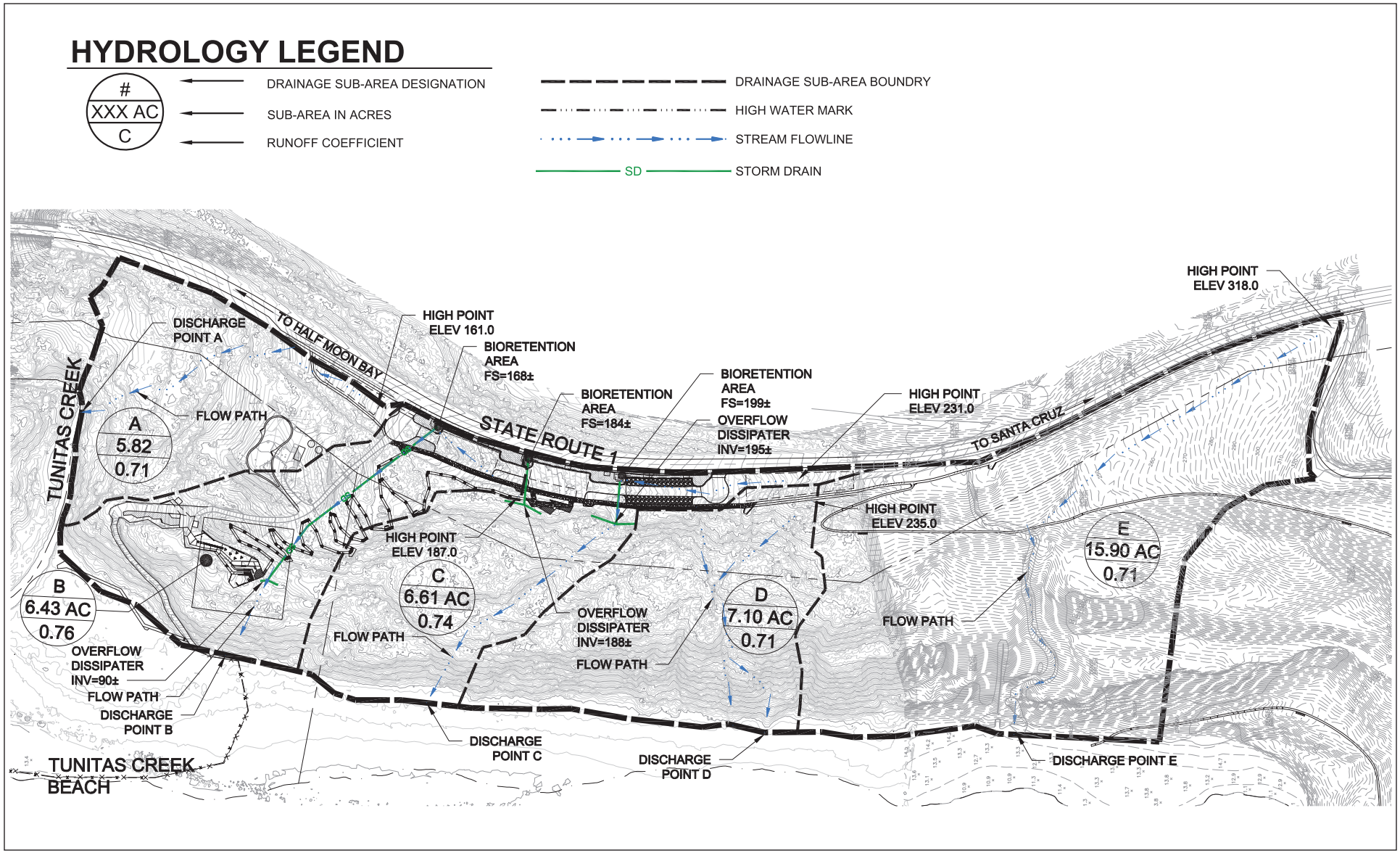

LSA

FIGURE 11

NOT TO SCALE

Tunitas Creek Beach Improvement Project Initial Study
Proposed Stormwater Improvements

SOURCE: CSW-ST2 2021

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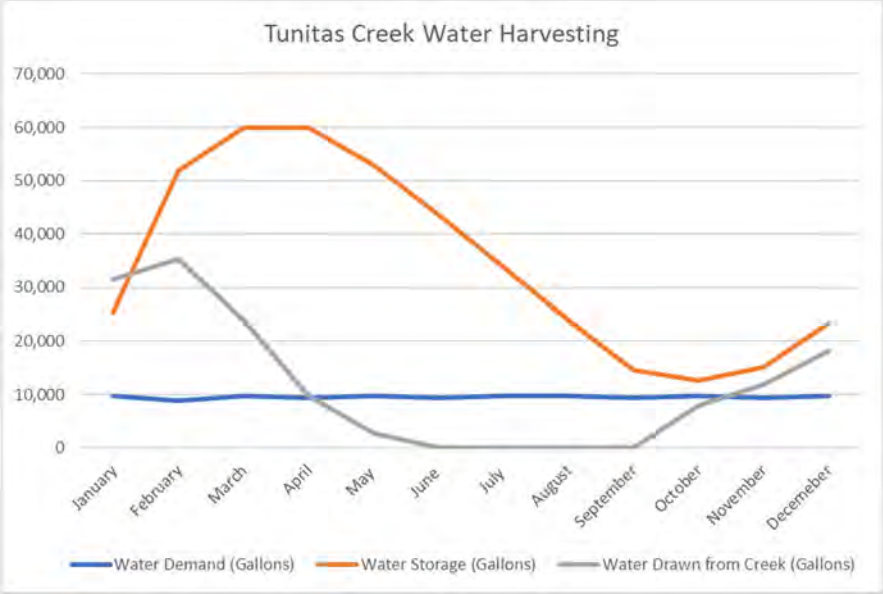
In accordance with LCP policies, the ranger residence would require approximately 315 gallons of potable water per day. Furthermore, in accordance with Section 4.68.190 of the San Mateo County Ordinance, the project site would need to store a minimum of 1,250 gallons of water at all times. In addition, approximately 2,355 gallons of water would need to be stored for emergency fire use, resulting in a total of 3,605 gallons of water for persistent storage.

According to the Water Supply and Demand Memorandum prepared by CSW,[2] a maximum of about 35,000 gallons of raw water would be taken from Tunitas Creek during the month of February and no water would be drawn from the creek during the dry season (June-September). The water taken is assumed to originate from the creek's ground water. An illustration of annual water consumption, storage, and draw from the creek assuming an initial storage in the month of January is 3,605 gallons is shown below.



From the well head, the raw water would be transported upslope via a pump system through a pipe anchored to the top of ground to an area adjacent to the residence where the water can be treated and stored. As the raw water may contain minerals, particles, bacteria, and or/ parasites, it would then be processed using a small treatment system. The treatment system would include a series of filters or reverse osmosis as well as either ultraviolet light or ozone to disinfect the raw water for potable use. The project would store the water for both fire and domestic use in two 30,000-gallon tanks that are about 30 feet in diameter and 15 feet tall (Figures 12A and 12B). The tanks are appropriately sized to store water during dry periods of the year. The fire water would serve as potable water to periodically flush the tanks.

Alternatively, the project may bring potable water to the site by truck. It is unclear, however, whether such uses is permissible under current California law. The project would require a maximum of two water trucks with a capacity of 5,000 gallon each to supply the residence each month.

2.6.4.3 Wastewater. The new public restrooms would include vaults for storage of wastewater. The wastewater would then be removed by truck and disposed of at the nearest wastewater treatment facility. The Parks Department currently provides this service for its restrooms at other parks within the County. On average, the Parks Department removes wastewater from a typical 500-gallon storage tank serving a restroom monthly. Wastewater generated by the public restroom would be variable and based upon visitors to the park. The Parks Department estimates the average wastewater demand to be 150 gallons per week for the public restrooms.

[2] CSW/Stuber-Stroeh Engineering Group, Inc. 2020. Water Supply and Demand for Tunitas Creek Beach Improvements. November 6.

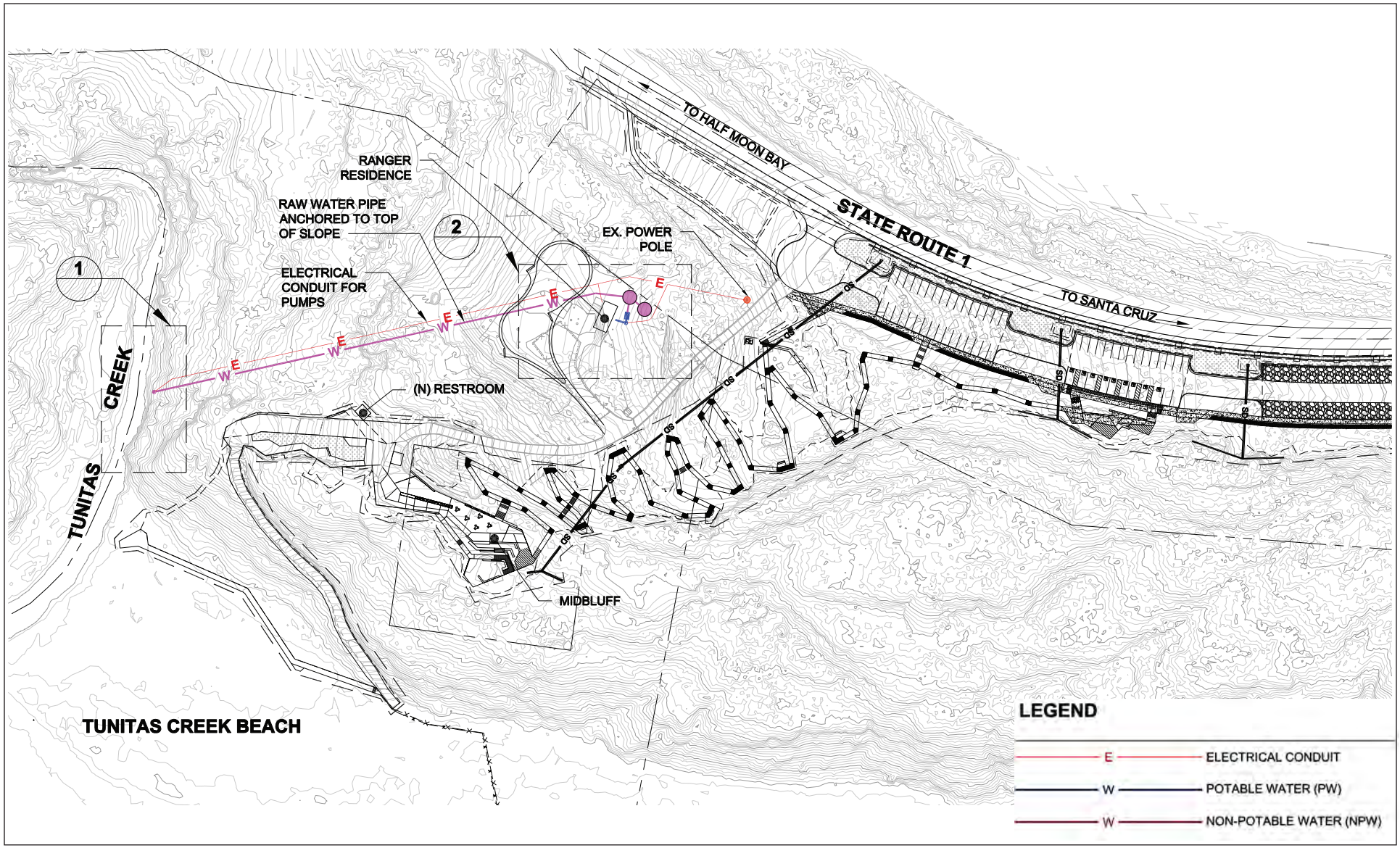


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FIGURE 12A

NOT TO SCALE

SOURCE: CSW-ST2, 2021

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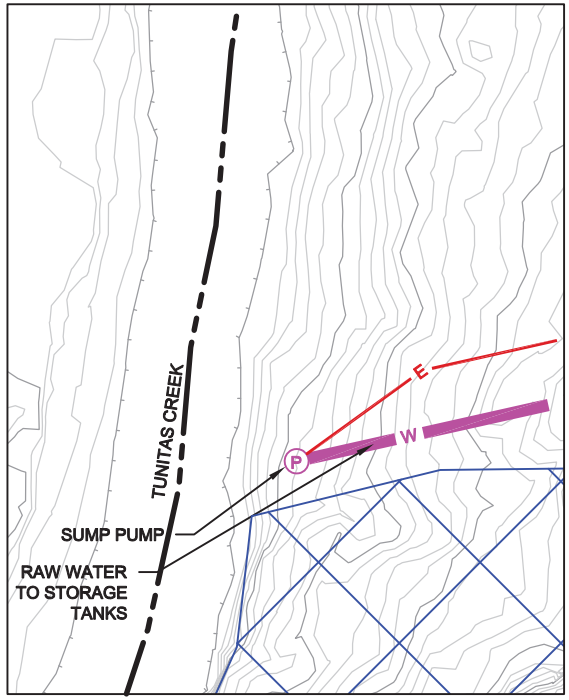
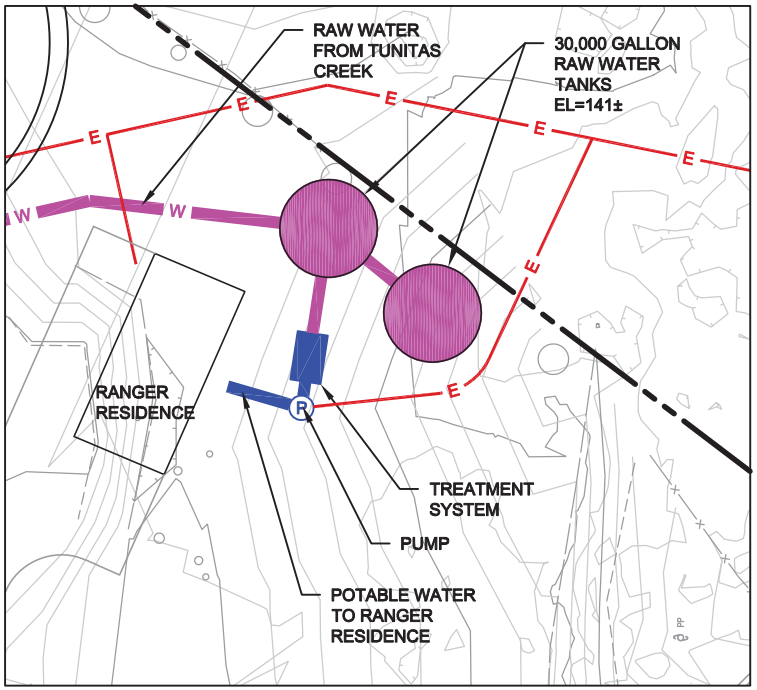
Tunitas Creek Beach Improvement Project Initial Study
Proposed Water Supply System



1 SUMP PUMP AT CREEK ENLARGEMENT



2 WATER TANK ENLARGMENT

LEGEND

- E — ELECTRICAL CONDUIT
- W — POTABLE WATER (PW)
- W — NON-POTABLE WATER (NPW)
- (P) — PUMP

LSA

FIGURE 12B

NOT TO SCALE

SOURCE: CSW-ST2, 2021

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Tunitas Creek Beach Improvement Project Initial Study
Proposed Water Supply System - Enlargement

The residence would generate approximately 315 gallons of wastewater daily. The County would consider installing a septic system to treat wastewater consistent with the requirements of San Mateo County's Environmental Health Department. If it is found infeasible to develop a septic system, the wastewater would be collected in a vault and disposed in a wastewater treatment facility similar to the public restroom. In this case, the total volume of wastewater generated by both the public restrooms and ranger residence are anticipated to be about 2,400 gallons per week.

2.6.4.4 Utility Undergrounding. The existing overhead electrical and communications lines along the top of the bluff would be relocated and placed underground to enhance scenic vistas at the project site.

2.6.4.5 Electrical Service. To accommodate the development, the project would install new electrical conductors to support vehicle charging stations, the ranger residence, shed, and lighting for the access path to the mid bluff. This may require either upsizing the existing 400 ampere 120/240 volt electrical service at the site or adding a secondary service from Pacific Gas and Electric.

2.6.5 Habitat Restoration

As part of the proposed project, invasive species would be removed within the project limits to the maximum extent feasible. A component of the invasive species removal includes Eucalyptus and Palm trees varying from less than 1 inch to more than three feet in diameter that are located within the project area. All areas disturbed by grading activities would be restored using a hydroseed with a seed mix appropriate for coastal San Mateo County. In addition, as described above in Section 2.6.1, as part of the proposed project, existing trails that have been cut into the bluff would be blocked from access with fences, installation of signage for habitat restoration, planting of native species, and installation of erosion control.

2.5.6 Project Construction

The duration of construction is anticipated to require approximately 6 months. However, due to environmental resources and other restrictions that limit the time of construction, the work may be completed over a two-year period. Construction would require use of standard equipment to complete the grading, slope stabilization, and related park amenities. The following summarizes the equipment used for the various elements and anticipated duration:

Site Clearing, Slope Stabilization, and Rough Grading – 12 week duration

- Bulldozer Caterpillar D5 or similar
- Excavator Caterpillar 325 or similar
- Soil Compactor Caterpillar 815 or similar
- Scraper Caterpillar 623k or similar
- Off highway truck Caterpillar 725 or similar
- Water truck

Utilities and General Site Work – 10 week duration

- Backhoe Caterpillar 415 or similar
- Skidsteer Caterpillar 289D3 or similar
- Mini Excavator Caterpillar 301.8 or similar
- 480 Trail Dozer Seco or similar
- Water truck

Final site preparation including installation of the prefabricated ranger residence, restroom, and ranger shed and paving – 4 week duration

- Motor Grader Caterpillar 120 or similar
- Aggregate base Compactor Caterpillar CS10GC or similar
- Asphalt Paver Caterpillar AP355F or similar
- Two Asphalt Rollers Caterpillar CB36B or similar
- Water truck

Construction would occur daily during daylight hours, from approximately 7:30 a.m. to 5:00 p.m. Construction staging would occur on the project site. Construction workers, equipment, and deliveries would access the site via Highway 1. During project construction, the top bluff would be closed to public access. Fencing would be installed along the perimeter of the construction area, including along portions of the beach that would be affected by construction activities. Although the park site is currently closed to the public, visitors currently access the beach from the informal parking area along Highway 1. However, the public would not be able to access the beach from the top of the bluff throughout the approximately 6-month construction period.

The project would require earthwork to facilitate construction of the parking lot, pathways and related amenities. If the pathway to the beach is repaired by grading, the total cut would be 14,500 cubic yards (CY) and the fill would be 10,500 CY, resulting in 4,000 CY of export requiring approximately 400 truck trips from the project site. If the pathway to the beach is repaired by retaining wall, the total cut would be 10,000 CY and the fill would be 3,500 CY resulting in 6,500 CY of export requiring approximately 650 truck trips from the project site. All volumes presented are in-place quantities.

The average depth of excavation to complete the trail and parking improvements would be 4 feet. If the project repairs the landslides along the trail to the beach by grading, this would result in cuts of 10, 12, and 15 feet for the slides labelled as 1, 2, and 3 in Figure 12C. The project would rebuild the slope in a series of compacted buttress fills that slightly extend the toe of the slope improving its stability. Buried within the fill, the project would install geogrids to help stabilize the slope. The geogrid would be composed of either high density polyethylene or steel coated in polyethylene.

For the landslide repair, the contractor would store a total of 5,000 cubic yards of soil in the beach area near the toe of slope in the area where invasive plants will be removed. Prior to stockpiling soil, the contractor would clear invasive vegetation from the area. . As the slides would be individually repaired, the maximum amount of soil stored on the beach at any one time would be as shown in Figure 12C for a period of about five days. Once removed, the beach would be re-graded to the existing condition.

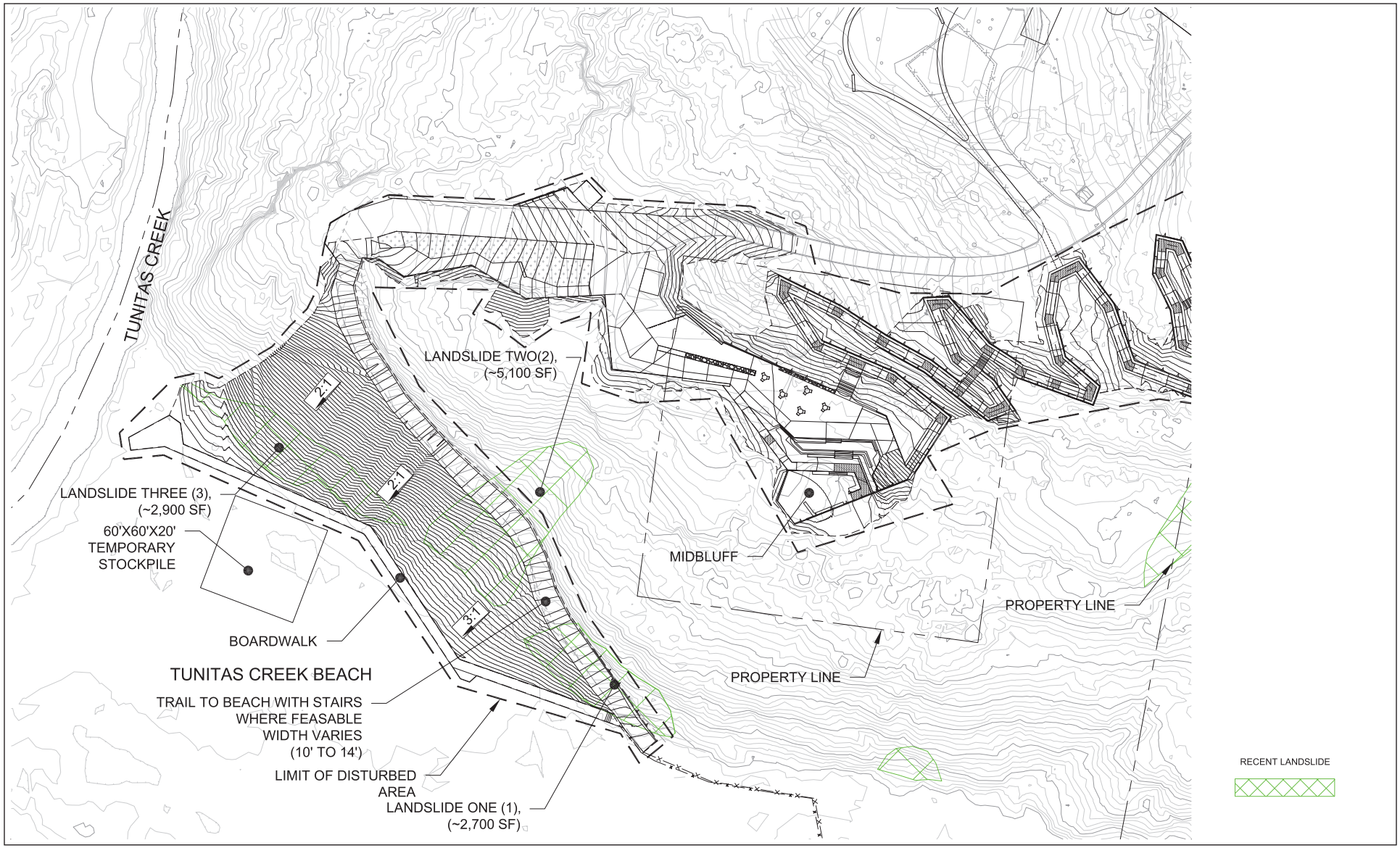
2.6.7 Park Operation, Maintenance and Management

Parks Department staff would operate Tunitas Creek Beach Park consistent with current Parks Department regulations, as outlined in Chapter 3.68, County Park and Recreation Area Rules, of the San Mateo County Ordinance Code. Operating hours for the proposed park would be consistent with County Parks and Recreational Policy Number 400. Consistent with current Parks Department policies, the proposed park would open at 8:00 a.m. every day and close as follows:

- December to February: 5:00 p.m.
- March 6:00 p.m. (before Daylight Savings Time starts)
- March 7:00 p.m. (after Daylight Savings Time starts)
- April to August 8:00 p.m.
- September 8:00 p.m. (through Labor Day)
- September 7:00 p.m. (after Labor Day)
- October 7:00 p.m. (first week of October)

Parks Department staff would regulate access to the site. However, the beach area located below the Mean High Tide Line is public trust land, which cannot be closed to public access.

Parks Department staff would operate and maintain the park for the public's use consistent with the *Routine Maintenance Program Manual* (Maintenance Manual) dated July 2020. This manual provides guidance for protection of biological resources, vegetation management, and repairs to roads and trails. Primary maintenance activities include vegetation management and sediment removal along roads, trails, ditches, swales, and low impact development features; culvert repair/replacements; bank stabilization; and maintenance and cleaning of park facilities.



LSA

FIGURE 12C

NOT TO SCALE

Tunitas Creek Beach Improvement Project Initial Study
Proposed Slope Repair

SOURCE: CSW-ST2, 2021

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The Maintenance Manual identifies maintenance objectives, outcomes, and standards; describes natural resources in the Program area and specific conditions at sites where routine maintenance is anticipated; provides guidance and updated Best Management Practices (BMPs) to avoid and minimize potential environmental impacts during maintenance; describes countywide impact mitigation approaches; and details administration and reporting activities. The Maintenance Manual underwent CEQA review and the County certified the Final Environmental Impact Report in December 2020.

As described above, a full time Parks Department employee may reside on the site to act as a caretaker. Should it not be feasible to install the residence, a video surveillance system would be installed to notify the Parks Department staff of intrusion to the site during non-operating hours. Notification of intrusion would be routed to Parks Department staff and the County Sheriff's Office.

2.6.8 Best Management Practices and Conservation Measures

During construction, operation and maintenance of the proposed park, standard BMPs identified in the Maintenance Manual would be implemented to minimize impacts on environmental resources; these BMPs are incorporated by reference and included in Appendix A. Use of these preventative measures are an integral part of the maintenance procedures followed by the County.

In addition, the Parks Department and the project contractor would implement standard stormwater and erosion control BMPs, as outlined in the County of San Mateo Watershed Protection Program's Maintenance Standards (2004), the San Mateo Countywide Water Pollution Prevention Program (SMCWPPP) Construction BMPs (2021), the California Stormwater Quality Association Stormwater Best Management Practice Handbook (2003), and Caltrans' Construction Site Best Management Practices (BMPs) Manual and the Stormwater Pollution Prevention Plan (SWPPP) and Water Pollution Control Program (WPCP) Preparation Manual. Implementation of these BMPs would be in compliance with the State Water Resources Control Board's NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, as amended by 2010-0014-DWG and 2012-0006-DWQ, NPDES No. CAS000002) (Construction General Permit).

CHAPTER 3. ENVIRONMENTAL EVALUATION

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

None of the environmental factors listed below would be potentially affected by this project; all impacts would be less than significant or less than significant with mitigation, as indicated by the checklist in Chapter 3. Sources used for analysis of environmental effects are cited in the checklist and listed in Chapter 4 References.

☐ Aesthetics	☐ Agricultural Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Geology/Soils
☐ Hazards/Hazardous Materials	☐ Hydrology/Water Quality	☐ Land Use/Planning
☐ Mineral Resources	☐ Noise	☐ Population/Housing
☐ Public Services	☐ Recreation	☐ Transportation/Traffic
☐ Utilities/Service Systems	☐ Mandatory Findings of Significance	

DETERMINATION

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

mario nastari
Signature

October 26, 2021
date

Mario Nastari
Printed Name

San Mateo County Parks Department
for

EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on project-specific screening analysis).

2. All answers must take into account the whole action involved, including offsite as well as onsite, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level mitigation measures.

5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
   a) Earlier Analysis Used. Identify and state where they are available for review.

   b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

   c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures, which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project’s environmental effects in whatever format is selected.

9. The explanation of each issue should identify:
   a) The significance criteria or threshold, if any, used to evaluate each question; and

   b) The mitigation measure identified, if any, to reduce the impact to less than significance.

ENVIRONMENTAL SETTING AND IMPACTS

The following section describes the environmental setting and identifies the environmental impacts anticipated from implementation of the proposed project. The criteria provided in the CEQA environmental checklist was used to identify potentially significant environmental impacts associated with the project. Sources used for the environmental analysis are cited in the checklist and listed in Chapter 4 of this Initial Study.

3.1. AESTHETICS

Thresholds per CEQA Checklist

ENVIRONMENTAL IMPACTS	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Source(s)
Except as provided in Public Resources Code Section 21099, would the project:					
a) Have a substantial adverse effect on a scenic vista?			X		1, 2, 37
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway			X		1, 2, 37
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?			X		1, 2, 37
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			X		1, 2

Explanation
The project site is located along a shoreline bluff, which affords panoramic views of the Pacific Ocean, Tunitas Creek Beach, and the natural landscape along this portion of the San Mateo County coast. Figures 13 through 17 illustrate the existing views from some key view corridors at the project site. As shown in Figure 13, the view from the existing vehicle turnout in the Top Bluff zone provides scenic views of the beach, as well as the bluffs to the north. The existing overhead utility lines and dense shrub vegetation along the bluff edge are also prominent visual features. Like View Corridor 1, View Corridor 2 (Figure 14) provides scenic views of the beach and the vegetation along the bluff edge.

View Corridor 3 (Figure 15) shows the existing viewshed, moving away from the Top Bluff to the Mid Bluff area along the existing paved driveway. The mixture of ornamental and native trees are visible in this portion of the project site, as well as the existing overhead utility lines. View Corridor 5 (Figure 16) represents the primary view from the Mid Bluff area to the north toward Tunitas Creek. This figure illustrates the views for visitors as they use the existing gravel path to move from the Mid Bluff area to the beach. View Corridor 8 (Figure 17) shows existing views to the north, south, and east from the beach.

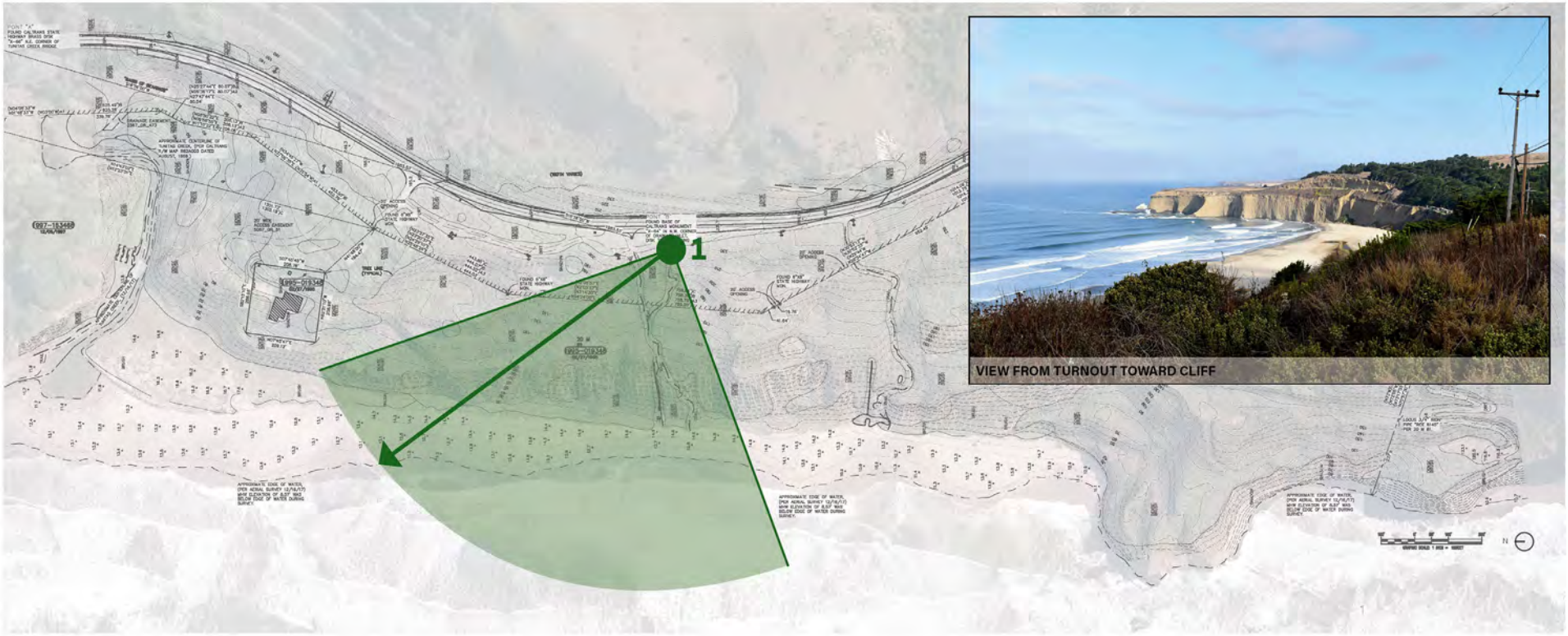

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FIGURE 13

N

0 100 200

FEET

Tunitas Creek Beach Improvement Project Initial Study

View Corridor 1

SOURCE: CSW-ST2 2021

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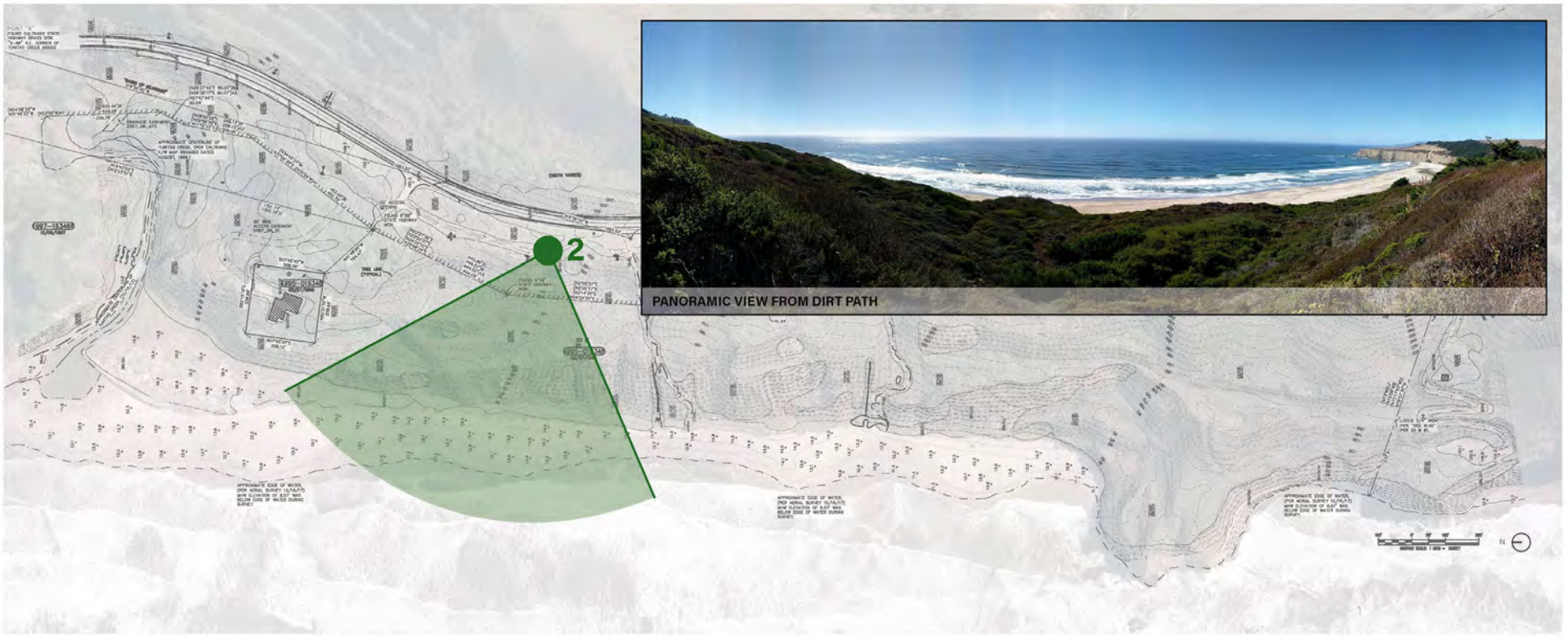

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FIGURE 14

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Tunitas Creek Beach Improvement Project Initial Study
View Corridor 2

SOURCE: CSW-ST2 2021

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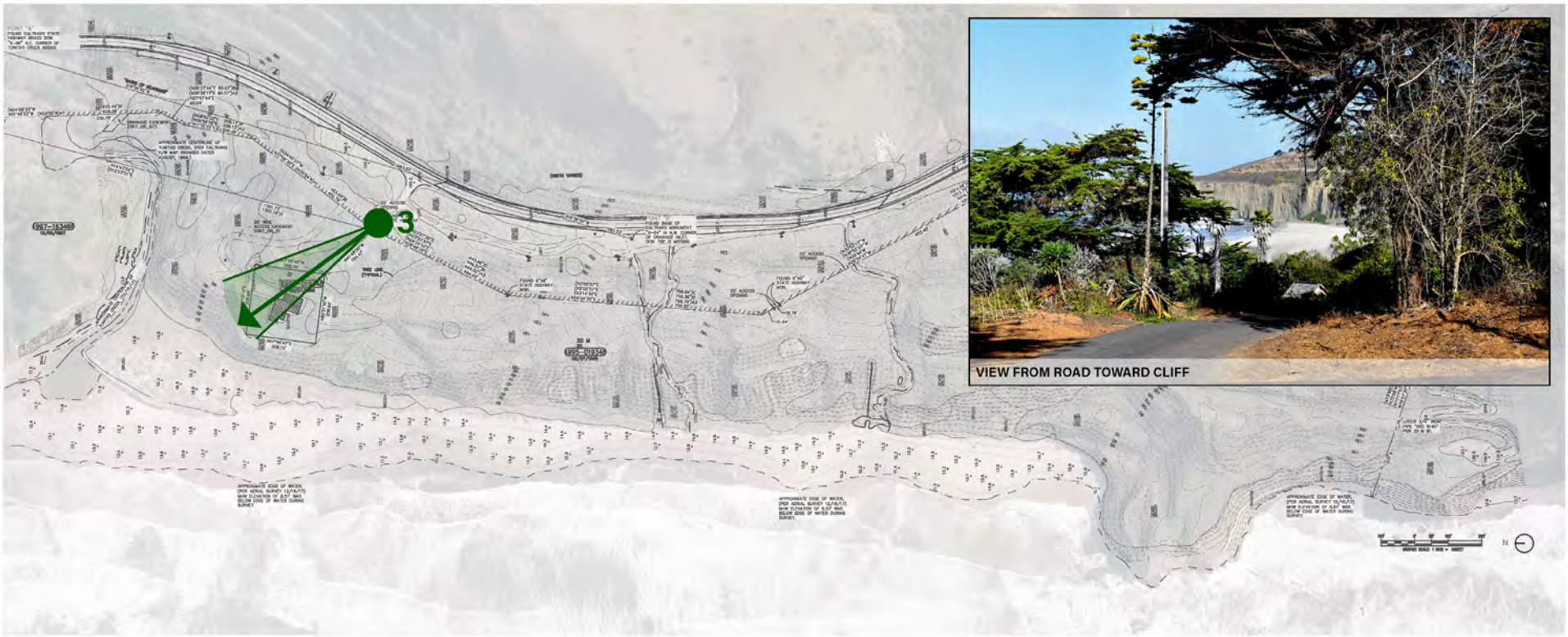

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FIGURE 15

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SOURCE: CSW-ST2 2021

Tunitas Creek Beach Improvement Project Initial Study

View Corridor 3

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LSA

FIGURE 16

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Tunitas Creek Beach Improvement Project Initial Study

View Corridor 5

SOURCE: CSW-ST2 2021

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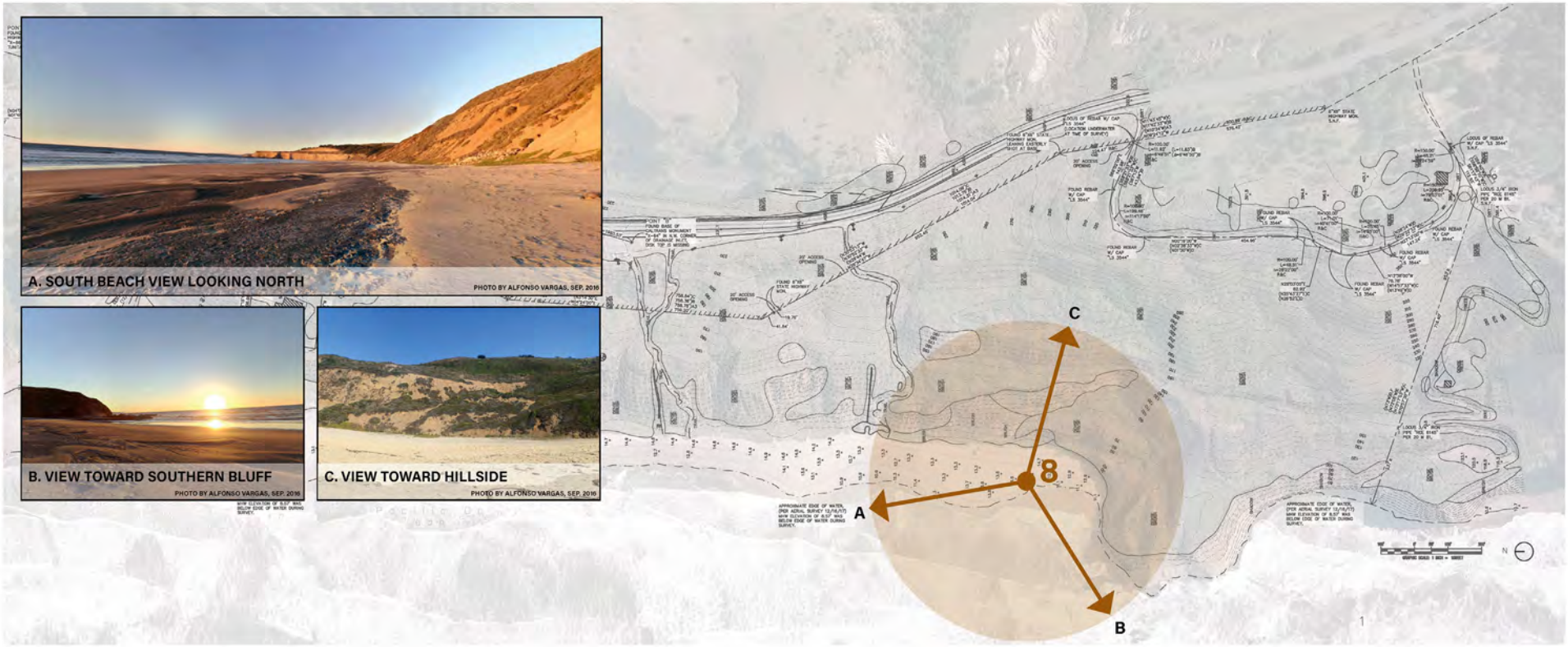

LSA

FIGURE 17

N

0 100 200

FEET

Tunitas Creek Beach Improvement Project Initial Study

View Corridor 8

SOURCE: CSW-ST2 2021

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The project site offers multiple viewsheds with scenic views of the Pacific Ocean, the beach and the shoreline bluffs. Existing features that detract from these scenic views include overgrown and invasive, non-native vegetation, unsafe or unsanctioned social trails that erode the bluff, overhead utilities such as telephone poles and wires, and cars parking near the edge of the bluff in the existing dirt pullout.

a) **Less-Than-Significant Impact**. A scenic vista is defined as a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public. The San Mateo County General Plan contains goals and policies to protect the visual quality in the County, including preserving views of natural features, including shorelines and public ocean views, and regulating the location and siting of structures in rural areas to encourage positive visual quality in relation to the scenic character of the natural landscape. According to the San Mateo County General Plan, Highway 1 is a designated Scenic Corridor.

As described above, the project site is located along a shoreline bluff, which affords panoramic views of the Pacific Ocean, Tunitas Creek Beach, and the natural landscape along this portion of the San Mateo County coast. As required by the General Plan, these major scenic resources should be considered when evaluating nearby development proposals and treated as aesthetic opportunities, which should be incorporated into the design of any new development.

Above-grade improvements associated with the proposed project would include railings, a restroom, ranger shed, and landscaping; however, these improvements would be low-lying. The project also includes a proposed ranger residence, two large water tanks, and a large paved parking area along Highway 1. The majority of improvements (e.g., paved parking area, trails) would be at-grade. Due to site topography and dense vegetation, limited views of proposed improvements would be available from public vantage points. The water tanks and ranger residence may be visible from southbound Highway 1, north of the project site; however, because these facilities would be located downslope from the roadway and largely screened by vegetation, they are not anticipated to limit scenic views. Proposed improvements would not include any tall structures or landscaping that would reduce, obstruct, or degrade scenic vistas. In addition, the proposed project would include the removal of the existing structures and associated debris on the site and the undergrounding of existing overhead utility lines along the bluff, which would improve the project area's overall visual appearance. The proposed project has been designed to promote scenic views, by providing improved public access and overlooks to take advantage of existing view corridors. The proposed project would increase public access to the area, affording visitors scenic views from various locations within the project site. The proposed project would not result in substantial adverse effects on scenic vistas; this impact would be less than significant.

b) **Less-Than-Significant Impact**. California's Scenic Highway Program was created by the Legislature in 1963 to preserve and protect scenic highway corridors from change that would diminish the aesthetic value of lands adjacent to highways. State laws governing the Scenic Highway Program are found in the Streets and Highways Code, Section 260 et seq. A highway may be designated as "scenic" based on the expanse of the natural landscape that can be seen by travelers, the scenic quality of that landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view. A Scenic Corridor is described as the land generally adjacent to and visible from such a highway and is usually limited by topography and/or jurisdictional boundaries. In addition to State Highways, County roads are also eligible for scenic designation.

Access to the project site is provided by Highway 1, which is an officially-designated State scenic highway. Some of the project improvements would be constructed within the highway right-of-way. As described above, the proposed project would install various park improvements to improve public access to the beach. From Highway 1, visible elements of the proposed project would include the paved parking area, overlook, drop off area, and associated landscaping. As described above, the proposed ranger residence and water tanks may be visible from southbound Highway 1, north of the project site; however, because these facilities would be located downslope from the roadway and largely screened by vegetation, installation of these facilities is not anticipated to significant damage scenic resources along Highway 1. The proposed project would also include demolition of the existing residence and removal of the cabins on the site; however, as described further in Section 3.5, Cultural Resources, the existing structures on the site do not constitute a historical resource for the purposes of CEQA nor are they currently visible from Highway 1. Implementation of the project would not substantially damage scenic resources, including but not limited to trees, rock outcroppings,

and historic buildings, within scenic highway corridors. As part of the proposed project, existing earthen berms along the bluff would be removed and existing overhead utility lines would be undergrounded, which would enhance views from Highway 1. Therefore, impacts related to scenic resources would be less than significant.

c) **Less-Than-Significant Impact**. Goals and policies in the San Mateo County General Plan promote the preservation of the County's rural and natural character and the regulation of development in rural areas. The project site is located along the shoreline, west of Highway 1 in a rural area of the County. Publicly-accessible vantage points near the project site consist of turnouts and parking areas along Highway 1. Views of the beach, shoreline bluffs and the Pacific Ocean are available at the project site.

Implementation of the proposed project would include construction of passive park improvements to improve public access to Tunitas Creek Beach. Development of the proposed project would change the existing visual character of the project area by removing the existing structures and associated debris and redeveloping the project area with park improvements. The proposed project would result in the development of park facilities, including a paved parking area, trails, overlooks, restroom, picnic areas, restroom, and landscaping, enhancing the visual character of the project site.

The proposed project would represent an improvement to the visual quality and character of the project area through removal of existing structures, which are currently in disrepair, elimination of the earthen berms, which block existing views of the beach from the Top Bluff, and relocation/undergrounding of existing overhead utility lines that impair scenic views. Consistent with San Mateo County General Plan policies related to visual resources, structures and paved areas have been designed to conform with the natural vegetation, landforms and topography of the site, so that they are compatible with the pre-existing character of the site. Vegetation removal would be limited to the extent feasible, and would largely include removal of invasive, non-native species. In addition, landscaping would be provided in the parking area to provide screening of the parking area from Highway 1 and in other areas to enhance the visual quality of the site. Therefore, the proposed project would not degrade the existing visual character or quality of the project area and its surroundings, and this impact would be less than significant.

d) **Less-Than-significant Impact**. Surrounding land uses consist primarily of undeveloped open space, and rural residential uses. Light sources in the project vicinity include lights associated with nearby residences, streetlights on Highway 1, and vehicle headlights/taillights. Daytime sources of glare include reflections off light-colored surfaces and windows.

The proposed park would operate in accordance with County Parks and Recreational Policy Number 400, which is generally during daylight hours**.** As part of the proposed project, pedestrian-scaled lighting would be provided along the ADA-pathway to assist users exiting the park in the evening. Light levels in the park would be kept low after hours to provide for safety/security, but are not intended to promote use of the park after the park is closed. Motion sensors would be installed to intensify light levels when movement is detected. Light associated with the ranger residence would be similar to existing rural residential uses in the project vicinity.

Consistent with County requirements, all lighting would be cast downward and be at no more than both the minimum height required and the power necessary for the proposed use. Light fixtures would be directed downward, so that no on-site light fixture would directly illuminate any off-site areas. With adherence to these requirements, the proposed project would not create a new source of substantial light or glare, such that day or nighttime views in the area would be affected. This impact would be less than significant.

3.2. AGRICULTURAL AND FOREST RESOURCES

Thresholds per CEQA Checklist

ENVIRONMENTAL IMPACTS	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Source(s)
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:					
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X	2, 14, 37
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X	2, 14, 37, 40
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)?				X	2
d) Result in the loss of forest land or conversion of forest land to non-forest uses?				X	2
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?				X	2

Explanation

a) **No Impact**. The project site is located along a shoreline bluff near existing rural residential and open space uses. No agricultural uses are located within the project site. As described in Section 2.4.3, lands to the east of Highway 1 consists of actively grazed public open space and lands to the south, and north include established ranches used primarily for beef cattle production and row crop production. The project area is classified as "Grazing Land" and "Other Land" by the State Department of Conservation; therefore, the proposed project would not involve the conversion of agricultural land to a non-agricultural use. The proposed project would not result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to a non-agricultural use and there would be no impact.

b) **No Impact**. The project site is zoned RM-CZ/CD - Resource Management-Coastal Zone District/Coastal Development District/Coastal Development District and PAD/CD - Planned Agriculture District/Coastal Development District on the County's zoning map. The project area is not subject to a Williamson Act contract. Therefore, the proposed project would not conflict with existing zoning for agricultural use or a Williamson Act contract, and the proposed project would have no impact.

c) **No Impact**. The project site is located within a shoreline bluff area and is zoned RM-CZ/CD and PAD/CD on the County's zoning map. The proposed project would not conflict with the existing zoning for, or cause rezoning of, forest land or conversion of forest land to non-forest uses. Therefore, the proposed project would have no impact related to forest land, timberland, or timberland zoned Timberland Production.

d) **No Impact**. Refer to Section 3.2.c. The proposed project would not result in the loss of forest land or conversion of forest land to non-forest uses. Therefore, the proposed project would have no impact related to loss of forest land or conversion of forest land.

e) **No Impact**. Refer to Sections 3.2.a and 3.2.c. The project area is located within an existing shoreline bluff and would not result in the extension of infrastructure into an undeveloped area, the development of urban uses on a previously undeveloped greenfield site, or other physical changes that would result in the conversion of farmland to non-agricultural uses or forest land to non-forest uses. The proposed project would not adversely affect agricultural or forestry resources.

3.3. AIR QUALITY

Thresholds per CEQA Checklist

ENVIRONMENTAL IMPACTS	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Source(s)
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:					
a) Conflict with or obstruct implementation of the applicable air quality plan?			X		1, 5
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?		X			1, 5
c) Expose sensitive receptors to substantial pollutant concentrations?			X		1, 2, 5
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			X		1, 2

Explanation

The proposed project is located in an unincorporated area of San Mateo County, and is within the jurisdiction of the Bay Area Air Quality Management District (BAAQMD), which regulates air quality in the San Francisco Bay Area. Air quality conditions in the San Francisco Bay Area have improved significantly since the BAAQMD was created in 1955. Ambient concentrations of air pollutants and the number of days during which the region exceeds air quality standards have fallen substantially. In San Mateo County, and the rest of the air basin, exceedances of air quality standards occur primarily during meteorological conditions conducive to high pollution levels, such as cold, windless winter nights or hot, sunny summer afternoons.

Within the BAAQMD, ambient air quality standards for ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter (PM_{10}, $PM_{2.5}$), and lead (Pb) have been set by both the State of California and the federal government. The State has also set standards for sulfate and visibility. The BAAQMD is under State non-attainment status for ozone and particulate matter standards. The BAAQMD is classified as non-attainment for the federal ozone 8-hour standard and non-attainment for the federal $PM_{2.5}$ 24-hour standard.

a) **Less-Than-Significant Impact**. The applicable air quality plan is the BAAQMD 2017 Clean Air Plan, which was adopted on April 19, 2017. In addition, the Regional Climate Protection Strategy is included in the 2017 Clean Air Plan, which identifies potential rules, control measures, and strategies that the BAAQMD can pursue to reduce greenhouse gases throughout the Bay Area. The 2017 Clean Air Plan/Regional Climate Protection Strategy serves as a roadmap for the district to reduce air pollution and protect public health and the global climate. The 2017 Clean Air Plan also includes measures and programs to reduce emissions of fine particulates and toxic air contaminants.

Consistency with the 2017 Clean Air Plan is determined by whether or not the proposed project would result in significant and unavoidable air quality impacts or hinder implementation of control measures (e.g., excessive parking or preclude extension of transit lane or bicycle path). The proposed project, as indicated in the analysis that follows, would not result in significant operational or construction-period emissions. Further, the proposed project does not conflict with the goals of the Clean Air Plan in that the project would improve

the existing site to provide safe public access to the beach. The proposed project would not conflict with any of the control measures identified in the Clean Air Plan or measures designed to bring the region into attainment. Additionally, the proposed project would not increase the population, or result in a significant increase in vehicle trips or vehicle miles traveled, as described in Section 3.17, as the site is already accessed via the informal parking area along Highway 1. The proposed project would not hinder the region from attaining the goals outlined in the Clean Air Plan. Therefore, the proposed project would not inhibit or disrupt implementation of any control measures from the applicable Clean Air Plan and impacts would be less than significant.

b) **Less-Than-Significant Impact With Mitigation Incorporated**.. The following sections describe the proposed project's construction- and operation-related air quality impacts.

Construction Emissions. During construction activities, short-term degradation of air quality may occur due to the release of particulate matter emissions (i.e., fugitive dust) generated by grading, clearing, and other activities. Emissions from construction equipment are also anticipated and would include CO, NO_x, ROG, directly-emitted particulate matter ($PM_{2.5}$ and PM_{10}), and toxic air contaminants (TACs), such as diesel exhaust particulate matter.

Construction of the proposed project would include site clearing, slope stabilization, and rough grading, utilities and general site work, and final site preparation and paving. Construction-related effects on air quality are typically the greatest during the site preparation phase due to the disturbance of soils. If not properly controlled, these activities would temporarily generate particulate emissions. Sources of fugitive dust would include disturbed soils at the construction site. Unless properly controlled, vehicles leaving the site would deposit dirt and mud on local streets, which could be an additional source of airborne dust after it dries. Fugitive dust emissions (PM_{10}) would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM_{10} emissions would depend on soil moisture, silt content of soil, wind speed, and the amount of operating equipment. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site.

Water or other soil stabilizers can be used to control dust, resulting in emission reductions of 50 percent or more. The BAAQMD has established standard measures for reducing PM_{10} emissions. With the implementation of these Basic Construction Mitigation Measures, fugitive dust emissions from construction activities would not result in adverse air quality impacts. Should the use of potable water not be possible due to drought conditions, the project would import recycled water from the wastewater treatment plant for use in dust control.

In addition to dust-related PM_{10} emissions, heavy trucks and construction equipment powered by gasoline and diesel engines would generate CO, SO_2, NO_x, VOCs and some soot particulate ($PM_{2.5}$ and PM_{10}) in exhaust emissions. If construction activities were to increase traffic congestion in the area, CO and other emissions from traffic would increase slightly while those vehicles idle in traffic. These emissions would be temporary in nature and limited to the immediate area surrounding the construction site.

The BAAQMD has developed screening criteria to provide lead agencies with a conservative indication of whether the proposed project would result in potentially significant air quality impacts. If all of the screening criteria are met by a proposed project, then the lead agency would not need to perform a detailed air quality assessment of the proposed project's emissions. These screening levels are generally representative without any form of mitigation measures taken into consideration. In addition, the screening criteria do not account for project design features, attributes, or local development requirements that could also result in lower emissions.

For park land uses, the BAAQMD screening size for construction criteria pollutants is 67 acres. Since the total project site is approximately 58 acres, based on the BAAQMD's screening criteria, construction activities associated with the proposed project are not anticipated to exceed established thresholds. The BAAQMD also requires the implementation of BAAQMD Basic Construction Mitigation Measures (Best Management Practices) to reduce construction fugitive dust impacts to a less-than-significant level.

Mitigation Measure AIR-1: In order to meet the BAAQMD fugitive dust threshold, the following BAAQMD Basic Construction Mitigation Measures shall be implemented:

- Any exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- Post a publicly visible sign with the telephone number and person to contact at the County of San Mateo Parks Department regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Construction emissions associated with the project would be less than significant with implementation of Mitigation Measure AIR-1. Therefore, construction would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or State ambient air quality standards.

Operational Emissions. Long-term air pollutant emission impacts are those associated with mobile sources (e.g., vehicle trips), energy sources (e.g., electricity and natural gas), and area sources (e.g., architectural coatings and the use of landscape maintenance equipment) related to the proposed project.

As discussed above, the BAAQMD has developed screening criteria to determine whether a project requires an analysis of project-generated criteria air pollutants. If all the screening criteria are met by a proposed project, then the lead agency does not need to perform a detailed air quality assessment.

For park land uses, the BAAQMD screening size for operational criteria pollutants is 2,613 acres. Since the total project site is approximately 58 acres, based on the BAAQMD's screening criteria, the potential increase in intensity of use on the site is not anticipated to exceed established thresholds. Therefore, the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or State ambient air quality standards.

In summary, the project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.

c) **Less-Than-Significant Impact**. Sensitive receptors are defined as residential uses, schools, daycare centers, nursing homes, and medical centers. Individuals particularly vulnerable to diesel particulate matter are children, whose lung tissue is still developing, and the elderly, who may have serious health problems that can be aggravated by exposure to diesel particulate matter. Exposure from diesel exhaust associated with construction activity contributes to both cancer and chronic non-cancer health risks. Individuals participating in passive and active recreational activities can also be considered sensitive to air quality emissions, although exposure is temporary and of limited duration.

The project site is located in a remote, rural location. The closest sensitive receptors include residential uses located over 2,000 feet from where project construction activities would occur. Due to this distance, construction of the proposed project would not expose sensitive receptors to airborne particulates or construction equipment pollutants (i.e., usually diesel-fueled vehicles and equipment). In addition, construction contractors would be required to implement BAAQMD Basic Construction Mitigation Measures, as required by Mitigation Measure AIR-1, which would further reduce construction emissions and exposure to visitors using the existing beach area. Once the project is constructed, the project would not be a source of substantial emissions. Therefore, sensitive receptors are not expected to be exposed to substantial pollutant concentrations during project construction or operation, and potential impacts would be considered less than significant.

d) **Less-Than-Significant Impact**. During construction, the various diesel-powered vehicles and equipment in use on the site would create localized odors. These odors would be temporary and are not likely to be noticeable for extended periods of time beyond the project site. The potential for diesel odor impacts is therefore considered to be less than significant. In addition, once the project is operational, it would not be a source of odors. Therefore, the proposed project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people, and potential impacts would be considered less than significant.

3.4 BIOLOGICAL RESOURCES

Thresholds per CEQA Checklist

ENVIRONMENTAL IMPACTS	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Source(s)
Would the project:					
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?		X			1, 2, 6, 11, 15, 18, 19, 24, 25, 31, 32, 33, 35, 41, 44, 46, 52, 54, 55
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?		X			1, 2, 11, 24, 25, 38, 42
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?		X			1, 2, 24, 25
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?		X			1, 2, 25
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?			X		1, 2, 25, 38, 40, 41
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?				X	1, 2

Explanation
The following vegetation and cover types are present at the project site:

Northern (Franciscan) Coastal Scrub. Northern (Franciscan) coastal scrub is situated along steeply sloped bluffs of the project site. Plants observed in this community include coyote brush *(Baccharis pilularis*), California sagebrush (*Artemisia californica*), poison oak (*Toxicodendron diversilobum*), California coffeeberry (*Frangula californica*), sticky monkeyflower (*Mimulus aurantiacus*), lizard tail (*Eriophyllum staechadifolium*), black mustard (*Brassica nigra*), milk thistle (*Silybum marianum*), vetch (*Vicia* sp.), yarrow (*Achillea millefolium*), sowthistle (*Sonchus* sp.), fescue (*Festuca* sp.), and redstem filaree (*Erodium cicutarium*). Northern (Franciscan) coastal scrub at the project site would have a State ranking of S5, which means this community is demonstrably secure because of its Statewide abundance.

Wildlife observed within this vegetation type include: western fence lizard (*Sceloporus occidentalis*), California scrub-jay (*Aphelocoma californica*), golden-crowned sparrow (*Zonotrichia atricapilla*), white-crowned sparrow (*Z. leucophrys*), chestnut-backed chickadee (*Poecile rufescens*), and black phoebe (*Sayornis nigricans*).

Central Coast Riparian Scrub. Central coast riparian scrub is associated with an intermittent stream that is situated downslope from Highway 1. This community is dominated by arroyo willow (*Salix lasiolepis*), stinging nettle (*Urtica dioica*), California blackberry (*Rubus ursinus*), and poison oak. The riparian scrub intergrades with northern (Franciscan) coastal scrub habitat. The central coast riparian scrub at the project site has a State ranking of S4, which means this community is demonstrably secure due its Statewide abundance. The only wildlife species observed in this habitat type at the project site was the western yellow-bellied racer (*Coluber constrictor mormon*).

Red Alder Riparian Forest. Red alder riparian forest is associated with Tunitas Creek and is dominated by red alder (*Alnus rubra*) and arroyo willow. This community occurs in the northeastern portion of the project site. Understory plants observed in this forest include English ivy (*Hedera helix*), cape ivy (*Delairea odorata*), bigleaf periwinkle (*Vinca major*), common horsetail (*Equisetum arvense*), California mugwort (*Artemisia douglasiana*), California blackberry, and stinging nettle. Red Alder Riparian Forest at the project site has a State ranking of S4, which means this community is secure due its Statewide abundance.

Wildlife observed within this vegetation type include: ruby-crowned kinglet (*Regulus calendula*), brown creeper (*Certhia americana*), yellow-rumped warbler (*Setophaga coronata*), Townsend's warbler (*S. townsendi*), hermit thrush (*Catharus guttatus*), Pacific wren (*Troglodytes pacificus*), fox sparrow (*Passerella il*iaca), song sparrow (*Melospiza melodia*), and San Francisco dusky footed woodrat (*Neotoma fuscipes annectens*).

Monterey Pine Forest. Monterey pine forest habitat is situated in the northeastern section of the project site near the unoccupied house. This forest is dominated by mature Monterey pine (*Pinus radiata*) and Monterey cypress (*Hesperocyparis macrocarpa*) trees with understory plants, including California bedstraw (*Galium californicum*), lupine (*Lupinus* sp.), California blackberry, bigleaf periwinkle, and poison oak. The Monterey pine forest that occurs at the project site was planted and is a non-native stand and therefore would not be considered sensitive under CEQA.

Wildlife observed within this vegetation type include: red-tailed hawk (*Buteo jamaicensis*; soaring above), turkey vulture (*Cathartes aura*; soaring above), red-breasted nuthatch (*Sitta canadensis*), pygmy nuthatch (*S. pygmaea*), and chestnut-backed chickadee.

Coastal Terrace Prairie. A small patch of coastal terrace prairie is located within the central coast riparian scrub. Plants observed in this community include Pacific reed grass (*Calamagrostis nutkaensis*), sour grass (*Oxalis pes-caprae*), cutleaf geranium (*Geranium dissectum*), Douglas iris (*Iris douglasiana*), and fescue. The coastal terrace prairie at the project site has a State ranking of S2, which means it is considered a sensitive community under CEQA.

Coastal Strand and Coastal Dunes. The coastal strand is dominated by invasive ice plant (*Carpobrotus chilensis*), which is situated between the northern (Franciscan) coastal scrub and the coastal dunes. This community is more heavily concentrated toward the northern end of the site south of the mouth of Tunitas Creek. Other plant species observed in the coastal strand include saltgrass (*Distichlis spicata*), coastal sand verbena (*Abronia latifolia*), and beach morning glory (*Calystegia soldanella*).

The coastal dunes community occurs between the coastal strand and the beach and shoreline. Plants observed within the dunes include scattered patches of American dune grass (*Elymus mollis*), beachgrass (*Ammophila arenaria*), sea rocket (*Cakile* sp.), beach morning glory, coastal sand verbena, and ice plant. Portions of the coastal dunes at the project site have a State ranking of S2, and are therefore considered a sensitive community under CEQA.

Wildlife observed within these vegetation types include: great egret (*Ardea alba*), great blue heron (*Ardea herodias*), common raven (*Corvus corax*), house finch (*Haemorhous mexicanus*), black phoebe, raccoon (*Procyon lotor*) tracks, and gray fox (*Urocyon cinereoargenteus*) tracks. Additionally, a dead gray fox was observed on Highway 1 along the Tunitas Creek Bridge.

Streams. Tunitas Creek is a perennial stream that flows from King's Mountain to Tunitas Creek Beach and the Pacific Ocean. The lower portions of Tunitas , including the mouth of Tunitas Creek (also referred to Tunitas Lagoon), are located on or adjacent to the project site. The red alder riparian forest community is associated with Tunitas Creek. Wildlife species observed in proximity to Tunitas Creek included: mallard (*Anas platyrhynchos*), belted kingfisher (*Megaceryle alcyon*), San Francisco common yellowthroat (*Geothlypis trichas sinuosa*), black phoebe, and great egret. As described further below, the Central California Coast steelhead (*Oncorhynchus mykiss*) distinct population segment is known to occur in Tunitas Creek, where they could migrate to potential spawning habitat upstream of the project site.

One intermittent stream (which is not Tunitas Creek) flows parallel to Highway 1 within the project site. This portion of the channel is associated with the central coast riparian scrub community, which is dominated by arroyo willow and stinging nettle, and becomes an ephemeral stream further downstream. Additionally, two ephemeral streams were detected on the project site. One occurs along the steep slope and the other bisects the project site and is a continuation of the above-mentioned intermittent stream. This stream when dry is being used as an ad hoc trail to access Tunitas Creek Beach from the parking area along Highway 1.

Species observed on Tunitas Creek Beach and shoreline included: western snowy plover (*Charadrius nivosus nivosus*), osprey (*Pandion haliaetus*; flying over beach), California brown pelican (*Pelecanus occidentalis californicus*; flying over beach), western gull (*Larus occidentalis*), California gull (*L. californicus*), ring-billed gull (*L. delawarensis*), Heermann's gull (*L. heermanni*), Herring gull (*L. smithsonianus*), whimbrel (*Numenius phaeopus*), marbled godwit (*Limosa fedoa*), Hudsonian godwit (*L. haemastica*), American pipit (*Anthus rubescens*), and surf scoter (*Melanitta perspicillata*).

Coastal and Valley Freshwater Marsh. A small coastal and valley freshwater marsh is located in the northeast section of the project site. This marsh is situated under dense canopy cover and is adjacent to a larger marsh that is located outside of the project site.

Landscaped. Landscaped plants are growing around the existing unoccupied house on the project site. The landscaping is primarily comprised of planted ornamental plant species, including Mexican fan palm (*Washingtonia robusta*), silver dollar gum (*Eucalyptus polyanthemos*), bottlebrush (*Callistemon viminalis*), Peruvian pepper tree (*Schinus molle*), pride of madeira (*Echium candicans*), privet (*Ligustrum* sp.), lily of the Nile (*Agapanthus africanus*), rosemary (*Rosmarinus officinalis*), rose (*Rosa* sp.), krantz aloe (*Aloe aborescens*), stonecrop (*Sedum* sp.), agave (*Agav*e sp.), and invasive pampas grass (*Cortaderia jubata*). Species observed in the landscaped area include: Anna's hummingbird (*Calypte anna*), song sparrow, and chestnut-backed chickadee.

Developed. Developed areas at the project site include the existing paved driveway, parking lot, unoccupied house, and old cabins that are situated near the landslide area and just south of Tunitas Creek. Wildlife species observed in the developed area include: Townsend's big-eared bat (*Corynorhinus townsendii*).

a) **Less-Than-Significant with Mitigation Incorporated.** Based on the results of the database searches and observed habitat conditions, 58 special-status species (24 plants, 34 wildlife species) were evaluated as potentially occurring on or in the vicinity of the site (Table A). The California Natural Diversity Database (CNDDB) and CNPS Inventory listed additional special-status plants or wildlife as occurring within 5 miles of the site or within the nine-quad search region, but these species were eliminated from consideration based on the lack of suitable habitat (e.g., chaparral, vernal pools, salt marsh, serpentine rock outcrops) in the vicinity of the site.

Special-Status Plants. Based on the results of the literature review and reconnaissance-level survey, 24 special-status plant species have the potential to occur at the project site (Table A). One of these species, the coastal marsh milk-vetch (*Astragalus pycnostachyus* var. *pycnostachyus*), which is a California Rare Plant Rank List 1B species, has been observed on the project site. In 2004, approximately 500 plants were mapped within seven different areas, including near the mouth of Tunitas Creek, within the small landslide in the red alder riparian forest, and in open areas within the northern (Franciscan) coastal scrub. This plant thrives in disturbed or eroded areas, such as road cuts, gullies, landslides, cliffs, and trails.

The special-status coastal marsh milk-vetch has been identified on the project site and suitable habitat is present for several other special-status plant species. If present, these species could be impacted by ground disturbance, vegetation removal, water system development, and other project construction activities. Potential impacts to these species can be reduced to a less-than-significant level with implementation of Mitigation Measure BIO-1. This measure was adapted from the County of San Mateo Routine Maintenance Program Environmental Impact Report.

> **Mitigation Measure BIO-1:** To the extent feasible, the previously mapped CNDDB occurrences of the coastal marsh milk-vetch should be avoided and set back from the proposed project development by at least 50 feet.
>
> Prior to the initiation of construction activities, a qualified botanist shall conduct protocol-level surveys to verify the absence of the special-status plant species listed on Table A: Special-Status Species Evaluated for the Project of the Initial Study. The surveys shall be conducted in accordance with the CDFW's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*. A series of pre-construction special-status plant surveys shall be conducted multiple times during the growing season to account for both early and late-blooming plant species. The surveys shall be conducted by a qualified biologist within the proposed project footprint and within a 50-foot buffer to allow for assessment of required avoidance setbacks from any special-status plants identified. The proposed project shall be at least 50 feet away from any special-status plant detected during pre-construction surveys. The previously mapped occurrences of coastal marsh milk-vetch shall be avoided and set back from the proposed project development by at least 50 feet.
>
> If special-status plants are found in the project site, the population size and occupied area of special-status plant populations identified during the field survey, and with potential to be impacted, will be estimated. A "population" will be defined as the group of individuals of a species present within a 0.10-mile radius. In addition, the population shall be photographed and flagged to maximize avoidance, as well as to estimate the percentage of the population affected. If feasible, the project shall be redesigned or modified to avoid direct and indirect impacts on special-status plant species.
>
> Special-status plants to be avoided shall be protected from disturbance by installing environmentally sensitive area fencing (orange construction barrier fencing or a suitable alternative). Protective fencing shall be installed under the direction of a qualified biologist as necessary to protect the plant and its habitat; where feasible, the environmentally sensitive area fencing shall be installed at least 50 feet from the edge of the population. The location of the fencing shall be shown on the site plans and marked in the field with stakes and/or flagging. The specifications shall contain clear language that prohibits construction activities, vehicle operation, material and equipment storage, and other surface disturbing activities within the fenced environmentally sensitive area.
>
> If impacts to special-status plants are unavoidable and less than 5 percent of a population would be impacted, prior to any ground-disturbing activities, the County shall preserve the seedbank within the impact area by removing and retaining the topsoil prior to the implementation of construction activities. Following completion of construction, the County shall monitor the impact area for two years. Any non-native invasive plant species occurring within this area during the monitoring period shall be removed under the supervision of a qualified biologist.

Table A: Special-Status Species Evaluated for the Project

Species	Status[1]	Habitat/Blooming Period	Discussion[2]
PLANTS			
Agrostis blasdalei Blasdale bentgrass	1B	Coastal bluff scrub, coastal dunes, and coastal prairie; sandy and gravely soil. Elevation: 5-150 m. Blooms: May-Jun	Suitable habitat present.
Astragalus nuttallii var. *nuttallii* Nuttall's milkvetch	4	Coastal bluff scrub, coastal dunes. Elevation: 0-100 m. Blooms: Jan-Nov	Suitable habitat present.
Astragalus pycnostachyus var. *pycnostachyus* Coastal marsh milk-vetch	1B	Wet hollows of coastal dunes, coastal scrub, and in marshes and swamps of coastal salt marsh and streamsides. Elevation: 0-30 m. Blooms: Apr-Oct	Suitable habitat present. Recorded on the site. In 2004, approximately 500 plants mapped within seven areas, including near the mouth of Tunitas Creek, within the small landslide in the red alder riparian forest, and in open areas within the northern (Franciscan) coastal scrub. Thrives in disturbed or eroded areas, such as road cuts, gullies, landslides, cliffs, and trails.
Castilleja latifolia Monterey Indian paintbrush	4	Sand dunes, coastal strand and sandy bluffs. Elevation: 0-185 m. Blooms: Feb-Sep	Suitable habitat present.
Centromadia parryi ssp. *parryi* Pappose tarplant	1B	Vernally mesic, often alkaline sites in chaparral, coastal prairie, meadows and seeps, coastal salt marsh, valley and foothill grassland. Elevation: 1-500 m. Blooms: May-Nov	Suitable habitat present.
Chorizanthe cuspidata var. *cuspidata* San Francisco spineflower	1B	Coastal bluff scrub, coastal dunes, coastal prairie, coastal scrub Substrate: sandy. Elevation: Unknown Blooms: Apr-Aug	Suitable habitat present.
Collinsia multicolor San Francisco blue eyed mary	1B	Closed-cone coniferous forest, coastal scrub and grassland on decomposed shale (mudstone) mixed with humus; in moist and shady areas and sometimes on serpentinite. Elevation: 30-250 m. Blooms: Mar-May	Suitable habitat present.
Corethrogyne leucophylla Branching beach aster	3	Closed-cone coniferous forest, coastal scrub, chaparral, valley and foothill grassland, and coastal dunes; sometimes on serpentinite. Elevation: 3-60 m. Blooms: May-Dec	Suitable habitat present.
Glehnia littoralis ssp. *leiocarpa* American silvertop	4	Coastal dunes. Elevation: 0-20 m. Blooms: May-Aug	Suitable habitat present.
Grindelia hirsutula var. *maritima* San Francisco gumplant	3	Sandy or serpentinite soils in coastal bluff scrub, coastal scrub, and valley and foothill grassland. Elevation: 15-400 m. Blooms: Jun-Sep	Suitable habitat present.

Species	Status[1]	Habitat/Blooming Period	Discussion[2]
Hesperevax sparsiflora var. *brevifolia* Short leaved evax	1B	Sandy, grassy, or wooded coastal bluff scrub, terraces, coastal dunes. Elevation: 0-215 m. Blooms: May-Jun	Suitable habitat present.
Horkelia cuneata var. *sericea* Kellogg's horkelia	1B	Closed-cone coniferous forest, chaparral, coastal scrub, dunes and coastal sandhills; sandy or gravelly openings. Elevation: 10-200 m. Blooms: Unknown	Suitable habitat present.
Horkelia marinensis Point Reyes Horkelia	1B	Sandy flats and dunes near coast; in grassland or scrub plant communities. Elevation: 0-140 m. Blooms: May-Sep	Suitable habitat present.
Iris longipetala Central Coast iris	4	Coastal prairie, lower montane coniferous forest, meadows, seeps in mesic habitat. Elevation: 10-250 m. Blooms: Mar-May	Suitable habitat present.
Lasthenia californica ssp. *macrantha* Perennial goldfields	1B	Coastal bluff scrub, coastal dunes, coastal scrub. Elevation: 10-190 m. Blooms: Jan-Nov	Suitable habitat present.
Leptosiphon croceus Coast yellow leptosiphon	1B	Coastal bluff scrub, coastal prairie. Elevation: 10-15 m. Blooms: Apr-May	Suitable habitat present.
Leptosiphon rosaceus Rose leptosiphon	1B	Coastal bluff scrub. Elevation: Unknown Blooms: Apr-Jul	Suitable habitat present.
Lupinus arboreus var. *eximius* San Mateo tree lupine	3	Chaparral, coastal scrub. Elevation: Unknown Blooms: Apr-Jul	Suitable habitat present.
Lupinus tidestromii Tidestrom's lupine	FE, SE, 1B	Partially stabilized sand dunes, immediately near the ocean. Elevation: 4-25 m. Blooms: Apr-Jun	Suitable habitat present.
Microseris paludosa Marsh microseris	1B	Moist grassland, openings in closed-cone coniferous forest and cismontane woodland, coastal scrub. Elevation: 5-300 m. Blooms: Apr-Jul	Suitable habitat present.
Plagiobothrys chorisianus var. *chorisianus* Choris's popcorn flower	1B	Grassy and moist areas (ephemeral drainages) in chaparral, coastal prairie and coastal scrub. Elevation: 15-160 m. Blooms: Mar-Jun	Suitable habitat present. Closest CNDDB occurrences is approximately 1.7 miles from the site.
Polemonium carneum Oregon Polemonium	2B	Coastal prairie, coastal scrub, lower montane, coniferous forest. Elevation: 0-25 m. Blooms: Apr-Sep	Suitable habitat present.
Sidalcea malviflora ssp. *purpurea* Purple-stemmed checkerbloom	1B	Broadleafed upland forest, coastal prairie. Elevation: 15-85 m. Blooms: May-Jun	Suitable habitat present.
Silene verecunda ssp. *verecunda* San Francisco campion	1B	Coastal bluff scrub, chaparral, coastal prairie, coastal scrub, valley and foothill grassland; sand, mudstone, shale or serpentine. Elevation: 30-645 m. Blooms: Mar-Jun	Suitable habitat potentially present.

Species	Status[1]	Habitat/Blooming Period	Discussion[2]
WILDLIFE			
Invertebrates			
Monarch butterfly *Danaus plexippus*	Sensitive Winter Roosting Sites	Winter roosts along the coast from northern Mendocino to Baja California, Mexico in wind-protected tree groves (eucalyptus, Monterey pine, cypress) with nectar and water sources nearby.	Marginal roost sites present in the Monterey pine and riparian forest along Tunitas Creek. No known roost sites present in close proximity to the Project site. Closest CNDDB occurrence is approximately 3 miles from the site.
Western bumble bee *Bombus occidentalis*	Candidate CE	Variety of habitat types, supporting native flowering plants. Species has declined precipitously perhaps from disease.	May occur at site. Closest CNDDB occurrence is approximately 4.4 miles from the site in Pescadero State Beach.
Fish			
Tidewater goby *Eucyclogobius newberryi*	FE	Brackish shallow lagoons and lower stream reaches where water is fairly still but not stagnant.	No suitable habitat present. Closest CNDDB occurrence is approximately 1.4 miles from the site in San Gregorio Creek.
Steelhead (central California coast Distinct Population Segment) *Oncorhynchus mykiss*	FT, CSC	Coastal streams from Russian River south to Aptos Creek (Santa Cruz Co.), including streams tributary to San Francisco and San Pablo Bays.	Suitable habitat present. Known to occur in Tunitas Creek. Closest CNDDB occurrence is approximately 1.4 miles from the site in San Gregorio Creek.
Coho salmon (Central California Coast Evolutionary Significant Unit) *Oncoryhchus kisutch*	FE	Coastal streams from Punta Gorda in northern California down to and including the San Lorenzo River in central California, as well as tributaries to San Francisco Bay.	Tunitas Creek is within designated critical habitat. The National Marine Fisheries Service considers Tunitas Creek to have modest habitat potential to support species based on historical evidence in Tunitas Creek. Species unlikely to occur on the project site. Known to occur in Pescadero Creek, San Gregorio Creek, and Gazos Creek.
Amphibians and Reptiles			
California red-legged frog *Rana draytonii*	FT, CSC	Ponds, streams, drainages and associated uplands; requires areas of deep, still, and/or slow-moving water for breeding	Recorded on the Project site, just south of the Tunitas Creek bridge in ponds below a landslide.
Foothill yellow-legged frog *Rana boylii*	Candidate CT, CSC	Partly shaded streams with rocky or cobbly substrate that flow at least to May.	No suitable habitat present. Closest CNDDB occurrences approximately 4.7 miles from the site.
California giant salamander *Dicamptodon ensatus*	CSC	Aquatic larvae found in cold, clear streams, occasionally in lakes and ponds; adults known from wet forests under rocks; known from wet coastal forests near streams and seeps from Mendocino County south to Monterey County and east to Napa County.	Suitable habitat present along Tunitas Creek and riparian habitat. Could disperse through Project site. Closest CNDDB occurrences approximately 2.5 miles from the site.
Santa Cruz black salamander *Aneides flavipunctatus niger*	CSC	Mixed deciduous woodland, coniferous forests, and coastal grasslands. Found under rocks near streams, damp logs, other objects, and in talus. Lays eggs in moist cavities below the ground.	Suitable habitat present along Tunitas Creek and riparian habitat. Could disperse throughout the Project site.

Species	Status[1]	Habitat/Blooming Period	Discussion[2]
San Francisco garter snake *Thamnophis sirtalis tetrataenia*	FE, CE, FP	Occurs only in the vicinity of ponds and reservoirs in San Mateo County.	Suitable habitat present along Tunitas Creek where prey, such as frogs and fish and are present. Could disperse through the site. Known to occur in the region, but CNDDB records are suppressed by CDFW for this species.
Western pond turtle *Emys marmorata*	CSC	Ponds, streams, drainages, and associated uplands.	Suitable aquatic and basking habitat present along Tunitas Creek. Limited suitable nesting habitat present.
Birds			
California brown pelican *Pelecanus occidentalis californicus*	CFP	Coastal areas; nests on islands.	Forages in the Pacific Ocean adjacent to the Project site, but does not nest in the region. Species observed flying over Tunitas Creek Beach during LSA's survey.
Marbled murrelet *Brachyramphus marmoratus*	FT, CE	Nests in old growth and mature coniferous forests near the coast	No suitable nesting habitat present. May fly over the site while moving from foraging habitat within the Pacific Ocean to nesting habitat in forests east of the site. May forage in Pacific Ocean adjacent to the site. Species has been observed near the site, likely observed in Pacific Ocean next to Tunitas Creek Beach.
Golden eagle *Aquila chrysaetos*	CFP	Hunts over rolling foothills and mountain areas. Nests in cliff-walled canyons or large trees in open areas.	No suitable nesting habitat present on the Project site, but known to fly over the site.
American peregrine falcon *Falco peregrinus anatum*	CFP	Forages in open country, mountains, and sea coasts. Nests on high cliffs, bridges, and buildings.	No suitable nesting habitat present on the Project site, but could nest in cliffs nearby. Species has been observed near the site.
White-tailed kite *Elanus leucurus*	CFP	Open grasslands, meadows, or marshes. Require dense-topped trees or shrubs for nesting and perching.	May nest in trees and large shrubs on or adjacent to the site.
Northern harrier *Circus hudsonius*	CSC	Nests in wet meadows and marshes, forages over open grasslands and agricultural fields.	Species known to forage over the site but not likely to nest on the site due to lack of suitable habitat. Sightings have occurred outside of the nesting season, in October and November.
Western snowy plover *Charadrius alexandrinus nivosus*	FT	Nesting habitat includes upper areas of sandy beaches (above normal high tide line), barren dikes of salt ponds, and edges of alkali or brackish lakes in inland areas; forages along the water's edge and on exposed mud flats.	Species observed foraging within the coastal dunes and along Tunitas Creek Beach. Approximately 25 individuals were observed during the October 2019 survey. Numerous individuals observed in County snowy plover monitoring study in 2018, 2019, and 2020, but no nesting observed. Suitable nesting habitat present, but no nests observed since 2005.
Burrowing owl *Athene cunicularia*	CSC	Open habitats (e.g., grasslands, agricultural areas) with mammal burrows or other features (e.g., culverts, pipes, debris piles) suitable for nesting and roosting.	Migratory individuals may occasionally occur at the site for very brief periods but limited potential burrow surrogates (i.e., culverts, pipes) likely precludes long-term use. Closest CNDDB

Species	Status[1]	Habitat/Blooming Period	Discussion[2]
			occurrence is a wintering record approximately 2.6 miles from the site.
Vaux's swift *Chaetura vauxi*	CSC	Grasslands and agricultural fields; nests in large hollow trees near open water; forages in most habitats but prefers rivers and lakes.	Suitable foraging habitat present and suitable nesting habitat may be present in trees on the project site.
Black swift *Cypseloides niger*	CSC	Coastal belt of Santa Cruz and Monterey Counties, in the central and southern Sierra Nevada, and in the San Bernardino and San Jacinto Mountains; breeds in small colonies on cliffs behind or adjacent to waterfalls in deep canyons and sea bluffs above the surf.	May migrate over the project site. Suitable foraging habitat present, but no nesting habitat present.
Olive-sided flycatcher *Contopus cooperi*	CSC	Coniferous forests with open canopies.	Suitable nesting and foraging habitat present. Species observed during the breeding season at the site.
Loggerhead shrike *Lanius ludovicianus*	CSC	Grasslands and open shrub or woodland communities. Nests in dense shrubs or trees and forages in scrub, open woodlands, grasslands, and croplands. Frequently uses fences, posts, and utility lines as hunting perches.	Suitable nesting habitat present in trees and shrubs within or adjacent to site, but limited foraging habitat present near the project site.
Bank swallow *Riparia riparia*	CT	Riparian habitat; nests in banks associated with streams, rivers, and lakes.	Suitable nesting habitat present, but species is rare in the County. Closest CNDDB occurrence is approximately 3.8 miles from the site.
Yellow warbler *Dendroica petechia*	CSC	Nests in extensive willow riparian woodlands.	Suitable nesting habitat present, but species is a rare breeder in the County. May forage on the site during migration. Species observed near site from late August through October.
San Francisco common yellowthroat *Geothlypis trichas sinuosa*	CSC	Fresh- and saltwater marshes; nests in tall grasses, tule patches, and willows.	Suitable nesting and foraging habitat present. Species observed during October 2019 survey. eBird lists observations of this species during the nesting season. Closest CNDDB occurrence is approximately 1.1 miles from the site.
Grasshopper sparrow *Ammodramus savannarum*	CSC	Moderately open grasslands with scattered shrubs.	No suitable habitat present.
Tricolored blackbird *Agelaius tricolor*	CT, CSC	Nests in dense vegetation near open water, forages in grasslands and agricultural fields.	No suitable nesting or foraging habitat present.
Mammals			
Pallid bat *Antrozous pallidus*	CSC	Roosts in caves, tunnels, buildings, under bridges, and in tree hollows; forages over variety of habitats.	Suitable habitat present in house and possibly large trees on the project site.
Townsend's big-eared bat *Corynorhinus townsendii*	CSC	Wooded areas with caves or old buildings for roost sites.	Species observed in occupied house in March 2017 and October 2019.
San Francisco dusky-footed woodrat *Neotoma fuscipes annectens*	CSC	Primarily along riparian areas within chaparral and woodlands. Feeds mainly on woody plants but also eats	Woodrat house observed in tree on west side of Tunitas Creek during 2019 survey and 11 woodrat

Species	Status[1]	Habitat/Blooming Period	Discussion[2]
		acorns, grasses, and fungi. Builds conspicuous stick houses in trees and on the ground.	houses observed during 2017 survey. Suitable habitat present in forest and scrub communities on the project site.
American badger *Taxidea taxus*	CSC	Grassland, scrub, and woodland with loose-textured soils.	Could forage in the site, but suitable prey base of small mammals appears to be low. Closest CNDDB occurrence is at an unknown location mapped at Gordon Ridge, Toto Ranch; approximately 1.3 miles north-northwest to 1.9 miles northeast of San Gregorio.
Mountain lion, Central Coast Evolutionary Significant Unit *Puma concolor*	–/Candidate CT	Various habitats where deer are present, including grassland, woodland, and mountainous terrain.	Suitable habitat present. Could occur within the project site. Species not tracked by the CNDDB.

Source: H.T. Harvey (2017), LSA (2021)

[1] Status Codes:

FE =Federally-listed as an endangered species.
FT = Federally-listed as a threatened species.
CE = State-listed as an endangered species.
CT = State- listed as a threatened species.
CSC = California Species of Special Concern.
1A = California Rare Plant Rank (CRPR): species presumed extinct.
1B = CRPR: plant considered rare, threatened, or endangered in California and elsewhere.
2 = CRPR: plant considered rare, threatened, or endangered in California but more common elsewhere.
3 = CRPR: plants for which more information is needed.
4 = CRPR: Watch List: plants of limited distribution.

[2] Nearest records are based on CNDDB (CDFW 2019) occurrences unless otherwise noted.

If appropriately timed focused botanical surveys cannot be conducted prior to construction activities in areas identified by a qualified biologist as potentially supporting listed plants, then the County will assume presence of the plant species in question.

Of the 33 special-status wildlife species evaluated for the project (Table A), 14 wildlife species either have been observed or are more likely to occur at the project site. These species are discussed as follows.

Monarch Butterfly. The monarch butterfly (*Danaus plexippus*) is a sensitive species that overwinters from October through February along the California coast. Monarchs could roost in the Monterey pine forest on the project site, although no CNDDB occurrences have been recorded and no monarchs were observed during the October 2019 survey. The CNDDB lists a presumed extant record of roosting monarchs approximately 3 miles from the project site.

Suitable habitat may be present for monarch butterfly within the Monterey pine forest, which would be impacted by development of proposed park improvements, and possibly by on-going park operations and management. Implementation of Mitigation Measure BIO-2, which was adapted from the County of San Mateo Routine Maintenance Program Environmental Impact Report, would reduce potential impacts to monarch butterfly to less than significant.

Mitigation Measure BIO-2: If trees within the Monterey pine forest are impacted (trimmed or removed), a focused monarch butterfly survey shall be conducted to determine if monarchs roost in the on-site trees. If found, potential impacts to the trees should be avoided, especially during the winter when monarchs are more likely to be present. The following measures, as adapted from the County of San Mateo Routine Maintenance Program Environmental Impact Report, shall be considered in order to avoid potential impacts to existing or suitable roost sites:

- If, based on a review of current CNDDB records or the latest information available from the Xerces Society (https://xerces.org/state-of-the-monarch-butterfly-overwintering-sites-in-california/) historically or currently occupied overwintering habitat for the monarch butterfly is determined to exist in or adjacent to the work area where ground disturbing activities are planned to occur, the County shall implement applicable protection measures as follows:

    - Areas supporting overwintering habitat for the monarch butterfly shall be identified by a qualified biologist and maintenance activities during fall and winter months when monarch butterflies are present shall be avoided to the extent practicable.

    - Historically or currently occupied trees/groves shall be protected from disturbance by the establishment of a 100-foot buffer zone around the tree/grove. The buffer shall be measured from the outside edge of the dripline of the monarch grove. If maintenance activities within 100 feet of a historically or currently occupied tree/grove are unavoidable, the County shall prepare and implement an impact minimization plan in consultation with the USFWS.

    - No herbicides or pesticides shall be applied to the buffer area, and to the extent feasible, maintenance personnel and equipment shall not operate within such areas

Central California Coast Steelhead. The Central California Coast steelhead (*Oncorhynchus mykiss*) distinct population segment is a federally threatened species that is known to occur in Tunitas Creek, where they could migrate to potential spawning habitat upstream of the project site. Tunitas Creek within the project site is located within the San Mateo Hydrologic Critical Habitat Unit (2202).

If steelhead are present in the creeks or downstream of the creeks near the alignment during project construction, and construction activities release hazardous substances or excessive silt and sediment to enter these streams, steelhead could be negatively impacted. As described in Section 3.10, Hydrology and Water Quality, the proposed project would be required to implement best management practices (BMPs) to reduce the discharge of construction-related stormwater pollutants in compliance with State and local regulations, including the County of San Mateo Watershed Protection Program's Maintenance Standards (2004) and San

Mateo Countywide Water Pollution Prevention Program (SMCWPPP) Construction BMPs. Compliance with these measures would ensure steelhead would not be impacted during construction of project improvements.

As described in Chapter 2, Project Description, the project proposes to install a water system to draw water from Tunitas Creek. According to the Water Supply and Demand Memorandum, a maximum of 5.4 percent yield would be taken from Tunitas Creek during the month of October and no water would be drawn from the creek during the dry season (June-September). As described further in Section 3.19, Mitigation Measure UTIL-1 requires preparation of additional study to ensure sufficient water supply is available to support the proposed ranger residence, without impacting surface water levels in Tunitas Creek. If the study determines that insufficient supply is available, the ranger residence would not be included in the project design and no water would be extracted from Tunitas Creek. Ongoing monitoring would also be required to ensure pumping levels do not impact aquatic species, including steelhead. With implementation of Mitigation Measure UTIL-1, impacts associated with operation of the proposed project would be less than significant.

California Giant Salamander and Santa Cruz Black Salamander. The California giant salamander (*Dicamptodon ensatus*) and Santa Cruz black salamander (*Aneides niger*) are California Species of Special Concern that could occur on the project site. Tunitas Creek supports suitable aquatic breeding habitat for the California giant salamander, while the riparian habitat provides suitable breeding habitat for the Santa Cruz black salamander. The riparian forest and scrub and pine forest provide suitable habitat for both species.

California Red-legged Frog. The California red-legged frog (*Rana draytonii*) is a federally threatened species and California Species of Special Concern that has been recorded on the west side of the Tunitas Creek Bridge within the project site. Although Tunitas Creek provides limited potential breeding habitat, suitable nonbreeding aquatic habitat is present within the creek, and the entire project site, except for the buildings provides suitable dispersal habitat for this species. Critical Habitat (Unit SNM-2) for this species has been designated adjacent to the project site on the east side of Highway 1.

Western Pond Turtle. The western pond turtle (*Emys marmorata*) is a California species of special concern that could inhabit Tunitas Creek due to the presence of suitable plunge pools and basking sites. The project site is not likely to support nesting due to the surrounding upland areas being dominated by coastal scrub and deciduous forest, which provides limited nesting habitat.

San Francisco Garter Snake. The San Francisco garter snake (*Thamnophis sirtalis tetrataenia*) is a federal and State endangered species that could occur along Tunitas Creek and the associated riparian forest and disperse through entire project site. The CNDDB lists several occurrences within 5 miles of the project site.

California red-legged frog, San Francisco garter snake, California giant salamander, Santa Cruz black salamander, and western pond turtle are likely to occur in Tunitas Creek or adjacent riparian habitat. The project has been designed to largely avoid sensitive riparian habitat where these species could occur; however, construction of the proposed water system would require removal of riparian vegetation and disturbance to the creek/creek bank in order to place the pump, storage tank, and piping necessary to draw water from Tunitas Creek. In addition, clearing of vegetation and ground-disturbing activities in other habitat areas have the potential to impact these species, if present during project construction. Implementation of Mitigation Measure BIO-3 would reduce potential impacts to these species to a less than significant level.

> **Mitigation Measure BIO-3:** For ground-disturbing activities within and in proximity to creeks or within riparian woodlands or riparian scrub habitats, the following measures shall be implemented to reduce potential impacts to special-status amphibian and reptile species, including California red-legged frog, San Francisco garter snake, California giant salamander, Santa Cruz black salamander, and western pond turtle. Where applicable, these measures were adapted from the County of San Mateo Routine Maintenance Program Environmental Impact Report.
>
> - The qualified biologist shall conduct employee education training for personnel working on construction or demolition activities. Personnel shall be required to attend the presentation, which shall describe the life cycles and ecology of the California red-legged-frog, San Francisco garter snake, California giant salamander, Santa Cruz black salamander, western pond turtle,

and all other special-status species that could occur on the project site. The training shall also include materials concerning the following topics: sensitive resources, resource avoidance, permit conditions, and possible consequences for violations of State or Federal environmental laws. The training shall cover the mitigation measures, environmental permits, and regulatory compliance requirements, as well as the roles and authority of the monitors and biologists. Printed training material and an attendance sheet shall be provided at the session.

- Prior to implementation of construction work, the County or County's biologist shall submit to the USFWS and CDFW for its review and approval the qualifications of proposed wildlife biologists who will perform pre-activity surveys and on-site monitoring.
- No more than 24 hours prior to the date of initial ground disturbance, a pre-activity survey for the California red-legged frog, San Francisco garter snake, California giant salamander, Santa Cruz black salamander, and western pond turtle shall be conducted by a qualified biologist in the construction area. The survey shall consist of walking the work area limits to ascertain the possible presence of the species. The qualified biologist shall investigate all potential areas that could be used by these species, including examination of mammal burrows. If any adults, subadults, juveniles, tadpoles, or eggs are found, the qualified biologist shall contact the USFWS and/or CDFW to determine if moving any of the individuals is appropriate. If the USFWS/CDFW approves moving animals, the biologist and USFWS/CDFW shall identify a suitable relocation site, and the County shall ensure the qualified biologist is given sufficient time to move the animals from the work site before ground disturbance is initiated. Only qualified biologists shall capture, handle, and monitor the California red-legged frog, San Francisco garter snake, California giant salamander, Santa Cruz black salamander, and western pond turtle.
- To minimize harassment, injury, death, and harm to these species, one of the following two measures shall be implemented.
    - An approved, qualified biologist(s) shall be on-site during all initial construction activities, such as clearing and grubbing of vegetation that may result in take of or impacts to the California red-legged frog, San Francisco garter snake, California giant salamander, Santa Cruz black salamander, and western pond turtle as determined by the biologist.

or

    - Prior to pre-activity surveys, personnel shall enclose the work area with an exclusion fence with a minimum height above grade of 42 inches. Where installation of exclusion fencing completely around the work area is not feasible, exclusion fencing shall be installed between the work area and any adjacent vegetation or sensitive habitat where special-status wildlife species could occur. The bottom of the fence shall either be buried a minimum of 6 inches below ground or otherwise secured in a manner approved by the USFWS/CDFW and shall remain in place during all construction activities in order to prevent special-status amphibians and reptiles from entering the work area. Escape ramps, funnels, or other features that allow animals to exit the work area, but which will prohibit the entry of such animals, shall be provided in the exclusion fencing. A qualified biologist shall conduct a pre-activity survey of the fence installation area immediately prior to (i.e., the day of) the commencement of installation and shall be present to monitor fence installation. The exclusion fencing shall be inspected daily by construction personnel and maintained for the duration of the project.
- The qualified biologist(s) shall be given the authority to freely communicate verbally, by telephone, electronic mail, or in writing at any time with construction personnel, any other person(s) at the work area, otherwise associated with the construction work, the USFWS, the CDFW, or their designated agents. The qualified biologist shall have oversight over implementation of all mitigation measures, and shall have the authority and responsibility to stop work activities if they determine any of the associated requirements are not being fulfilled.

If the qualified biologist(s) exercises this authority, the USFWS/CDFW shall be notified by telephone and electronic mail within 24 hours.

- The project shall minimize adverse impacts to the California red-legged frog, San Francisco garter snake, California giant salamander, Santa Cruz black salamander, and western pond turtle by limiting, to the maximum extent possible, the number of access routes, ground disturbance area, equipment staging, storage, parking, and stockpile areas. Prior to initiating construction work that involves ground-disturbing activities, equipment staging areas, site access routes, sediment removal, and transportation equipment and personnel parking areas, debris storage areas, and any other areas that may be disturbed shall be identified, surveyed by the qualified biologist, and clearly identified with fencing. The fencing shall be inspected by construction personnel and maintained daily until construction is complete.

- To the extent feasible, construction activities shall be conducted from April through October during the dry season when these semi-aquatic species are less likely to be found in a work area. To the extent practicable, ground-disturbing activities shall be avoided from October through April because that is the time period when California red-legged frogs other semi-aquatic species are most likely to be moving through upland areas. When ground-disturbing activities occur between November 1 and March 31, the County shall ensure that daily monitoring by the qualified biologist is completed for California red-legged frogs and other special-status amphibians and reptiles.

- To avoid harassment, injury, death, and harm to individual San Francisco garter snakes, immediately prior to (i.e., the day of) the initiation of construction e activities that have potential for take of the San Francisco garter snake, a USFWS and CDFW-approved biologist shall conduct daytime surveys throughout the project site. The approved biologist shall be present during initial ground-disturbing activities (i.e., clearing and grubbing) within 250 feet of the work area to monitor for individual garter snakes. If a San Francisco garter snake is observed within the work area, either during the pre-activity survey or at any time, activities that could potentially harm the individual shall cease and the USFWS and CDFW shall be contacted immediately. Work shall not re-commence without written approval from CDFW. The on-site biologist shall be the contact for any employee or contractor who might inadvertently kill or injure a garter snake or anyone who finds a dead, injured, or entrapped San Francisco garter snake.
- For vegetation removal in suitable San Francisco garter snake habitat, vegetation shall be cut down to 3 inches by hand-tools (weedwhacker, etc.). Once the ground is visible, a visual survey for San Francisco garter snakes shall be conducted. If no special-status amphibians or reptiles are found in the area, removal of vegetation may continue very slowly with a biological monitor walking in front of the equipment to observe.

- When a California red-legged frog, San Francisco garter snake, California giant salamander, Santa Cruz black salamander, or western pond turtle is encountered in the work area, all activities that have the potential to result in the harassment, injury, or death of the individual shall be immediately halted. The qualified biologist shall then assess the situation in order to select a course of action that shall avoid or minimize adverse impacts to the animal. To the maximum extent possible, contact with the animal shall be avoided and the individual shall be allowed to move out of the work area to a secure location on its own volition.

- California red-legged frogs, San Francisco garter snakes, California giant salamanders, Santa Cruz black salamanders, and western pond turtles that are in danger shall be relocated and released by the qualified biologist outside the work area within the same riparian area or watershed. If relocation of the individual outside the work area is not feasible (i.e., too many individuals are observed per day), the biologist shall relocate the animals to a USFWS/CDFW pre-approved location. Prior to the initial ground disturbance, the County shall obtain approval of the relocation protocol from the USFWS/CDFW in the event that a California red-legged frog, San Francisco garter snake, California giant salamander, Santa Cruz black salamander, or western pond turtle is encountered and needs to be moved away from the work site. Under no circumstances shall the animal be released on a site unless the written permission of the

landowner has been obtained by the County. The qualified biologist shall limit the duration of the handling and captivity of the animals to the minimum amount of time necessary to complete the task. If the animal must be held in captivity, it shall be kept in a cool, dark, moist, aerated environment, such as a clean and disinfected bucket or plastic container with a damp sponge. The County shall immediately notify the USFWS and CDFW once the animal and the site is secure.

- If California red-legged frog egg masses are present and work cannot be postponed until after hatching, a buffer of vegetation at least 10 feet in diameter shall be left around any egg masses found. The County shall keep a record of any sites where egg masses are found and will conduct vegetation removal between June 15 and October 15. Work within the channel shall avoided in order to avoid dislodging egg masses. Construction activities shall be performed from the banks.
- If California giant salamander eggs or larvae are found, the qualified biologist shall establish a buffer around the location of the eggs/larvae and work may proceed outside of the buffer zone. No work shall occur within the buffer zone. Work within the buffer zone shall not occur until the time that eggs have hatched and/or larvae have metamorphosed, or the County shall contact CDFW to develop site appropriate avoidance and minimization measures.
- If an active western pond turtle nest is detected within the activity area, a 10-foot buffer zone around the nest shall be established and maintained during the breeding and nesting season (April 1 – August 31). The buffer zone shall remain in place until the young have left the nest, as determined by a qualified biologist.
- To minimize harassment, injury, death, and harm in the form of temporary habitat disturbances, all vehicle traffic shall be restricted to established roads, sediment removal and access areas, equipment staging, storage, parking, and stockpile areas. These areas shall be included in pre-activity surveys and, to the maximum extent possible, established in locations disturbed by previous activities to prevent further adverse impacts. Vehicles shall observe a 20-mile per hour speed limit within work areas, except on Highway 1. Off-road traffic outside of designated and fenced work areas shall be prohibited.
- A litter control program shall be instituted at the project site. All workers shall ensure their food scraps, paper wrappers, food containers, cans, bottles, and other trash are deposited in covered or closed trash containers. The trash containers shall be removed from the site at the end of each working day.
- For on-site storage of pipes, conduits and other materials that could provide shelter for special-status amphibians and reptiles, materials shall be securely capped prior to storage or an open-top trailer will be used to elevate the materials above ground. This method is intended to reduce the potential for animals to climb into the conduits and other materials.
- To the maximum extent practicable, no construction activities shall occur during rain events or within 24-hours following a rain event. Prior to maintenance activities resuming, a qualified biologist shall inspect the work area and all equipment/materials for the presence of special-status amphibians and reptiles. The animals shall be allowed to move away from the work site of their own volition or moved by the qualified biologist.
- To the maximum extent practicable, night-time construction activities shall be minimized or avoided by the County. Because dusk and dawn are often the times when the California red-legged frog most actively moving and foraging, to the maximum extent practicable, earth-moving and other project activities shall cease no less than 30 minutes before sunset and shall not begin again prior to 30 minutes after sunrise. Artificial lighting in the work area shall be prohibited during the hours of darkness.
- Plastic monofilament netting (erosion control matting), loosely woven netting, or similar material in any form shall not be used at the project site because amphibians and reptiles can become entangled and trapped in them. Any such material found on site shall be immediately removed by the qualified biologist, maintenance personnel, or County contractors. Materials

utilizing fixed weaves (strands cannot move), polypropylene, polymer or other synthetic materials shall not be used.

- Trenches or pits 1-foot or deeper that are going to be left unfilled for more than 48 hours shall be securely covered with boards or other material to prevent special-status amphibians and reptiles from falling into them. If this is not possible, the County shall ensure wooden ramps or other structures of suitable surface that provide adequate footing for the animal are placed in the trench or pit to allow for their unaided escape. Auger holes or fence post holes that are greater than 0.1-inch in diameter shall be immediately filled or securely covered so they do not become pitfall traps for the animal. The qualified biologist or trained construction personnel shall inspect the trenches, pits, or holes prior to their being filled to ensure no animals are in them. The trench, pit, or hole also shall be examined by the qualified biologist each workday morning at least one hour prior to initiation of work and in the late afternoon no more than one hour after work has ceased to ascertain whether any individuals have become trapped. If the escape ramps fail to allow the animal to escape, the qualified biologist shall remove and transport it to a safe location, or contact the USFWS/CDFW for guidance.
- As part of the U.S. Army Corps of Engineers (Corps) permit application, a USFWS take permit (Biological Opinion) may be needed for the California red-legged frog and San Francisco garter snake, since they are federally listed species. CDFW may recommend a Section 2081 Incidental Take Permit if the proposed project has the potential to impact the San Francisco garter snake, since this species is listed by the State of California. The Parks Department shall comply with all conditions of incidental take permits issued for the project. Conditions may include, but are not limited to, development of revegetation and restoration plans and procedures, environmental awareness training, pre-construction wildlife surveys, and/or biological monitoring, some or all of which are already included as part of the mitigation measures described herein. (None of the other remaining special-status species are State-listed).

Western Snowy Plover. The western snowy plover is a federally threatened species that occurs within the coastal dunes and beach at the project site. Approximately 25 western snowy plovers were observed during the October 2019 survey in the coastal dune community south of the Tunitas Creek mouth. Snowy plovers were also observed in January and February 2018. California Department of Parks and Recreation volunteers conducted winter and breeding surveys at Tunitas Creek Beach off and on since 2004, which resulted in snowy plover observations during the winter but none during the breeding season within the last ten years. Surveys completed in 2018, 2019, and 2020 resulted in numerous snowy plovers observed between January and April and then again between August and April, but no snowy plovers observed during May, June, and July when snowy plovers typically nest. The year 2005 was the last year when they were recorded nesting at Tunitas Creek Beach. Critical habitat is located approximately 8 miles north of the project site. Snowy plovers were recorded as breeding at Tunitas Creek Beach in 1998, 2000, and 2005, but their current nesting status on the beach is uncertain.

As shown in Figure 3, the proposed project would include establishment of a snowy plover protection area where suitable habitat for snowy plover exist. Consistent with the recommendations outlined in the Snowy Plover Avoidance and Minimization Plan, seasonal restrictions would be established during the breeding season for these areas and signage would be installed to alert beach visitors to the potential presence of western snowy plover.

San Francisco Common Yellowthroat. The San Francisco common yellowthroat is a California Species of Special Concern that forages and likely breeds at the project site. Suitable breeding habitat is present within the red alder forest, riparian scrub, and coastal scrub. A foraging common yellowthroat was observed at the mouth of Tunitas Creek during the October 2019 survey. This species has also been observed during the breeding season at the project site.

White-tailed Kite. White-tailed kites (*Elanus leucurus*) is a California Fully Protected species that could nest in the large shrubs and trees on or adjacent to the site. No stick nests were observed in any of the trees during the October 2019 survey.

Nests of all native bird species are protected under Section 3503 of the California Fish and Game Code, which prohibits the take, possession, or needless destruction of the nest or eggs of any bird. The federal Migratory Bird Treaty Act also protects nesting birds. The project site provides suitable nesting habitat for resident bird species such as white-tailed kite (a California Fully Protected Species), California scrub-jay, and black phoebe, among others. If conducted during the nesting season (typically defined by as February 1 to August 31), project activities could impact nesting birds by removing vegetation or structures containing active nests and/or causing nest abandonment and subsequent reproductive failure due to prolonged loud construction noise. This impact can be reduced to a less-than-significant level with implementation of Mitigation Measure BIO-4. With implementation of Mitigation Measure BIO-4, impacts to snowy plover, San Francisco common yellowthroat, white-tailed kite and other nesting birds would also be less than significant.

> **Mitigation Measure BIO-4A:** If construction activities occur between February 1 and August 31, pre-activity survey for nesting birds (special-status and common bird species) shall be conducted by a qualified biologist to ensure that no nests would be disturbed during project implementation. These surveys shall be conducted no more than seven days prior to the initiation of construction activities. During this survey, the biologist shall inspect all trees and other potential nesting habitats (e.g., trees, shrubs, coastal strand, coastal dunes, structures) in and immediately adjacent to the impact areas for nests. If an active nest is found sufficiently close to work areas to be disturbed by these activities, the biologist shall determine the extent of a construction-free buffer zone to be established around the nest (typically 300 feet for raptors and 100 feet for other species), to ensure that no nests of species protected by the Migratory Bird Treaty Act and/or California Fish and Game Code would be disturbed during project implementation. The boundary of each buffer zone shall be marked with fencing, flagging, or other easily identifiable marking if construction work occurs immediately outside the buffer zone. No trees or shrubs shall be disturbed that contain active bird nests until all eggs have hatched, and young have fully fledged (are no longer being fed by the adults and have completely left the nest site), or if the nest is determined by the biologist to no longer be active.
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> If possible, all potential nesting substrates (e.g., bushes, trees, grasses, and other vegetation) that are planned for removal as part of the project shall be removed prior to the start of the nesting season (e.g., prior to February 1).
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> **Mitigation Measure BIO-4B:** To the extent feasible, construction activities within 600 feet of suitable snowy plover breeding habitat shall occur outside the plover breeding season of March 1 through September 14. If construction activities occur within 600 feet of suitable snowy plover breeding habitat during the nesting season (March 1 through September 14), a pre-activity survey shall be conducted by a qualified biologist within 7 days prior to the start of the activity to determine whether active nests are present. If an active snowy plover nest is detected within 600 feet of the construction area, the qualified biologist, in coordination with USFWS personnel, shall determine an appropriate buffer that should remain free from construction activities. The buffer shall be determined based on the sensitivity of the nest, the presence of visual barriers (such as dunes) between the construction activities and the nest, and the level and proximity of existing human activity around the nest when it was established. The buffer shall remain in place until the nest is no longer active. If broods of unfledged snowy plover young are present, no construction activities shall occur within 300 feet (or as otherwise determined by a qualified biologist in coordination with the USFWS) of a brood.
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> As part of the Corps permit application, a USFWS take permit (Biological Opinion) may be needed for the western snowy plover, since this species is federally listed. The Parks Department shall comply with all conditions of incidental take permits issued for the project.

San Francisco Dusky-Footed Woodrat. The San Francisco dusky-footed woodrat (SFDFW) is a California Species of Special Concern that occurs on the project site. One woodrat house was observed near the site along the north side of Tunitas Creek within the red alder riparian forest during the October 2019 survey and 11 woodrat houses were observed on the project site in 2017, some of which exhibited signs of current use.

Construction of the proposed project and ongoing maintenance activities could adversely impact SFDFW if they are present during project construction or if construction impacts their houses. Implementation of the following mitigation measure, as adapted from the County of San Mateo Routine Maintenance Program Environmental Impact Report, would reduce potential impacts to SFDFW to a less-than-significant level.

Mitigation Measure BIO-5: No more than two weeks prior to the beginning of ground disturbance that could disturb SFDFW houses, a qualified biologist shall survey the work areas. If SFDFW houses are found, the houses shall be flagged and construction fencing or flagging that will not impede the movement of the SFDFW shall be placed around the nest to create a 10-foot buffer (where feasible). If a SFDFW house is identified in a work area, the following shall be implemented:

- Physical disturbance of the house shall be avoided if feasible. If possible, a minimum 10-foot buffer shall be maintained between maintenance construction activities and each nest to avoid disturbance. In some situations, a smaller buffer shall be allowed if in the opinion of a qualified biologist removing the nest would be a greater impact than that anticipated as a result of the project.

- If a dusky-footed woodrat nest cannot be avoided, prior to the beginning of construction activities, a qualified biologist shall disturb the SFDFW house to the degree that all SFDFW leave the house and seek refuge outside of the maintenance activity area. Relocations efforts shall avoid the nesting season (February - July) to the maximum extent feasible. Disturbance of the SFDFW house shall be initiated no earlier than one hour before dusk to minimize the exposure of woodrats to diurnal predators. Subsequently, the biologist shall dismantle and relocate the house material by hand. All material from dismantled houses shall be placed in a pile, preferably against a log or tree trunk, in suitable habitat located at least 20 feet from, but otherwise as close as possible to, the original house locations, to provide material for SFDFW to construct new houses. During the deconstruction process, the biologist shall attempt to assess if juveniles SFDFW are present in the house. If immobile juveniles are observed, the deconstruction process shall be discontinued until a time when the biologist believes the juveniles will be fully mobile. A 10-foot wide no-disturbance buffer shall be established around the nest until the juveniles are mobile. The house may be dismantled once the biologist has determined that adverse impacts on the juveniles would not occur. All disturbances to SFDFW houses shall be documented in a construction monitoring report and submitted to CDFW.

- A qualified biologist shall set two traps around each of the SFDFW houses to be relocated. Traps shall be set within one hour prior to sunset, and baited with a mixture of peanut butter, oats, and apples, or other suitable bait. Traps shall also be equipped with cotton bedding and covered with cardboard. The traps shall be checked the following morning, within one-and-a-half hours of sunrise. If a SFDFW is captured, it shall be placed in a quiet area while its house material is relocated; the SFDFW will then be released at the relocated structure. If no SFDFW are captured after the first night, the biologist shall set the traps for one additional evening to increase the probability of capturing the SFDFW and ensuring a safe relocation. If no SFDFW are captured at a given house after two nights, it shall be assumed that the house is not currently occupied. Trapping shall only be conducted outside the breeding season, which for SFDFW is from February through the end of July. If a litter of young is found or suspected while dismantling a house for relocation, the house material shall be replaced, any trapped SFDFW shall be returned to the house, and the house shall be left alone for 2 to 3 weeks, after which time the house shall be rechecked to verify that the young are capable of independent survival, as determined by the qualified biologist, before proceeding with dismantling of the house.

Townsend's Big-Eared Bat. The Townsend's big-eared bat is a California Species of Special Concern that was observed roosting in the unoccupied house during surveys conducted in March 2017 and October 2019. Although no abundant sign indicating historical presence of a maternity colony (i.e., large amounts of guano) was observed during either site visit, March is a transition month between the winter hibernation season and the maternity season in this region, and October is during the winter season. The house appears to provide a winter roost for a few individual bats but could also support a maternity colony.

Pallid Bat. The pallid bat (*Antrozous pallidus*) is a California Species of Special Concern that could roost in the unoccupied house and in the large trees on the project site and could forage on the site. No pallid bats were detected during a focused search of the two structures on the project site and none were recorded by the bat acoustic detector used for the 2017 surveys. No pallid bats were observed in the house, but some bat guano was observed, which may been guano from pallid bats, but the lack of large amounts of guano indicates that no large pallid bat maternity colonies occupy, or have occupied, the house.

Western Red Bat. The western red bat (*Lasiurus blossevillii*) is a California Species of Special Concern that roosts in large trees, often associated within riparian habitat. This species could roost in the trees within and adjacent to the project site. This species could roost on the site, but would not breed at or near the project site.

The proposed project would impact a known bat roost within the unoccupied house. In addition, construction and maintenance activities could directly impact roosting bats if these activities result in the removal of trees or structures with bat roosts or result in the disruption or abandonment of nearby active bat roosts. Implementation of Mitigation Measures BIO-6A and BIO-6B, as adapted from the County of San Mateo Routine Maintenance Program Environmental Impact Report, would reduce potential impacts to roosting bats to less than significant.

> **Mitigation Measure BIO-6A:** Prior to demolition, a qualified biologist should conduct an additional survey during the summer maternity season (ideally June) to determine whether the unoccupied house supports a Townsend's big-eared bat maternity colony or whether the site is only used by wintering bats or by males. If the roost is occupied, and can be avoided, a qualified biologist should develop a plan to preserve and secure the roost for future use by bats.
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> Prior to building demolition or modification, a qualified biologist should conduct a focused survey for bats within any structures to be demolished. If any bats are found, but they do not represent an active maternity roost, they shall be excluded from the building through installation of one-way doors, closure of potential entry points, or use of acoustic deterrents. Alternatively, opening up the structure (i.e., removal of boards from windows and doors, removal of roof sections) should increase wind flow through the structure and may also deter bats from roosting. A qualified biologist should consult on the methods used to exclude bats.
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> If a maternity colony is present, then no demolition or modification of the roost site, nor of any areas within 100 feet of the roost site and any points of ingress or egress, should occur during the period April 1 to August 31 (or until young are demonstrated to be flying well). After August 31 (or after the young are flying), then bat exclusion can proceed. No exclusion should occur during rainy or cold conditions.
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> If a Townsend's big-eared bat maternity colony is confirmed in the unoccupied house, and demolition or modification (to the point that bats no longer use the building) of this structure cannot be avoided, replacement maternity roost habitat should be provided on the site. Note that bat boxes and bat condominiums do not provide suitable replacement habitat for Townsend's big-eared bats. Rather, larger, more cavernous bat structures are required to replace maternity roost habitat for this species. The replacement roost structure should be designed and sited in consultation with a qualified biologist. The structure should be monitored for a period of 5 years to determine whether it is occupied. Success of the habitat replacement should be achieved if the roost structure is determined by a qualified biologist to provide similar thermal and light conditions to those that exist in the unoccupied house that is currently being used as a roost site.

Mitigation Measure BIO-6B: A qualified biologist shall conduct a survey to look for evidence of bat use within two weeks prior to the onset of work activities. If evidence of bat occupancy is observed, or if high-quality roost sites are present in areas where evidence of bat use might not be detectable (such as a tree cavity), an evening survey and/or nocturnal acoustic survey may be necessary to determine if roosting bats are present and to identify the specific location of the bats. If no active maternity colony or non-breeding bat roost is located, project work can continue as planned. If an active maternity colony or non-breeding bat roost is located, the construction work shall be redesigned to avoid disturbance of the roosts, if feasible. If an active maternity colony is located, and the project cannot be redesigned to avoid removal or disturbance of the occupied tree or structure, disturbance shall not take place during the maternity season (March 15 – July 31), and a disturbance-free buffer zone (determined by a qualified bat biologist) shall be established during this period. If an active non-breeding bat roost is located, and the project cannot be redesigned to avoid removal or disturbance of the occupied tree or structure, the individual bats shall be safely evicted between August 1 and October 15 or between February 15 and March 15 (as determined in consultation with CDFW). Bats may be evicted through exclusion only after notifying and obtaining approval from CDFW. Trees with roosts that need to be removed shall first be disturbed at dusk, just prior to removal that same evening, to allow bats to escape during the darker hours.. Roosts may only be removed once the bats are no longer occupying the roost, at which time, a plan approved by CDFW may be implemented for removal of the roost. The plan shall describe appropriate methods for the removal of the roost. As part of CDFW's approval, a new roost site may be required to be created on the project site. Active day roosts of tree-foliage bats may be removed upon permission of CDFW.

If feasible, trees planned for pruning or removal as a part of the project, shall be pruned or removed during the fall to avoid the maternity roosting period of resident bats (mid-April to August season). Western red bats are less likely to be present and roosting in the trees on and adjacent to the project site during the spring and summer, but other bats may be roosting during this period. Because bats may be present at any time, a pre-construction survey by a qualified biologist shall be required as outlined above regardless of timing of tree or structure removal and a suitable buffer zone established around detected roosts.

Pruned limbs or cut trees shall be left on the ground in place for at least 24 hours after cutting to allow any bats that may be roosting in the trees to leave the roosts prior to chipping the branches or removing the cut material from the site. Before any construction activities begin in the vicinity of the identified bat roosts on the project site, an approved biologist shall conduct a training session for all construction personnel. At a minimum, the training shall include a description of the bats and their habitat, the specific measures that are being implemented to conserve the bat roosts for the project, and the boundaries within which the project may be accomplished. Brochures, books, and briefings may be used in the training session. A qualified biologist shall conduct the training session.

b) **Less-Than-Significant with Mitigation Incorporated.** The CDFW tracks the occurrences of natural plant communities that are of limited distribution Statewide or within a county or region and are often vulnerable to environmental effects of projects. A Manual of California Vegetation, lists vegetation alliances with State rarity rankings of S1-S3 as considered "highly imperiled" and project impacts to "high-quality occurrences" of these alliances could be considered significant under CEQA. Most types of wetlands and riparian communities are also considered sensitive natural communities due to their limited distribution in California.

The CNDDB does not identify any sensitive natural communities on or adjacent to the site. However, the riparian forest and scrub, streams, wetlands, and coastal dunes would be considered sensitive habitat under CEQA. The Monterey pine forest that occurs at the project site is not considered a native stand and therefore would not be considered sensitive under CEQA.

In addition, all riparian forest and scrub, wetlands, and streams on the project site are considered jurisdictional coastal wetlands by the California Coastal Commission. The project site is located within the coastal zone

limits of an existing County Local Coastal Program (LCP). The LCP for this project location includes riparian corridors, wetlands, marine habitats, sand/coastal dunes, sea cliffs, coastal bluffs, and special-status species habitat as sensitive habitat. Since these sensitive habitat types are present on the project site, future development would require approval of a coastal development permit.

The proposed project has been designed to avoid impacts to sensitive communities, including riparian areas, to the extent possible. However, the proposed project would result in impacts to Tunitas Creek and its associated riparian vegetation, as well as intermittent and ephemeral streams at the project site.

Construction of the proposed water system would require removal of riparian vegetation and placement of structures within Tunitas Creek and atop the creek bank, including a well head, pump and pipe to draw water from the creek and transport it to the holding tanks at the top/mid bluff. Impacts to riparian habitat are considered significant.

As shown in Figure 8, a loop trail is proposed from the parking area at the Top Bluff to the beach, extending through the southern portion of the project site. The loop trail would require a stream crossing, which could impact the stream, depending on the method of crossing. If a rock ford was constructed within the streambed for the crossing, then the stream would be impacted and impacts would need to be mitigated. If a bridge crossing is proposed that fully spans the stream, then impacts would be minimal (perhaps only minor shading of the stream), and no mitigation would likely be required. The loop trail may also impact riparian scrub vegetation associated with the intermittent and ephemeral streams.

Impacts to Tunitas Creek, the intermittent and ephemeral streams, and the freshwater marsh and associated riparian vegetation would require a U.S. Army Corps of Engineers (Corps) Nationwide Permit, Regional Water Quality Control Board (RWQCB) Water Quality Certification, and/or CDFW Streambed Alteration Agreement, which would require mitigation, annual monitoring, and reporting as part of permit compliance. If riparian vegetation is impacted during project construction or ongoing maintenance activities, implementation of the following mitigation measures would reduce potential impacts to riparian habitat to a less-than-significant level.

> **Mitigation Measure BIO-7A:** If native riparian trees or shrubs are impacted during project construction, the impacted trees shall be replaced at a minimum 1.5:1 ratio (meaning 1.5 acres of riparian habitat shall be restored/created for every 1 acre of riparian habitat impacted by the project. The native riparian species shall be replaced in-kind preferably from phytophthera-free container stock as appropriate, propagated from local genetic stock (i.e., San Francisco Bay region). Any temporarily disturbed areas within the riparian woodland shall be seeded with an appropriate native seed mix. Appropriate permits from CDFW and possibly RWQCB would need to be obtained and any monitoring and reporting requirements stated within the permits, including preparation and implementation of a mitigation and monitoring plan would have to be completed.
>
> **Mitigation Measure BIO-7B:** If needed, the project shall design and construct low impact stream crossings that would include a wooden walkway/boardwalk, or similar structure to avoid potential impacts to the streams. The crossings shall be designed to accommodate high flows and be regularly maintained. Footings for the crossings shall be sited fully outside of the banks and channel of the streams.
>
> **Mitigation Measure BIO-7C:** The project contractor shall implement applicable BMPs and conservation measures detailed in the County of San Mateo Watershed Protection Program's Maintenance Standards and the San Mateo Countywide Pollution Prevention Program Construction BMPs during construction**.**
>
> **Mitigation Measure BIO-7D:** To protect water quality during construction and maintenance, the following measures shall be included on the construction specifications, with construction oversight by a qualified biologist or biological monitor:

- Stationary equipment such as motors, generators, and welders located within 100 feet of the stream shall be stored overnight at staging areas and shall be positioned over drip pans.

- Any hazardous or toxic materials deleterious to aquatic life that could be washed into a basin shall be contained in watertight containers or removed from the project site.

- All construction debris and associated materials stored in staging areas shall be removed from the work site upon completion of the project.

- Whenever possible, refueling of equipment shall take place within turnouts or staging areas at least 50 feet from the top of bank or other wetland.

- All refueling shall be conducted over plastic bags filled with sawdust or other highly absorbent material. Clean-up materials for spills shall be kept on hand at all times. Any accidental spills of fuel or other contaminants shall be cleaned up immediately. The project contractor shall install protective fencing prior to and during construction to keep construction equipment and personnel from impacting riparian vegetation outside of work limits. A qualified biologist or biological monitor with the education and experience necessary to delineate riparian vegetation shall supervise the installation of protective fencing.

Mitigation Measure BIO-7E: The Parks Department shall obtain a Coastal Development Permit as required for project activities. The Parks Department shall comply with all conditions of permit issued for the project. Conditions may include, but are not limited to, development of revegetation and restoration plans and procedures, environmental awareness training, pre-construction wildlife surveys, and/or biological monitoring, some or all of which are already included as part of the mitigation measures described above.

Mitigation Measure BIO-7F: A Revegetation Plan shall be prepared by a qualified biologist to revegetate and restore impacted habitat. This plan shall include a list of appropriate species, planting specifications, monitoring procedures, success criteria, and a contingency plan if success criteria are not met.

c) **Less-Than-Significant with Mitigation Incorporated**. Potential wetland features subject to Corps jurisdiction pursuant to Section 404 of the federal Clean Water Act within the site consist of Tunitas Creek, the unnamed ephemeral stream, two unnamed intermittent streams, and the freshwater marsh. The proposed project has been designed to avoid impacts to Tunitas Creek, the streams, and freshwater marsh, to the extent feasible. Tunitas Creek, the intermittent and ephemeral streams, and freshwater marsh would be considered waters of the U.S. and would fall under the jurisdiction of the Corps, RWQCB, and CDFW. The beach habitat on or adjacent to the project site that extends west of the high tide line would be considered waters of the U.S./State. As described above, impacts to these water features would require a Corps Nationwide Permit, CDFW Streambed Alteration Agreement, and RWQCB Water Quality Certification.

As described above, the proposed domestic water system would require construction work and placement of structures within Tunitas Creek and atop the creek bank. In addition, the proposed trail crossing may require placement of fill within the intermittent stream on the project site. Construction, operation, and maintenance of these proposed improvements would result in impacts to wetlands and other waters. Implementation of standard Best Management Practices (BMPs), as described above and outlined in Section 2.0, Project Description, would minimize potential indirect impacts caused from erosion, construction materials, wastewater discharges, and other potential impacts to water quality of these features during and after construction. However, impacts to wetlands and other waters would be a potentially significant impact. This impact can be reduced to a less-than-significant level through implementation of mitigation measures BIO-7C through BIO-7F, identified above and Mitigation Measures BIO-8A and BIO-8B, described below. With implementation of these mitigation measures, impacts to wetlands and other waters would be less than significant.

Mitigation Measure BIO-8A: Impacts to areas of wetland and other water shall be avoided to the greatest extent possible. If impacts to areas of wetlands and other water is unavoidable, the area impacted shall be confined to the smallest area possible.

Mitigation Measure BIO-8B: For project activities that impact wetlands or other waters requiring permits from the Corps, RWQCB, and/or CDFW, the project proponent shall obtain permits and comply with all permit requirements. For on-site, in-kind mitigation, the County shall mitigate impacts to wetlands by restoring, preserving, and managing wetlands and aquatic habitats, or substantially improve the quality of highly degraded wetlands and aquatic habitats at a ratio of 1.5:1 (meaning 1.5 acres of wetlands or other waters shall be restored/created for every 1 acre of wetlands and other waters permanently impacted by the project). For off-site, in-kind mitigation, the County shall acquire, preserve, enhance, and manage lands that provide similar ecological functions and values to the wetlands and other waters impacted by project. The acquisition and preservation/enhancement of these higher quality lands shall occur at a ratio of 3:1 (meaning 3 acres of wetlands or other waters shall be acquired, preserved, and enhanced for every 1 acre of wetlands and other waters impacted by the project). Enhancement may include modification of existing management, limited planting, or invasive plant removal, or other activities to enhance wetland/aquatic habitat functions and values.

d) **Less Than Significant with Mitigation Incorporated**. The project area consists of open space and provides habitat for local and regional wildlife movement. Implementation of the proposed project would not create any significant new permanent barriers to terrestrial or aquatic wildlife movement. The primary wildlife movement corridor at the site is Tunitas Creek and its associated riparian habitat. Tunitas Beach and the associated coastal scrub also provides habitat for the movement of several species. The project site currently contains a driveway and building. Proposed improvements at the project, including trails, restroom, ranger station, ranger residence, and gathering areas, are not expected to significantly impact existing movement of wildlife.

The project would impact a potential wildlife nursery site for Townsend's big-eared bat, within the unoccupied building. Mitigation Measure BIO-6A and BIO-6B would reduce potential impacts to roosting Townsend's big-eared bat. Mitigation Measure BIO-4 would also reduce potential impacts to nesting birds. No other wildlife nursery sites, such as heron rookeries, are not known to occur at the site. Tunitas Creek supports habitat for steelhead and other fish species that may use the creek as a nursery site, but the water level and habitat within the creek would not be significantly impacted by the project with implementation of Mitigation Measure UTIL-1. Therefore, with implementation of these mitigation measures, potential impacts to wildlife nursery sites would be less than significant with mitigation incorporated.

e) **Less-Than-Significant Impact.** All riparian forest and scrub, wetlands, and streams on the project site are considered jurisdictional coastal wetlands by the California Coastal Commission. The project site is located within the coastal zone limits of the San Mateo County Local Coastal Program (LCP). The LCP for this project location includes riparian corridors, wetlands, marine habitats, sand/coastal dunes, sea cliffs, and special-status species habitat as sensitive habitat.

The proposed project, which is a public project being undertaken by the County, would be subject to the policies, requirements, standards and conditions of the General Plan and the County's LCP, given its location in the Coastal Zone. Therefore, the proposed project would be required to comply with Chapter 16.30 Riparian Corridor and Wetland Protection, Chapter 16.32 Sensitive Habitat Protection, and Chapter 16.34 Significant Tree Protection of the LCP and obtain a Coastal Development Permit prior to development.

Several mature trees on the project site are protected by the County's tree protection ordinance. The County typically requires a permit for the trimming or removal of "significant trees" and may require an arborist report with the permit application for trees that may need to be trimmed or removed. Replacement of impacted trees at a minimum 1:1 ratio would likely be required as part of the permit. The ordinance defines "significant trees" as any live woody plant rising above the ground with a single stem or trunk of a circumference of 38 inches or more measured at 4.5 feet vertically above the ground or immediately below the lowest branch,

whichever is lower, and having the inherent capacity of naturally producing one main axis continuing to grow more vigorously than the lateral axes.

Compliance with these ordinances would ensure that implementation of the proposed project would not conflict with any local policies or ordinances protecting biological resources. This impact would be less than significant.

f) **No Impact**. The project site is not subject to the provisions of any Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan.

3.5. CULTURAL RESOURCES

Thresholds per CEQA Checklist

ENVIRONMENTAL IMPACTS	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Source(s)
Would the project:					
a) Cause a substantial adverse change in the significance of a historical resource pursuant to in §15064.5?		X			1, 2, 26, 27, 30, 34, 47
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?		X			1, 2, 26, 27, 30, 34, 47
c) Disturb any human remains, including those interred outside of dedicated cemeteries?			X		1, 2, 26, 27, 30, 34, 47

Explanation
CEQA defines a "historical resource" as a resource which meets one or more of the following criteria:

- Listed in, or eligible for listing in, the California Register of Historical Resources (California Register);
- Listed in a local register of historical resources as defined in Public Resources Code (PRC) Section 5020.1(k);
- Identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code; or
- Determined to be a historical resource by a project's lead agency (PRC Section 21084.1 and State CEQA Guidelines Section 15064.5[a]).

The California Register defines a "historical resource" as a resource that meets one or more of the following criteria: (1) associated with events that have made a significant contribution to the broad patterns or local or regional history of the cultural heritage of California or the United States; (2) associated with the lives of persons important to local, California, or national history; (3) embodies the distinctive characteristics of a type, period, region, or method of construction or represents the work of a master or possesses high artistic values; or (4) has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation. Under CEQA, historical resources can include precontact (i.e., Native American) archaeological deposits, historic-period archaeological deposits, historic buildings, and historic districts.

LSA conducted a cultural resources study for the proposed project consisting of background research and a field survey. The results of the study are summarized below.

Background Research. Background research consisted of a records search, aerial imagery and map review, and coordination with potentially interested parties to identify cultural resources at the project site. A records search at the Northwest Information Center of the California Historical Resources Information System in Rohnert Park was conducted on March 3, 2019. The Northwest Information Center is the official state repository of cultural resource records and reports for San Mateo County.

The records search identified two previously recorded precontact-period cultural resources on the project site that are likely the same site. CA-SMA-2 was recorded in 1949 as the Tunitas Glen Shellmound, a deposit of midden and shell detritus. The record states it is likely the same site as CRHL-375, recorded in 1940 as the "Tunitas Beach Indian Village Site on Portola Route." In 2006, no evidence of the site was observed during an archaeological survey of the

area. The Tunitas Beach Indian Village Site on the Portola Route is designated as California Historical Landmark #375. The landmark application was submitted in 1940. The plaque was not observed during a 1959 Historical Landmark inventory survey, and the site was not visited during a 1982 Historical Landmark inventory survey due to being located on private property. Four studies have been conducted within or in proximity to the project site, including two large-scale reconnaissance reports.

Native American Heritage Commission (NAHC) Sacred Lands File. On October 11, 2019, a request was submitted to the NAHC to review its Sacred Lands File for the project site. LSA also requested a list of geographically affiliated tribal groups that may be interested in the project and may request consultation pursuant to Assembly Bill 52 (AB 52). On October 23, 2019, the NAHC provided negative search results and a list of tribal members who may have interest in the project.

Historical Society Outreach. In late 2019, outreach to various historic societies, including the Half Moon Bay Historical Association, and the San Mateo Historical Society was conducted to request any information or concerns about the existing residence on the project site, including information pertaining to past ownership of the property. Both of these organizations responded that a search of their records was negative for any information regarding past owners or occupants of the building.

Native American Outreach. County sent a consultation letter to the currently recognized Native American representatives for the County in accordance with AB 52. To date, no tribes have requested consultation pursuant to Public Resources Code section 21080.3.1

Historic-Period Aerial Photograph and Map Review. A review of historic-period aerial imagery and maps was conducted to determine the age of the extant structures and buildings observed on the project site. A 1953 aerial image depicts a building and structures along a dirt road on the project site, as well as one building near Tunitas Creek. A 1960 aerial image depicts the residence and four other buildings. A 1980 aerial image depicts the dirt road nearly overgrown and it is unclear if the buildings and structures depicted on the 1953 aerial image are present. By 1995, the only buildings depicted on the topographical map include the existing residence and two buildings.

Field Survey. A pedestrian survey of the project was conducted on October 14, 2019. The field survey did not identify any archaeological cultural resources on the project site. Remnants of the concrete trestle supports for the bridge that carried the Ocean Shore Railroad over Tunitas Creek were observed on the north side of Tunitas Creek, outside of the project site. Two drainage pipes with concrete box catch tanks were observed extending from Highway 1 to the beach.

Buried Archaeological Site Potential. Assessing the potential for buried archaeological site deposits on the project site requires an understanding of landform age and overlying soils. Fundamentally, there is an inverse relationship between landform age and the potential for buried archaeological deposits. Some landforms predate human occupation of the region (e.g., Pleistocene-aged alluvial deposits) and, as such, archaeological deposits on these landforms, if present, would be located at or near the surface. In contrast, those landforms that were formed during the Holocene (circa 11,700 years ago to the present) have a potential for containing buried surfaces (paleosols) that would have been available for human habitation during prehistory. Sediment profiles in the South Bay indicate that a warming event occurred between 17,000 and 7,000 years ago, causing the sea level to rise to its current level by 6,000 years ago during the Middle Holocene. The majority of coastal archaeological sites identified to date are less than 6,000 years old.

The project site contains unstable and/or aeolian[3] landforms consisting of coastal beach (7 percent), terrace escarpments (approximately 30 percent), and rough broken land (approximately 33 percent). The rough broken land identified at the project site typically contains a 0-10 inch H horizon over bedrock. Soil types present include steep eroded soils (Lobitos loam, Gazos loam, Tierra loam) and mixed alluvium that altogether make up 30 percent of the project site. Based on the landforms, slope, and soil types present on the project site, the potential for buried archaeological deposits is moderate.

California Register of Historical Resources Evaluation. Two historic-period cultural resources over 50 years old, were identified at the project site. The resource at 20775 Cabrillo Highway South consists of a 1958 residence with

[3] Relating to or arising from the action of the wind.

associated lampposts, a pump house, and landscaping. The Tunitas Glen Depot workers' cabins consist of the remains of three circa-1920 buildings once used as cabins. LSA evaluated both resources for their eligibility for listing in the CRHR. The evaluation concluded that neither 20775 Cabrillo Highway South nor the Tunitas Glen Depot workers' cabins qualify as historical resources for the purposes of CEQA as defined at PRC Section 21084.1, as defined in Section 5020.1(k), or deemed significant pursuant to criteria set forth in Section 5024.1(g).

a) **Less-Than-Significant with Mitigation Incorporated**. Under CEQA, historical resources can include precontact (i.e., Native American) archaeological deposits, historic-period archaeological deposits, historic buildings, and historic districts. As described above, the existing structures on the site do not appear eligible for listing in either the National Register of Historic Places or the CRHR, nor do they otherwise constitute a historical resource for the purposes of CEQA. However, precontact-period cultural resources have been identified at the project site and the geomorphology of the project site indicate that buried archaeological deposits could be present at the project site. The proposed project has the potential to unearth previously unidentified archaeological historical resources. Disturbance of such remains could result in a substantial adverse change in the significance of a historical resource. Implementation of Mitigation Measures CULT-1A and CULT-1B would reduce potential impacts to unrecorded archaeological historical resources that may be unearthed during construction to a less-than-significant level. This mitigation measure would require monitoring of construction activities and would ensure that work would temporarily stop at the location of a significant archaeological discovery to allow for recordation of the deposit and recovery of important information from the site.

Mitigation Measure CULT-1A: Archaeological Monitoring. During project construction, archaeological monitoring shall be conducted for any ground-disturbing activities in the project site, including grubbing or removal of vegetation. A qualified archaeologist shall (1) identify any archaeological resources that may be present; and (2) ensure that if human remains are identified they are treated in an appropriate and respectful manner and provisions outlined in Section 7050.5 of the California Health and Safety Code are followed. If previously unidentified cultural materials are unearthed during construction, work shall be halted in that area until a qualified archaeologist can assess the significance of the find. If major adjustments are made to the horizontal or vertical extent of the project site, then an archaeologist shall be consulted to determine if further identification efforts are recommended.

Mitigation Measure CULT-1B: Unidentified Archaeological Resources. The potential for encountering previously unidentified buried archaeological cultural resources in the project site is moderate based on the geological landforms and on the presence of previously recorded archaeological sites identified within and adjacent to the project site. If deposits of prehistoric or historical archaeological materials are encountered during project activities that are not monitored, all work within 50 feet of the discovery shall be redirected and a qualified archaeologist contacted to assess the situation, and make recommendations regarding the treatment of the discovery. Project personnel shall not collect or move any archaeological materials or human remains and associated materials. Archaeological cultural resources shall be avoided by project activities. If such resources cannot be avoided, they shall be evaluated for their CRHR eligibility, under the direction of a qualified professional archaeologist, to determine if they qualify as a historical resource under CEQA. If the deposit is not eligible, a determination shall then be made as to whether it qualifies as a unique archaeological resource under CEQA.

If the deposit is not a historical, unique archaeological or tribal cultural resource, avoidance is not necessary. If the deposit is eligible for the CRHR or is a unique archaeological resource and cannot be avoided by project actions that may result in impacts, such impacts must be mitigated. Mitigation may consist of, but is not limited to, recording the resource; recovery and analysis of archaeological deposits; preparation of a report of findings; and accessioning recovered archaeological materials at an appropriate curation facility. Public educational outreach may also be appropriate. Upon completion of the study, the archaeologist shall prepare a report documenting the methods and results of the investigation, and provide recommendations for the treatment of the archaeological materials discovered. The report shall be submitted to the County and to the Northwest Information Center.

Likewise, during operation and maintenance activities at the proposed park, impacts to cultural resources may occur as a result of ground disturbing activities. Implementation of BMPs CUL-4, CUL-5, and CUL-6 in the Maintenance Program Manual (see Appendix A) would reduce potential impacts to a less than significant level.

b) **Less-Than-Significant with Mitigation Incorporated**. According to the CEQA Guidelines, "When a project will impact an archaeological site, a lead agency shall first determine whether the site is an historical resource" (CEQA Guidelines Section 15064.5(c)(1)). Those archaeological sites that do not qualify as historical resources shall be assessed to determine if these qualify as "unique archaeological resources" (California PRC Section 21083.2).

Archaeological deposits identified during project construction, operation and maintenance (if any) shall be treated by the County—in consultation with a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for Archeology—in accordance with Mitigation Measures CULT-1A and CULT-1B. With implementation of Mitigation Measures CULT-1A and CULT-1B, identified above, and BMPs CUL-4, CUL-5, and CUL-6 identified in the Maintenance Program Manual (appendix A), impacts to archaeological resources would be less than significant.

c) **Less-Than-Significant Impact**. Based on previous archaeological investigation and analysis, there is a moderate potential for project activities to disturb archaeological cultural resources or human remains. However, if human remains are encountered at the project site, State Health and Safety Code Section 7050.5 and State CEQA Guidelines Section 15064.5(e)(1) state that no further disturbance shall occur to the area of the find until the County Coroner has made a determination of origin and disposition of the human bone pursuant to PRC Section 5097.98. The County Coroner must be notified of the find immediately and shall make a determination within two working days of being notified. If the remains are determined to be Native American, the County Coroner shall notify the NAHC by phone within 24 hours, and the NAHC shall then immediately determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection and make recommendations or preferences for treatment of the remains within 48 hours of being granted access to the site. MLD recommendations may include scientific removal and nondestructive analysis of human remains and items associated with Native American burials, preservation of Native American human remains and associated items in place, relinquishment of Native American human remains and associated items to the descendants for treatment, or any other culturally appropriate treatment.

Compliance with Section 7050.5 of the California Health and Safety Code and Public Resources Code Section 5097.98 regarding the treatment of human remains would ensure that potential impacts to human remains would be less than significant.

3.6 ENERGY

Thresholds per CEQA Checklist

ENVIRONMENTAL IMPACTS	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Source(s)
Would the project:					
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?			X		1, 2, 5
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?			X		1, 2, 5

Explanation

a) **Less-Than-Significant Impact**. This analysis evaluates energy consumption for both construction and operation of the proposed project, including diesel fuel use for construction off-road equipment.

Construction. Construction of the proposed project would include site clearing, slope stabilization, and rough grading, utilities and general site work, and final site preparation and paving. The construction phase would require energy for the manufacture and transportation of building materials, and preparation of the site (e.g., excavation, and grading). Petroleum-based fuels such as diesel fuel and gasoline would be the primary sources of energy for these tasks.

The overall construction schedule and process is already designed to be efficient in order to avoid excess monetary costs. That is because equipment and fuel are not typically used wastefully due to the added expense associated with renting the equipment, maintaining it, and fueling it. Therefore, the opportunities for future efficiency gains during construction are limited. The proposed project does, however, include several measures that would improve the efficiency of the construction process. Implementation of the BAAQMD Basic Construction Mitigation Measures, as required by Mitigation Measure AIR-1, would restrict equipment idling times to five minutes or less and would require the applicant to post signs on the project site reminding workers to shut off idle equipment. The project would also recycle or salvage construction waste where possible. With implementation of the BAAQMD Basic Construction Mitigation Measures, the short-term energy impacts associated with use of fuel or energy related to construction would be less-than-significant.

Operation. Typically, energy consumption is associated with fuel used for vehicle trips, and residential electricity and natural gas use. As discussed in Section 3.17, Transportation, the proposed project would generate approximately 86 new vehicle trips per day, which would result in a minimal increase in gasoline and diesel fuel consumption. In addition, operation of the proposed project would use minimal electrical power for the residence, water pumps, and pathway lighting. Therefore, operational energy impacts would be less than significant.

In summary, the project would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

b) **Less-Than-Significant Impact**. See discussion in Section 3.6.a, above. The project would not result in the conflict with or obstruct a State or local plan for renewable energy or energy efficiency.

3.7 GEOLOGY AND SOILS

Thresholds per CEQA Checklist

ENVIRONMENTAL IMPACTS	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Source(s)
Would the project:					
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:					
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.				X	1, 2, 16
ii) Strong seismic ground shaking?			X		1, 2, 4, 12, 16, 17, 36, 53
iii) Seismic-related ground failure, including liquefaction?			X		1, 2, 17, 36
iv) Landslides?			X		1, 2, 17, 36
b) Result in substantial soil erosion or the loss of topsoil?			X		1, 2
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?			X		1, 2, 17, 36
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?			X		1, 2, 17, 36
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?			X		1, 2
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		X			1, 2

Explanation
The project site is located within the California Coast Range geomorphic province, west of the Santa Cruz Mountains, on a narrow coastal plain along the Pacific Coast. Geologic mapping indicates that the site is underlain by sedimentary bedrock materials of the Purisima Formation, which consist of fine sandstone, siltstone, and mudstone. Locally these bedrock materials are overlain by a colluvial soil mantle that appears to be relatively thin along the top of the bluff (i.e., less than 5 feet thick), to thick (5- to 15 feet in thickness within topographic swales). Graded portions of the bluff top contain artificial fill that appears to be from 2 to approximately 8 feet thick. The toe of the bluff face is partially protected from wave attack by a back beach bar that is 3 to 6 feet higher than the active beach. This back beach bar is approximately 120 feet wide where the access trail meets the beach, but widens to nearly 300 feet near Tunitas Creek. The back beach bar contains established vegetation which indicates that this area experiences infrequent inundation and wave attack.

Regional landslide maps of the area identify a probable landslide encompassing parts of Highway 1, the majority of the property where the residence is located, and down to the beach. Site-specific mapping was completed by Romig Engineers and Cotton, Shires and Associates, Inc. Mapping by these consultants identifies a large active slide along the northeast side of the property with the right lateral margin encroaching on Highway 1 and the left lateral margin extending close to the entrance of the existing beach access trail, with the toe of the slide encroaching on Tunitas Creek, and the headscarp located near the maintenance area along the existing driveway. Additional slides were mapped across the existing beach access trail along the bluffs. Active sliding along the bluffs was also identified south of the existing residence. Recent and less active sliding was identified extending up to the Mid Bluff and Top Bluff zones, as well as to the cut slope above Highway 1. Many of these slides are large and deep, rendering them irreparable. Furthermore, some of these slides have no evidence of movement in the last 30 years.

a.i) **No Impact**. The State of California enacted the Alquist-Priolo Earthquake Fault Zoning Act in 1972, requiring the State Geologist to delineate Earthquake Fault Zones (EFZ) along known active faults that have high potential for fault rupture. Active faults are defined as a fault that has surface displacement within the last 11,000 years. State regulations prohibit habitable structures from being sited within 50 feet of an active fault. The project site is not located within or adjacent to an Alquist-Priolo Earthquake Fault Zone. Therefore, the project would have no impact on people and structures related to fault rupture.

a.ii) **Less-Than-Significant Impact**. The project site and the entire San Francisco Bay Area are located in a seismically active region subject to strong seismic ground shaking. Ground shaking is a general term referring to all aspects of motion of the earth's surface resulting from an earthquake, and is normally the major cause of damage in seismic events. The extent of ground-shaking is controlled by the magnitude and intensity of the earthquake, distance from the epicenter, and local geologic conditions. The magnitude of a seismic event is a measure of the energy released by an earthquake; it is assessed by seismographs that measure the amplitude of seismic waves. The intensity of an earthquake is a subjective measure of the perceptible effects of a seismic event at a given point. The Modified Mercalli Intensity (MMI) scale is the most commonly used scale to measure the subjective effects of earthquake intensity. It uses values ranging from I to XII.

The San Gregorio Fault is located under the Pacific Ocean, approximately 0.5 to 1 mile southwest of the project site. Other active faults in the vicinity of the project site include the San Andreas Fault, located approximately 8 miles northeast of the site, and the Hayward and Calaveras faults, located approximately 26 and 33 miles northeast of the project site, respectively.

Mapping has been compiled by the Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG) for the likely shaking intensities in the Bay Area that would have a 10 percent chance of occurring in any 50-year period. A large earthquake (magnitude 6.7 or greater) on one of the major active faults in the region would generate violent (MMI 9) ground shaking at the project site.

The most significant adverse impact associated with strong seismic shaking is potential damage to structures and improvements. Implementation of the proposed project would increase the use of the project site and result in the construction of improvements in areas subject to seismic shaking. The risk of ground shaking impacts is reduced through adherence to the design and materials standards set forth in building codes. The

County has adopted the 2019 California Building Code (Title 24, Part 2 of the California Code of Regulations [CBC]), which provides for stringent construction requirements on projects in areas of high seismic risk. The design and construction for the proposed project would be required to conform with, or exceed, current best standards for earthquake resistant construction in accordance with the most recent CBC adopted by the County and with the generally accepted standards of geotechnical practice for seismic design in Northern California. Incorporation of seismic construction standards in accordance with the California Building Code would reduce the potential for catastrophic effects of ground shaking, such as complete structural failure, and would reduce the impact of strong seismic ground shaking to a less-than-significant level.

a.iii) **Less-Than-Significant Impact**. Soil liquefaction is a phenomenon in which a saturated, cohesionless or non-plastic, near surface soil layer loses strength during cyclic loading (e.g. loading typically generated by earthquakes). During the loss of strength, the soil develops mobility sufficient to permit both horizontal and vertical movements. Soils that are most susceptible to liquefaction are loose, saturated, fine-grained sands and non-plastic silts and clays that are generally located within 50 feet of the ground surface. Due to the shallow bedrock encountered in the borings, there is a low liquefaction potential at the project site.

Lateral spreading is a type of ground instability that results in ground displacements that occur when liquefaction of a soil layer causes insufficient strength for lateral stability. This phenomenon occurs when either the ground surface or the soil layer subject to liquefaction is sloped, or when there is an open slope face or stream channel adjacent to a potentially liquefiable soil layer. These conditions are not known to be present at the site. The potential for lateral spreading to occur at the site is low.

Seismically induced ground shaking can cause vertical subsidence of specific types of soils. Seismically related settlement generally results from the densification of loose sands and sandy silts due to vibrations or liquefaction. Ground lurching is a phenomenon whereby strong seismic shaking causes cracking and deformation of the ground surface in areas underlain by soft weak soils. The cracking and deformation are the result of the disruption of the passing earthquake waves. Due to the stiff and low hardness consistency of the near-surface materials encountered in the near-surface materials, there is a low potential for lurching and/or differential densification (settlement) of the bedrock and landslide materials at the project site. Therefore, impacts related to seismic-related ground failure, including liquefaction, would be less than significant.

a.iv) **Less-Than-Significant Impact**. The project site is located on steeply sloping terrain and coastal bluffs that are known to contain both active and dormant landslides. The majority of proposed improvements would be located along the Top Bluff and the Mid Bluff, outside of identified landslide areas. Finished floor elevations of all permanent structures and paved surfaces would be constructed above and set back from the Cliff Erosion projected elevation of 90 feet above mean sea level. In addition, as outlined in Chapter 2, Project Description, the proposed project would include features to control stormwater, including vegetation management and plantings, and stabilize slopes in order to minimize the potential for earth movement. Proposed improvements located within an area of potential ground movement would require minimal development (e.g., trails) and could be relocated in the event of landslide. Proposed water lines from the well head to the storage tank would be placed primarily above ground; the underground portion of the pipeline would be located outside of landslide areas. Landslide areas present along the existing gravel pathway from the Mid Bluff down to the beach would be stabilized by either: 1) removing the slide material and rebuilding the slope; or 2) installing a wood retaining wall supported by anchors. If the slope is rebuilt, the bluff would be rebuilt from its base, extending it into the beach by approximately 5 feet in order to reduce the slope to 3:1 (horizontal: vertical). Therefore, implementation of the proposed project would improve slope stability in the project area.

Implementation of the proposed project would likely result in an increase in visitation to the site; however, as outlined in Chapter 2.0, the project site is already being accessed via the informal parking area along Highway 1 and the unauthorized, social trail that cuts down the bluffs. The proposed project would provide safer access for visitors from the top of the bluffs to the beach. Maintenance activities would be conducted in compliance with the BMPs identified in the Maintenance Program Manual, including site stabilization, erosion control, and other measures to prevent slope failure. Therefore, the proposed project would not expose people or structures to potential substantial adverse effects from landslides. This impact would be

less than significant.

b) **Less-Than-Significant Impact**. As outlined in the Chapter 2.0, Project Description, a history of use, prior to ownership by the County, has facilitated the development of visitor-created unauthorized trails and shortcuts down the bluffs. Steep trails without adequate ground cover are heavily eroded with cutting and compaction along their edges. These trails act as drainage ditches carrying water during storm events. Implementation of the proposed project, including the closure and rehabilitation of unauthorized trails would reduce erosion by revegetating steep trails that exacerbate conditions that are conducive to erosion.

Development of proposed park facilities would include grading activities that could result in short-term soil erosion during the construction period. The potential for soil erosion exists during the period of earthwork activities and between the time when earthwork is completed and new vegetation is established or hardscape is installed. Exposed soils could be entrained in stormwater runoff and transported off the project site. Construction specifications require the preparation of a Stormwater Pollution and Prevention Plan (SWPPP) prior to any ground disturbance activities as required by the National Pollutant Discharge Elimination System (NPDES) General Permit (GP) for Construction (Order 2009-009-DWQ). The SWPPP would provide the details of the erosion control measures to be applied on the project site during the construction period, including Best Management Practices (BMPs) for erosion control that are recognized by the RWQCB. In addition, the project contractor would be required to implement construction BMPs to minimize the potential for release of hazardous materials during construction, including a concrete containment plan, in accordance with the County of San Mateo Watershed Protection Program's Maintenance Standards (2004) and SMCWPPP Construction BMPs. Refer also to the discussion in Section 3.10, Hydrology and Water Quality of this Initial Study. With implementation of these BMPs, potential impacts related to soil erosion would be less than significant.

c) **Less-Than-Significant Impact**. Please refer to Section 3.7.a. The proposed project would be designed and constructed in accordance with standard engineering practices and the CBC. The project site not anticipated to become unstable as a result of the proposed project, or potentially result in on- or off-site landslides, liquefaction, or lateral spreading. This impact would be less than significant.

d) **Less-Than-Significant Impact**. Expansive soils are characterized by the potential for shrinking and swelling as the moisture content of the soil decreases and increases, respectively. Shrink-swell potential is influenced by the amount and type of clay minerals present and can be measured by the percent change of the soil volume. According to the Geotechnical Investigation and Geologic Feasibility Study, the near-surface soils at the site have a moderate to high expansion potential. The proposed project would be designed and constructed using standard construction methods and in compliance with the CBC. Adherence to the CBC requirements would ensure that geotechnical design of the proposed project would reduce potential impacts related to expansive soils to a less-than-significant level. Therefore, expansive soils, would not pose a risk to life or property, and this impact would be less than significant.

e) **Less-Than-Significant Impact**. The new public restrooms would include vaults for storage of wastewater. The wastewater would then be removed by truck and disposed of at the nearest wastewater treatment facility. The Parks Department currently provides this service for its restrooms at other parks within the County.

As described in Section 2.6.4, the County would consider installing a septic system to treat wastewater for the proposed ranger residence. The septic system would be required to be designed, installed and maintained in accordance with the County's Onsite Wastewater Treatment Systems Ordinance (Chapter 4.84 of the San Mateo County Ordinance Code) and permitted by County of San Mateo Environmental Health. Compliance with these regulatory requirements would ensure that the proposed septic system would be consistent with the Water Quality Control Policy for Siting, Design, Operation and Maintenance of Onsite Wastewater Treatment Systems, adopted by the State Water Resources Control Board on June 19, 2012 and with California Regional Water Quality Control Board standards and basin plans. If it is found infeasible to develop a septic system, wastewater would be collected in a vault and disposed in a wastewater treatment facility similar to the public restroom. With compliance with County of San Mateo Environmental Health requirements, implementation of the proposed project would not result in impacts to soils associated with the use of such wastewater treatment systems. This impact would be less than significant.

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f) **Less-Than-Significant with Mitigation Incorporated.** No known paleontological resources or unique geologic features are known to exist within the project site; however, as described above, the project site is underlain by sedimentary bedrock materials of the Purisima Formation, which is considered to have high paleontological sensitivity. Although ground disturbance associated with implementation of a majority of proposed improvements would not extend below a depth of 4 feet, the grading repair of the landslide would result in a cut of as much as 15 feet in depth. Ground disturbance has the potential to impact scientifically important paleontological resources. Implementation of Mitigation Measure GEO-1, described below, would mitigate direct or indirect impacts to unique paleontological resources or unique geologic features in the event such resources are encountered during ground disturbance associated with project construction, operation and maintenance. With implementation of Mitigation Measure GEO-1, impacts to paleontological resources would be less than significant.

Mitigation Measure GEO-1: If paleontological resources are encountered during the course of ground disturbance, work in the immediate area of the find shall be redirected and a paleontologist shall be contacted to assess the find for scientific significance. If determined to be significant, the fossil shall be collected from the field. The paleontologist may also make recommendations regarding additional mitigation measures, such as paleontological monitoring. Scientifically significant resources shall be prepared to the point of identification, identified to the lowest taxonomic level possible, cataloged, and curated into the permanent collections of a museum repository. If scientifically significant paleontological resources are collected, a report of findings shall be prepared to document the collection.

3.8 GREENHOUSE GAS EMISSIONS

Thresholds per CEQA Checklist

ENVIRONMENTAL IMPACTS	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Source(s)
Would the project:					
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X		1, 2, 5, 37
b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			X		1, 2, 5, 37

Explanation

Greenhouse gas emissions (GHGs) are present in the atmosphere naturally, and are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. However, over the last 200 years, human activities have caused substantial quantities of GHGs to be released into the atmosphere. These extra emissions are increasing GHG concentrations in the atmosphere, and enhancing the natural greenhouse effect, which is believed to be causing global climate change. The gases that are widely seen as the principal contributors to human-induced global climate change are: carbon dioxide (CO_2); methane (CH_4); nitrous oxide (N_2O); hydrofluorocarbons (HFCs); perfluorocarbons (PFCs); and sulfur hexafluoride (SF_6).

While GHGs produced by human activities include naturally occurring GHGs such as CO_2, CH_4, and N_2O, some gases, such as HFCs, PFCs, and SF_6, are completely new to the atmosphere. Certain other gases, such as water vapor, are short-lived in the atmosphere compared to those GHGs that remain in the atmosphere for significant periods of time, contributing to climate change in the long term. Water vapor is generally excluded from the list of GHGs because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation. For the purposes of this analysis, the term "GHGs" will refer collectively to the six gases identified in the list provided above.

These gases vary considerably in terms of Global Warming Potential (GWP), which is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and length of time that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to carbon dioxide, the most abundant GHG. The definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the heat trapped by one unit mass of CO_2 over a specified time period. GHG emissions are typically measured in terms of pounds or tons of "CO_2 equivalents" (CO_2e). For example, sulfur hexafluoride is 22,800 times more potent at contributing to global warming than carbon dioxide.

a) **Less-Than-Significant Impact**. This section describes the proposed project's construction- and operational-related GHG emissions and contribution to global climate change.

Construction GHG Emissions. Construction of the proposed project would include site clearing, slope stabilization, and rough grading, utilities and general site work, and final site preparation and paving. During construction, GHGs would be emitted through the operation of construction equipment and from worker and builder supply vendor vehicles, each of which typically use fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs such as CO_2, CH_4, and N_2O. Furthermore, CH_4 is emitted during the fueling of heavy equipment. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change. The BAAQMD does not have an adopted threshold of significance for construction-

related GHG emissions. Although not required to reduce a significant impact, implementation of the BAAQMD's Basic Construction Mitigation Measures, as required by Mitigation Measure AIR-1, would reduce GHG emissions by reducing the amount of construction vehicle idling and by requiring the use of properly maintained equipment. Therefore, project construction impacts associated with GHG emissions would be less than significant.

Operational Emissions. Long-term GHG emissions are typically generated from mobile sources (e.g., cars, trucks and buses), area sources (e.g., maintenance activities and landscaping), indirect emissions from sources associated with energy consumption, waste sources (land filling and waste disposal), and water sources (water supply and conveyance, treatment, and distribution).

As discussed in Section 3.3, Air Quality, the BAAQMD has developed screening criteria to provide lead agencies with a conservative indication of whether the proposed project would result in potentially significant air quality impacts. If all of the screening criteria are met by a proposed project, then the lead agency would not need to perform a detailed air quality assessment of the proposed project's emissions. These screening levels are generally representative of new development without any form of mitigation measures taken into consideration. In addition, the screening criteria do not account for project design features, attributes, or local development requirements that could also result in lower emissions.

For park land uses, the BAAQMD screening size for operational GHG emissions is 600 acres. Since the total project site is approximately 56 acres, based on the BAAQMD's screening criteria, operation of the proposed project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment and impacts would be less than significant.

b) **Less-Than-Significant Impact**. The County has two Climate Action Plans currently in place – a Government Operations Climate Action Plan and a Community Climate Action Plan. In 2012, the Board of Supervisors adopted the County's Government Operations Climate Action Plan, which focuses on the County's facilities and operations. This Plan outlines GHG reduction measures to implement in the areas of energy, transportation, and solid waste in order to meet our goal of a 15 percent reduction in GHG emissions by the year 2020. In 2013, the County's Planning and Building Department completed the Community Climate Action Plan (also known as the Energy Efficiency Climate Action Plan, which includes a GHG inventory of all the emissions that resulted from the unincorporated areas and a list of various proposed measures to reduce these emissions).

As discussed above, the proposed project is intended to provide safe access for the public to visit Tunitas Creek Beach. It would also restore native habitat, protect the sensitive bluff landscape, and ameliorate erosion conditions created by use of unsanctioned social trails that descend from the top of the bluff to the beach. In addition, vehicular safety along Highway 1 would be improved with the addition of controlled entry/exit points along the roadway at safe sight distances. The proposed project would generate minimal GHG emissions that would not have a significant impact on the environment. As such, the proposed project is not expected to conflict with the County's Climate Action Plans, and would therefore not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. Impacts would be less than significant.

3.9 HAZARDS AND HAZARDOUS MATERIALS

Thresholds per CEQA Checklist

ENVIRONMENTAL IMPACTS	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Source(s)
Would the project:					
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?		X			1, 2, 3, 20
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?		X			1, 2, 3, 20
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X	1, 2
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X	1, 2, 3, 20
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?				X	1, 2
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			X		1, 2
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?				X	1, 2, 37

Explanation

A Phase 1 Environmental Site Assessment prepared by Erler & Kalinowski, Inc. (2017) identified the potential presence of lead-based paint (LBP) and asbestos-containing materials (ACM) in the existing residence and the six cabins. Surface soil around the base of the cabins may also contain elevated concentrations of lead due to flaking of LBP from the exterior walls. Arsenic may be present in the soils along the alignment of the former railroad that

traverses the property. Historically, the use of arsenic for vegetation maintenance (herbicide) along rail lines was common.

Several small-scale and scattered debris or disposal areas were identified on the project site, primarily in the northern portion of the site. No evidence of ground surface contamination was identified in association with the debris piles. In addition, a pole-mounted electrical transformer on the project site was determined to potentially contain polychlorinated biphenyls (PCBs). The transformer has subsequently been removed by Pacific Gas and Electric (PG&E).

The Asbestos, Lead, and Hazardous Building Materials Investigation prepared by Acumen Industrial Hygiene, Inc. confirmed the presence of friable and non-friable asbestos and LBP at the existing residence and one of the nearby cabins; the other five cabins were not surveyed, but are presumed to contain similar materials. The field investigation concluded that the texture on the drywall and ceiling located throughout the residence contains friable asbestos. At the residence, the vinyl floor tiles, pink coating on the exterior wood, and roof penetration mastic contain non-friable asbestos. In addition, the field investigation found that both the residence and cabin contain LBP.

a) **Less-Than-Significant with Mitigation Incorporated.** Hazardous substances include chemicals regulated under both the United States Department of Transportation and the U.S. Environmental Protection Agency (USEPA) "Hazardous Materials" regulations. Hazardous waste requires specific handling and disposal procedures because of potential damage to public health and the environment. The proposed project would be located on lands owned by the Parks Department. As described above, the existing structures contain both LBP and ACM. Project construction would require demolition of the existing site structures. In addition, demolition activities would likely disturb soils around these structures, which likely contain lead. If these hazardous building materials were not appropriately abated and disposed of, demolition of existing structures could result in the release of these hazardous building materials into the environment and exposure of construction workers and the public.

The removal of hazardous building materials prior to demolition of structures is governed by federal and State laws and regulations. Federal regulations require that lead-based paint be removed prior to demolition if the paint is loose and peeling. Loose and peeling paint must be disposed of as a State and/or federal hazardous waste, if the concentration of lead exceeds applicable waste thresholds. State and federal construction worker health and safety regulations require air monitoring and other protective measures during demolition activities where lead-based paint is present, and notification to the California Division of Occupational Safety and Health (DOSH) for abatement activities.

Workers who conduct hazardous materials abatement and demolition activities must be trained in accordance with Occupational Health and Safety Administration (OSHA) and California OSHA (Cal-OSHA) requirements. Hazardous building materials removed during construction must be transported in accordance with U.S. Department of Transportation (DOT) regulations and disposed of in accordance with the federal Resource Conservation and Recovery Act (RCRA), the California Code of Regulations, and/or the California Universal Waste Rule at a facility permitted to accept the wastes.

Section 19827.5 of the California Health and Safety Code requires that local agencies not issue demolition or alteration permits until an applicant has demonstrated compliance with notification requirements under applicable federal regulations regarding hazardous air pollutants, including asbestos. BAAQMD Regulation 11-2-401.3 requires notification to be made to BAAQMD prior to demolition activities. Compliance with these regulations would ensure that demolition and removal of existing structures on the project site would be less than significant.

As described above, contaminated soil is likely to occur in proximity to the existing structures on the site and the historic railroad corridor that traverses the project site from north to south. The disturbance and improper management of contaminated soil during construction could cause the release of contaminants into the environment, and could result in exposure of the public and construction workers to hazardous materials. Implementation of Mitigation Measure HAZ-1, which requires preparation and implementation of a Health and Safety Plan would ensure impacts to construction and maintenance workers during any disturbance of contaminated on-site soils would be less than significant.

Mitigation Measure HAZ-1: The Parks Department shall hire a qualified contractor to prepare a site-specific Health and Safety Plan (HSP). The HSP shall establish soil management and control specifications for excavation, grading, and construction activities, including procedures for evaluation of soil disposal options, and health and safety provisions for monitoring the exposure of construction workers to contaminants. The HSP shall be submitted to the County for review and approval. The County shall review and approve the HSP and the project contractor shall implement the recommended soil management and control specifications.

During construction of proposed park improvements, and during park operation and maintenance, hazardous materials (e.g., fuel, oils, and paints) would be routinely transported, stored, and used at the project site. Because the proposed project would result in soil disturbance greater than 1 acre, management of hazardous materials during construction activities would be subject to the requirements of the Stormwater Construction General Permit (described in detail under Section 3.10, Hydrology and Water Quality), which requires preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) that includes hazardous materials storage requirements. In addition, the project contractor would be required to implement construction BMPs to minimize the potential for release of hazardous materials during construction, including a concrete containment plan, in accordance with the County of San Mateo Watershed Protection Program's Maintenance Standards (2004) and SMCWPPP Construction BMPs. These measures are identified in Chapter 2, Project Description.

The proposed project would result in the development of park improvements. Normal operations would not introduce potentially hazardous materials. California law requires all facilities that use or store more than certain quantities of hazardous materials on-site to file hazardous materials business plans that list and map the location of onsite hazardous materials storage and use and that describe procedures in the event of an accident.

Compliance with existing regulations described above and implementation of the HSP, required by Mitigation Measure HAZ-1, would ensure that potential impacts from the routine transport, use, or disposal of hazardous materials during construction and operation of the proposed project would be less than significant.

b) **Less-Than-Significant with Mitigation Incorporated**. As described above, construction of the proposed project would require demolition and removal of existing structures and contaminated soil from the project site, as well as use of hazardous materials (e.g., oils, fuels, solvents, paints) associated with construction of proposed park improvements. An accidental release of these hazardous materials during project construction could result in exposure of construction workers, the public, and/or the environment to hazardous materials.

As discussed above, the proposed project would be subject to the requirements of the Construction General Permit, which requires preparation and implementation of a SWPPP to reduce the risk of spills or leaks from reaching the environment, including procedures to address minor spills of hazardous materials. In addition, the proposed project would be required to implement BMPs in compliance consistent with County of San Mateo Watershed Protection Program's Maintenance Standards (2004) and SMCWPPP Construction BMPs, as outlined in Chapter 2, Project Description.

The transportation of hazardous materials is subject to both RCRA and DOT regulations. Hazardous materials would be transported by a licensed hazardous waste hauler and disposed of at facilities that are permitted to accept such materials. If a discharge or spill of hazardous materials occurs during transportation, the transporter is required to take appropriate immediate action to protect human health and the environment (e.g., notify local authorities and contain the spill), and is responsible for the discharge cleanup.

As described above, an HSP would be prepared and implemented consistent with Mitigation Measure HAZ-1, to ensure contaminated soils and materials are appropriately handled, removed from the site and disposed of, in compliance with federal, State and local regulations. The HSP would address potential impacts to construction workers per Cal OSHA requirements. With implementation of Mitigation Measure HAZ-1 and compliance with regulatory requirements, impacts associated with the accidental release of hazardous materials would be less than significant.

The proposed project would not involve storage or use of hazardous materials (except for small quantities for landscape maintenance as described above) or generation of significant hazardous wastes. As such, potential significant impacts related to a foreseeable upset associated with operation of the proposed park would not be expected. This impact would be less than significant.

c) **No Impact**. The project is not located within 0.25 miles of a school. The closest schools to the project site are the El Granada Elementary School and the Wilkinson School, located approximately 10 miles north of the project site. In addition, the proposed project would not routinely emit hazardous emissions, and handling of hazardous or acutely hazardous materials, substances, or waste on the project site (if any) would be temporary and cease upon project completion. Therefore, the proposed project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 miles of an existing or proposed school. No impact would occur.

d) **No Impact**. The project site is not located on or near a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and would not create a significant hazard to the public or the environment. No listed sites are located in proximity to the proposed project. No impact would occur.

e) **No Impact**. The project site is not located within an airport land use plan, or within 2 miles of a public airport or public use airport. The closest airport to the project site are the Half Moon Bay Airport/Eddie Andreini Sr. Airfield, located approximately 10 miles north of the project site and Palo Alto Airport, located approximately 13 miles to the east of the project site. The proposed project would include development and operation of a County park, with passive recreation uses. Proposed improvements would be largely at-grade. The proposed project would not increase residential density, would not be an incompatible land use, would not increase the height such that it would create a hazard or obstruction, and would not result in the addition of a characteristic that would create a hazard to air navigation. Therefore, the proposed project would have a less-than-significant impact related to airport safety hazards.

f) **Less-Than-Significant Impact**. The proposed project would not result in inadequate emergency access, but would provide improved parking, as well as safe ingress and egress from Highway 1, compared to existing conditions. In addition, the proposed project would include a portion of the California Coastal Trail, which would improve access for pedestrians and bicyclists during an emergency. Emergency vehicle access to the project site would continue to be provided via Highway 1.

The County's Emergency Operations Center (EOC) is coordinated and maintained by the San Mateo County Fire Department's Office of Emergency Services (OES). OES coordinates planning, training and preparation for response to major emergencies or natural disasters including the preparation and implementation of the San Mateo County Local Hazard Mitigation Plan. The proposed project would construct park improvements to provide improved access to Tunitas Creek Beach from Highway 1, which is likely a primary evacuation route for areas along the coast during an emergency. The proposed project would not block Highway 1, nor would it interfere with an adopted emergency response plan or emergency evacuation plan. Because the proposed project would not substantially alter or block roadways in the project area, the proposed project would not be expected to impair the function of nearby emergency evacuation routes. Therefore, the proposed project would have a less than significant impact on implementation of an adopted emergency response plan or emergency evacuation plan.

g) **No Impact**. A wildland fire is a fire occurring in a suburban or rural area, which contains uncultivated land, timber, range, brush, or grasslands. Wildland fires are primarily a concern in areas where there is a mix of developed and undeveloped lands. The project site is located within a Local Responsibility Area (LRA), as mapped by the California Department of Forestry and Fire Protection (CAL FIRE). The California Department of Forestry, acting as the San Mateo County Fire Department provides fire protection and emergency services to the unincorporated areas of the County, including the project site. The project site is located within a Non-Very High Fire Hazard Severity Zone (Non-VHFHSZ). Therefore, the proposed project would not expose people or structures to a significant loss, injury or death involving wildland fires. No impact would occur.

3.10 HYDROLOGY AND WATER QUALITY

Thresholds per CEQA Checklist

ENVIRONMENTAL IMPACTS	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Source(s)
Would the project:					
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?			X		1, 2
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?				X	1, 2, 42
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:					
i) Result in substantial erosion or siltation on- or off-site;			X		1, 2
ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;			X		1, 2
iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or			X		1, 2
iv) Impede or redirect flood flows?			X		1, 2, 21
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?			X		1, 2, 4, 21, 45
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?				X	1, 2

Explanation

Tunitas Creek consists of approximately 6.6 stream miles and has a watershed of approximately 15 square miles. It flows southwest, entering the Pacific Ocean at Tunitas Creek Beach. The existing watershed drains from west of Highway 1 and discharges into the Pacific Ocean via natural drainage swales. Watershed slopes vary from approximately 30 percent to up to 60 percent. Within the project site, the Tunitas Creek Beach watershed consists of five sub-tributaries. The existing tributaries and drainage paths, as well as the 100-year peak discharge rates for each of the sub-tributaries are shown on Figure 11.

a) **Less-Than-Significant Impact**. The State Water Resources Control Board (State Water Board) and nine Regional Water Quality Control Boards regulate water quality of surface water and groundwater bodies throughout California. In the Bay Area, including the project site, the Water Board is responsible for implementation of the Water Quality Control Plan (Basin Plan). The Basin Plan establishes beneficial water uses for waterways and water bodies within the region.

Runoff water quality is regulated by the NPDES Program (established through the federal Clean Water Act). The NPDES program objective is to control and reduce pollutant discharges to surface water bodies. The project site would be under the jurisdiction of the San Francisco RWQCB, and the San Mateo Countywide Water Pollution Prevention Program (SMCWPPP), of which the County is a participant. SMCWPPP is a group of local government agencies that operate under one common NPDES Municipal Regional Stormwater Discharge Permit. Compliance with the Municipal NPDES Permit is required by State and federal law, and new construction projects must comply with the NPDES Construction General Permit.

Construction activities associated with the proposed project would cause disturbance of soil during excavation work, which could adversely impact water quality. Contaminants from construction vehicles and equipment and sediment from soil erosion could increase the pollutant load in runoff being transported to receiving waters during development. Although surface runoff from the site would likely decrease with the proposed project (due to the proposed stormwater treatment measures), runoff from the proposed landscaped areas may contain residual pesticides and nutrients (associated with landscaping) and sediment and trace metals (associated with atmospheric deposition) during operation of the project.

Construction Activities. Any construction activities, including grading, that would result in the disturbance of 1 acre or more would require compliance with the State Water Resources Control Board's NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, as amended by 2010-0014-DWG and 2012-0006-DWQ, NPDES No. CAS000002) (Construction General Permit). The project site is approximately 56 acres and as such, would be required to comply with the Construction General Permit. On-site construction activities subject to the Construction General Permit include clearing, grading, excavation, and soil stockpiling. The Construction General Permit requires the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer. A SWPPP identifies all potential pollutants and their sources, including erosion, sediments, and construction materials and must include a list of Best Management Practices (BMPs) to reduce the discharge of construction-related stormwater pollutants. A SWPPP must include a detailed description of controls to reduce pollutants and outline maintenance and inspection procedures. Typical sediment and erosion BMPs include protecting storm drain inlets, establishing and maintaining construction exits and perimeter controls to avoid tracking sediment off-site onto adjacent roadways. A SWPPP also defines proper building material staging and storage areas, paint and concrete washout areas, describes proper equipment/vehicle fueling and maintenance practices, measures to control equipment/vehicle washing and allowable non-stormwater discharges, and includes a spill prevention and response plan.

In addition, the project contractor would be required to implement BMPs, conservation measures, and other techniques to minimize impacts on environmental resources during construction and ongoing maintenance activities, in accordance with the Maintenance Manual, County of San Mateo Watershed Protection Program's Maintenance Standards (2004) and SMCWPPP Construction BMPs.

Compliance with the requirements of the Construction General Permit and local regulations related to stormwater management would ensure that the proposed project would result in less-than-significant impacts to water quality during construction.

Operation Activities. The proposed project improvements would include design features that would protect water quality and control potential runoff on-site, including bioretention areas in the Top Bluff parking area. The proposed project would be considered a "regulated project" under the Regional Water Quality Control Board Municipal Regional Permit (MRP) implemented in November 2015 by Order R2-2015-0049, indicating that the State Water Board has determined the size and nature of the project has the potential to discharge a significant pollutant load to stormwater runoff and receiving waters. Provision C.3 of the MRP

requires new development and redevelopment projects that would replace more than 10,000 square feet of existing impervious surfaces to include post-construction stormwater control in project designs. Under the C.3 requirements, the preparation and submittal of a Stormwater Control Plan (SCP) would be required for the project site. The purpose of a SCP is to detail the design elements and implementation measures necessary to meet the post-construction stormwater control requirements of the MRP. In particular, SCPs must include Low Impact Development (LID) design measures, which reduce water quality impacts by preserving and recreating natural landscape features, minimizing imperviousness, and using stormwater as a resource, rather than a waste product. The proposed project would also be required to prepare a Stormwater Facility Operation and Maintenance Plan to ensure that stormwater control measures are inspected, maintained, and funded for the life of the project. Compliance with the C.3 requirements of the MRP would ensure that operation-period impacts to water quality would be less than significant.

b) **No Impact**. The proposed project is not located within a California Department of Water Resources (DWR) recognized Groundwater Basin and does not contain a recognized groundwater aquifer of any size or depth. An abandoned well is located on the project site. The County does not proposed to use any groundwater as part of the proposed project. Water to serve the proposed ranger residence and restrooms would be drawn from Tunitas Creek and captured from the proposed parking area.

The increase in the amount of impervious surface area associated with implementation of the proposed project is relatively low compared to the size of the project area (approximately 2.1 acres dispersed over the 56-acre project area [less than 4 percent of the total project area]), and all runoff from paved trails and parking/staging areas would be dispersed to adjacent undeveloped areas for infiltration and would not be collected within a storm drain system. Therefore the proposed project would not substantially interfere with groundwater recharge and would not impede sustainable groundwater management (see also Section 3.10.e.). No impact on groundwater would occur.

c.i) **Less-Than-Significant Impact**. During construction activities, soil would be exposed and disturbed, and drainage patterns would be temporarily altered, resulting in an increased potential for soil erosion and siltation compared to existing conditions. Additionally, during a storm event, soil erosion could occur at an accelerated rate. As discussed above in Section 3.10.a above, the Construction General Permit requires preparation of a SWPPP and implementation of construction BMPs to reduce impacts to water quality during construction, including those impacts associated with soil erosion and siltation. In addition, the project contractor would be required to implement BMPs, conservation measures, and other techniques to minimize impacts on environmental resources during construction, in accordance with the County of San Mateo Watershed Protection Program's Maintenance Standards (2004) and SMCWPPP Construction BMPs. Therefore, adherence to the requirements of the Construction General Permit and local stormwater regulations would ensure that construction of the project would result in a less than significant impact related to this topic.

Implementation of the proposed park project would not result in a significant increase in impervious surface area or an associated increase in the volume and rate of runoff during a storm. Additionally, the proposed project would implement design features to protect existing drainage patterns and avoid impacts to drainage areas. Therefore, no significant change to the existing drainage pattern would occur resulting in on-site or off-site effects from erosion and siltation. This impact would be less than significant

c.ii) **Less-Than-Significant Impact**. Construction activities associated with implementation of the proposed project would temporarily alter on-site drainage patterns and compact soil, which can increase the volume and velocity of stormwater runoff. However, construction activities would be temporary, and the increase in runoff would not be substantial. As discussed in Section 3.10.a above, construction BMPs to be implemented as part of the project to reduce impacts to water quality during construction, including those impacts associated with flooding. Therefore, adherence to State and local regulations related to stormwater runoff would ensure that construction activities would result in a less than significant impact.
Implementation of the proposed project would not result in a significant increase in impervious surface area or an associated increase in the volume and rate of runoff during a storm. No significant change to the existing drainage pattern which would result in on-site or off-site flooding would occur. This impact would be less than significant.

c.iii) **Less-Than-Significant Impact**. The proposed project would not create or contribute runoff that would exceed the existing or planned stormwater drainage systems. The proposed project could result in additional sources of polluted runoff; however, compliance with State and County requirements for preparation of a SWPPP and a SCP would ensure that potential impacts associated with runoff and stormwater drainage systems would be less than significant

c.iv) **Less-Than-Significant Impact**. The project site is located within three zones as identified in FEMA's Flood Insurance Rate Map, as follows:

Zone AE — Special Flood Hazard Zone (100-Year Flood). The northernmost portion of the project site, along Tunitas Creek is located within this zone. Proposed improvements in this zone include water infrastructure to serve the ranger residence and restrooms.

Zone VE — Special Flood Hazard Area (100-Year Flood) subject to coastal high hazard flooding. Most of the beach area at the project site, including the proposed loop trail and the boardwalk, is located within this zone.

Zone X — Area of Minimal Flood Hazard subject to the 0.2-percent annual-chance (500-year) flood or 1 percent annual chance flood with average depth less than one foot or with drainage areas of less than one square mile. The majority of the project site, including proposed improvement in the Top Bluff and Mid Bluff zones are located in this area.

As described above, the proposed project would place water infrastructure, the loop trail, and the proposed beach boardwalk within the 100-year flood-hazard areas AE and VE. However, these features would be largely at grade and would not impede or redirect flood flows. Other proposed improvements would be located in Zone X, outside of identified flood hazard areas; therefore, the proposed project would not place within a 100-year flood hazard area structures, which would impede or redirect flood flows. This impact would be less than significant.

d) **Less-Than-Significant Impact**. The project site is located outside the inundation area of both the Johnston and Pilarcitos Dams and no seismically induced seiche waves have ever been documented in the San Francisco Bay area. As described above, portions of the project site are located within a flood hazard area mapped by FEMA. In addition, the project site is located within a mapped tsunami inundation area for San Mateo County. The County LCP include policies related to tsunami and seiche risks, including requiring the development and maintenance of a Tsunami Warning Plan, and policies to avoid placement of critical facilities within the tsunami hazard zone. The proposed project would include construction of park improvements, which would not be considered critical facilities. Consistent with the County LCP policies, modularized construction is proposed for all site structures, including the proposed ranger residence, which would allow facilities to be moved inland as coastal erosion occurs. In addition, finished floor elevations of all permanent structures and paved surfaces would be constructed above and set back from the Cliff Erosion projected elevation of 90 feet above mean sea level. With the exception of the ranger residence, park users would be at the project site for limited durations of time. As described in Section 3.10.a, BMPs would be implemented during construction activities and stormwater management would be incorporated into the project design to ensure that no release of pollutants would occur due to project inundation. Therefore, this impact would be less than significant.

g) **No Impact**. The proposed project would not conflict with the Regional Water Quality Control Board's Basin Water Quality Control Plan or the California Sustainable Groundwater Management Act (SGMA), which took effect on January 1, 2015. SGMA established a framework of priorities and requirements to facilitate sustainable groundwater management throughout the State. The intent of SGMA is for groundwater to be managed by local public agencies (e.g., water districts, irrigation districts, etc.) and newly formed Groundwater Sustainability Agencies (GSAs) to ensure a groundwater basin is operated within its sustainable yield (no long term overdraft) through the development and implementation of Groundwater Sustainability Plans (GSPs). As described in Section 3.10.b. above, the project area is not located within a designated

groundwater basin. Therefore, the proposed project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. No impact would occur.

3.11 LAND USE

Thresholds per CEQA Checklist

ENVIRONMENTAL IMPACTS	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Source(s)
Would the project:					
a) Physically divide an established community?				X	1, 2
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?		X			1, 2, 37, 38, 40

Explanation
The project area is located within the Coastal Zone and subject to the California Coastal Act, administered through the California Coastal Commission (CCC). The Coastal Act requires that local governments lying partly or wholly within the Coastal Zone develop, adopt, and implement Local Coastal Plans. The project would require coordination with and final permitting approval by the CCC.

The Tunitas Creek Beach Park site includes three assessor parcel numbers (APN) including APN 081-060-030 (1 acre) and 081-060-020 (9.1 acres), which are zoned RM-CZ/CD, and 081-060-130 (48 acres) is zoned PAD/CD. According to the San Mateo County Coastal Zoning Regulations, RM-CZ/CD is the Resource Management-Coastal Zone/Coastal Development District and PAD/CD is a Planned Agriculture Coastal Development District. In addition, the project includes a portion of the State of California Department of Transportation's (Caltrans) right of way as well as the beach located to the east and west, respectively of the project parcels.

a) **No Impact**. The physical division of an established community typically refers to the construction of a feature (such as an interstate highway or railroad tracks) or removal of a means of access (such as a local road or bridge) that would impair mobility within an existing community, or between a community and outlying areas. For instance, the construction of an interstate highway through an existing community may constrain travel from one side of the community to another; similarly, such construction may also impair travel to areas outside of the community.

The project area is located in a rural area, along the existing shoreline. The proposed project would result in the construction of improvements at an existing beach to facilitate safe public access. Access to the site would be via an improved parking area and trail off Highway 1. The proposed project would not result in the realignment or closure of any existing roads. Therefore, the proposed project would not result in the physical division of an established community or adversely affect the continuity of land uses in the vicinity. No impact would occur.

b) **Less-Than-Significant with Mitigation Incorporated**. The project site is located within a shoreline area in unincorporated San Mateo County. The project site is comprised of three separate parcels, which are currently developed with an abandoned single-family residence, gravel shoulder/parking area, and paved access driveway. A portion of the site improvements (mainly parking) would be located within the Caltrans right-of-way. The site is bounded by Highway 1 to the east, the Pacific Ocean to the west, and undeveloped land to the north and south.

The project site is located within unincorporated San Mateo County and is subject to the land use and zoning designations of the San Mateo County General Plan (2013), the San Mateo County Zoning Regulations (2020), and the San Mateo County Local Coastal Program (2013).

Following is an evaluation of the proposed project's consistency with the applicable goals and policies of the General Plan, Zoning Ordinance, and Local Costal Program. In reviewing this section, it is important to understand that the determination of whether a project is consistent with a specific policy can be subjective, and that consistency determinations are best made with a broad understanding of the often-competing policy objectives in a planning document. As a result, policy consistency determinations are ultimately made by the local decision-making body. As previously discussed, the Parks Department is the lead agency for environmental review. The County of San Mateo Board of Supervisors would determine the proposed project's consistency with the County's applicable plans and policies, as part of the project approval. The analysis in this section is intended to provide decision-makers with a list of the goals and policies that are pertinent to the proposed project and the project site, and a recommendation regarding whether or not the proposed project would directly conflict with relevant planning directives. These recommendations are intended to supplement decision-makers' own understanding of the various policy considerations. A conflict with an applicable policy is not itself a significant impact unless it results in a significant environmental impact, as described below.

Per CEQA Guidelines, policy conflicts do not, in and of themselves, constitute significant environmental impacts. Policy conflicts are considered to be environmental impacts only when they would result in direct physical impacts or where those conflicts relate to avoiding or mitigating environmental impacts. As such, associated physical environmental impacts are discussed in this Initial Study under specific topical sections.

General Plan. The project site is designated in the San Mateo County General Plan as "Agriculture." The Agriculture designation allows for resource management production uses, including but not limited to agriculture and uses considered accessory and ancillary to agriculture.

The proposed project would be consistent with the following applicable General Plan policies related to parks and recreation as discussed below.

6.4 Environmental Compatibility
a. Protect and enhance the environmental quality of San Mateo County when developing park and recreation facilities.
b. Mitigate, to the extent feasible, the impacts of those recreation uses which may adversely affect the environment and adjoining private ownership.

6.5 Access to Park and Recreation Facilities
a. Attempt to provide appropriate access and conveniences for all people in park and recreation facilities.
b. Encourage access to the park and recreation system by transportation means other than private automobiles, where feasible.
c. Attempt to provide adequate access for emergency services.

6.10 Locate Suitable Park and Recreation Facilities in Rural Areas
Generally, encourage all providers to locate passive park and recreation facilities in rural areas in order to protect and preserve environmentally sensitive and open space lands. Consider the following activities to be generally compatible with passive park and recreation facilities such as camping, hiking, picnicking, horseback riding, and nature study.

6.11 Coastal Recreation and Access
a. Regulate coastal development to delineate appropriate locations and development standards for recreation and visitor serving facilities.
b. Regulate development to increase public access to the shoreline and along the coast through measures which include, but are not limited to, establishing criteria for when and where access will be provided and how the access will be developed and maintained.

c. Develop programs to increase and enhance public access to and along the shoreline.

6.13 Development Plans
a. Encourage all providers to prepare development plans for proposed facilities which contain provisions that easily adapt to changing conditions.
b. Encourage all development plans to include restroom facilities and ensure that these correspond in size and detail to the type of park and recreation facility proposed.

6.14 Site Planning for Public and Private Facilities
a. Encourage all providers to design sites to accommodate recreation uses that minimize adverse effects on the natural environment and adjoining private ownership.
b. Encourage all providers to design, where feasible, park and recreation sites that accommodate a variety of recreational activities.

6.37 Coastal Beaches
Promote and be actively involved in State or Federal acquisition of lands for coastal beaches. Explore the possibility of establishing contractual agreements, which would allow the County to develop, maintain and operate these facilities with reimbursed funds.

6.39 Trail System Coordination
a. Support, encourage and participate in the development of a system of trails that link existing and proposed park and recreation facilities within this County and adjacent counties.
b. Particularly encourage the development of: trails that link park and recreation facilities on San Francisco Bay to those on the Pacific Coast; multi-use trails where appropriate and trails in County lands under management by other public agencies. Ensure that these trails do not adversely affect adjacent land uses.

6.50 Provision of Countywide Facilities
Provide and maintain, either independently or through joint agreements, park and recreation facilities which are of Countywide significance (i.e., serving more than one city and/or unincorporated community).

6.51 Outdoor Recreation and Programs
Provide County park and recreation facilities for primarily outdoor rather than indoor recreation. Facilities should emphasize the enjoyment and appreciation of natural outdoor settings.

6.52 Park and Recreation Facilities for Unincorporated Areas
Encourage the provision of park and recreation facilities for use by local residents in unincorporated areas consistent with community plans.

The proposed project would involve the development of new park improvements to provide public access to Tunitas Creek Beach, and the operation, maintenance and management of the park. The proposed project would develop the site with a variety of passive, accessible recreational facilities (e.g., amphitheater, trails, restroom) to serve County residents and visitors. An on-site residence for a ranger is also part of the project. Although the site is designated for Agriculture, it is not currently in agricultural production, nor does it contain farmland. Therefore, the proposed project would be consistent with the County's General Plan land use designation.

Zoning Regulations. The project site is located within the RM-CZ/CD (Resource Management-Coastal Zone/Coastal Development District) and the PAD/CD (Planned Agriculture Coastal Development District). The RM-CZ District is intended to conserve natural features and scenic values and to ensure that areas hazardous to development or life are left in open or limited use. Public recreation is a permitted use in the RM-CZ District.

The PAD District is intended to 1) preserve and foster existing and potential agricultural operations in San Mateo County in order to keep the maximum amount of prime agricultural land and all other lands suitable for agriculture in agricultural production, and 2) minimize conflicts between agricultural and non-agricultural land uses. On lands suitable for agriculture and other lands, public recreation/shoreline access trail is a permitted use with the issuance of a Planned Agricultural Permit. The CD Overlay District is coterminous with the Coastal Zone; therefore, development within the CD District must obtain a Coastal Development Permit.

The proposed project would construct and operate a County park, which is permitted under the County's zoning ordinance with a Planned Agricultural Permit and a Coastal Development Permit. Therefore, the proposed project would be consistent with the County's zoning regulations.

Local Coastal Program Policies. According to the County of San Mateo Local Coastal Program (LCP) Policies dated June 2013, the project site is located within a rural area. New development in rural areas is allowed only if it will not: 1) have significant adverse impacts, either individually or cumulatively on coastal resources and 2) diminish the ability to keep all prime agricultural, land and other land suitable for agriculture in agricultural production.

The LCP Policies utilize a density credit analysis for all new or expanded non-agricultural land uses in rural areas, including all residential uses, except affordable housing, farm labor housing, and solid waste facilities. Expanded or additional non-agricultural uses are only permitted on a parcel when there are sufficient density credits available for that parcel to meet the density credit requirements for both existing uses and any expanded or additional uses and only where such development meets all other applicable policies of the LCP. Development of the proposed ranger residence and all parking improvements must not result in the consumption of more density credits than have been calculated for the property.

For new or expanded non-agricultural uses, except visitor-serving, commercial recreation, and public recreation uses, each 315 gallons, or fraction thereof, of projected average daily water use during the two months of highest water use in a year is the equivalent of one density credit. For new or expanded visitor-serving, public recreation uses, the first 945 gallons, or fraction thereof, of projected average daily water use during the two months of highest water use in a year is also equivalent to one density credit. Each 630 gallons, or fraction thereof, of projected average daily water use during the two months of highest water use in a year is equivalent to one additional density credit. This requirement applies to water use by or resulting from the visitor-serving, commercial recreation, and public recreation use, including landscaping, and all other uses. The 945-gallon water use allowance per density credit may be applied one time only on a parcel.

Based upon the LCP Policies, when calculated under Table 1.3, APNs 081-060-020, 081-060-030 and 081-060-130 have at least one density credit each. The proposed ranger residence would consume at least one of the three density credits. Accordingly, the proposed project is within the allowable density for these RM-CZ zoned parcels under the LCP's density credit analysis for purposes of zoning conformity. Independent of the question of the calculated allowable density of development above, an actual water source of suitable supply to support the proposed use would also be required, and would need to be adequate for Environmental Health standards, which are not necessarily identical to the projected daily use calculations above for zoning density purposes. However, the proposed project falls well under the maximum allowable density for these three RM-CZ zoned parcels. As required per Mitigation Measure UTIL-1, identified in Section 3.19 Utilities and Service Systems, prior to issuance of the Coastal Development Permit, the Parks Department shall determine if there is adequate water to supply the ranger residence and whether the water quality meets potable water standards. If the study determines that insufficient water supply is available, then the proposed ranger residence shall be removed from the project design.

In addition, the Parks Department shall coordinate with the State of California Water Resources Control Board to secure an approval of the right to extract water from Tunitas Creek. If approval is denied and another water source cannot be secured, the ranger residence shall be removed from the project design

In addition, the proposed project would be required to comply with LCP Policies related to Public Works, Housing, Energy, Aquaculture, Sensitive Habitats, Visual Resources, hazards, Shoreline Access and Recreation/Visitor Serving Facilities. Project conformance and/or potential conflicts with these policies are further described below.

Public Works. The Public Works Component includes policies that require adequate provision of water and wastewater services, transportation facilities and solid waste disposal consistent with protection of resources in the coastal zone. New or increased well production must have adequate water quality, be installed in compliance with State and County Department of Public Health Requirements, and the amount pumped must be limited such that is does not impact sensitive species and habitats including streams, riparian habitats, and wetlands. Monitoring must be conducted to determine the impact of the well on groundwater and surface water levels and water quality and plant species and animals of water-dependent sensitive habitats. The proposed water supply system would need to meet this requirement, as identified in Mitigation Measure UTIL-1 in Section 3.19.

Sensitive Habitats. The Sensitive Habitats component includes policies that prohibit any land use or development which would have a significant adverse impact on sensitive habitat areas, including riparian corridors, wetlands, marine habitats, sand dunes, sea cliffs and habitats supporting rare, endangered and unique species. As described in Section 3.4, the proposed park project has been designed to avoid impacts to sensitive habitats to the extent possible. Mitigation measures BIO-1, BIO-2, BIO-3, BIO-4, BIO-5, BIO-6A, BIO-6B, BIO-7A, BIO-7B, BIO-7C, BIO-7D, BIO-7E, BIO-7F, BIO-8A, and BIO-8B, would reduce potential impacts to special-status species, wetlands, riparian areas, and other sensitive habitats to less than significant.

Visual Resources. The Visual Resources component includes policies that regulate development in scenic areas, including beaches, sand dunes, cliffs and bluffs, streams and estuaries, and skylines and ridgelines. As described in Section 3.1, the proposed park project has been designed to avoid impacts to visual resources, but would enhance scenic views by undergrounding existing overhead utility lines, providing safe access for visitors to enjoy scenic vistas from the coastal bluff, and closing and restoring existing unauthorized trails that are creating bluff erosion.

Hazards. The Hazards component includes policies to regulate development in hazard areas including high fire hazard areas, bluff and cliffs, shorelines and floodplains. As described in Sections 3.7, 3.9, and 3.10, the proposed project has been designed to ensure structural integrity, including appropriate setbacks from hazard areas, control of stormwater runoff, and geotechnical remediation to ensure proposed park improvements do not create or contribute significantly to erosion or geologic instability of the site or surrounding area.

Shoreline Access. The Shoreline Access component requires provision of shoreline access as a condition for coastal development. As outlined in Chapter 2.0, the proposed project would provide convenient and safe parking and access for the public to visit Tunitas Creek Beach as well as enjoy vistas of the Pacific Ocean.

Recreation/Visitor Serving Facilities. The Recreation/Visitor Serving Facilities component permits commercial recreation and public recreation facilities which (a) are designed to enhance public opportunities for coastal recreation, (b) do not substantially alter the natural environment, and (c) do not subvert the unique small town, rural character of the individual communities on the coastside. As described in Chapter 2 and throughout this document, the proposed project would improve the site for coastal recreation use and has been designed to minimize impacts to the natural environment. The proposed project would restore and enhance areas to promote native habitat.

Conclusion. The proposed project would construct and operate a County park, which is permitted under the County's zoning ordinance with a Planned Agricultural Permit and a Coastal Development Permit. Further, the proposed project would contribute to implementing the County's General Plan goals and policies related to the provision of parks and recreation facilities.

Additional relevant policies relate to the protection of natural resources, water quality, cultural resources, visual resources, air quality, public safety from natural and human-caused hazards, provision of public

services, noise and traffic. Many of the project impacts related to these topics are less than significant or are limited to the short-term construction phase of the project as described in the relevant sections of this document. With implementation of the mitigation measures contained in this document, the proposed project is consistent with all the relevant regulations and policies contained in these documents. This impact would be less than significant.

3.12 MINERAL RESOURCES

Thresholds per CEQA Checklist

ENVIRONMENTAL IMPACTS	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Source(s)
Would the project:					
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X	1, 2, 37
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?				X	1, 2, 37

Explanation

a-b) **No Impact**. The State Mining Reclamation Act of 1975 (SMARA) identifies and protects California's mineral resources. Numerous State-designated mineral resources sectors are located within San Mateo County, containing regionally significant mineral resources. However, none of these State-designated resources is located within the project area.

The County General Plan includes policies for conserving and utilizing the County's mineral resources for current and future development, while ensuring that adverse environmental effects resulting from surface mining operations are minimized. According to the San Mateo County General Plan Overview Background and Issues (1986), three active quarries are located in unincorporated areas: (1) Langley Hill Quarry located in the Santa Cruz Mountains, (2) Guadalupe Valley Quarry (Brisbane Quarry) located on San Bruno Mountain, and (3) Pilarcitos Quarry located in the Coastal Zone. None of these mapped mineral resources are located within the project area. Therefore, the proposed project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state or of a locally-important mineral resources recovery site delineated on a local general plan, specific plan, or other land use plan. No impact would occur.

3.13 NOISE AND VIBRATION

Thresholds per CEQA Checklist

ENVIRONMENTAL IMPACTS	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Source(s)
Would the project result in					
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			X		1, 2, 37
b) Generation of excessive groundborne vibration or groundborne noise levels?			X		1, 2
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				X	1, 2

Explanation

Noise is usually defined as unwanted sound. Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, or sleep. Several noise measurement scales exist that are used to describe noise in a particular location. A decibel (dB) is a unit of measurement that indicates the relative intensity of a sound. Sound levels in dB are calculated on a logarithmic basis. An increase of 10 dB represents a 10-fold increase in acoustic energy, while 20 dB is 100 times more intense and 30 dB is 1,000 times more intense. Each 10 dB increase in sound level is perceived as approximately a doubling of loudness; and similarly, each 10 dB decrease in sound level is perceived as half as loud. Sound intensity is normally measured through the A-weighted sound level (dBA). This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. The A-weighted sound level is the basis for 24-hour sound measurements that better represent human sensitivity to sound at night.

As noise spreads from a source, it loses energy so that the farther away the noise receiver is from the noise source, the lower the perceived noise level would be. Geometric spreading causes the sound level to attenuate or be reduced, resulting in a 6 dB reduction in the noise level for each doubling of distance from a single point source of noise to the noise sensitive receptor of concern.

There are many ways to rate noise for various time periods, but an appropriate rating of ambient noise affecting humans also accounts for the annoying effects of sound. Equivalent continuous sound level (L_{eq}) is the total sound energy of time varying noise over a sample period. However, the predominant rating scales for human communities in the State of California are the L_{eq}, the community noise equivalent level (CNEL), and the day-night average level (L_{dn}) based on dBA. CNEL is the time varying noise over a 24-hour period, with a 5 dBA weighting factor applied to the hourly L_{eq} for noises occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours) and 10 dBA weighting factor applied to noise occurring from 10:00 p.m. to 7:00 a.m. (defined as sleeping hours). L_{dn} is similar to the CNEL scale, but without the adjustment for events occurring during the evening relaxation hours. CNEL and L_{dn} are within 1 dBA of each other and are normally exchangeable. The noise adjustments are added to the noise events occurring during the more sensitive hours.

A project would have a significant noise effect if it would substantially increase the ambient noise levels for adjoining areas or conflict with adopted environmental plans and goals of applicable regulatory agencies, including, the County of San Mateo.

The County outlines noise standards within Chapter 4.88, Noise Control of the Municipal Code. The noise ordinance sets exterior noise level standards for receiving land uses, as identified in Table B below. In addition, as identified in the Municipal Code, construction noise is exempt from the County's noise standards when activities occur between the hours of 7:00 a.m. and 6:00 p.m., Monday through Friday and between the hours of 9:00 a.m. to 5:00 p.m. on Saturdays. Construction is not allowed on Sundays, Thanksgiving, or Christmas.

Table B: Receiving Land Use – Noise Level Standards, dBA

Category	Cumulative Number of Minutes in Any One Hour	Daytime (7:00 a.m. – 10:00 p.m.)	Nighttime (10:00 p.m. – 7:00 a.m.)
Single or Multiple-Family Residential, School, Hospital, Church, or Public Library Properties			
1	30	55	50
2	15	60	55
3	5	65	60
4	1	70	65
5	0	75	70

Source: San Mateo County, Code of Ordinances, Title 4 – Sanitation and Health. Chapter 4.88 Noise Control (March 2021).

Certain land uses are considered more sensitive to noise than others. Examples of these land uses include residential areas, educational facilities, hospitals, childcare facilities, and senior housing. As described further below, the project site is located in a remote, rural area. The closest sensitive receptors consist of rural residence located more than 2,000 feet from the project site.

a) **Less-Than-Significant Impact**. The following section addresses the short-term construction and long-term operational noise impacts of the proposed project.

Short-Term (Construction) Noise Impacts. Project construction would result in short-term noise impacts on the surrounding sensitive receptors. Maximum construction noise would be short-term, generally intermittent depending on the construction phase, and variable depending on receiver distance from the active construction zone. The duration of noise impacts generally would be from one day to several days depending on the phase of construction. The level and types of noise impacts that would occur during construction are described below.

Short-term noise impacts would occur during grading and site preparation activities. Table C lists typical construction equipment noise levels (L_{max}) recommended for noise impact assessments, based on a distance of 50 feet between the equipment and a noise receptor, obtained from the Federal Highway Administration (FHWA) Roadway Construction Noise Model. Construction-related short-term noise levels would be higher than existing ambient noise levels currently in the project area but would no longer occur once construction of the project is completed.

Two types of short-term noise impacts could occur during construction of the proposed project. The first type involves construction crew commutes and the transport of construction equipment and materials to the site, which would incrementally increase noise levels on roads leading to the site. As shown in Table C, there would be a relatively high single-event noise exposure potential at a maximum level of 84 dBA L_{max} with trucks passing at 50 feet.

The second type of short-term noise impact is related to noise generated during grading and construction on the project site. Construction is performed in discrete steps, or phases, each with its own mix of equipment and, consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on site. Therefore, the noise levels vary as construction progresses. Despite the variety

in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase.

Table C lists maximum noise levels recommended for noise impact assessments for typical construction equipment, based on a distance of 50 feet between the equipment and a noise receptor.

Table C: Typical Construction Equipment Noise Levels

Equipment Description	Acoustical Usage Factor (%)	Maximum Noise Level (L_{max}) at 50 Feet[1]
Backhoes	40	80
Compactor (ground)	20	80
Compressor	40	80
Cranes	16	85
Dozers	40	85
Dump Trucks	40	84
Excavators	40	85
Flat Bed Trucks	40	84
Forklift	20	85
Front-end Loaders	40	80
Graders	40	85
Impact Pile Drivers	20	95
Jackhammers	20	85
Pick-up Truck	40	55
Pneumatic Tools	50	85
Pumps	50	77
Rock Drills	20	85
Rollers	20	85
Scrapers	40	85
Tractors	40	84
Welder	40	73

Source: Roadway Construction Noise Model (FHWA 2006).
Note: Noise levels reported in this table are rounded to the nearest whole number.
[1] Maximum noise levels were developed based on Spec 721.560 from the Central Artery/Tunnel (CA/T) program to be consistent with the City of Boston's Noise Code for the "Big Dig" project.
L_{max} = maximum instantaneous sound level

Typical maximum noise levels range up to 87 dBA L_{max} at 50 feet during the noisiest construction phases. The site preparation phase, including excavation and grading of the site, tends to generate the highest noise levels because earthmoving machinery is the noisiest construction equipment. Earthmoving equipment includes excavating machinery such as backfillers, bulldozers, draglines, and front loaders. Earthmoving and compacting equipment includes compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full-power operation followed by 3 or 4 minutes at lower power settings.

As discussed in the Chapter 2, Project Description, the contractor would employ the use of heavy construction machinery, likely including the following: bulldozer, excavator, soil compactor, scraper, off-highway trucks, water trucks, backhoe, skidsteer, grader, compactor, paver, and rollers. Therefore, this analysis assumes that a bulldozer, excavator, compacter, scraper, and two trucks would be operating simultaneously during construction of the proposed project. Based on the typical construction equipment noise levels shown in Table C, noise levels associated with these pieces of construction equipment operating simultaneously would be approximately 88 dBA L_{max} at 50 feet.

The project site is located in a remote, rural location. The closest sensitive receptors include residential uses located over 2,000 feet from the project site. At 2,000 feet, there would be a decrease of approximately 33 dBA from the increased distance compared to the noise level measured at 50 feet from the active construction

area. Therefore, the closest sensitive receptor may be subject to short-term maximum construction noise reaching 55 dBA L_{max} during construction, which would be well below the County's noise ordinance criteria. Individuals participating in passive and active recreational activities can also be considered sensitive to noise, although exposure is temporary and of limited duration. Construction noise is permitted by the County of San Mateo when construction occurs between the hours of 7:00 a.m. and 6:00 p.m., Monday through Friday and between the hours of 9:00 a.m. to 5:00 p.m. on Saturdays. Construction is not allowed on Sundays, Thanksgiving or Christmas. Therefore, short-term construction noise impacts would be less than significant.

Operational Noise Impacts. A characteristic of sound is that a doubling of a noise source is required in order to result in a perceptible (3 dBA or greater) increase in the resulting noise level. The proposed project would improve the existing site to provide safe public access to the beach. Outdoor activity typically generates maximum noise levels of 70 dBA L_{max} at 50 feet. Once operational, the project would not generate a significant number of new vehicle trips, as described in Section 3.17, as the site is already currently accessed via the informal parking area along Highway 1; and therefore would not result in a doubling of traffic volumes along any roadway segment in the project vicinity and would not result in a perceptible increase in traffic noise levels at receptors in the project vicinity. Operation of the proposed project would not result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, since the project is not expected to generate substantial vehicular traffic or other operational noise. Therefore, the proposed project would not result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance. This impact would be less than significant.

b) **Less Than Significant Impact.** Common sources of groundborne vibration and noise include trains and construction activities such as blasting, pile driving, and operating heavy earthmoving equipment. Construction of the proposed project would involve site preparation, and construction activities but would not involve the use of construction equipment that would result in substantial groundborne vibration or groundborne noise on properties adjacent to the project site. No pile driving, blasting, or significant grading activities are proposed. Furthermore, operation of the proposed project would not generate substantial groundborne noise and vibration. Therefore, the project would not result in the exposure of persons to or generation of excessive groundborne noise and vibration impacts are considered less than significant.

c) **No Impact.** The project area is not located within an airport land use plan, or within 2 miles of a public airport or public use airport. Aircraft noise is occasionally audible at the project site; however, no portion of the project site lies within the 60 dBA CNEL noise contours of any public airport nor does any portion of the project site lie within 2 miles of any private airfield or heliport. Therefore, the proposed project would not result in the exposure of people residing or working in the project area to excessive noise levels. There would be no impact.

3.14 POPULATION AND HOUSING

Thresholds per CEQA Checklist

ENVIRONMENTAL IMPACTS	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Source(s)
Would the project:					
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				X	1
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?			X		1

Explanation

a) **No Impact**. The proposed project would improve the project site as a County park to provide safe access to the existing beach. A ranger residence is proposed by the project to replace the existing residence; however, the residence would be staffed by a ranger currently employed by the Parks Department. The proposed project would not result in the conversion of adjacent land uses, or open access to previously inaccessible areas. It would not provide additional major infrastructure or increase the capacity of the existing water system to promote population growth in the area. Therefore, the proposed project would not directly or indirectly induce substantial population growth.

b) **Less-Than-Significant Impact**. As outlined in Chapter 2, Project Description, the project site is currently developed with a single-family residence, which would be demolished prior to commencement of park construction. Although the proposed project would result in the removal of one residence at the project site, the house is currently vacant and in disrepair. Moreover, the proposed project would include construction of a ranger residence. Therefore, the project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. Therefore, this impact would be less than significant.

3.15 PUBLIC SERVICES

Thresholds per CEQA Checklist

ENVIRONMENTAL IMPACTS	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Source(s)
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:					
a) Fire protection?			X		1, 2
b) Police protection?			X		1, 2
c) Schools?				X	1
d) Parks?			X		1
e) Other public facilities?				X	1, 2

Explanation

a) **Less-Than-Significant Impact**. The County contracts with the California Department of Forestry for structural fire protection and general rescue services in the unincorporated areas of the County. These services are provided by CDF, as the San Mateo County Fire Department. The nearest fire station to the project site is Coastside Fire Station 40 located at 1191 Main Street in Half Moon Bay.

Implementation of the proposed project would improve the site as a County park to serve County residents and visitors. Use of the site could increase as a result of proposed improvements. However, because proposed improvements would be for recreation, and would include one ranger residence and a small ranger shed, the incremental increase in demand for fire protection services would not be significant and would not exceed the physical and financial capabilities of the San Mateo County Fire Department resulting in the need for new or expanded fire services. In addition, proposed improvements would be located within a park facility, which would be clearly marked and signed to aid in access and timely response in medical emergencies. Therefore, impacts to fire protection would be less than significant.

b) **Less-Than-Significant Impact**. The San Mateo County Sheriff's Office provides police protection services in the unincorporated areas of the County, including the project site. The nearest sheriff station to the project site is the Half Moon Bay Substation located at 537 Kelly Avenue in Half Moon Bay.

Implementation of the proposed project would improve the site as a County park to serve County residents and visitors. Use of the site could increase as a result of proposed improvements. However, public use of the proposed park is not expected to generate a significant increase in calls for police services or emergency rescue beyond the existing baseline level of use and would not generate the need for additional officers or equipment. Furthermore, the proposed project would improve safety and access in the area, likely reducing the potential occurrence of accidents associated with use of social trails and parking within the highway shoulder area. Therefore, the proposed project would result in a less-than-significant impact on police and emergency services in the area and would not result in the need for additional or altered police protection facilities.

c) **No Impact**. The project site is served by the Cabrillo Unified School District, which serves approximately 3,200 students in four elementary, one middle and two high schools. Implementation of the proposed project

would not result in any local or regional population increase. Therefore, the project would not require construction of new schools, or result in schools exceeding their capacities. No impact would occur.

d) **Less-Than-Significant Impact**. Implementation of the proposed project would improve the site as a County park to serve County residents and visitors. Therefore, the proposed project would not result in substantial adverse physical impacts associated with new parks or the need for new parks, which could cause environmental impacts. This impact would be less than significant.

e) **No Impact**. Other public facilities would include facilities such as libraries, post offices, meeting rooms, or hospitals. The proposed project would improve the project site as a County park. Because it would not result in any local or regional population increase, it would not result in substantial adverse physical impacts associated with the provision of other public facilities. No impact would occur.

3.16 RECREATION

Thresholds per CEQA Checklist

ENVIRONMENTAL IMPACTS	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Source(s)
Would the project:					
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?			X		1
b) Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?		X			1

Explanation

a) **Less-Than-Significant Impact**. The proposed project would develop the existing site as a County park to improve public access and safety to this segment of the San Mateo County shoreline. Implementation of the proposed project would provide public access to the project site, alleviating some recreation needs along this portion of the San Mateo County coast. The proposed project would have a beneficial impact to existing recreational facilities, as use at other existing beach facilities may be reduced. In addition, the project would reduce deterioration of the bluffs at the site by eliminating the informal, social trails that are currently used to access the beach. Therefore, this impact would be less than significant.

b) **Less-Than-Significant with Mitigation Incorporated**. Refer to Section 3.16.a. The proposed project would improve the project site for use as a County park. The intent of the planning process was to minimize adverse physical effects on the environment. As described above, implementation of the proposed project would protect site resources, including the bluffs and sensitive habitats, by providing safe and accessible access to the beach and eliminating informal, social trails that create bluff erosion. Potential adverse effects on the environment related to the development of the proposed project have been evaluated in this Initial Study. Implementation of Mitigation Measures AIR-1,BIO-1, BIO-2, BIO-3, BIO-4, BIO-5, BIO-6A, BIO-6B, BIO-7A, BIO-7B, BIO-7C, BIO-7D, BIO-7E, BIO-7F, BIO-8A, BIO-8B, CULT-1A, and CULT-1B contained in this Initial Study would reduce potential impacts to less than significant.

3.17 TRANSPORTATION

Thresholds per CEQA Checklist

ENVIRONMENTAL IMPACTS	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Source(s)
Would the project:					
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?			X		1
b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?			X		1, 39
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			X		1, 2
d) Result in inadequate emergency access?			X		1, 2

Explanation
The proposed project would create a parking area that provides safe ingress and egress from Highway 1. Currently, visitors to the site park informally in the unpaved area between State Route 1 and the bluff's edge. The proposed parking lot would include a passenger loading and unloading zone as well as parking for up to 80 vehicles including providing the required number of accessible and electric vehicle charging stalls. Additionally, the project includes bicycle parking at the top of bluff.

According to the County of San Mateo's Local Coastal Program Policies, lands designated low-intensity public recreation shall not have parking exceeding one auto space per 100 linear feet of beach or 50 acres of upland recreation. In addition, lands designated medium-intensity public recreation shall not have parking exceeding one auto space per 25 linear feet of beach or 10 acres of upland recreation. This project would fall into the medium intensity category as it includes restrooms. As the beach within the project area is 3,000 feet, the project can have a maximum of 120 vehicle stalls, although only 80 are currently proposed and evaluated in this analysis.

To determine the number of existing visitors to the site, 24-hour parking data was collected on Wednesday, October 9, 2019 to Sunday, October 13, 2019. Table D summarizes total daily visits.

Table D: Daily Vehicle Parking Counts

Count Date	Weather	Daily Totals
Wednesday, 10/9	Mostly Sunny/62º	140
Thursday, 10/10	Partly Cloudy/72º	178
Friday, 10/11	Mostly Sunny/78º	346
Saturday, 10/11	Mostly Sunny/68º	356
Sunday, 10/13	Partly Cloudy/60º	372

Source: CSW/Stuber-Stroeh Consulting Engineers (2019)

The peak hourly parking demand of 63 parked vehicles occurred on Friday October 11 between of 11 am to 12 noon. The observed data indicates the peak visitors remained at the beach for approximately two (2) hours.

a) **Less-Than-Significant Impact**. The proposed project would provide improved access for vehicles, pedestrians and bicyclists, as well as improved access emergency and maintenance purposes. The proposed project would include parking for approximately 80 cars, accessible trails, and improvements that provide safe access for both vehicles and pedestrians down to the beach. In addition, a portion of the California Coastal Trail would be provided along the site's frontage. Primary vehicle access to the site is provided from Highway 1. The proposed project would improve ingress and egress from Highway 1 to the proposed parking area. Some of these improvements are located within the Highway 1 right-of-way, as shown in Figure 2. As outlined in the Chapter 2, Project Description, the Parks Department would negotiate an airspace lease agreement to use the land for proposed parking and access improvements. In addition, the Parks Department would need to secure approval from Caltrans through either an encroachment permit or approval from the Division of Design for proposed improvements within the Caltrans right-of-way.

   The project would be consistent with the San Mateo County General Plan, the LCP and the Unincorporated San Mateo County Active Transportation policies that promote alternative transportation modes. Therefore, the proposed project would not conflict with a program plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.

b) **Less-Than-Significant Impact**. With the current CEQA Guidelines, transportation impacts are to be evaluated based on a project's effect on vehicle miles traveled (VMT). The San Mateo County Interim VMT Analysis Guidelines provide screening criteria to determine if proposed projects in urban/suburban areas should be expected to prepare a detailed VMT analysis. The County guidelines acknowledge that rural areas have fewer opportunities to reduce VMT; therefore, significance thresholds for projects in these areas would be set on a case-by-case basis based on available data.

   As described above, although there is no designated parking at the site, visitors currently park on the bluff within an informal parking area within the highway right-of-way and descend to the beach via a series of informal, steep social trails. Based on counts conducted in October 2019, the site currently accommodates up to 372 daily trips during the weekends, with fewer trips on weekdays and a peak parking demand of approximately 63 parked vehicles. As outlined in Chapter 2, Project Description, the proposed project would include provision of 80 parking spaces, as well as a loading/unloading zone and a portion of the California Coastal Trail.

While neither the San Mateo County Interim VMT Analysis Guidelines nor the State's Technical Advisory on Evaluating Transportation Impacts in CEQA (Technical Advisory) provides specific guidance for recreation projects, the Technical Advisory does provide some guidance helpful in addressing this question. First, the Technical Advisory suggests that projects generating 110 or fewer new daily trips would have a less than significant impact on VMT. Second, related to retail projects, the Technical Advisory states that improving destination proximity tends to shorten trips and reduce VMT.

The proposed improvements would provide safer access and formalized parking for visitors already traveling to Tunitas Creek Beach. These improvements, including providing a paved parking lot, would serve the existing visitors and may attract new visitors. Surveys of parking demand show that at least 63 unmarked parking spaces are present in the existing condition. The improvements would provide 80 marked parking spaces, which is an increase of 27 percent. The surveys also showed a total of 140 visitor vehicles on one typical weekday and 178 visitor vehicles on another typical weekday, for an average of 159 visitor vehicles per typical weekday. If visitors were to increase proportionately with parking supply (27 percent), then approximately 43 new visitor vehicles per day could result. These new visitors would generate 86 new daily trips (one inbound and one outbound trip per vehicle). This is less than the 110 daily trips suggested as a screening threshold by the Technical Advisory.

Some beach visitors may previously have traveled past Tunitas Creek Beach due to its lack of formal facilities. Some of the new visitors to Tunitas Creek Beach resulting from the proposed project may be redistributed from another, more distant beach, rather than being newly generated beach trips. For these beach visitors, the proposed project may result in improved proximity and shorter trips.

Because the proposed project is anticipated to generate fewer than 110 new trips on a typical day and could improve proximity and reduce trip length for some visitors, the project is anticipated to have a less than significant impact related to CEQA Guidelines Section 15064.3, subdivision (b).

c) **Less-Than-Significant Impact**. The proposed project involves construction of park improvements (e.g., parking, amphitheater, trails, and restroom) and ongoing park operation and management to provide public access to Tunitas Creek Beach. Implementation of the proposed project would not alter public roadways, but would provide improved parking within the highway right-of-way and safer ingress and egress to the beach from Highway 1. Formalized points of ingress and egress between the parking and highway would reduce the potential for traffic hazards as compared to the current condition. These egress points have been selected and designed to account for highway speed of travel and are consistent with Caltrans line of sight requirements. In addition, the proposed project would provide accessible trail access from the Top Bluff down to the Mid Bluff and to the Beach. The project would improve and enhance an existing beach access point along Highway 1. It would be compatible with surrounding land uses and consistent with other beach access points along the San Mateo County coast. As such, the proposed project would not result in hazards due to incompatible uses (e.g., farm equipment). Therefore, the proposed project would result in a less-than-significant impact related to hazards associated with a design feature or incompatible uses.

d) **Less-Than-Significant Impact**. The proposed project would not result in inadequate emergency access, but would provide improved parking, as well as, safe ingress and egress from Highway 1, compared to existing conditions. In addition, the proposed project would include a portion of the California Coastal Trail, which would improve access for pedestrians and bicyclists during an emergency. Emergency vehicle access to the project site would continue to be provided via Highway 1. Therefore, the project's impact would be less than significant.

3.18 TRIBAL CULTURAL RESOURCES

Thresholds per CEQA Checklist

ENVIRONMENTAL IMPACTS	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Source(s)
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:					
ai) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or		X			1
aii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.		X			1

Explanation

a.i-ii) **Less-Than-Significant with Mitigation Incorporated**. AB 52, which became law on January 1, 2015, provides for consultation with California Native American tribes during the CEQA environmental review process, and equates significant impacts to "tribal cultural resources" with significant environmental impacts. PRC Section 21074 states that "tribal cultural resources" are:

- Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe and are one of the following:
- Included or determined to be eligible for inclusion in the California Register of Historical Resources.
- Included in a local register of historical resources as defined in subdivision (k) of PRC Section 5020.1.
- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

A "historical resource" (PRC Section 21084.1), a "unique archaeological resource" (PRC Section 21083.2(g)), or a "nonunique archaeological resource" (PRC Section 21083.2 (h)) may also be a tribal cultural resource if it is included or determined to be eligible for inclusion in the California Register.

The consultation provisions of the law require that a public agency consult with local Native American tribes that have requested placement on that agency's notification list for CEQA projects. Within 14 days of determining that a project application is complete, or a decision by a public agency to undertake a project, the lead agency must notify tribes of the opportunity to consult on the project, should a tribe have previously

requested to be on the agency's notification list. California Native American tribes must be recognized by the California Native American Heritage Commission as traditionally and culturally affiliated with the project site and must have previously requested that the lead agency notify them of projects. Tribes have 30 days following notification of a project to request consultation with the lead agency.

The purpose of consultation is to inform the lead agency in its identification and determination of the significance of tribal cultural resources. If a project is determined to result in a significant impact on an identified tribal cultural resource, the consultation process must occur and conclude prior to adoption of a Negative Declaration or Mitigated Negative Declaration, or certification of an Environmental Impact Report (PRC Sections 21080.3.1, 21080.3.2, 21082.3).

As part of the cultural resources evaluation for the project, the Native American Heritage Commission (NAHC) was contacted to request a search of the NAHC's Sacred Lands File. This search did not identify tribal cultural resources in the project impact area. As described in Chapter 1, Background Information, on July 8, 2020, the County sent a consultation letter to the currently recognized Native American representatives for the County in accordance with AB 52. To date, no tribes have requested consultation pursuant to Public Resources Code section 21080.3.1.

As discussed in Section 3.5, Cultural Resources, the NWIC records search and the archaeological survey completed for the project did not identify evidence of Native American archaeological deposits or ancestral remains. The proposed project would not impact known tribal cultural resources that are listed or eligible for listing in the California Register of Historical Resources or a local register of historical resources, nor has the County identified a tribal cultural resource at the project sites. As noted in Section 3.5, Cultural Resources, implementation of Mitigation Measure CULT-1 would ensure that potential impacts related to previously undiscovered historic or archaeological resources and human remains, including tribal cultural resources, would be less than significant.

3.19 UTILITIES AND SERVICE SYSTEMS

Thresholds per CEQA Checklist

ENVIRONMENTAL IMPACTS	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
a) Require or result in the relocation or construction of new or expanded water, or wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?		X			1, 2
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?		X			1, 2
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?			X		1, 2
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?			X		1, 2
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?			X		1, 2

Explanation

The proposed project is located in a rural area of San Mateo County that is not currently served by either potable water or sanitary sewer service. PG&E provides electrical service to the project site via existing overhead utility lines.

a) **Less-Than-Significant with Mitigation Incorporated**. The project would require some utility relocations; however, these relocations would not result in significant environmental effects, as further described below. As described below, if water can be obtained from Tunitas Creek, the proposed project would install a tank and water treatment system to supply potable water for the ranger residence.

Water. As described above, the project site is not currently served by either potable water or sanitary sewer service. The existing house on the project site (currently vacant and in disrepair) was previously supplied through a water line from a well on an adjacent property. This water line is no longer operational and previous investigations conducted in the area of the mid bluff did not identify a groundwater supply. If water can be obtained from groundwater adjacent to Tunitas Creek, the proposed project would install two tanks and a water treatment system to store and supply potable water to the ranger residence. Water would be supplied

for this system from Tunitas Creek. The proposed ranger residence is anticipated to require about 150,000 gallons of water per year. Potential adverse effects on the environment related to the construction of the proposed water system at the project site have been evaluated in this Initial Study. The impacts associated with water supply are discussed below in Section 3.19.b. Implementation of the mitigation measures contained in this Initial Study would reduce potential impacts to less than significant. No additional water infrastructure would be required.

Wastewater. As outlined in Chapter 2, Project Description, a vault toilet would be installed in the Mid Bluff area for visitors to the project site. The ranger residence would have a wastewater storage vault. The vault toilet tanks would be evacuated and the waste hauled to a wastewater treatment facility for disposal. The volume of wastewater generated is anticipated to be approximately 2,400 gallons per week for both the restrooms (150 gallons per week) and residence (2,200 gallons per week), which is negligible and can be accommodated by existing wastewater treatment facilities. Therefore, implementation of the proposed project would not require or result in construction of new wastewater treatment facilities or require the expansion of existing facilities, which could cause significant environmental effects. This impact would be less than significant.

Stormwater. As described in Section 3.10, Hydrology and Water Quality, the proposed project would be required to comply with the MRP that requires implementation of measures for site design, source control, runoff reduction, stormwater treatment, and baseline hydromodification management. Hydromodification is the alteration of the natural flow of water through a landscape, and often takes the form of creek channel erosion. Hydromodification is one of the leading sources of impairment in streams, lakes, and estuaries. The MRP also requires implementation of LID Standards.

Per the MRP, regulated projects (which includes implementation of the proposed project) to include facilities designed to evapotranspire, infiltrate, harvest/use and biotreat stormwater to meet at least one of the hydraulic sizing criteria included in the MRP. As part of the project, the County would prepare a Storm Water Mitigation Plan (to identify permanent stormwater controls) and an SWPPP (to identify temporary construction of stormwater controls) in compliance with existing stormwater protection requirements. The project proposes to install bioretention basins \ to capture and filter stormwater runoff prior to discharge via three outfalls. Dissipators would be used to slow the flow of stormwaer runoff to less than 1 foot per second. No additional stormwater drainage facilities would be required. This impact would be less than significant.

Electricity. PG&E provides electricity to the project site and existing infrastructure would be undergrounded as part of the project. Operation of the proposed park would result in no change to existing natural gas or telecommunications usage, as no such facilities would be constructed or required as part of park development. Electricity would be required to serve electric vehicle charging stations, as well as, the proposed ranger residence and operate the pump for the proposed water system. However, these facilities are not anticipated to generate substantial additional demand such that new facilities or expansion of facilities would be required. Therefore, the proposed project would not require or result in the construction of new or expanded gas, electricity or telecommunications facilities. This impact would be less than significant.

b) **Less-Than-Significant Impact with Mitigation Incorporated**. As noted in Section 3.19.a, the proposed project would include a water system to draw water from Tunitas Creek to serve the proposed ranger residence. As outlined in Section 2.6.4, as required by County regulations, the ranger residence must have a reliable potable water supply in order to be occupied. There is no municipal potable water source at the project site. The existing wells on the site no longer provide potable water. Previous investigations completed at the site identified no groundwater to depths as much as 400 feet bgs.

To provide potable water for the proposed ranger residence, water would be extracted from Tunitas Creek. The proposed water system would include installation of a well head either adjacent to or within the creek to sufficient depth to provide the minimum water supply. Alternatively, the project would install an intake to extract water directly from the creek. The intake would have screens to prevent the entrapment of debris or fish.

In accordance with Local Coastal Program policies, the ranger residence would require approximately 315 gallons of potable water per day. Furthermore, in accordance with Section 4.68.190 of the San Mateo County Ordinance, the project site would need to store a minimum of 1,250 gallons of water at all times.

From the well head, potable water would be and transported upslope via a pump system to two 30,000-gallon tanks that are about 30 feet in diameter and 15 feet tall upslope (Figure 10). These tanks would provide storage for water during the dry periods of the year. The water would then be treated using a small treatment system. The treatment system would include a series of filters or reverse osmosis and either ultraviolet light or ozone to treat the water for potable use. It has not yet been determined if sufficient water is available in Tunitas Creek to provide adequate water supply for the proposed ranger residence. Implementation of Mitigation Measure UTIL-1 would be required to reduce potential impacts related to water supply to a less than significant level.

> **Mitigation Measure UTIL-1:** Prior to issuance of the Coastal Development Permit, the Parks Department shall prepare a study examining the hydrologic conditions of the site to determine if there is adequate water to supply the residence and if the water extracted will not adversely affect a water-dependent sensitive habitat or result in depletion of the aquifer. The study shall also determine whether the water quality meets potable water standards. If the study determines that insufficient water supply is available, then the proposed ranger residence shall be removed from the project design.
>
> In addition, the Parks Department shall coordinate with the State of California Water Resources Control Board to secure an approval of the right to extract water from Tunitas Creek. This approval would likely be through a small domestic use permit, which allows a maximum draw of 4,500 gallons per day. If approval is denied and another water source cannot be secured, the ranger residence shall be removed from the project design.
>
> If the ranger residence is constructed, for the first three years, the County shall monitor the impact of the water extraction on groundwater and surface levels, water quality, and plant and animal species of water-dependent sensitive habitats to determine if the preliminary pumping restrictions adequately protect the sensitive habitats and what measures should be taken if and when adverse effects occur. If monitoring shows impacts to water-dependent sensitive habitats, the pumping rate shall be reduced until it is clear that such impacts will not occur.

c) **Less-Than-Significant Impact**. As noted above, the proposed project would include installation of vault toilets for visitor use and the ranger residence. The vault toilet tanks would be evacuated and the waste hauled to a wastewater treatment facility for disposal. The volume of wastewater generated is anticipated to be approximately 2,400 gallons per week, which would have minimal impact on the capacity of nearby wastewater treatment facilities. Therefore, impacts to wastewater treatment services would be less than significant.

d) **Less-Than-Significant Impact.** Project construction would generate solid wastes including construction materials, vegetative matter, surplus soil, demolition debris (e.g., broken or removed concrete, masonry, paving), wood, scrap metal, and general refuse, and these wastes would need to be disposed of in local or regional facilities. Non-hazardous metal and non-metal waste would be hauled to local disposal centers for recycling or taken to landfills. Surplus soils would be reused to the maximum extent possible. The disposal demand is reasonable relative to the solid waste disposal capacities of area landfills. Solid waste disposal off-site would comply with all local, State, and federal requirements. The project would generate limited solid waste once completed. Impacts related to solid waste disposal are considered less than significant.

Operation of the proposed project is not anticipated to generate a significant amount of solid waste. Users of the proposed park improvements at the project site would dispose of garbage, but not in amounts that would greatly exceed average per capita garbage generation rates. In addition recycling receptacles would be located throughout the site, allowing the proposed project to be in full compliance with waste diversion goals mandated by the California Integrated Waste Management Act. Therefore, the proposed project would be

served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs, and this impact would be less than significant.

e) **No Impact**. The California Integrated Waste Management Act of 1989 (AB 939) reorganized solid waste disposal planning within the State of California. The legislation required every county to adopt a Countywide Integrated Waste Management Plan (CoIWMP) describing local waste diversion and disposal conditions as well as create programs to meet State goals for diverting waste from landfills. A mandatory diversion goal was established diverting 25 percent of waste from landfills by 1995 and 50 percent by 2000 and maintaining 50 percent thereafter.

The County is currently conducting a review of its Countywide Integrated Waste Management Plan (CIWMP), including the Source Reduction and Recycling Element (SRRE), Household Hazardous Waste Element (HHWE), and the Nondisposal Facility Element (NDFE) for each jurisdiction in the County, and a Countywide Siting Element (SE) and Summary Plan (SP) for the County. The CIWMP addresses waste management conditions and policies to achieve mandatory diversion requirements and maintain disposal capacity. The proposed project would comply with all regulations outlined in the ColWMP, as well as any other federal, State, and local statutes and regulations related to solid wastes, including waste diversion programs. No impact related to this topic would occur as a result of implementation of the proposed project. Please refer to Section 3.19.d.

3.20 WILDFIRE

Thresholds per CEQA Checklist

ENVIRONMENTAL IMPACTS	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Source(s)
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:					
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?			X		1, 2
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?			X		1, 2
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?			X		1, 2
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?			X		1, 2

Explanation
The project site is located on a coastal bluff along the Pacific Ocean and is within a Non-Very-High Fire Hazard Severity Zone (Non-VHFHSZ) for wildland fires, as designated by the California Department of Forestry and Fire Protection (Cal Fire, Fire Hazard Severity Maps).

a) **Less-Than-Significant Impact**. The project would not substantially impair an adopted emergency response plan or emergency evacuation plan. As stated above in Section 3.9, Hazards and Hazardous Materials, the project would not create any barriers to emergency or other vehicle movement in the area and final design would incorporate all Fire Code requirements. Therefore, this impact would be less than significant.

b) **Less-Than-Significant Impact**. The project would not exacerbate wildfire risks due to slope, prevailing winds, and other factors due to the project's urbanized location away from natural areas susceptible to wildfire. The project involves the replacement of an existing pedestrian bridge and the installation of bank stabilization. The project site is not located within an area of moderate, high, or very high fire hazard severity for the Local Responsibility Area nor does it contain any areas of moderate, high, or very high fire hazard severity for the State Responsibility Area. This represents a less-than-significant impact.

c) **Less-Than-Significant Impact**. The project would not require the installation or maintenance of infrastructure that may exacerbate fire risk or result in impacts to the environment. This represents a less-than-significant impact.

d) **Less-Than-Significant Impact**. See above discussion. The project would not expose people or structures to significant wildfire risks given its highly urban location away from natural areas susceptible to wildfire. This represents a less-than-significant impact.

3.21 MANDATORY FINDINGS OF SIGNIFICANCE

ENVIRONMENTAL IMPACTS	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Source(s)
Does the project:					
a) Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		X			1, 2, 6, 11, 15, 18, 19, 24, 25, 26, 27, 28, 30, 31, 32, 33, 34, 35, 37, 38, 41, 42, 43, 44, 47, 52, 54, 55
b) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of the past projects, the effects of other current projects, and the effects of probable future projects.		X			1, 2
c) Have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?		X			1, 2

Explanation

a) **Less-Than-Significant with Mitigation Incorporated**. Based on the analysis provided in this Initial Study, the project may result in significant impacts on the environment in the areas of biological and cultural resources. Mitigation and standard practices have been identified to reduce these impacts to a less-than-significant level. The project would not degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history.

b) **Less-Than-Significant with Mitigation Incorporated**. The CEQA Guidelines require a discussion of significant environmental impacts that would result from project-related actions in combination with "closely related past, present, and probable future projects: located in the immediate vicinity (CEQA Guidelines Section 15130[b][1][A]). Cumulative environmental impacts are those impacts that by themselves are not significant, but when considered with impacts occurring from other projects in the vicinity would result in a cumulative impact. Related projects considered to have the potential of creating cumulative impacts in association with the proposed project consist of projects that are reasonably foreseeable and that would be constructed or operated during the life of the proposed project.

The proposed project would be located in a rural area along the San Mateo County coast. No other construction projects are anticipated in the immediate area of the project within the same timeframe. As described in this Initial Study, the majority of environmental impacts associated with the proposed project would be temporary, construction-related and would be reduced to less than significant with implementation of the mitigation measures contained herein. Therefore, the proposed project would not make a considerable contribution toward a cumulative impact related to construction. Additionally, the proposed project would not generate a significant amount of greenhouse gas emissions and would therefore not result in a cumulatively considerable impact to global climate change. The proposed park is not located in proximity to other development such that ongoing operation of the proposed park and periodic maintenance activities would contribute to cumulative impacts. Operation and maintenance activities would be conducted in compliance with the adopted Maintenance Manual, as required for all operation and maintenance activities conducted by the Parks Department. Therefore, cumulative impacts would be less than significant, the project's contribution to cumulative impacts would not be cumulatively considerable, and no mitigation is required.

c) **Less-Than-Significant with Mitigation Incorporated**. Based on the analysis provided in this Initial Study, the project would not cause substantial adverse effects on human beings, either directly or indirectly. The impacts of the project would be reduced to a less-than-significant level with measures and standard practices identified herein.

CHAPTER 4. REFERENCES

4.1 LEAD AGENCY

County of San Mateo Parks Department
Mario Nastari, Park Ranger

4.2 REPORT PREPARATION

LSA Associates, Inc. – Environmental Planner
CSW|ST2 – Project Engineer and Manager
Wallace Roberts and Todd – Planner and Landscape Architect
Cal Engineering and Geology – Geotechnical Engineering

4.3 LIST OF CEQA SOURCES

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APPENDIX A

BEST MANAGEMENT PRACTICES

Table 9-1. Maintenance Program Best Management Practices

BMP Number	BMP Title	BMP Description
General Avoidance and Minimization Measures		
GEN-1	Staging and Access	▪ Staging, access, and parking areas will be located outside of sensitive habitats to the extent feasible. ▪ Staging areas will be located 30 feet from the top of bank (or as far as feasibly possible) or on the outboard side of levees. ▪ Vegetation removal shall be limited to the minimum amount necessary to provide access.
GEN-2	Minimize Area of Disturbance and Site Maintenance	▪ Areas of disturbance will be limited to the smallest footprint necessary and a single access pathway, where feasible. For maintenance activities near waterways or other sensitive habitat, the designated work area shall be clearly identified in the field using highly visible material, and work will not be conducted outside this area. ▪ Keep excavated soil and materials on the site where they will not collect into the street or get transported to storm drains or nearby water bodies by rainfall or runoff in order to avoid deleterious effects to fish, wildlife, and beneficial uses. ▪ Transfer excavated materials to dump trucks on the site, not in the street.
GEN-3	Construction Entrances and Perimeter	▪ Establish and maintain effective perimeter controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from site and tracking off site. ▪ Sweep or vacuum any street tracking immediately and secure sediment source to prevent further tracking. Never hose down streets to clean up tracking. ▪ When in-channel work is required, where available use existing ingress or egress points or perform work from the top of the stream banks.
GEN-4	Salvage/Reuse of Plant and Woody Material	▪ Large wood or weed-free topsoil displaced by project activities may be stockpiled for use during site restoration. Native vegetation displaced by project activities will be stockpiled if it would be useful during site restoration. ▪ Stockpiled material shall not be placed over riparian or wetland vegetation. Stockpiled material shall not be placed in areas where it could enter the stream, riparian or wetland areas. ▪ To the extent feasible, all other woody material that is not re-usable should be disposed at a composting facility.
GEN-5	Non-Hazardous Materials	▪ Berm and cover stockpiles of sand, dirt or other construction material with tarps when rain is forecast or if not actively being used within 14 days.
GEN-6	Hazardous Materials Storage/ Disposal	▪ Label all hazardous materials and hazardous wastes (such as pesticides, paints, thinners, solvents, fuel, oil, and antifreeze) in accordance with city, county, state, and federal regulations. ▪ Store hazardous materials and wastes in watertight containers, store in appropriate secondary containment, and cover them at the end of every workday or during wet weather or when rain is forecast. ▪ Follow manufacturer's application instructions for hazardous materials and be careful not to use more than necessary. Do not apply chemicals outdoors when rain is forecast within 24 hours. ▪ Arrange for appropriate disposal of all hazardous wastes.

BMP Number	BMP Title	BMP Description
GEN-7	Spill Prevention and Control	• Keep spill cleanup materials (rags, absorbents, etc.) available at the construction site at all times. • Inspect vehicles and equipment frequently for and repair leaks promptly. On-site monitor should insect beneath all vehicles that have been parked more than 15 minutes before they leave the work area. Use drip pans to catch leaks until repairs are made. • Clean up spills or leaks immediately and dispose of cleanup materials properly. • Do not hose down surfaces where fluids have spilled. Use dry cleanup methods (absorbent materials, cat litter, and/or rags). • Sweep up spilled dry materials immediately. Do not try to wash them away with water or bury them. If water must be used, the Contractor shall collect the water and spilled fluids and dispose of it as hazardous waste. • Clean up spills on dirt areas by digging up and properly disposing of contaminated soil. • Small spills (less than 18 inches in diameter) including small quantities of oil, gasoline, paint or other materials should be controlled by the first responder (maintenance staff) and do not necessarily require an emergency response team. Medium spills (greater than 18 inches but less than 6 feet in diameter) are typically controlled by the first responder (maintenance staff) but police or fire department HAZMAT teams may be called based on conditions. Report significant spills (larger than 6 feet in diameter and any "running" spill) immediately. You are required by law to report all significant releases of hazardous materials, including oil. To report a spill, contact the San Mateo County Environmental Health Services Division, or other emergency office (e.g., local fire or police department) as warranted, immediately and document the spill using the spill documentation form . Alternatively, 1) dial 911, the local emergency response number, 2) the National Response Center at (800) 424-8802; or 2) call the Governor's Office of Emergency Services Warning Center, (800) 852-7550 (24 hours). As appropriate, contact other agencies including California Occupational Safety and Health Administration or the Regional Water Quality Control Board. All chemical spills shall be reported as soon as possible to the emergency site contact.
GEN-8	Waste Management	Cover waste disposal containers securely at the end of every workday and during wet weather. ▪ Check waste disposal containers frequently for leaks and to make sure they are not overfilled. Never hose down a dumpster on the construction site. ▪ Ensure that portable toilets have a secondary containment plan (e.g., a containment pan). ▪ Clean or replace portable toilets and inspect them frequently for leaks and spills. ▪ Dispose of all wastes and debris properly. Recycle materials and wastes that can be recycled (such as asphalt, concrete, aggregate base materials, wood, gyp board, pipe, etc.) ▪ Dispose of liquid residues from paints, thinners, solvents, glues, and cleaning fluids as hazardous waste.
GEN-9	Vehicle Maintenance and Parking	▪ Designate an area, fitted with appropriate BMPs, for vehicle and equipment parking and storage. ▪ Perform major maintenance, repair jobs, and vehicle and equipment washing off site. ▪ Conduct vehicle and equipment cleaning at County corporation yards and ensure that rinse water does not run into gutters, streets, storm drains, or surface waters.

BMP Number	BMP Title	BMP Description
		▪ If refueling or vehicle maintenance must be done on-site, work in a bermed area (e.g., sandbags, gravel bags, compost socks, or other barrier material) at least 150 feet away from creek channels, away from storm drains and over a drip pan big enough to collect fluids. ▪ Refuel vehicles at least 150 feet away from the active stream channel. ▪ Keep an ample supply of spill clean-up materials near fueling, vehicle maintenance and hazardous materials/hazardous waste storage areas. Inventory clean-up materials monthly and restock as needed. ▪ Post proper fueling and spill clean-up instructions at fueling areas. Never leave the area while equipment is being filled. ▪ Recycle or dispose of fluids as hazardous waste. ▪ Do not clean vehicle or equipment on-site using soaps, solvents, degreasers, steam cleaning equipment, etc. ▪ Perform vehicle and mobile equipment steam cleaning, pressure washing or degreasing only over a containment designed to collect any generated wash water. Collect wash water and discharge to sewer via an oil water separator. Do not pour wash water down storm drains or sewers connected to septic systems.
GEN -10	Equipment Maintenance & Fueling	▪ A separate area should be designated for equipment maintenance and fueling, away from any slopes, watercourses, or drainage facilities. ▪ Equipment should not be stored in areas that will potentially drain to watercourses or drainage facilities. If equipment must be stored in areas with the potential to generate runoff, drip pans, berms, gravel bags, or absorbent booms should be employed to contain any leaks or spills. ▪ Equipment should be inspected daily for leaks or damage and promptly repaired. ▪ Fueling and maintenance of vehicles should take place at least 65 feet away from waterways. ▪ In the event of a spill, follow procedures outlined in BMP GEN-7.
GEN-11	Paving and Asphalt Work	▪ Avoid paving and seal coating in wet weather or when rain is in the forecast, to prevent materials that have not cured from contacting stormwater runoff. ▪ Cover storm drain inlets and manholes when applying seal coat, tack coat, slurry seal or fog seal; and when saw cutting asphalt or concrete. ▪ Collect and recycle or appropriate dispose of excess abrasive gravel or sand. Do not sweep this material into gutters. ▪ Do not use water to wash down fresh asphalt concrete pavement. ▪ Use filter fabric, catch basin inlet filters, or gravel bags to keep slurry out of the storm drain system. ▪ Shovel, absorb or vacuum saw-cut slurry and dispose of all waste as soon as work is complete in one location or at the end of the workday. ▪ If sawcut slurry enters a catch basin, clean it up immediately.
GEN-12	Concrete, Grout and Mortar Application	▪ Store concrete, grout, and mortar away from storm drains or waterways, and on pallets under cover to protect them from rain, runoff and wind. ▪ Wash out concrete equipment/trucks offsite or in a designated washout area, where the water will flow into a temporary waste pit, and in a manner that will prevent leaching into the underlying soil or onto surrounding areas. Let concrete harden and dispose of as garbage.

BMP Number	BMP Title	BMP Description
		▪ When washing exposed aggregate, prevent wash water from entering storm drains. Block any inlets and vacuum gutters, hose wash water onto dirt areas, or drain onto a bermed surface to be pumped and disposed of properly.
GEN-13	Exclude Concrete from Channel	▪ For maintenance activities that involve concrete pouring, the County shall ensure that poured concrete be excluded from the wetted channel for a period of 30 days after it is poured. During that time, the poured concrete shall be kept moist, and runoff from the concrete shall not be allowed to enter a stream. Containment structures should be installed to control the placement of wet concrete and to prevent it from entering the channel outside of those structures. ▪ Commercial sealants may be applied to the poured concrete surface where difficulty in excluding water flow for a long period may occur. If sealant is used, water shall be excluded from the site until the sealant is dry. ▪ No dry concrete shall be placed on the banks or in a location where it could be carried into the channel by wind or runoff.
GEN-14	Concrete Washout Facilities	▪ Concrete washout facilities should be established for maintenance activities that require on-site preparation and use of Portland cement concrete, asphalt concrete or cement mortar, establish concrete washout facilities. These facilities capture wash water, concrete and aggregate flushed from concrete mixers, chutes, etc. Concrete washouts may be contained settling basins dug into the ground, raised and contained structures, trailers, etc. They are also applicable for projects that require equipment washouts. ▪ An appropriate area for the washout must be identified at least 50 feet away from watercourses and storm drains in case of accidental breaching. The storage capacity of the basin must be sized correctly for the job. <u>Construction Guidelines:</u> ▪ The location of the concrete washout should be clearly labeled and all employees should be educated about proper concrete disposal. ▪ Avoid mixing excess amounts of fresh concrete or cement mortar on-site. ▪ Wash out concrete mixers only in designated washout areas where the water will flow into temporary sealed basins or onto stockpiles of aggregate base or sand. Use as little water as possible to reduce hardening and evaporation time of waste products. ▪ Construct a basin large enough to contain all liquid and waste concrete materials generated during washout procedures. A minimum basin size is 9 feet x 9 feet and 2 feet deep. Plastic liner materials shall be a minimum of 60-mil polyethylene sheeting free of holes and defects. ▪ Recycle washout by pumping back into mixers for reuse when possible. <u>BMP Maintenance:</u> ▪ The concrete washout should be checked frequently to ensure proper use and effectiveness. ▪ At 75 percent capacity, the washout must be cleaned or new facilities must be constructed and ready for use. <u>BMP Removal:</u> ▪ The hardened concrete and materials related to the washout must be broken up, removed, and disposed of in accordance to local regulations. ▪ Area disturbed by the concrete washout must be repaired.

BMP Number	BMP Title	BMP Description
GEN-15	Painting and Paint Removal	▪ Never clean brushes or rise paint containers into a street, gutter, storm drain, or stream. ▪ For water-based paints, paint out brushes to the extent possible, and rinse into a drain that goes to the sanitary sewer. Never pour paint down a storm drain. ▪ For oil-based paints, paint out brushes to the extent possible and clean with thinner or solvent in a proper container. Filter and reuse thinners and solvents. Dispose of excess liquids as hazardous waste. ▪ Paint chips and dust from non-hazardous dry stripping and sand blasting may be swept up or collected in plastic drop cloths and disposed of as trash. ▪ Chemical paint stripping residue and chips and dust from marine paints or paints containing lead, mercury, or tributyltin must be disposed of as hazardous waste. Lead based paint removal requires a state-certified contractor.
GEN-16	Timing of Work	▪ In general, routine maintenance and construction activities that take place in sensitive habitat and/or in channels below ordinary high water will be conducted during the dry season (June 15 through October 15). Maintenance activities that are in upland areas and that would not affect streams may occur during low rainfall years at times when there is no predicted rainfall (chance of precipitation is less than 30 percent chance of rain). Activities that are subject to permit requirements will be conducted during the period authorized by the permits.
GEN-17	Maintain Traffic Flow	▪ To the extent feasible, work shall be staged and conducted in a manner that maintains two-way traffic flow on roadways in the vicinity of the work site. ▪ Heavy equipment and haul traffic shall be prohibited in residential areas to the greatest extent feasible. When no other route to and from the site is available, heavy equipment and haul traffic through residential areas shall be restricted to the hours of 8 a.m. to 5:30 p.m., Monday through Friday. ▪ If heavy equipment or hauling is required beyond the hours above, the County or their contractor would provide notice to adjacent property owners 48 hours in advance of such activities.
GEN-18	Traffic Control and Public Safety	▪ In the event that work activities require the temporary closure of any traffic lanes, the County shall implement measures to guide traffic (such as signage and flaggers), safeguard construction workers, provide safe passage of vehicles, and minimize traffic impacts through the duration of work activities. The County also shall notify local emergency service providers regarding any planned lane closures. ▪ For any other work within or near the roadway that could pose a hazard to the public, the County shall install/implement appropriate measures, such as fences, barriers, flagging, guards, and/or signs, to give adequate warning and provide protection from the potentially dangerous condition. ▪ For work activities along or near roadways with sidewalks and bike lanes, the County shall implement measures to ensure the safe passage of pedestrians and bicyclists around the work site. ▪ Where work is proposed at a recreational park or trail, warning signs will be posted several feet beyond the limits of work. Signs will also be posted if trails will be temporarily closed. ▪ Public transit access and routes will be maintained in the vicinity of the work site. If public transit will be affected by temporary road closures and require detours, affected transit authorities will be consulted and kept informed of project activities.

BMP Number	BMP Title	BMP Description
GEN-19	Dust Management Controls	The County will implement the Bay Area Air Quality Management District (BAAQMD) Basic Dust Control Measures. Current measures stipulated by the BAAQMD Guidelines include the following: 1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. 2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered. 3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. 4. All vehicle speeds on unpaved roads shall be limited to 15 mph. 5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. 6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points. 7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.
GEN-20	Firearms	No firearms (except for federal, State, or local law enforcement officers and security personnel) will be permitted at the project site to avoid harassment, killing or injuring of wildlife.
GEN-21	Domestic Animals	No animals (e.g., dogs or cats) can be brought to the project site to avoid harassment, killing or injuring of wildlife.
GEN-22	Site Stabilization	Earthwork will be completed as quickly as possible, and where practical, site restoration will occur immediately following maintenance. If site restoration involves planting, such activities may commence in late fall or early winter during the onset of rainy season. Bare soil surfaces resulting from maintenance and/or construction activities shall be covered with suitable erosion controls (seed or plant vegetation, fabrics, hydroseeding, mulch, etc.): ▪ Within 12 hours of any break in work unless project activities will resume within 7 days. ▪ No later than 3 days following the disturbance during the rainy season (approximately October through April). ▪ No later than 7 days following the disturbance during the dry season (approximately May through September).Every effort shall be made to immediately cover bare soil surfaces resulting from maintenance and/or construction activities prior to storms. Revegetation activities will include only local plant materials native to the San Francisco Peninsula region.
GEN-23	Fire Prevention	1. All earthmoving and portable equipment with internal combustion engines will be equipped with spark arrestors. 2. During the high fire danger period (April 1–December 1), work crews will: ▪ Have appropriate fire suppression equipment available at the work site. ▪ Keep flammable materials, including flammable vegetation slash, at least 10 feet away from any equipment that could produce a spark, fire, or flame.

BMP Number	BMP Title	BMP Description
		▪ Not use portable tools powered by gasoline-fueled internal combustion engines within 25 feet of any flammable materials unless a round-point shovel or fire extinguisher is within immediate reach of the work crew (no more 25 feet away from the work area).
GEN-24	Investigation of Utility Line Locations	An evaluation of the locations of utility lines that could be affected by maintenance activities will be conducted annually as part of the preparation of the Annual Notification. Utilities will be avoided as much as possible. For maintenance areas with the potential for effects on utility services, the following measures will be implemented: 1. Utility excavation or encroachment permits will be required from the appropriate agencies. These permits include measures to minimize utility disruption. The County and its contractors will comply with permit conditions. Such conditions will be included in construction contract specifications. 2. Utility locations will be verified through a field survey (potholing) and use of the Underground Service Alert services. 3. Detailed specifications will be prepared as part of the design plans to include procedures for the excavation, support, and/or fill of areas around utility cables and pipelines. All affected utility services will be notified of the County's maintenance plans and schedule. Arrangements will be made with these entities regarding protection, relocation, or temporary disconnection of services. 4. Residents and businesses in the project area will be notified of planned utility service disruption 2 to 4 days in advance, in conformance with state standards. 5. Disconnected cables and lines will be reconnected promptly.
GEN-25	Retention of Tree Stumps / Rootwads	▪ Objects embedded/anchored in the bank, such as tree stumps, shall not be removed if removal could result in release of sediment into the channel. Stumps and rootwads that potentially serve as basking sites or that encourage pool formation should be left in place whenever possible. Protruding objects that could capture additional debris and result in obstruction of the channel (e.g. the branches and trunk of a downed tree) may be trimmed. If an embedded object must be removed to prevent a debris jam, turbidity control practices shall be used, and the bank shall be reseeded, re-vegetated and/or mulched following removal.
GEN-26	Decontamination of Project Equipment and Vehicles	▪ Equipment, boots and waders used for in-water maintenance activities will be decontaminated prior to entering and exiting the maintenance site and/or between each use in different water bodies to avoid the introduction and transfer of organisms between water bodies. Methods to be employed may include: drying, using a hot water soak, or freezing, as appropriate to the type of gear or equipment. The County shall begin the decontamination process by thoroughly scrubbing equipment, paying close attention to small crevices such as boot laces, seams, net corners, etc., with a stiff-bristled brush to remove all organisms. To decontaminate by drying, the County shall allow equipment to dry thoroughly (i.e., until there is a complete absence of water), preferably in the sun, for a minimum of 48 hours. To decontaminate using a hot water soak, the County shall immerse equipment in 140°F or hotter water and soak for a minimum of 5 minutes. To decontaminate by freezing, the County shall place equipment in a freezer 32°F or colder for a minimum of 8 hours. Repeat decontamination is required only if the equipment/clothing is removed from the site, used within a different waterbody, and returned to the project site.

BMP Number	BMP Title	BMP Description
		▪ Vehicles, watercraft, and other maintenance equipment used for in-water maintenance activities that are too large to immerse in a hot water bath shall be decontaminated by pressure washing with hot water (minimum of 140°F at the point of contact or 155°F at the nozzle or by using other effective techniques). Watercraft engines and all areas that could contain standing water (e.g., live wells, bilges, etc.) shall be flushed for a minimum of 10 minutes. Following the hot water wash, vehicles, watercraft and equipment shall be dried as thoroughly as possible. ▪ A bleach solution shall be used to decontaminate vehicles, watercraft and other maintenance gear and equipment at a designated location where runoff can be contained and not allowed to enter streams or other sensitive habitat areas.
GEN-27	Vegetation and Tree Removal	▪ The disturbance or removal of vegetation shall not exceed the minimum necessary to complete maintenance activities. The use of bulldozers, backhoes, or other heavy equipment to remove vegetation along stream banks shall be avoided wherever feasible. ▪ The County may remove up to two non-hazardous trees greater than 12 inches in diameter per year from natural channels below ordinary high water if the trees are restricting the capacity of the channel, causing erosion or flooding, or limiting access to perform maintenance work. Trees will be cut at ground level and the root mass left in place to maintain bank stability. No non-hazardous trees greater than 36 inches in diameter will be removed under this program. This measure does not apply to trees considered a hazard as defined by the International Society of Arboriculture, which may include dead or dying trees, dead parts of live trees, or unstable live trees (due to structural defects or other factors) that are within striking distance of people or property (a target) that have the potential to cause death, injury, or substantial property damage. ▪ Removed vegetation shall be placed directly into a disposal vehicle and removed from the site, and shall not be permitted to remain onsite overnight. However, if removed vegetation will be used onsite for erosion control or slash and will not be moved or disturbed, it may be stockpiled onsite for longer than an overnight. Stockpiled vegetation shall not be piled on the ground unless it is later transferred, piece by piece, under the direct supervision of the biological monitor or qualified biologist.
GEN-28	Herbicide Application	▪ Herbicide application shall only be conducted when the climate is dry and when wind speeds do not exceed 7 miles per hour. Herbicides shall not be used in or adjacent to any fish-bearing stream, lake, pond or other water bodies supporting suitable habitat for California red-legged frog or other listed species.
Erosion Control Measures		
EC-1	Brush Layering	Brush layering is a technique used to stabilize shallow slope failures or rebuild fill slopes with live brush cuttings (usually willows or other types of branches) with soil backfill or soil lifts. Live brush layers act as horizontal drains and improve slope stability by providing tensile strength and natural revegetation. Brush layering may include the use of synthetic geogrids or fabric soil wraps, large vegetated boulder revetments, or other structural toe support. For a more detailed description of this BMP, refer to Appendix A.
EC-2	Brush Packing	Brush packing is a biotechnical gully and slump repair technique. Brush packing utilizes alternating layers of live branch cuttings (from rootable plant species) and soil to repair large rills, gullies, and slumps. The brush packing technique is more

BMP Number	BMP Title	BMP Description
		appropriate for the repair of gullies on slopes, and it can be implemented with hand labor. For a more detailed description of this BMP, refer to Appendix A.
EC-3	Live Staking	Live staking involves the insertion of live, vegetative cuttings into the ground in a manner that allows the cutting (stake) to take root and grow. This BMP is used to reduce the potential for soil to become water borne, to reduce water velocity and erosive forces, and to aid in habitat protection. Poles used in willow walls and through rip rap may be a structural application. Sprigs may be used in individual planting spots along a streambank. For a more detailed description of this BMP, refer to Appendix A.
EC-4	Live Pole Drain	Live pole drains are a biotechnical technique intended to drain excess moisture away from an unstable site. Plants (typically willows) are used to construct bundles which will sprout and grow, with the moisture continuing to drain from the lower end. The bundles are placed in shallow trenches in a manner that they intersect and collect excessive slope moisture. See Appendix A for additional description about this BMP.
EC-5	Wattles/ Fascines	Wattles and fascines are live branch cuttings, usually willows, bound together into long, tubular bundles used to stabilize slopes and stream banks. Both wattles and live fascines are true biotechnical practices. The live branches and live stakes provide the biological element while the stems, rope ties and wedge-shaped wooden stakes all combine to provide the structural elements. Fascines differ from wattles in that the branch cuttings all point in the same direction in fascines, where they may point in either direction in wattles. Wattles are typically aligned on contour, where fascines are angled slightly upslope and thus tend to produce more vigorous growth. For a more detailed description of this BMP, refer to Appendix A.
EC-6	Hand Seeding	Hand seeding is broadcasting grass seed on disturbed or bare soil areas by hand or a hand seeding device. This BMP is used to reduce the potential for soil to become water or air borne, reduce erosion after vegetation establishment, provide for vegetative buffers and aid in habitat protection. Seeding with appropriate seed mixes also helps discourage colonization by non-native and invasive plant species. For a more detailed description of this BMP, refer to Appendix A.
EC-7	Hydroseeding	Hydroseeding is broadcasting grass seed, tackifier, wood fiber mulch and water on disturbed areas using a hydroseeding machine. This BMP is used to reduce the potential for soil becoming water or air borne, to reduce erosion after vegetation is established, provide vegetative buffers and to aid in habitat protection. Seeding with appropriate seed mixes will also help discourage colonization by non-native and invasive plant species. Hydroseeding may be used after soil disturbance is completed at construction/maintenance sites and/or on bare slopes. For a more detailed description of this BMP, refer to Appendix A.
EC-8	Mulching	Mulching is the application of rice or sterile straw, wood chips, leaf litter, redwood duff, or other suitable materials on the soil surface applied manually or by machine. This BMP is used to reduce the potential for soil becoming water or air borne, and to encourage vegetation establishment. This BMP is used to protect the soil surface and to protect newly seeded areas. For a more detailed description of this BMP, refer to Appendix A.
EC-9	Vegetative Buffer	A vegetative buffer is a strip of vegetation adjacent to sensitive areas, ditches, pavement and water bodies. This BMP prevents soil from becoming water borne and may help restore shallow slope failures by trapping soil and debris. For a more detailed description of this BMP, refer to Appendix A.
EC-10	Erosion Control Blankets & Mats	Erosion control blankets and mats are installed to protect the prepared soil surface of a steep slope. This BMP may be used at maintenance sites to provide stabilization/protection on steep slopes or stream banks. Erosion control blankets and mats

BMP Number	BMP Title	BMP Description
		are available in a variety of materials including jute, excelsior, blanket material, straw, wood fiber blanket, coconut fiber blanket, coconut fiber mesh, and straw coconut fiber blanket. Material selection should be based on the size of area, slope, surface conditions, revegetation plans, and channel velocity. Coir fabric/netting is a geo-textile product made from coconut fibers loosely woven into a fabric usually packaged in roll form. This fabric can be used to provide a reduction in water velocity/erosive forces and/or habitat protection and topsoil stabilization. Erosion control blankets and mats may be used in combination with seeding and/or vegetation. For a more detailed description of this BMP, refer to Appendix A.
EC-11	Surface Roughening	Surface roughening is a technique for roughening a bare soil surface with furrows running across the slope, stair stepping, or tracking with construction equipment. Surface roughening is intended to aid the establishment of vegetative cover from seed, to reduce runoff velocity and increase infiltration, and to reduce erosion and provide for sediment trapping. This BMP is typically applied on slopes steeper than 3:1. For a more detailed description of this BMP, refer to Appendix A.
EC-12	Rolling Dip	Rolling dips are ridges or ridge-and-channels constructed diagonally across a sloping road or utility right-of-way that is subject to erosion to limit the accumulation of erosive volumes of water on roads by diverting surface runoff at designated intervals. Rolling dips are appropriate to use on low and moderate grades and on both high or low traffic roads. For a more detailed description of this BMP, refer to Appendix A.
EC-13	Slope or Bank Stabilization	Where biotechnical methods are unsuitable for stabilizing streambanks due to site specific conditions such as steep slopes or limited right-of-way width, hardened engineered solutions such as rock slope protection, solider pile walls, retaining walls, or slope soil nailing may be utilized along a failed portion of slope to provide a buttress against additional failure. To the extent feasible, this BMP should be combined with biotechnical solutions through installation of vegetated rock slope protection. Refer to Appendix A for a more detailed description of this BMP.
EC-14	Energy Dissipator	An energy dissipator is a structure designed to control erosion at the outlet of a channel or conduit by reducing the velocity of flow and dissipating the energy. This BMP is recommended at the outlet of any new or replacement drainage culvert, which are points of high erosion potential. Energy dissipators are effective in absorbing the impact of flow and reducing the velocity to non-erosive levels. For a more detailed description of this BMP, refer to Appendix A.
Sediment/Water Quality Control Measures		
SC-1	Gravel Bags	Gravel bags can be used to keep water away from work areas and unstable slopes or for constructing cofferdams and clean water bypasses. This BMP is also typically used at construction or maintenance sites to protect storm drain outlets, gutters, ditches, and drainage courses. For a more detailed description of this BMP, refer to Appendix A.
SC-2	Silt Fence	A silt fence is a temporary sediment barrier consisting of fabric stretched across and attached to supporting posts and entrenched into soil. This BMP is generally used for perimeter protection (around construction/maintenance sites, stockpile areas). It may also be installed perpendicular to the flow direction to slow or stop water and to allow perimeter filtration, settling of soil particles, and to reduce water velocity. For a more detailed description of this BMP, refer to Appendix A.
SC-3	Straw Log, Straw Roll, Coir Log	Straw rolls/logs or coir logs may be used for temporary soil stockpile protection; protection of storm drains, gutters, and drainage courses; temporary check dams; bank or slope stabilization; and streambank toe protection. Alternatives to straw rolls/logs and coir logs include compostable filter socks/berms comprised of natural fibers and other bio-based materials. For a more detailed description of this BMP, refer to Appendix A.

BMP Number	BMP Title	BMP Description
SC-4	Inlet Protection	Storm drain inlets can be protected through installation of temporary barriers such as silt fences, gravel bags, and other proprietary barriers like geotextile inserts, biofilter bags, or compost socks. These barriers are intended to prevent and reduce the sediment discharged into storm drains by ponding runoff and allowing sediment to settle out. For a more detailed description of this BMP, refer to Appendix A.
SC-5	Stormwater Separation Systems	Stormwater separation systems are engineered devices installed in storm drain facilities to remove solids, grease and other pollutants. These may be installed where deep structures allow for their placement and maintenance, or where sufficient quantities of pollutant materials require regular removal in order for the storm drains to operate correctly. For a more detailed description of this BMP, refer to Appendix A.
SC-6	Diversion Berm	A diversion berm is a temporary ridge of compacted soil or aggregate base material, or contiguous bag berm constructed at the top or base of a disturbed slope. It may also consist of asphalt concrete or "cutback" at the top of a disturbed slope. This BMP is intended to direct stormwater runoff away from an unstable slope. For a more detailed description of this BMP, refer to Appendix A.
SC-7	Silt Curtain	The County shall install silt curtains or other appropriate silt filtering devices around excavation sites to prevent heavily silted water from impacting areas around the work site. The silt curtain or silt filtering device shall be maintained throughout all phases of excavation.
SC-8	Turbidity Monitoring	During in-water maintenance activities, the County will monitor turbidity levels up and downstream of the maintenance work area prior to conducting maintenance. The County will maintain a log of turbidity data and ensure that activities do not result in increases in turbidity of the stream of more than 20 percent of upstream sampling locations, as measured visually or by nephelometric turbidity units (NTU). Work will be halted if turbidity/siltation levels exceed 20 percent of upstream sampling levels and CDFW will be contacted for further guidance to ensure activities do not harm aquatic life.
Dewatering Measure		
DW-1	Channel Dewatering	• When in-water construction is unavoidable, streamflow shall be diverted around work areas by either installing cofferdams and/or clean water bypass systems. A cofferdam is a temporary structure built into a waterway to enclose a construction area and reduce sediment pollution from construction work in or adjacent to water. A clean water bypass is typically used for short-term diversion of small amounts of water over short distances to enable dewatering of a maintenance site. Depending on site conditions, these systems may be either gravity driven or require use of a pump to divert water around a construction area. For a more detailed description of this BMP, refer to Appendix A. • No dewatering will be conducted at sites with recent document occurrences of coho salmon within the past 5 years.
Sediment Testing and Disposal Measure		
ST-1	Testing and Disposal of Sediment	Depending on the location of the sediment removal site and upstream and adjacent land uses, the County will test the sediment prior to removal to determine suitability for disposal or reuse based on its chemical qualities. The test results and proposed disposal or reuse locations will be submitted to the RWQCB for review and approval. Samples will be analyzed according to the Beneficial Reuse of Dredged Materials: Sediment Screening and Testing Guidelines (RWQCB 2000), as appropriate for the proposed disposal or reuse site. The results will be compared against federal and state environmental screening levels (ESLs) for protection of human health, groundwater quality, and terrestrial receptors. If hazardous levels of

BMP Number	BMP Title	BMP Description
		contaminants (as defined by federal and state regulations) are present, the material will be taken to a permitted hazardous waste facility.

Sources: San Mateo Countywide Water Pollution Prevention Program, 2014; County of San Mateo, 2004 and 2013.

Table 9-2. Cultural Resources Best Management Practices

BMP Number	BMP Title	BMP Description
CUL-1	Review Cultural Resources Sensitivity Map Data and County Baseline Maps to Determine if the Work Area Has Been Subject to a Previous Cultural Resource Study	During the early phases of Annual Work Plan development, the County will review the Cultural Sensitivity Map Data and County Baseline Maps (Appendix I) for all locations where ground-disturbing activities are proposed where excavation would be required beyond the facility's as-built design or otherwise reach previously undisturbed soils beyond existing engineered depths or extent. If the foregoing conditions are not applicable to the maintenance activity being performed, only BMPs CUL-4 and CUL-5 will be required. Based on the location of projects, and whether or not excavation or ground disturbance will occur beyond existing engineered depths or extent, BMPs CUL-2 through CUL-4 shall be implemented as follows: ▪ High Sensitivity: BMPs CUL-2, CUL-3, and CUL-4 ▪ Moderate Sensitivity: BMP CUL-2 and CUL-3 ▪ Low Sensitivity: BMPs CUL-2 through CUL-4 not required ▪ Unknown Sensitivity: BMP CUL-2 and CUL-3 ▪ BMPs CUL-5 and CUL-6 are applicable to all ground-disturbing activities in natural channels or native soils, regardless of the sensitivity level of the work area.
CUL-2	Record Search and Field Inventory for Highly or Moderately Sensitive Areas (Sensitivity Ratings 3-5), and Areas of Unknown Sensitivity	▪ The County will retain a qualified cultural resources specialist to conduct a review and evaluation of locations that involve soil disturbance/excavation in natural channels or native soils identified as Highly to Moderately Sensitive to determine the potential for these activities to affect significant cultural resources. ▪ The initial evaluation will be based on a review of archival information provided by the Northwest Information Center (NWIC) of the California Historical Resources Information System in regard to the project area based on a 0.25-mile search radius. This initial archival review will be completed by the professional archaeologist who will be able to view confidential site location data and literature to arrive at a preliminary sensitivity determination. ▪ It is recommended that the County conduct a review of the Sacred Lands Inventory of the Native American Heritage Commission (NAHC) and due diligence outreach with individuals identified by the NAHC and/or local historical societies or groups. This outreach would involve sending a letter with a request for pertinent information about cultural resources within the project area and to identify any concerns. This outreach is in addition to notification under PRC 21080.3.1 (i.e., CUL-3), and may be appropriate for projects that would not otherwise require Assembly Bill 52 notification. Such outreach is also encouraged under Section 106 implementing regulations at 36 CFR 800.4(a)(3) for identification of historic properties. ▪ The qualified archaeologist will conduct field inventory of the project area to determine the presence/absence of surface cultural materials. The results, along with any mitigation and/or management recommendations, will be presented to the County in an appropriate report format that includes any necessary maps, figures, and correspondence with interested parties. The report will also include a summary of the records search and archival research data, and pertinent geoarchaeological overviews and studies, and regional research designs, as appropriate. ▪ A summary table indicating appropriate management actions (e.g., monitoring during construction, presence/absence testing for subsurface resources, and data recovery) will be developed for each project work area reviewed.

BMP Number	BMP Title	BMP Description
		▪ The maintenance activities will be implemented to avoid significant impacts to cultural resources, if possible. **EXCEPTIONS**: After the NWIC record search and NAHC sacred lands search have been conducted, the qualified archaeologist may determine that a field review is not necessary under the following circumstances: ▪ Locales that have previously been subject to cultural resource studies where no previously identified cultural resources or historical resources were documented. ▪ Locales that have previously been subject to cultural resources studies, but identified cultural resources have been determined by a qualified archaeologist/resource specialist as not eligible for listing in the California Register of Historical Resources (CRHR) or the National Register of Historic Places (NRHP). ▪ A short report would be required to document the decision not to conduct a field study.
CUL-3	Consult with Native American Tribes	▪ The County, as the lead CEQA agency, has notified Native American tribes about the Maintenance Program according to PRC 21080.3.1 (also referred to as Assembly Bill 52); *only Native American tribes that have previously requested notification from the County pursuant to PRC 21080.3.1(b) require notification*. For tribes that request consultation under PRC 21080.3.1(b)(2), the County will consult with those tribes pursuant to PRC 21080.3.2 for projects in areas of high, moderate, and unknown sensitivity.
CUL-4	Construction Monitoring	▪ The County will retain a qualified archaeologist to be present on-site during ground-disturbing activities within areas identified as highly sensitive for cultural areas, unless the qualified archaeologist determines otherwise after the field inventory conducted under CUL-2. Similarly, after conducting the field study under CUL-2, the qualified archaeologist may determine that areas originally identified as moderately sensitive for cultural resources warrant monitoring during construction. The reasons for conducting monitoring in areas initially considered of moderate sensitivity would be discussed in the inventory report. ▪ The qualified archaeologist will have the authority to stop work if cultural resources are discovered. ▪ If any cultural resources are discovered during construction monitoring, BMP CUL-6 would be implemented as appropriate.
CUL-5	Conduct Pre-Maintenance Educational Training	At the beginning of each maintenance season, and in concert with implementing BMP BIO-1, as well as before conducting activities subject to BMP CUL-2 through CUL-4, all maintenance personnel will participate in an educational training session conducted by a qualified cultural resources specialist. This training will include instruction on how to identify historic and prehistoric resources that may be encountered, and will describe the appropriate protocol to be followed if resources are discovered during maintenance work.
CUL-6	Address Discovery of Cultural Remains or Historic or Paleontological Artifacts Appropriately	Unanticipated discoveries of cultural and paleontological resources may occur during maintenance construction activities. Examples of cultural remains are obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or significant areas of tool-making debris; culturally darkened soil (“midden”) containing heat-affected rocks, artifacts, or shellfish remains; stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones. Historic-period artifacts may include stone, concrete, or adobe footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse. Paleontological artifacts are fossilized remains of plants and animals. Work will be restricted or stopped in areas where remains or artifacts are found until proper protocols are met.

		Protocol for treatment of prehistoric or historic cultural resources: 1. Work at the location of the find will halt immediately within 50 feet of the find. A "no work" zone will be established utilizing appropriate flagging to delineate the boundary of this zone, which will measure at least 50 feet in all directions from the find. 2. The County will retain the services of a consulting archaeologist, who will visit the discovery site as soon as practicable and perform minor hand excavation to describe the archaeological or paleontological resources present and assess the amount of disturbance. 3. The consulting archaeologist will provide to the County and USACE, at a minimum, written and digital-photographic documentation of all observed materials, utilizing the CRHR and NRHP guidelines for evaluating archaeological resources. Based on the assessment, the County and USACE will identify the CEQA and Section 106 cultural resources compliance procedures to be implemented. 4. If the consulting archaeologist determines that the find appears not to meet the CRHR or NRHP criteria of significance, and a USACE archaeologist concurs with the consulting archaeologist's conclusions, construction may continue while monitored by the consulting archaeologist. The authorized maintenance work will resume at the discovery site only after the County has retained a consulting archaeologist to monitor and the Maintenance Manager has received notification from USACE allowing work to continue. 5. If the find appears significant, avoidance of additional impacts is the preferred alternative. The consulting archaeologist will determine if adverse impacts to the resources can be avoided. 6. Where avoidance is not practical (e.g., maintenance activities cannot be deferred or must be completed to satisfy the Maintenance Program objective), the County will develop an action plan (also known as a data recovery plan) and submit it to USACE within 48 hours of determining that maintenance activities cannot be deferred. The action plan will be submitted by email to the appropriate archeological/cultural resources contact at the USACE. The action plan is equivalent to a data recovery plan. It will be prepared in accordance with the current professional standards and state guidelines for reporting the results of the work, and will describe the services of a Native American consultant and a proposal for curation of cultural materials recovered from a non-grave context. 7. The recovery effort will be documented in a report prepared by the consulting archaeologist in accordance with current archaeological standards. Any non-grave artifacts will be placed with an appropriate repository. 8. In the event of discovery of human remains (or if a find consists of bones suspected to be human), the field crew supervisor will take immediate steps to secure and protect such remains from vandalism during periods when work crews are absent.) 9. The maintenance crew supervisor will immediately notify the San Mateo County Coroner and provide any information that identifies the remains as Native American. If the remains are determined to be those of a prehistoric Native American or a Native American from the ethnographic period, the Coroner will contact NAHC within 24 hours of being notified about the remains. NAHC will designate and notify a Most Likely Descendant (MLD) within 24 hours. The MLD will have 24 hours to consult and provide recommendations for the treatment or disposition, with proper dignity, of the human remains and grave goods. 10. Preservation in situ is the preferred option for human remains. Human remains will be preserved in situ if continuation of the maintenance work, as determined by the consulting archaeologist and MLD, will not cause further damage to the remains. The remains and artifacts will be documented, the find location carefully backfilled (with protective geo-fabric if desirable), and the information recorded in County Maintenance Program files.

BMP Number	BMP Title	BMP Description
		11. If human remains or cultural items are exposed during maintenance that cannot be protected from further damage, they will be exhumed by the consulting archaeologist at the discretion of the MLD and reburied, with the concurrence of the MLD, in a place mutually agreed upon by all parties. <u>Protocol for treatment of paleontological resources:</u> 1. Work at the location of the find will halt immediately within 50 feet of the find. A "no work" zone will be established utilizing appropriate flagging to delineate the boundary of this zone, which will measure at least 50 feet in all directions from the find. 2. The County shall retain the services of a consulting paleontologist. The consulting paleontologist will meet the Society for Vertebrate Paleontology's criteria for a qualified professional paleontologist (Society of Vertebrate Paleontology 2010). 3. The consulting paleontologist shall visit the discovery site as soon as practicable and perform minor hand-excavation to describe the paleontological resources present and assess the amount of disturbance. The consulting paleontologist will follow the Society for Vertebrate Paleontology's guidelines (2010) for treatment of the artifact. Treatment may include preparation and recovery of fossil materials for an appropriate museum or university collection, and may include preparation of a report describing the finds. The County will be responsible for ensuring that the consulting paleontologist's recommendations for treatment are implemented.

Table 9-3. Biological Resources Best Management Practices

BMP Number	BMP Title	BMP Description
BIO-1	Environmental Awareness Training	Prior to commencing maintenance activities in a given year, all participating maintenance personnel will attend a worker environmental awareness training program. The training will include a brief review of special-status species, sensitive habitats, and other sensitive resources that may exist in the project area, including field identification, habitat requirements, and the legal status and protection of each relevant species, as well as locations of sensitive biological resources. The training will include materials concerning the following topics: sensitive resources, resource avoidance, permit conditions, and possible consequences for violations of State or Federal environmental laws. The training will cover the maintenance activity's conservation measures, environmental permits, and regulatory compliance requirements, as well as the roles and authority of the monitors and biologist(s). It will include printed material and an oral training session by a qualified biologist.
BIO-2	Minimize Injury or Mortality of Fish and Amphibian Species during Dewatering	Prior to dewatering a construction site, all reasonable efforts shall be made to capture and relocate native fish and amphibian species if necessary to avoid direct mortality and minimize take. Streams that support a sensitive species (e.g., steelhead, California red-legged frog) will require a relocation effort led by a qualified biologist (see also BMPs BIO- 3 through BIO-5). The following measures are consistent with those defined as *reasonable and prudent* by NMFS for projects concerning several central California Evolutionarily Significant Units for coho salmon and steelhead trout. ▪ Fish relocation activities will be performed only by qualified fisheries biologists that have experience with fish capture and handling. ▪ Perform relocation activities during morning periods when air temperatures are coolest. ▪ Periodically measure air and water temperatures. Cease activities when water temperatures exceed temperatures allowed by CDFW and NMFS. ▪ Capture methods may include fish landing nets, dip nets, buckets and by hand. ▪ Exclude fish from re-entering work area by blocking the stream channel above and below the work area with fine-meshed net or screens. Mesh will be no greater than 1/8 inch (3.1mm). The bottom edge of net or screen will be completely secured to the channel bed to prevent fish from re-entering work area. Exclusion screening will be placed in areas of low water velocity to minimize impingement of fish. Screens will be checked periodically and cleaned of debris to permit free flow of water. ▪ Prior to capturing fish, the qualified biologist will determine the most appropriate release location(s). Captured aquatic life shall be released immediately in the closest suitable body of water adjacent to the work site, taking into consideration the following when selecting release site(s): A. Similar water temperature as capture location B. Ample habitat for captured fish C. Low likelihood of fish re-entering work site or becoming impinged on exclusion net or screen. D. Avoid areas with large concentrations of potential predators in immediate vicinity. ▪ Minimize handling of salmonids. However, when handling is necessary, always wet hands or nets prior to touching fish.

BMP Number	BMP Title	BMP Description
		▪ Temporarily hold fish in cool, shaded, aerated water in a container with a lid or in a live–car (i.e., a net enclosure that can be placed in a pond to temporarily hold the fish). ▪ If fish are held in a container, provide aeration with a battery-powered external bubbler. Protect fish from jostling and noise and do not remove fish from this container until time of release. ▪ Place a thermometer in holding containers and, if necessary, periodically conduct partial water changes to maintain a stable water temperature. If water temperature reaches or exceeds those allowed by CDFW and NMFS, fish should be released and rescue operations ceased. ▪ Avoid overcrowding in containers. Have at least two containers and segregate young-of-year fish from larger age-classes to avoid predation. Place larger amphibians, such as Pacific giant salamanders, in container with larger fish. ▪ If fish are abundant, periodically cease capture, and release fish at predetermined locations. ▪ Visually identify species and estimate year-classes of fish at time of release. ▪ Count and record the number of fish captured. Avoid anesthetizing or measuring fish. ▪ Submit reports of fish relocation activities to CDFW and NMFS in a timely fashion. ▪ If feasible, plan on performing initial fish relocation efforts several days prior to the start of construction. This provides the fisheries biologist an opportunity to return to the work area and perform additional passes immediately prior to construction. In many instances, additional fish will be captured that eluded the previous day's efforts. The biological monitor or qualified biologist shall check daily for stranded aquatic life as the water level in the dewatering area drops. ▪ If mortality during relocation exceeds the amount authorized by the applicable permits or, if no amount is specified, 5 percent, stop efforts and immediately contact the appropriate agencies (CDFW and NMFS).
BIO-3	California Red-legged Frog Protection Measures	If suitable habitat for California red-legged frog is determined to exist in or around the work area where maintenance activities are planned to occur, the County will implement applicable protection measures as follows: ▪ No more than twenty-four (24) hours prior to the date of initial ground disturbance or mowing, a pre-activity survey for the California red-legged frog will be conducted by a qualified biologist at the work site. The survey will consist of walking the work area limits to ascertain the possible presence of the species. The qualified biologist will investigate all potential areas that could be used by the California red-legged frog for feeding, breeding, sheltering, movement, and other essential behaviors. This includes an adequate examination of mammal burrows, such as those of California ground squirrels (*Spermophilus beecheyi*) or gophers (*Thomomys bottae*). If any adults, subadults, juveniles, tadpoles, or eggs are found, the qualified biologist will contact the USFWS to determine if moving any of the individuals is appropriate. If the USFWS approves moving animals, the biologist and USFWS will identify a suitable relocation site, and the County will ensure the qualified biologist is given sufficient time to move the animals from the work site before ground disturbance is initiated. Only qualified biologists will capture, handle, and monitor the California red-legged frog. ▪ To minimize harassment, injury, death, and harm to individual California red-legged frogs, one of the following two measures will be implemented. 1. An approved, qualified biologist(s) will be on-site during all activities that may result in take of the California red-legged frog, as determined by the biologist taking into account all information gathered during the desktop audit of the site as well as the preconstruction survey. Qualified biologists must be approved by the USFWS.

BMP Number	BMP Title	BMP Description
		or 2. Prior to pre-activity surveys, personnel will enclose the work area with an exclusion fence with a minimum height above grade of 42 inches. The bottom of the fence will either be buried a minimum of six inches below ground or otherwise secured in a manner approved by the USFWS and will remain in place during all maintenance activities in order to prevent California red-legged frogs from entering the work area. Escape ramps, funnels, or other features that allow animals to exit the work area, but which will prohibit the entry of such animals, will be provided in the exclusion fencing. A qualified biologist will conduct a pre-activity survey of the fence installation area immediately prior to (i.e., the day of) the commencement of installation and will be on-hand to monitor fence installation. The exclusion fencing will be inspected daily by maintenance personnel and maintained for the duration of maintenance implementation. ▪ The qualified biologist(s) will be given the authority to freely communicate verbally, by telephone, electronic mail, or in writing at any time with maintenance personnel, any other person(s) at the work area, otherwise associated with the maintenance work, the USFWS, the CDFW, or their designated agents. The qualified biologist will have oversight over implementation of all the conservation measures in this programmatic biological opinion, and will have the authority and responsibility to stop work activities if they determine any of the associated requirements are not being fulfilled. If the qualified biologist(s) exercises this authority, the USFWS will be notified by telephone and electronic mail within twenty-four (24) hours. The USFWS contact is the Coast Bay Foothills Division Chief of the Endangered Species Program at the Sacramento Fish and Wildlife Office at telephone (916) 414-6600. ▪ The County will minimize adverse impacts to the California red-legged frog by limiting, to the maximum extent possible, the number of access routes, ground disturbance area, equipment staging, storage, parking, and stockpile areas. Prior to initiating maintenance work that involve ground-disturbing activities, equipment staging areas, site access routes, sediment removal and transportation equipment and personnel parking areas, debris storage areas, and any other areas that may be disturbed will be identified, surveyed by the qualified biologist, and clearly identified with fencing. The fencing will be inspected by the qualified biologist and maintained daily until the last day that equipment is at the site. ▪ To the extent practicable, ground-disturbing activities will be avoided from October through April because that is the time period when California red-legged frogs are most likely to be moving through upland areas. When ground-disturbing activities must take place between November 1 and March 31, the County will ensure that daily monitoring by the qualified biologist is completed for the California red-legged frog. ▪ If egg masses are present and work cannot be postponed until after hatching, a buffer of vegetation at least 10 feet in diameter shall be left around any egg masses found. Staff will keep a record of any sites where egg masses are found and will conduct vegetation removal at these sites between June 15 and October 15. Staff shall avoid entering the channel to avoid dislodging egg masses. Activities shall be performed from the banks. ▪ To minimize harassment, injury, death, and harm in the form of temporary habitat disturbances, all maintenance-related vehicle traffic will be restricted to established roads, sediment removal and access areas, equipment staging, storage, parking, and stockpile areas. These areas will be included in pre-activity surveys and, to the maximum extent possible, established in locations disturbed by previous activities to prevent further adverse impacts. Maintenance-

BMP Number	BMP Title	BMP Description
		related vehicles will observe a 20-mile per hour speed limit within work areas, except on County roads, and State and Federal highways. Off-road traffic outside of designated and fenced work areas will be prohibited. ▪ When a California red-legged frog is encountered in the work area, all activities which have the potential to result in the harassment, injury, or death of the individual will be immediately halted. The qualified biologist will then assess the situation in order to select a course of action that will avoid or minimize adverse impacts to the animal. To the maximum extent possible, contact with the frog will be avoided and the individual will be allowed to move out of the potentially hazardous situation to a secure location on its own volition. This procedure applies to situations where a California red-legged frog is encountered while it is moving to another location. It does not apply to animals that are uncovered or otherwise exposed or in areas where there is not sufficient adjacent habitat to support the species should the individual move away from the hazardous location. ▪ California red-legged frogs that are in danger will be relocated and released by the qualified biologist outside the work area within the same riparian area or watershed. If relocation of the individual outside the work area is not feasible (i.e., there are too many individuals observed per day), the biologist will relocate the animals to a USFWS preapproved location. Prior to the initial ground disturbance, the County will obtain approval of the relocation protocol from the USFWS in the event that a California red-legged frog is encountered and needs to be moved away from the work site. Under no circumstances will a California red-legged frog be released on a site unless the written permission of the landowner has been obtained by the County. The qualified biologist will limit the duration of the handling and captivity of the California red-legged frog to the minimum amount of time necessary to complete the task. If the animal must be held in captivity, it will be kept in a cool, dark, moist, aerated environment, such as a clean and disinfected bucket or plastic container with a damp sponge. ▪ The County will immediately notify the USFWS once the California red-legged frog and the site is secure. The USFWS contact for this situation is the Coast Bay Foothills Division Chief of the Endangered Species Program by email and at telephone (916) 414-6600. ▪ A litter control program will be instituted at each activity site. All workers will ensure their food scraps, paper wrappers, food containers, cans, bottles, and other trash are deposited in covered or closed trash containers. The trash containers will be removed from the site at the end of each working day. ▪ The County will comply with all herbicide application requirements mandated by the USEPA and stipulated injunctions pertaining to California red-legged frog. For example, herbicides will be limited for controlling state-designated invasive species and noxious weeds, will not be used within 15 feet of aquatic breeding critical habitat or non-breeding aquatic critical habitat areas or within 15 feet of aquatic features within non-critical habitat sections subject to the 2006 Court-ordered injunction; precipitation is not occurring or forecast to occur within 24 hours; herbicide is limited to localized spot treatment using hand-held devices; and herbicide will be applied by a certified applicator or person working under the direct supervision of a certified applicator. ▪ For on-site storage of pipes, conduits and other materials that could provide shelter for California red-legged frogs, materials will be securely capped prior to storage or an open-top trailer will be used to elevate the materials above ground. This is intended to reduce the potential for animals to climb into the conduits and other materials. ▪ To the maximum extent practicable, no maintenance activities will occur during rain events or within 24-hours following a rain event. Prior to maintenance activities resuming, a qualified biologist will inspect the work area and all

BMP Number	BMP Title	BMP Description
		equipment/materials for the presence of California red-legged frogs. The animals will be allowed to move away from the work site of their own volition or moved by the qualified biologist. ▪ To the maximum extent practicable, night-time construction activities will be minimized or avoided by the County. Because dusk and dawn are often the times when the California red-legged frog most actively moving and foraging, to the maximum extent practicable, earthmoving and other project activities will cease no less than 30 minutes before sunset and will not begin again prior to 30 minutes after sunrise. Except when necessary for driver or pedestrian safety, to the maximum extent practicable, artificial lighting at a work site will be prohibited during the hours of darkness. ▪ Plastic monofilament netting (erosion control matting), loosely woven netting, or similar material in any form will not be used at the project site because California red-legged frogs can become entangled and trapped in them. Any such material found on site will be immediately removed by the qualified biologist, maintenance personnel, or County contractors. Materials utilizing fixed weaves (strands cannot move), polypropylene, polymer or other synthetic materials will not be used. ▪ Trenches or pits one (1) foot or deeper that are going to be left unfilled for more than forty-eight (48) hours will be securely covered with boards or other material to prevent the California red-legged frog from falling into them. If this is not possible, the County will ensure wooden ramps or other structures of suitable surface that provide adequate footing for the California red-legged frog are placed in the trench or pit to allow for their unaided escape. Auger holes or fence post holes that are greater than 0.10 inch in diameter will be immediately filled or securely covered so they do not become pitfall traps for the California red-legged frog. The qualified biologist will inspect the trenches, pits, or holes prior to their being filled to ensure there are no California red-legged frogs in them. The trench, pit, or hole also will be examined by the qualified biologist each workday morning at least one hour prior to initiation of work and in the late afternoon no more than one hour after work has ceased to ascertain whether any individuals have become trapped. If the escape ramps fail to allow the animal to escape, the qualified biologist will remove and transport it to a safe location, or contact the USFWS for guidance.
BIO-4	California Tiger Salamander Protection Measures	In the limited area in which the California tiger salamander might occur (i.e., in the vicinity of Alpine Trail), the measures described for California red-legged frog above will be implemented for California tiger salamander as well. In addition, the CDFW will be included in any agency coordination, as well as the USFWS, for issues involving the salamander.
BIO-5	San Francisco Garter Snake Protection Measures	In areas within one mile of a documented occurrence of the San Francisco garter snake, onsite habitat shall be evaluated by a qualified biologist or biological monitor for the potential to support this species. If suitable habitat for San Francisco garter snake is determined to exist in or around the work area where ground disturbing activities or mowing are planned to occur, the following measures will be followed: ▪ To the extent feasible, maintenance activities should be conducted from April through October during the dry season when these semi-aquatic species are less likely to be found in a work area. ▪ Prior to implementation of maintenance work, the County will submit to the USFWS and CDFW for its review and approval the qualifications of proposed wildlife biologist(s) who will perform pre-activity surveys and on-site monitoring. ▪ To avoid harassment, injury, death, and harm to individual San Francisco garter snakes, immediately prior to (i.e., the day of) the initiation of maintenance activities that have potential for take of the San Francisco garter snake, a USFWS

BMP Number	BMP Title	BMP Description
		and CDFW-approved biologist will conduct daytime surveys throughout the project site. The approved biologist will be present during initial ground-disturbing activities (i.e., clearing and grubbing) within 250 ft of the work area to monitor for individual garter snakes. The biologist will also be present during any other maintenance activities that could potentially result in take, as determined by the biologist taking into account all information gathered during the desktop audit of the site as well as the preconstruction survey. If a San Francisco garter snake is observed within the maintenance work area, either during the pre-activity survey or at any time, activities that could potentially harm the individual will cease and the USFWS and CDFW will be contacted immediately. Work will not re-commence without written approval from CDFW. The on-site biologist will be the contact for any employee or contractor who might inadvertently kill or injure a garter snake or anyone who finds a dead, injured, or entrapped San Francisco garter snake. The on-site biologist shall possess a working cellular telephone whose number shall be provided to the USFWS and CDFW. ▪ For vegetation removal on berms or other sites with suitable San Francisco garter snake habitat, vegetation shall be cut down to 3 inches by hand tools (weedwhacker, etc.). Once the ground is visible, a visual survey for San Francisco garter snakes shall be conducted. If no sensitive species are found in the area, removal of vegetation may continue by mowing or mechanized equipment very slowly with a biological monitor walking in front of the equipment to observe. ▪ Maintenance-related vehicles will observe a 20 mile per hour speed limit while in the work area. ▪ San Francisco garter snakes may be attracted to structures that provide cavities such as pipes; therefore, all pipes, culverts, or similar structures that are stored at the site for one or more overnight periods will be either securely capped prior to storage or thoroughly inspected by the on-site biologist and/or the maintenance foreman/manager before the pipe is buried, capped, or otherwise used or moved. If a San Francisco garter snake is discovered inside a pipe, the biologist (or a member of the maintenance crew, if the biologist is not on-site) will watch the individual until it has moved out of the maintenance work area. ▪ A litter control program will be instituted at each activity site. All workers will ensure their food scraps, paper wrappers, food containers, cans, bottles, and other trash are deposited in covered or closed trash containers. The trash containers will be removed from the site at the end of each working day.
BIO-6	Measures to Protect the Foothill Yellow-legged Frog, California Giant Salamander, Santa Cruz Black Salamander, and Western Pond Turtle	In areas within one mile of documented foothill yellow-legged frog, California giant salamander, Santa Cruz black salamander, or western pond turtle occurrences, or where suitable habitat for one or more of these species is determined to exist in or around the work area where ground disturbing activities or mowing are planned to occur, the County will implement applicable protection measures as follows: ▪ The qualified biologist will conduct a special-status species survey on each morning of and within 48 hours prior to the scheduled work commencing. 1. If no foothill yellow-legged frog, California giant Salamander, Santa Cruz black salamander, or western pond turtle is found, the work may proceed. 2. If eggs or larvae of the foothill yellow-legged frog, California giant salamander, Santa Cruz black salamander, are found, the qualified biologist will establish a buffer around the location of the eggs/larvae and work may proceed outside of the buffer zone. No work will occur within the buffer zone. Work within the buffer zone will be rescheduled until the time that eggs have hatched and/or larvae have metamorphosed, or the Permittee shall contact CDFW to develop site appropriate avoidance and minimization measures.

BMP Number	BMP Title	BMP Description
		3. If an active western pond turtle nest is detected within the activity area, a 10-foot buffer zone around the nest will be established and maintained during the breeding and nesting season (April 1 – August 31). The buffer zone will remain in place until the young have left the nest, as determined by a qualified biologist. 4. If adult or non-larval juvenile foothill yellow-legged frogs, California giant salamanders, Santa Cruz black salamanders, or western pond turtles are found, one of the following two procedures will be implemented: a. If, in the opinion of the qualified biologist, capture and removal of the individual to a safe place outside of the work area is less likely to result in adverse effects than leaving the individual in place and rescheduling the work (e.g., if the species could potentially hide and be missed during a follow-up survey), the individual will be captured and relocated by a qualified biologist to suitable habitat at least 100 meters away and work may proceed. b. If, in the opinion of the qualified biologist, the individual is likely to leave the work area on its own, and work can be feasibly rescheduled, a buffer will be established around the location of the individual(s) and work may proceed outside of the buffer zone. No work will occur within the buffer zone until the turtle has left the work area. Work within the buffer zone will be rescheduled if necessary.
BIO-7	Check for Wildlife in Pipes/Construction Materials	For maintenance activities that involve pipes or culverts, the County will visually check all sections of pipe for the presence of wildlife sheltering within them prior to moving any pipe or culvert sections that have been stored on the site overnight, or the pipes will have the ends capped while stored on site so as to prevent wildlife from entering. After attachment of the pipe/culvert sections to one another, the exposed end(s) of the pipe/culvert will be capped at the end of each day during construction to prevent wildlife from entering and being trapped within the pipeline/culvert.
BIO-8	Minimize Impacts on Dusky-footed Woodrat Nests	If suitable habitat for San Francisco dusky-footed woodrat is determined to exist in the work area, the following measure will be followed: ▪ No more than two weeks prior to the beginning of ground disturbance or other routine maintenance activities that could disturb woodrat nests, a qualified biologist will survey the work areas scheduled for maintenance. If any dusky-footed woodrat nests are found, the nests shall be flagged and construction fencing or flagging that will not impede the movement of the SFDW shall be placed around the nest to create a 10-foot buffer (where feasible). If the nest is located adjacent to a road or trail, the nest shall be clearly flagged so equipment/truck drivers accessing sites can see the nest. If a dusky-footed woodrat nest is identified in a work area, the following measure will be implemented by the County. ▪ The County will avoid physical disturbance of the nest if feasible. Ideally, a minimum 10-foot buffer should be maintained between maintenance construction activities and each nest to avoid disturbance. In some situations, a smaller buffer may be allowed if in the opinion of a qualified biologist removing the nest would be a greater impact than that anticipated as a result of maintenance activities. ▪ If a dusky-footed woodrat nest cannot be avoided and the nest is located in urban or bayside areas where woodrat populations are small and isolated from larger populations, the County will consult with CDFW regarding the appropriate measures to minimize impacts.

BMP Number	BMP Title	BMP Description
		▪ If a dusky-footed woodrat nest cannot be avoided and the nest is located in more rural or natural areas and/or where woodrat populations are large and have connectivity to large populations, one of the following two relocation measures will be implemented by the County: 1. If the woodrat nest site and the proposed relocation area are connected by suitable dispersal habitat for the woodrat, as determined by a qualified biologist, the following relocation methodology will be used: Prior to the beginning of construction activities, a qualified biologist will disturb the woodrat nest to the degree that all woodrats leave the nest and seek refuge outside of the maintenance activity area. Relocations efforts will avoid the nesting season (February - July) to the maximum extent feasible. Disturbance of the woodrat nest will be initiated no earlier than one hour before dusk to minimize the exposure of woodrats to diurnal predators. Subsequently, the biologist will dismantle and relocate the nest material by hand. All material from dismantled nests will be placed in a pile, preferably against a log or tree trunk, in suitable habitat located at least 20 feet from, but otherwise as close as possible to, the original nest locations, to provide material for woodrats to construct new nests. During the deconstruction process, the biologist will attempt to assess if there are juveniles in the nest. If immobile juveniles are observed, the deconstruction process will be discontinued until a time when the biologist believes the juveniles will be fully mobile. A 10-foot wide no-disturbance buffer will be established around the nest until the juveniles are mobile. The nest may be dismantled once the biologist has determined that adverse impacts on the juveniles would not occur. All disturbances to woodrat nests will be documented in a construction monitoring report and submitted to CDFW. 2. If a qualified biologist determines that the woodrat relocation area is separated from the nest site by major impediments, or a complete barrier, to woodrat movement, trapping for woodrats will be conducted prior to relocation of nest material. Prior to the start of nest relocation activities, artificial pine box shelters will be placed at each of the sites selected for relocation of nest materials. The dimensions of the artificial shelters will be approximately 8” long x 8” wide x 6” high. Each shelter will include two interior chambers connected by an opening. At the relocation sites, the artificial pine box shelters will provide basement structures for the relocated woodrat nest materials, allowing woodrats to enter, use, and modify the relocated nests. A qualified biologist will set two traps around each of the woodrat nests to be relocated. Traps will be set within one hour prior to sunset, and baited with a mixture of peanut butter, oats, and apples. Traps will also be equipped with cotton bedding and covered with cardboard. The traps will be checked the following morning, within one-and-a-half hours of sunrise. If a woodrat is captured it will be placed in a quiet area while its nest material is relocated; the animal will then be released at the relocated nest. If no woodrats are captured after the first night, the biologist will set the traps for one additional evening to increase the probability of capturing the animal and ensuring a safe relocation. If no woodrats are captured at a given house after two nights, it will be assumed that the house is not currently occupied. 3. Trapping will only be conducted outside the breeding season, which for woodrats is from February through the end of July. If a litter of young is found or suspected while dismantling a nest for relocation, the nest material will be replaced, any trapped woodrats will be returned to the nest, and the nest will be left alone for 2 to 3 weeks,

BMP Number	BMP Title	BMP Description
		after which time the nest would be rechecked to verify that the young are capable of independent survival, as determined by the lead woodrat biologist, before proceeding with nest dismantling.
BIO-9	Measures to Protect Nesting Migratory Birds	▪ To the extent possible, conduct vegetation removal activities prior to nesting bird season (February 1 through August 31). ▪ For maintenance activities or tree removal that are scheduled to occur between February 1 and August 31, a qualified biologist will survey the work area and a minimum of 300 feet surrounding the work area for raptor nests and 100 feet for nests of non-raptors. This survey will occur no more than three days prior to starting work. If a lapse in maintenance-related work of 7 days or longer occurs, another focused survey will be conducted before maintenance work can be reinitiated. ▪ If nesting birds are found, a no-work buffer will be established around the nest and maintained until the young have fledged. A qualified biologist will identify an appropriate buffer based on a site specific-evaluation. Typical appropriate buffers are 300 feet for raptors, herons, and egrets (though larger for bald and golden eagles, as discussed in BIO-14); 100 feet for non-raptors nesting on trees, shrubs and structures, and 25 feet for ground-nesting non-raptors. ▪ The boundary of each buffer zone will be marked with fencing, flagging, or other easily identifiable marking if work will occur immediately outside the buffer zone. ▪ Install physical barriers to nesting where appropriate (e.g., install netting over entryways to cavities, bridge ledges, culverts) and check regularly for any trapped birds. Work will not commence within the buffer until fledglings are fully mobile and no longer reliant upon the nest or parental care for survival. ▪ No trees or shrubs shall be disturbed that contain active bird nests until all eggs have hatched, and young have fully fledged (are no longer being fed by the adults and have completely left the nest site). To avoid potential impacts to tree or shrub-nesting birds, any project-specific trimming or pruning of trees or shrubs shall be conducted during the time period of September 1 to February 14 unless a preconstruction nesting bird survey has been conducted by a qualified biologist. No habitat removal or modification shall occur within the Ecologically Sensitive Area fenced nest zone even if the nest continues to be active beyond the typical nesting season for the species, until the young have fully fledged and will no longer be adversely affected by the project. ▪ Within areas subject to CDFW regulation under Section 1600 of the Fish and Game Code, nesting bird protection measures required as conditions of the Streambed Alteration Agreement will be implemented.
BIO-10	Measures to Protect Nesting Marbled Murrelet	▪ During marbled murrelet breeding/nesting season (March 24 to September 15), if suitable marbled murrelet nesting trees are present within 300 feet of the project area or if a marbled murrelet nest is detected, Permittee shall consult with CDFW before proceeding. If habitat trees are present within ¼- mile of the project site but are greater than 300 feet from the work area, Permittee may proceed with the following conditions: o Work within the ¼-mile buffer shall be confined to the period of September 15 to October 15. o If activities cannot be performed during this window and would thus occur during the marbled murrelet breeding season (March 25 to September 15), seasonal disturbance minimization buffers as listed the USFWS document, *Estimation of the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California* (2006) shall be followed. Permittee shall measure ambient noise and estimate construction activity noise to calculate seasonal buffer widths using that reference.

BMP Number	BMP Title	BMP Description
		o Alternatively, if protocol-level surveys are conducted and do not indicate that the habitat is occupied by marbled murrelet, seasonal and distance work restrictions may be lifted with written approval from CDFW. Protocol level survey procedures and information can be found at: http://www.pacificseabirdgroup.org/publications/PSG_TechPub2_MAMU_ISP.pdf
BIO-11	Non-native Aquatic Plant Removal	Any aquatic non-native plants found while performing maintenance activities will be disposed of properly and will not be placed back into the tributaries where work is being conducted or any other drainages, creeks, or streams.
BIO-12	Measures to Protect Special-Status Butterflies	If suitable habitat for Bay checkerspot, Mission blue, San Bruno elfin, or Callippe silverspot butterflies is determined to exist in or around the work area where ground disturbing activities are planned to occur, the County will implement applicable protection measures as follows: ▪ Areas supporting larval host plants for the Bay checkerspot, Mission blue, San Bruno elfin, or Callippe silverspot will be identified by a qualified biologist and protected from disturbance by establishing buffer zones around individual plants or populations. The size of the buffer will be determined by a qualified botanist; the actual distance will depend on the plant species potentially affected and the type of disturbance. If impacts on larval host plants of federally listed butterflies are unavoidable and are within occupied or potentially occupied habitats, then the County will stop work in the vicinity of the host plant(s) and consult with the USFWS. ▪ No herbicide will be applied to the buffer area, and to the extent feasible, maintenance personnel and equipment will not operate within such areas. If, based on a review of current CNDDB records or the latest information available from the Xerces Society (https://xerces.org/state-of-the-monarch-butterfly-overwintering-sites-in-california/) historically or currently occupied overwintering habitat for the monarch butterfly is determined to exist in or adjacent to the work area where ground disturbing activities are planned to occur, the County will implement applicable protection measures as follows: ▪ Areas supporting overwintering habitat for the monarch butterfly will be identified by a qualified biologist and maintenance activities during fall and winter months when monarch butterflies are present will be avoided to the extent practicable. ▪ Historically or currently occupied trees/groves will be protected from disturbance by the establishment of a 100-foot buffer zone around the tree/grove. The buffer will be measured from the outside edge of the dripline of the monarch grove. If maintenance activities within 100 feet of a historically or currently occupied tree/grove are unavoidable, the County will prepare and implement an impact minimization plan in consultation with the USFWS. ▪ No herbicides or pesticides will be applied to the buffer area, and to the extent feasible, maintenance personnel and equipment will not operate within such areas.
BIO-13	Measures to Protect the California Ridgway's Rail	If suitable breeding habitat for California Ridgway's rails is determined to exist in or around the work area where maintenance activities are planned to occur, the County will implement applicable protection measures as follows: ▪ If work will occur during the Ridgway's rail breeding season (February 1 through August 31), the County will conduct

BMP Number	BMP Title	BMP Description
		pre-activity surveys for the Ridgway's rail in the late winter and early spring of the year maintenance activities are scheduled to occur. Surveys will be conducted per the current USFWS protocol. ▪ If the surveys confirm there are no breeding rails within 700 feet of the project area, or the area where heavy equipment, ground disturbance, or vegetation removal would occur, work activities may proceed during the breeding season. ▪ If surveys identify the presence of breeding rails, no maintenance activities will occur within 700 feet of occupied nesting habitat during the breeding season (February 1 to August 31). For work occurring within 300 feet of potential nonbreeding habitat for California Ridgway's rails which provides habitat that occasional nonbreeding California Ridgway's rails may use for foraging or cover, or other identified suitable California Ridgway's rail habitat locations, the County will implement applicable protection measures as follows: ▪ Prior to the initiation of work each day, if suitable habitat occurs within the immediate work area, a qualified biologist will conduct a preconstruction survey of all suitable habitat that may be directly or indirectly impacted by the day's activities (work area, access routes, staging areas). Specific habitat areas are vegetated areas of cordgrass (*Spartina* spp.), marsh gumplant (*Grindelia* spp.), pickleweed (*Salicornia pacifica*), alkali heath, (*Frankenia* sp.), and other high marsh vegetation, brackish marsh reaches of creek with heavy accumulations of bulrush thatch (old stands), and high water refugia habitat that may include annual grasses, and shrubs immediately adjacent to channels. ▪ If during the initial daily survey or during work activities a Ridgway's rail is observed within or immediately adjacent to the work area (50 feet), initiation of work will be delayed until the Ridgway's rail leaves the work area. ▪ Mowing using heavy equipment (e.g., tractors, boom mowers, or rider mowers) will not be conducted in habitat areas or within 50 feet of habitat areas. If mowing with hand equipment is necessary within 50 feet of habitat areas, an on-site monitor will observe the area in front of the mower from a safe vantage point while it is in operation. If Ridgway's rails are detected within the area to be mown, the mowing will stop until the individual(s) have left the work area. ▪ If visual observation cannot confirm the Ridgway's rail(s) left the work area, then it is assumed that the individual(s) remains in the work area and the work will not resume until the area has been thoroughly surveyed (and absence confirmed) or the USFWS has been contacted for guidance.
BIO-14	Measures to Protect Bat Colonies	▪ If high-quality habitat for roosting bats (i.e., large trees with cavities of sufficient size to support roosting bats, or buildings providing suitable roost sites, as determined by a qualified bat biologist) is present within 100 feet of a maintenance site, a qualified bat biologist will conduct a survey to look for evidence of bat use within two weeks prior to the onset of work activities. If evidence of bat occupancy is observed, or if high-quality roost sites are present in areas where evidence of bat use might not be detectable (such as a tree cavity), an evening survey and/or nocturnal acoustic survey may be necessary to determine if a bat colony is present and to identify the specific location of the bat colony. ▪ If no active maternity colony or non-breeding bat roost is located, project work can continue as planned. ▪ If an active maternity colony or non-breeding bat roost is located, the project work will be redesigned to avoid disturbance of the roosts, if feasible.

BMP Number	BMP Title	BMP Description
		▪ If an active maternity colony is located, and the project cannot be redesigned to avoid removal or disturbance of the occupied tree or structure, disturbance will not take place during the maternity season (March 15 – July 31), and a disturbance-free buffer zone (determined by a qualified bat biologist) will be observed during this period. ▪ If an active non-breeding bat roost is located, and the project cannot be redesigned to avoid removal or disturbance of the occupied tree or structure, the individuals will be safely evicted between August 1 and October 15 or between February 15 and March 15 (as determined by a Memorandum of Understanding with CDFW). Bats may be evicted through exclusion after notifying CDFW. Trees with roosts that need to be removed will first be disturbed at dusk, just prior to removal that same evening, to allow bats to escape during the darker hours.
BIO-15	Nesting Bald Eagle and Golden Eagle Avoidance	In areas within 0.5 mile of known bald or golden eagle nesting areas, the following measures will be implemented: ▪ To the extent feasible, conduct vegetation removal activities prior to the nesting season (January 15 through August 1). ▪ For maintenance activities or tree removal that are scheduled to occur between January 15 and August 1, a qualified biologist will survey the work area and a minimum 0.5 mile surrounding the work area for eagle nests. This survey will occur no more than seven days prior to starting work. ▪ No maintenance activities will occur within a 0.5-mile viewshed buffer zone (areas that can be seen by an eagle on the nest), around any active eagle nest during the breeding season, unless a qualified biologist determines late in the season that nesting activity has been completed for the year. No breeding-season maintenance activities will occur within 0.25 mile of the nest site a, regardless of whether or not those activities can be seen from the nest, while nesting activity is occurring.
BIO-16	Avoid Special-Status Plant Species	For projects located in areas where special-status plants have been identified as potentially occurring (see Table 4-1), a qualified biologist will assess habitat suitability for the potential occurrence of special-status plant species within the work area. If determined to be warranted, a qualified botanist will conduct appropriately timed surveys for the focal plant species in accordance with CDFW's special-status plant survey methodology. If a special-status species is observed in or near the project site, the County will follow the measures below as well as any additional measures that might be contained in the forthcoming Biological Opinion issued by the USFWS for the Maintenance Program. ▪ If discovered, the population size and occupied area of special-status plant populations identified during the field survey, and with potential to be impacted, will be estimated. A "population" will be defined as the group of individuals of a species present within a 0.10-mile radius. In addition, the population will be photographed and flagged to maximize avoidance, as well as to estimate the percentage of the population affected. If feasible, the project shall be redesigned or modified to avoid direct and indirect impacts on special-status plant species. ▪ Special-status plants to be avoided will be protected from disturbance by installing environmentally sensitive area fencing (orange construction barrier fencing or a suitable alternative). Protective fencing will be installed under the direction of a qualified biologist as necessary to protect the plant and its habitat; where feasible, the environmentally sensitive area fencing will be installed at least 50 ft from the edge of the population. The location of the fencing will be shown on the maintenance design drawings and marked in the field with stakes and/or flagging. The design specifications will contain clear language that prohibits maintenance-relate activities, vehicle operation, material and equipment storage, and other surface disturbing activities within the fenced environmentally sensitive area. For non-ground disturbing vegetation management activities conducted using only hand-held equipment, the non-disturbance

BMP Number	BMP Title	BMP Description
		buffer may be reduced to a minimum of 3 feet and flagging of the population may be used in place of environmentally sensitive fencing. ▪ Vegetation management activities in sensitive plant areas will be conducted under the guidance of a qualified botanist. These activities will be timed following the blooming periods of potentially occurring listed species. ▪ If any impacts to individual state-listed plants are unavoidable, or if more than 5 percent of a population of a federally listed plant species or species with California Rare Plant Ranks of 1 or 2 would be impacted, then the County will stop work in the vicinity of the plant(s) and consult with the appropriate regulatory agencies. ▪ If impacts to state or federally listed plants are unavoidable and less than 5 percent of a population would be impacted, prior to any ground-disturbing activities the County will preserve the seedbank within the impact area by removing and retaining the topsoil prior to the implementation of maintenance activities. Following completion of the maintenance activity, the County will monitor the impact area for two years. Any non-native invasive plant species occurring within this area during the monitoring period will be removed under the supervision of a qualified biologist. ▪ If appropriately timed focused botanical surveys cannot be conducted prior to maintenance activities in areas identified by a qualified biologist as potentially supporting listed plants, then the County will assume presence of the plant species in question.
BIO-17	Sudden Oak Death Controls	▪ Before entering maintenance sites located in areas infested with *Phytophthora*, field workers will receive training that includes information on *Phytophthora* pathogens and how to prevent the spread of these and other soil-borne organisms by following approved phytosanitary procedures. ▪ The exterior and interior of all vehicles, construction equipment, and tools should be clean and free of debris, soil and mud (including mud on tires, treads, wheel wells and undercarriage) prior to arrival at a new job site, especially during the wet season. ▪ Work shoes should be kept clean by inspecting shoe soles and removing mud, debris and soil off treads before moving to a new job site. ▪ Do not collect or transport host plants from an infested or quarantined area. ▪ Vehicles should stay on established roads whenever possible. ▪ To minimize the potential for spreading potentially contaminated soil and time required for decontamination, if possible, avoid vehicle traffic and field work when soils are wet enough to stick readily to shoes, tools, equipment and tires. ▪ Delivered nursery plants that will be held before planting will be transferred to cleaned and sanitized raised benches and maintained in accordance with the "Guidelines to Minimize *Phytophthora* Pathogens for holding (non-production) nurseries at restoration sites, Section 3." ▪ A portion of purchased nursery plants will be tested for *Phytophthora* using the pear-baiting methodology in which pear baits are placed in soil samples, water samples and root samples of nursery purchased plants. Incubation temperatures with diurnal fluctuations from 21 degrees Celsius to 27 degrees Celsius are generally suitable for detecting *Phytophthora* species using pear baits. If dark lesions appear on pears, the sample likely has *Phytophthora* inoculum. For additional information for the pear-baiting methodology, see: phytosphere.com/BMPsnursery/test3_2bait.htm

BMP Number	BMP Title	BMP Description
		▪ Nursery plants will be transported on or in vehicles or equipment that have been cleaned before loading the stock. ▪ Nursery stock will not be placed on the soil or other potentially contaminated surfaces until they are placed at their specific planting sites. ▪ Minimize unnecessary movement of soil and plant material within a planting area, especially from higher to lower risk areas. ▪ On-site or off-site collection of plant materials, including seed and cuttings for direct planting, will be conducted in a phytosanitary manner. ▪ Only uncontaminated water or water that has been effectively treated to remove or kill *Phytophthora* should be used for rinsing or irrigating plant material.
BIO-18	Invasive Plant Control	▪ In order to minimize the spread of invasive plants, all equipment (including personal gear) will be cleaned of soil, seeds, and plant material prior to arriving on the project site to prevent introduction of undesirable plant species. ▪ Prior to implementation of Program activities at a given site, the proposed staging area, as well as any areas to be graded, will be surveyed for the presence of invasive weed species. Invasive weed species occurring within locations of construction clearing and grubbing shall be flagged for removal by the biological monitor or qualified biologist. Any invasive weeds with a Cal-IPC rating of "moderate" or "high" found within the survey area will be removed and disposed of in a sanitary landfill, incinerated off-site, or disposed in a high-temperature composting facility that can compost using methods known to kill weed seeds, taking care to prevent any seed dispersal during the process by bagging material or covering trucks transporting such material from the site. ▪ Suitable onsite disposal areas should be identified to prevent the spread of weed seeds. Invasive plant material should be rendered nonviable (partially decomposed, very slimy or brittle) when being treated onsite. Maintenance staff shall desiccate or decompose invasive plant material until it is nonviable. Depending on the type of plant, disposed plant material can be left out in the open as long as roots are not in contact with moist soil, or can be covered with a tarp to prevent material from blowing or washing away. Permittee shall monitor all sites where invasive plant material is disposed onsite and treat any newly emerged invasive plants. Invasive plant material removed during work activities shall be bagged and appropriately incinerated or disposed of in a landfill or permitted composting facility. ▪ No invasive plants shall be planted at maintenance work areas. Prohibited exotic plant species include those identified in the California Invasive Plant Council's Inventory Database, which is accessible at: https://www.cal-ipc.org/plants/inventory/.
BIO-19	Restore Channel Features	▪ Following completion of bank stabilization activities, any temporary modifications to the low-flow channels will be reversed so that the channel is contoured to facilitate fish passage at least as well following the activity as it did prior to the stabilization activity.
BIO-20	Avoidance of Mammal Pupping Sites	▪ Work within 250 feet of an active harbor seal or sea lion haul out will be conducted outside of the pupping season (i.e., June – February).
BIO-21	General Wildlife Protection Measures	▪ If any wildlife is encountered during project activities, said wildlife shall be allowed to leave the area unharmed and on their own volition, except in cases where relocation by a qualified biologist is permitted by conditions below.

BMP Number	BMP Title	BMP Description
BIO-22	Measures to Protect Nesting Western Snowy Plover	▪ To the extent feasible, maintenance activities within 600 feet of suitable snowy plover breeding habitat will occur outside the plover breeding season of March 1 through September 14. ▪ If maintenance activities are scheduled to occur within 600 feet of suitable snowy plover breeding habitat during the nesting season (March 1 through September 14), a pre-activity survey will be conducted by a qualified biologist within 7 days prior to the start of the activity to determine whether active nests are present. ▪ If an active snowy plover nest is detected within 600 feet of maintenance areas, the qualified biologist, in coordination with USFWS personnel, will determine an appropriate buffer that should remain free from new activities (i.e., those that were not ongoing when the nest was established). The buffer will be determined taking into account visual barriers (such as dunes) between the activities and the nest and the level and proximity of human activity around the nest when it was established. The buffer will remain in place until the nest is no longer active. ▪ If broods of unfledged snowy plover young are present, no maintenance activities will occur within 300 feet (or as otherwise determined by a qualified biologist in coordination with the USFWS) of a brood.
BIO-23	Burn Pile Measures	▪ The County would coordinate burn pile activities with CAL FIRE. ▪ Burning will only occur on days when danger of wildfire is low (e.g., it will not occur on windy days or in very hot, dry conditions). ▪ No burn piles will be located within 200 feet of known occurrences of special-status plants, suitable habitat for special-status butterflies and their hostplants, or high-quality aquatic or wetland habitat for the California red-legged frog, California tiger salamander, or San Francisco garter snake. ▪ Prior to the initiation of burning, the burn pile will be physically disturbed (e.g., with a stick or shovel) to encourage any animals taking refuge within the pile to move out of the pile.
BIO-24	Pathogen Control	▪ In order to minimize the spread of plant and animal pathogens, all equipment (including personal gear such as boots) will be cleaned of soil, seeds, and plant material prior to arriving on a maintenance site. All organic matter will be removed from nets, traps, boots, vehicle tires and all other surfaces that have come into contact with water or potentially contaminated sediments. ▪ Equipment, including maintenance equipment and field gear used to capture and relocate special-status species such as frogs, will be disinfected after exiting one aquatic habitat and before entering the next aquatic habitat, unless the waters are hydrologically connected to one another. Cleaning equipment in the immediate vicinity of aquatic habitats will be avoided (e.g., clean in an area at least 100 feet from aquatic features). ▪ Boots, nets, gloves, and any other equipment used to handle amphibians or aquatic organisms will be scrubbed with a bleach solution (0.5 to 1.0 cup per 1.0 gallon of water), Quat-128™ (1:60), or a 3 to 6 percent sodium hypochlorite solution and thoroughly rinsed clean with water between maintenance sites. Care will be taken so that all traces of the disinfectant are removed before entering the next aquatic habitat. ▪ When working at sites with known or suspected disease problems, disposable gloves will be worn and changed between handling each animal. Gloves will be wetted with water from the site or distilled water prior to handling any

BMP Number	BMP Title	BMP Description
		amphibians. Gloves will be removed by turning inside out with hands cleaned using a hand cleaner and water rinse to minimize cross-contamination.
BIO-25	Eelgrass Surveys at Coyote Point Marina	In the event that the County plans to conduct in-water maintenance activities to the north of the jetty forming the northern boundary of Coyote Point Marina (identified as "potential eel grass patch #1 in Appendix J), the County will retain a biologist to conduct an eelgrass survey in this area. Survey results would be provided to CDFW and other appropriate permitting agencies prior to commencing maintenance work in this area.

APPENDIX B

MITIGATION MONITORING AND REPORTING PROGRAM

APPENDIX B

Tunitas Creek Beach Improvement Project County of San Mateo, Parks Department Mitigation Monitoring & Reporting Program				
Impact	**Mitigation Measure**	**Mitigation Action(s)**	**Mitigation Timing**	**Action/ Oversight Responsibility**
Air Quality				
Impact AIR-1: Construction of the proposed project could result in fugitive dust impacts. The BAAQMD requires the implementation of BAAQMD Basic Construction Mitigation Measures (Best Management Practices) to reduce construction fugitive dust impacts to a less-than-significant level.	**AIR-1:** In order to meet the BAAQMD fugitive dust threshold, the following BAAQMD Basic Construction Mitigation Measures shall be implemented: • Any exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. • All haul trucks transporting soil, sand, or other loose material off-site shall be covered. • All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. • All vehicle speeds on unpaved roads shall be limited to 15 mph. • All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. • Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points. • All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.	Implement Basic Construction Mitigation Measures to control fugitive dust	During construction	The Contractor is responsible for implementing this measure; oversight by County of San Mateo Parks Department (County)

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Impact	**Mitigation Measure**	**Mitigation Action(s)**	**Mitigation Timing**	**Action/ Oversight Responsibility**
	• Post a publicly visible sign with the telephone number and person to contact at the County of San Mateo Parks Department regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.			
Biological Resources				
Impact BIO-1: If present, coastal marsh milk-vetch could be impacted by ground disturbance, vegetation removal, water system development, and other project construction activities. Potential impacts to these species can be reduced to a less-than-significant level with implementation of Mitigation Measure BIO-1.	**BIO-1:** To the extent feasible, the previously mapped CNDDB occurrences of the coastal marsh milk-vetch should be avoided and set back from the proposed project development by at least 50 feet. Prior to the initiation of construction activities, a qualified botanist shall conduct protocol-level surveys to verify the absence of the special-status plant species listed on Table A: Special-Status Species Evaluated for the Project of the Initial Study. The surveys shall be conducted in accordance with the California Department of Fish and Wildlife's (CDFW) Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities. A series of pre-construction special-status plant surveys shall be conducted multiple times during the growing season to account for both early and late-blooming plant species. The surveys shall be conducted by a qualified biologist within the proposed project footprint and within a 50-foot buffer to allow for assessment of required avoidance setbacks from any special-status plants identified. The proposed project shall be at least 50 feet away from any special-status plant detected during pre-construction surveys. The previously mapped occurrences of coastal marsh milk-vetch shall be avoided and set back from the proposed project development by at least 50 feet.	County to avoid and set back project elements at least 50 feet from known occurrences of special-status plants. Qualified botanist to conduct surveys for sensitive plant species during the appropriate blooming season. If any special-status plant species are identified within the area of potential impact, protection fencing to be established to avoid impacts, when possible. Qualified botanist to conduct transplanting and monitor success.	Prior to the start of construction.	Qualified biologist to conduct surveys and any plantings; oversight by County.

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Impact	**Mitigation Measure**	**Mitigation Action(s)**	**Mitigation Timing**	**Action/ Oversight Responsibility**
	If special-status plants are found in the project site, the population size and occupied area of special-status plant populations identified during the field survey, and with potential to be impacted, will be estimated. A "population" will be defined as the group of individuals of a species present within a 0.10-mile radius. In addition, the population shall be photographed and flagged to maximize avoidance, as well as to estimate the percentage of the population affected. If feasible, the project shall be redesigned or modified to avoid direct and indirect impacts on special-status plant species. Special-status plants to be avoided shall be protected from disturbance by installing environmentally sensitive area fencing (orange construction barrier fencing or a suitable alternative). Protective fencing shall be installed under the direction of a qualified biologist as necessary to protect the plant and its habitat; where feasible, the environmentally sensitive area fencing shall be installed at least 50 feet from the edge of the population. The location of the fencing shall be shown on the site plans and marked in the field with stakes and/or flagging. The specifications shall contain clear language that prohibits construction activities, vehicle operation, material and equipment storage, and other surface disturbing activities within the fenced environmentally sensitive area. If impacts to special-status plants are unavoidable and less than 5 percent of a population would be impacted, prior to any ground-disturbing activities, the County shall preserve the seedbank within the impact area by removing and retaining the topsoil prior to the implementation of			

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Tunitas Creek Beach Improvement Project County of San Mateo, Parks Department Mitigation Monitoring & Reporting Program				
Impact	**Mitigation Measure**	**Mitigation Action(s)**	**Mitigation Timing**	**Action/ Oversight Responsibility**
	construction activities. Following completion of construction, the County shall monitor the impact area for two years. Any non-native invasive plant species occurring within this area during the monitoring period shall be removed under the supervision of a qualified biologist. If appropriately timed focused botanical surveys cannot be conducted prior to construction activities in areas identified by a qualified biologist as potentially supporting listed plants, then the County will assume presence of the plant species in question.			
Impact BIO-2: Suitable habitat may be present for monarch butterfly within the Monterey pine forest, which would be impacted by development of proposed park improvements, and possibly by on-going park operations and management. Implementation of Mitigation Measure BIO-2 would reduce potential impacts to monarch butterfly to less than significant.	**BIO-2:** If trees within the Monterey pine forest are impacted (trimmed or removed), a focused monarch butterfly survey shall be conducted to determine if monarchs roost in the on-site trees. If found, potential impacts to the trees should be avoided, especially during the winter when monarchs are more likely to be present. The following measures, as adapted from the County of San Mateo Routine Maintenance Program Environmental Impact Report, shall be considered in order to avoid potential impacts to existing or suitable roost sites: • If, based on a review of current CNDDB records or the latest information available from the Xerces Society (https://xerces.org/state-of-the-monarch-butterfly-overwintering-sites-in-california/) historically or currently occupied overwintering habitat for the monarch butterfly is determined to exist in or adjacent to the work area where ground disturbing activities are planned to occur, the County shall implement applicable protection measures as follows:	Qualified biologist to conduct surveys for monarch butterfly roosts, establish buffer zones if roosts are identified, and implement an impact minimization plan in consultation with USWFS, if trees cannot be avoided. If any monarch butterfly roosts are found, Contractor shall avoid tree removal/impacts during winter.	Prior to the start of construction and throughout the construction/ operation period	Qualified biologist to conduct surveys, establish buffers and implement minimization plan (if needed); Contractor to avoid trees; oversight by County.

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Impact	**Mitigation Measure**	**Mitigation Action(s)**	**Mitigation Timing**	**Action/ Oversight Responsibility**
	o Areas supporting overwintering habitat for the monarch butterfly shall be identified by a qualified biologist and maintenance activities during fall and winter months when monarch butterflies are present shall be avoided to the extent practicable. o Historically or currently occupied trees/groves shall be protected from disturbance by the establishment of a 100-foot buffer zone around the tree/grove. The buffer shall be measured from the outside edge of the dripline of the monarch grove. If maintenance activities within 100 feet of a historically or currently occupied tree/grove are unavoidable, the County shall prepare and implement an impact minimization plan in consultation with the United States Fish and Wildlife Service (USFWS). o No herbicides or pesticides shall be applied to the buffer area, and to the extent feasible, maintenance personnel and equipment shall not operate within such areas			
Impact BIO-3: Clearing of vegetation and ground-disturbing activities in riparian areas and other habitat areas have the potential to impact these species, if present during project construction. Implementation of Mitigation Measure BIO-3 would reduce potential impacts to these species to	**BIO-3:** For ground-disturbing activities within and in proximity to creeks or within riparian woodlands or riparian scrub habitats, the following measures shall be implemented to reduce potential impacts to special-status amphibian and reptile species, including California red-legged frog, San Francisco garter snake, California giant salamander, Santa Cruz black salamander, and western pond turtle. Where applicable, these measures were adapted from the County of San Mateo Routine Maintenance Program Environmental Impact Report.	Qualified biologist to conduct employee education training, preconstruction surveys, establish exclusion areas, conduct monitoring, and relocate individuals, if needed. Contractor to implement measures as outlined in contract specifications to	Prior to, during, and following project construction	Qualified biologist to conduct training, surveys, and monitoring; Contractor to implement measures; oversight by County.

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a less than significant level.	• The qualified biologist shall conduct employee education training for personnel working on construction or demolition activities. Personnel shall be required to attend the presentation, which shall describe the life cycles and ecology of the California red-legged-frog, San Francisco garter snake, California giant salamander, Santa Cruz black salamander, western pond turtle, and all other special-status species that could occur on the project site. The training shall also include materials concerning the following topics: sensitive resources, resource avoidance, permit conditions, and possible consequences for violations of State or Federal environmental laws. The training shall cover the mitigation measures, environmental permits, and regulatory compliance requirements, as well as the roles and authority of the monitors and biologists. Printed training material and an attendance sheet shall be provided at the session. • Prior to implementation of construction work, the County or County's biologist shall submit to the USFWS and CDFW for its review and approval the qualifications of proposed wildlife biologists who will perform pre-activity surveys and on-site monitoring. • No more than 24 hours prior to the date of initial ground disturbance, a pre-activity survey for the California red-legged frog, San Francisco garter snake, California giant salamander, Santa Cruz black salamander, and western pond turtle shall be conducted by a qualified biologist in the construction area. The survey shall consist of walking the work area limits to ascertain the possible presence of the	avoid impacts to these species during construction activities.		

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	species. The qualified biologist shall investigate all potential areas that could be used by these species, including examination of mammal burrows. If any adults, subadults, juveniles, tadpoles, or eggs are found, the qualified biologist shall contact the USFWS and/or CDFW to determine if moving any of the individuals is appropriate. If the USFWS/CDFW approves moving animals, the biologist and USFWS/CDFW shall identify a suitable relocation site, and the County shall ensure the qualified biologist is given sufficient time to move the animals from the work site before ground disturbance is initiated. Only qualified biologists shall capture, handle, and monitor the California red-legged frog, San Francisco garter snake, California giant salamander, Santa Cruz black salamander, and western pond turtle. • To minimize harassment, injury, death, and harm to these species, one of the following two measures shall be implemented. o An approved, qualified biologist(s) shall be on-site during all initial construction activities, such as clearing and grubbing of vegetation that may result in take of or impacts to the California red-legged frog, San Francisco garter snake, California giant salamander, Santa Cruz black salamander, and western pond turtle as determined by the biologist. or o Prior to pre-activity surveys, personnel shall enclose the work area with an exclusion fence with a minimum height above grade of 42 inches. Where installation of exclusion fencing			

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	completely around the work area is not feasible, exclusion fencing shall be installed between the work area and any adjacent vegetation or sensitive habitat where special-status wildlife species could occur. The bottom of the fence shall either be buried a minimum of 6 inches below ground or otherwise secured in a manner approved by the USFWS/CDFW and shall remain in place during all construction activities in order to prevent special-status amphibians and reptiles from entering the work area. Escape ramps, funnels, or other features that allow animals to exit the work area, but which will prohibit the entry of such animals, shall be provided in the exclusion fencing. A qualified biologist shall conduct a pre-activity survey of the fence installation area immediately prior to (i.e., the day of) the commencement of installation and shall be present to monitor fence installation. The exclusion fencing shall be inspected daily by construction personnel and maintained for the duration of the project. • The qualified biologist(s) shall be given the authority to freely communicate verbally, by telephone, electronic mail, or in writing at any time with construction personnel, any other person(s) at the work area, otherwise associated with the construction work, the USFWS, the CDFW, or their designated agents. The qualified biologist shall have oversight over implementation of all mitigation measures, and shall have the authority and responsibility to stop work activities if they determine any of the associated requirements are not being fulfilled. If the qualified			

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	biologist(s) exercises this authority, the USFWS/CDFW shall be notified by telephone and electronic mail within 24 hours. • The project shall minimize adverse impacts to the California red-legged frog, San Francisco garter snake, California giant salamander, Santa Cruz black salamander, and western pond turtle by limiting, to the maximum extent possible, the number of access routes, ground disturbance area, equipment staging, storage, parking, and stockpile areas. Prior to initiating construction work that involves ground-disturbing activities, equipment staging areas, site access routes, sediment removal, and transportation equipment and personnel parking areas, debris storage areas, and any other areas that may be disturbed shall be identified, surveyed by the qualified biologist, and clearly identified with fencing. The fencing shall be inspected by construction personnel and maintained daily until construction is complete. • To the extent feasible, construction activities shall be conducted from April through October during the dry season when these semi-aquatic species are less likely to be found in a work area. To the extent practicable, ground-disturbing activities shall be avoided from October through April because that is the time period when California red-legged frogs other semi-aquatic species are most likely to be moving through upland areas. When ground-disturbing activities occur between November 1 and March 31, the County shall ensure that daily monitoring by the qualified biologist is completed for California red-legged frogs and other special-status amphibians and reptiles.			

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	• To avoid harassment, injury, death, and harm to individual San Francisco garter snakes, immediately prior to (i.e., the day of) the initiation of construction e activities that have potential for take of the San Francisco garter snake, a USFWS and CDFW-approved biologist shall conduct daytime surveys throughout the project site. The approved biologist shall be present during initial ground-disturbing activities (i.e., clearing and grubbing) within 250 feet of the work area to monitor for individual garter snakes. If a San Francisco garter snake is observed within the work area, either during the pre-activity survey or at any time, activities that could potentially harm the individual shall cease and the USFWS and CDFW shall be contacted immediately. Work shall not re-commence without written approval from CDFW. The on-site biologist shall be the contact for any employee or contractor who might inadvertently kill or injure a garter snake or anyone who finds a dead, injured, or entrapped San Francisco garter snake. • For vegetation removal in suitable San Francisco garter snake habitat, vegetation shall be cut down to 3 inches by hand-tools (weedwhacker, etc.). Once the ground is visible, a visual survey for San Francisco garter snakes shall be conducted. If no special-status amphibians or reptiles are found in the area, removal of vegetation may continue very slowly with a biological monitor walking in front of the equipment to observe. • When a California red-legged frog, San Francisco garter snake, California giant salamander, Santa Cruz black salamander, or western pond turtle is			

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	encountered in the work area, all activities that have the potential to result in the harassment, injury, or death of the individual shall be immediately halted. The qualified biologist shall then assess the situation in order to select a course of action that shall avoid or minimize adverse impacts to the animal. To the maximum extent possible, contact with the animal shall be avoided and the individual shall be allowed to move out of the work area to a secure location on its own volition. • California red-legged frogs, San Francisco garter snakes, California giant salamanders, Santa Cruz black salamanders, and western pond turtles that are in danger shall be relocated and released by the qualified biologist outside the work area within the same riparian area or watershed. If relocation of the individual outside the work area is not feasible (i.e., too many individuals are observed per day), the biologist shall relocate the animals to a USFWS/CDFW pre-approved location. Prior to the initial ground disturbance, the County shall obtain approval of the relocation protocol from the USFWS/CDFW in the event that a California red-legged frog, San Francisco garter snake, California giant salamander, Santa Cruz black salamander, or western pond turtle is encountered and needs to be moved away from the work site. Under no circumstances shall the animal be released on a site unless the written permission of the landowner has been obtained by the County. The qualified biologist shall limit the duration of the handling and captivity of the animals to the minimum amount of time necessary to complete the task. If the animal must be			

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	held in captivity, it shall be kept in a cool, dark, moist, aerated environment, such as a clean and disinfected bucket or plastic container with a damp sponge. The County shall immediately notify the USFWS and CDFW once the animal and the site is secure. • If California red-legged frog egg masses are present and work cannot be postponed until after hatching, a buffer of vegetation at least 10 feet in diameter shall be left around any egg masses found. The County shall keep a record of any sites where egg masses are found and will conduct vegetation removal between June 15 and October 15. Work within the channel shall avoided in order to avoid dislodging egg masses. Construction activities shall be performed from the banks. • If California giant salamander eggs or larvae are found, the qualified biologist shall establish a buffer around the location of the eggs/larvae and work may proceed outside of the buffer zone. No work shall occur within the buffer zone. Work within the buffer zone shall not occur until the time that eggs have hatched and/or larvae have metamorphosed, or the County shall contact CDFW to develop site appropriate avoidance and minimization measures. • If an active western pond turtle nest is detected within the activity area, a 10-foot buffer zone around the nest shall be established and maintained during the breeding and nesting season (April 1 – August 31). The buffer zone shall remain in place until the young have left the nest, as determined by a qualified biologist.			

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	• To minimize harassment, injury, death, and harm in the form of temporary habitat disturbances, all vehicle traffic shall be restricted to established roads, sediment removal and access areas, equipment staging, storage, parking, and stockpile areas. These areas shall be included in pre-activity surveys and, to the maximum extent possible, established in locations disturbed by previous activities to prevent further adverse impacts. Vehicles shall observe a 20-mile per hour speed limit within work areas, except on Highway 1. Off-road traffic outside of designated and fenced work areas shall be prohibited. • A litter control program shall be instituted at the project site. All workers shall ensure their food scraps, paper wrappers, food containers, cans, bottles, and other trash are deposited in covered or closed trash containers. The trash containers shall be removed from the site at the end of each working day. • For on-site storage of pipes, conduits and other materials that could provide shelter for special-status amphibians and reptiles, materials shall be securely capped prior to storage or an open-top trailer will be used to elevate the materials above ground. This method is intended to reduce the potential for animals to climb into the conduits and other materials. • To the maximum extent practicable, no construction activities shall occur during rain events or within 24-hours following a rain event. Prior to maintenance activities resuming, a qualified biologist shall inspect the work area and all equipment/materials for the presence of special-status amphibians and reptiles. The animals shall be allowed to move away from the			

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	work site of their own volition or moved by the qualified biologist. • To the maximum extent practicable, night-time construction activities shall be minimized or avoided by the County. Because dusk and dawn are often the times when the California red-legged frog most actively moving and foraging, to the maximum extent practicable, earth-moving and other project activities shall cease no less than 30 minutes before sunset and shall not begin again prior to 30 minutes after sunrise. Artificial lighting in the work area shall be prohibited during the hours of darkness. • Plastic monofilament netting (erosion control matting), loosely woven netting, or similar material in any form shall not be used at the project site because amphibians and reptiles can become entangled and trapped in them. Any such material found on site shall be immediately removed by the qualified biologist, maintenance personnel, or County contractors. Materials utilizing fixed weaves (strands cannot move), polypropylene, polymer or other synthetic materials shall not be used. • Trenches or pits 1-foot or deeper that are going to be left unfilled for more than 48 hours shall be securely covered with boards or other material to prevent special-status amphibians and reptiles from falling into them. If this is not possible, the County shall ensure wooden ramps or other structures of suitable surface that provide adequate footing for the animal are placed in the trench or pit to allow for their unaided escape. Auger holes or fence post holes that are greater than 0.1-inch in diameter shall be immediately filled or securely covered so they do not			

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	become pitfall traps for the animal. The qualified biologist or trained construction personnel shall inspect the trenches, pits, or holes prior to their being filled to ensure no animals are in them. The trench, pit, or hole also shall be examined by the qualified biologist each workday morning at least one hour prior to initiation of work and in the late afternoon no more than one hour after work has ceased to ascertain whether any individuals have become trapped. If the escape ramps fail to allow the animal to escape, the qualified biologist shall remove and transport it to a safe location, or contact the USFWS/CDFW for guidance. • As part of the U.S. Army Corps of Engineers (Corps) permit application, a USFWS take permit (Biological Opinion) may be needed for the California red-legged frog and San Francisco garter snake, since they are federally listed species. CDFW may recommend a Section 2081 Incidental Take Permit if the proposed project has the potential to impact the San Francisco garter snake, since this species is listed by the State of California. The Parks Department shall comply with all conditions of incidental take permits issued for the project. Conditions may include, but are not limited to, development of revegetation and restoration plans and procedures, environmental awareness training, pre-construction wildlife surveys, and/or biological monitoring, some or all of which are already included as part of the mitigation measures described herein. (None of the other remaining special-status species are State-listed).			

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Impact BIO-4: If conducted during the nesting season (typically defined by as February 1 to August 31), project activities could impact nesting birds by removing vegetation or structures containing active nests and/or causing nest abandonment and subsequent reproductive failure due to prolonged loud construction noise. This impact can be reduced to a less-than-significant level with implementation of Mitigation Measure BIO-4.	**BIO-4A:** If construction activities occur between February 1 and August 31, pre-activity survey for nesting birds (special-status and common bird species) shall be conducted by a qualified biologist to ensure that no nests would be disturbed during project implementation. These surveys shall be conducted no more than seven days prior to the initiation of construction activities. During this survey, the biologist shall inspect all trees and other potential nesting habitats (e.g., trees, shrubs, coastal strand, coastal dunes, structures) in and immediately adjacent to the impact areas for nests. If an active nest is found sufficiently close to work areas to be disturbed by these activities, the biologist shall determine the extent of a construction-free buffer zone to be established around the nest (typically 300 feet for raptors and 100 feet for other species), to ensure that no nests of species protected by the Migratory Bird Treaty Act and/or California Fish and Game Code would be disturbed during project implementation. The boundary of each buffer zone shall be marked with fencing, flagging, or other easily identifiable marking if construction work occurs immediately outside the buffer zone. No trees or shrubs shall be disturbed that contain active bird nests until all eggs have hatched, and young have fully fledged (are no longer being fed by the adults and have completely left the nest site), or if the nest is determined by the biologist to no longer be active. If possible, all potential nesting substrates (e.g., bushes, trees, grasses, and other vegetation) that are planned for removal as part of the project shall be removed prior to the start of the nesting season (e.g., prior to February 1).	Contractor to schedule construction activities outside of nesting season (between September 1 and January 31). If construction cannot be rescheduled, qualified biologist to conduct preconstruction surveys and establish construction-free buffer zones as needed.	No more than 7 days prior to the initiation of ground disturbing activities.	Qualified biologist to conduct surveys and establish buffer zones; oversight by County.
	BIO-4B: To the extent feasible, construction activities within 600 feet of suitable snowy plover breeding habitat	Contractor to schedule construction activities	Within 7 days prior to the	Qualified biologist to

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	shall occur outside the plover breeding season of March 1 through September 14. If construction activities occur within 600 feet of suitable snowy plover breeding habitat during the nesting season (March 1 through September 14), a pre-activity survey shall be conducted by a qualified biologist within 7 days prior to the start of the activity to determine whether active nests are present. If an active snowy plover nest is detected within 600 feet of the construction area, the qualified biologist, in coordination with USFWS personnel, shall determine an appropriate buffer that should remain free from construction activities. The buffer shall be determined based on the sensitivity of the nest, the presence of visual barriers (such as dunes) between the construction activities and the nest, and the level and proximity of existing human activity around the nest when it was established. The buffer shall remain in place until the nest is no longer active. If broods of unfledged snowy plover young are present, no construction activities shall occur within 300 feet (or as otherwise determined by a qualified biologist in coordination with the USFWS) of a brood. As part of the Corps permit application, a USFWS take permit (Biological Opinion) may be needed for the western snowy plover, since this species is federally listed. The Parks Department shall comply with all conditions of incidental take permits issued for the project.	outside of plover breeding season (between September 15 and February 28). If construction cannot be rescheduled, qualified biologist to conduct preconstruction surveys and establish construction-free buffer zones as needed.	initiation of ground disturbing activities.	conduct surveys and establish buffer zones; oversight by County.
Impact BIO-5: Construction of the proposed project and ongoing maintenance activities could adversely impact San Francisco	**BIO-5:** No more than two weeks prior to the beginning of ground disturbance that could disturb SFDFW houses, a qualified biologist shall survey the work areas. If SFDFW houses are found, the houses shall be flagged and construction fencing or flagging that will not impede the movement of the SFDFW shall be placed around the nest to	Qualified biologist to conduct preconstruction surveys, establish construction-free buffer zones, as needed, and implement measures if	Within 14 days prior to the initiation of ground disturbing activities.	Qualified biologist to conduct surveys and establish buffer zones;

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dusky-footed wood rat (SFDFW) if they are present during project construction or if construction impacts their houses. Implementation of Mitigation Measure BIO-5 would reduce potential impacts to SFDFW to a less-than-significant level.	create a 10-foot buffer (where feasible). If a SFDFW house is identified in a work area, the following shall be implemented: • Physical disturbance of the house shall be avoided if feasible. If possible, a minimum 10-foot buffer shall be maintained between maintenance construction activities and each nest to avoid disturbance. In some situations, a smaller buffer shall be allowed if in the opinion of a qualified biologist removing the nest would be a greater impact than that anticipated as a result of the project. • If a dusky-footed woodrat nest cannot be avoided, prior to the beginning of construction activities, a qualified biologist shall disturb the SFDFW house to the degree that all SFDFW leave the house and seek refuge outside of the maintenance activity area. Relocations efforts shall avoid the nesting season (February - July) to the maximum extent feasible. Disturbance of the SFDFW house shall be initiated no earlier than one hour before dusk to minimize the exposure of woodrats to diurnal predators. Subsequently, the biologist shall dismantle and relocate the house material by hand. All material from dismantled houses shall be placed in a pile, preferably against a log or tree trunk, in suitable habitat located at least 20 feet from, but otherwise as close as possible to, the original house locations, to provide material for SFDFW to construct new houses. During the deconstruction process, the biologist shall attempt to assess if juveniles SFDFW are present in the house. If immobile juveniles are observed, the deconstruction process shall be discontinued until a time when the biologist believes the juveniles will be	SFDFW houses are found, including dismantling houses and/or relocation of individuals, as needed.		oversight by County.

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	fully mobile. A 10-foot wide no-disturbance buffer shall be established around the nest until the juveniles are mobile. The house may be dismantled once the biologist has determined that adverse impacts on the juveniles would not occur. All disturbances to SFDFW houses shall be documented in a construction monitoring report and submitted to CDFW. • A qualified biologist shall set two traps around each of the SFDFW houses to be relocated. Traps shall be set within one hour prior to sunset, and baited with a mixture of peanut butter, oats, and apples, or other suitable bait. Traps shall also be equipped with cotton bedding and covered with cardboard. The traps shall be checked the following morning, within one-and-a-half hours of sunrise. If a SFDFW is captured, it shall be placed in a quiet area while its house material is relocated; the SFDFW will then be released at the relocated structure. If no SFDFW are captured after the first night, the biologist shall set the traps for one additional evening to increase the probability of capturing the SFDFW and ensuring a safe relocation. If no SFDFW are captured at a given house after two nights, it shall be assumed that the house is not currently occupied. Trapping shall only be conducted outside the breeding season, which for SFDFW is from February through the end of July. If a litter of young is found or suspected while dismantling a house for relocation, the house material shall be replaced, any trapped SFDFW shall be returned to the house, and the house shall be left alone for 2 to 3 weeks, after which time the house shall be rechecked to verify that the young are capable of independent			

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	survival, as determined by the qualified biologist, before proceeding with dismantling of the house.			
Impact BIO-6: The proposed project would impact a known bat roost within the unoccupied house. In addition, construction and maintenance activities could directly impact roosting bats if these activities result in the removal of trees or structures with bat roosts or result in the disruption or abandonment of nearby active bat roosts. Implementation of Mitigation Measures BIO-6A and BIO-6B would reduce potential impacts to roosting bats to less than significant.	**BIO-6A:** Prior to demolition, a qualified biologist should conduct an additional survey during the summer maternity season (ideally June) to determine whether the unoccupied house supports a Townsend's big-eared bat maternity colony or whether the site is only used by wintering bats or by males. If the roost is occupied, and can be avoided, a qualified biologist should develop a plan to preserve and secure the roost for future use by bats. Prior to building demolition or modification, a qualified biologist should conduct a focused survey for bats within any structures to be demolished. If any bats are found, but they do not represent an active maternity roost, they shall be excluded from the building through installation of one-way doors, closure of potential entry points, or use of acoustic deterrents. Alternatively, opening up the structure (i.e., removal of boards from windows and doors, removal of roof sections) should increase wind flow through the structure and may also deter bats from roosting. A qualified biologist should consult on the methods used to exclude bats. If a maternity colony is present, then no demolition or modification of the roost site, nor of any areas within 100 feet of the roost site and any points of ingress or egress, should occur during the period April 1 to August 31 (or until young are demonstrated to be flying well). After August 31 (or after the young are flying), then bat exclusion can proceed. No exclusion should occur during rainy or cold conditions.	Qualified biologist to conduct surveys, and develop and implement an exclusion plan, if needed. If a maternity colony is present, Contractor to schedule construction activities outside of the period between April 1 to August 31.	Prior to demolition of the unoccupied house and any structures to be demolished.	Qualified biologist to conduct surveys and implement exclusion plan; oversight by County.

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	If a Townsend's big-eared bat maternity colony is confirmed in the unoccupied house, and demolition or modification (to the point that bats no longer use the building) of this structure cannot be avoided, replacement maternity roost habitat should be provided on the site. Note that bat boxes and bat condominiums do not provide suitable replacement habitat for Townsend's big-eared bats. Rather, larger, more cavernous bat structures are required to replace maternity roost habitat for this species. The replacement roost structure should be designed and sited in consultation with a qualified biologist. The structure should be monitored for a period of 5 years to determine whether it is occupied. Success of the habitat replacement should be achieved if the roost structure is determined by a qualified biologist to provide similar thermal and light conditions to those that exist in the unoccupied house that is currently being used as a roost site.			
	BIO-6B: A qualified biologist shall conduct a survey to look for evidence of bat use within two weeks prior to the onset of work activities. If evidence of bat occupancy is observed, or if high-quality roost sites are present in areas where evidence of bat use might not be detectable (such as a tree cavity), an evening survey and/or nocturnal acoustic survey may be necessary to determine if roosting bats are present and to identify the specific location of the bats. If no active maternity colony or non-breeding bat roost is located, project work can continue as planned. If an active maternity colony or non-breeding bat roost is located, the construction work shall be redesigned to avoid disturbance of the roosts, if feasible. If an active maternity colony is located, and the project cannot be redesigned to avoid removal or disturbance of the occupied tree or structure, disturbance shall not take place during the maternity season (March 15 –	Qualified biologist to conduct surveys, conducting worker training, establishing buffers, and developing and implementing an exclusion/eviction plan. If maternity colony is present, Contractor to schedule construction activities outside of the maternity season (March 15 – July 31).	Within 14 days of start of construction/tree removal.	Qualified biologist to conduct surveys and implement exclusion/eviction plan; oversight by County.

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	July 31), and a disturbance-free buffer zone (determined by a qualified bat biologist) shall be established during this period. If an active non-breeding bat roost is located, and the project cannot be redesigned to avoid removal or disturbance of the occupied tree or structure, the individual bats shall be safely evicted between August 1 and October 15 or between February 15 and March 15 (as determined in consultation with CDFW). Bats may be evicted through exclusion only after notifying and obtaining approval from CDFW. Trees with roosts that need to be removed shall first be disturbed at dusk, just prior to removal that same evening, to allow bats to escape during the darker hours. Roosts may only be removed once the bats are no longer occupying the roost, at which time, a plan approved by CDFW may be implemented for removal of the roost. The plan shall describe appropriate methods for the removal of the roost. As part of CDFW's approval, a new roost site may be required to be created on the project site. Active day roosts of tree-foliage bats may be removed upon permission of CDFW. If feasible, trees planned for pruning or removal as a part of the project, shall be pruned or removed during the fall to avoid the maternity roosting period of resident bats (mid-April to August season). Western red bats are less likely to be present and roosting in the trees on and adjacent to the project site during the spring and summer, but other bats may be roosting during this period. Because bats may be present at any time, a pre-construction survey by a qualified biologist shall be required as outlined above regardless of timing of tree or structure removal and a suitable buffer zone established around detected roosts.	Contractor to schedule tree removal/trimming during the fall and for leaving cut limbs in place for 24 hours after cutting.		

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	Pruned limbs or cut trees shall be left on the ground in place for at least 24 hours after cutting to allow any bats that may be roosting in the trees to leave the roosts prior to chipping the branches or removing the cut material from the site. Before any construction activities begin in the vicinity of the identified bat roosts on the project site, an approved biologist shall conduct a training session for all construction personnel. At a minimum, the training shall include a description of the bats and their habitat, the specific measures that are being implemented to conserve the bat roosts for the project, and the boundaries within which the project may be accomplished. Brochures, books, and briefings may be used in the training session. A qualified biologist shall conduct the training session.			
Impact BIO-7: If riparian vegetation is impacted during project construction or ongoing maintenance activities, implementation of Mitigation Measures BIO-7A through BIO-7F would reduce potential impacts to riparian habitat to a less-than-significant level.	**BIO-7A:** If native riparian trees or shrubs are impacted during project construction, the impacted trees shall be replaced at a minimum 1.5:1 ratio (meaning 1.5 acres of riparian habitat shall be restored/created for every 1 acre of riparian habitat impacted by the project. The native riparian species shall be replaced in-kind preferably from phytophthera-free container stock as appropriate, propagated from local genetic stock (i.e., San Francisco Bay region). Any temporarily disturbed areas within the riparian woodland shall be seeded with an appropriate native seed mix. Appropriate permits from CDFW and possibly Regional Water Quality Control Board (RWQCB) would need to be obtained and any monitoring and reporting requirements stated within the permits, including preparation and implementation of a mitigation and monitoring plan would have to be completed.	County to consult with CDFW and RWQCB, acquire any necessary permits for project activities, and mitigate impacts at a 1.5:1 ratio.	Prior to project activities that impact the riparian corridor.	County to obtain permit from CDFW and RWQCB if needed; oversight by CDFW and RWQCB.
	BIO-7B: If needed, the project shall design and construct low impact stream crossings that would include a wooden walkway/boardwalk, or similar structure to avoid potential	County to include low-impact stream crossings	Prior to project construction.	County to include in final project design.

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Impact	**Mitigation Measure**	**Mitigation Action(s)**	**Mitigation Timing**	**Action/ Oversight Responsibility**
	impacts to the streams. The crossings shall be designed to accommodate high flows and be regularly maintained. Footings for the crossings shall be sited fully outside of the banks and channel of the streams.	in the final project design.		
	BIO-7C: The project contractor shall implement applicable BMPs and conservation measures detailed in the County of San Mateo Watershed Protection Program's Maintenance Standards and the San Mateo Countywide Pollution Prevention Program Construction BMPs during construction.	Project contractor to implement applicable BMPs and conservation measures.	Prior to and during construction activities.	Contractor to implement BMPs; oversight by County.
	BIO-7D: To protect water quality during construction and maintenance, the following measures shall be included on the construction specifications, with construction oversight by a qualified biologist or biological monitor: • Stationary equipment such as motors, generators, and welders located within 100 feet of the stream shall be stored overnight at staging areas and shall be positioned over drip pans. • Any hazardous or toxic materials deleterious to aquatic life that could be washed into a basin shall be contained in watertight containers or removed from the project site. • All construction debris and associated materials stored in staging areas shall be removed from the work site upon completion of the project. • Whenever possible, refueling of equipment shall take place within turnouts or staging areas at least 50 feet from the top of bank or other wetland. • All refueling shall be conducted over plastic bags filled with sawdust or other highly absorbent material. Clean-up materials for spills shall be kept on hand at all times. Any accidental spills of fuel or	Implement identified measures on all construction specifications.	During construction.	Contractor to implement water quality measures; oversight by qualified biological monitor.

APPENDIX B

Tunitas Creek Beach Improvement Project County of San Mateo, Parks Department Mitigation Monitoring & Reporting Program				
Impact	**Mitigation Measure**	**Mitigation Action(s)**	**Mitigation Timing**	**Action/ Oversight Responsibility**
	other contaminants shall be cleaned up immediately. The project contractor shall install protective fencing prior to and during construction to keep construction equipment and personnel from impacting riparian vegetation outside of work limits. A qualified biologist or biological monitor with the education and experience necessary to delineate riparian vegetation shall supervise the installation of protective fencing.			
	BIO-7E: The Parks Department shall obtain a Coastal Development Permit as required for project activities. The Parks Department shall comply with all conditions of permit issued for the project. Conditions may include, but are not limited to, development of revegetation and restoration plans and procedures, environmental awareness training, pre-construction wildlife surveys, and/or biological monitoring, some or all of which are already included as part of the mitigation measures described above.	County to obtain a Coastal Development Permit.	Prior to construction.	County to obtain permit from California Coastal Commission (CCC) if needed; oversight by CCC.
	BIO-7F: A Revegetation Plan shall be prepared by a qualified biologist to revegetate and restore impacted habitat. This plan shall include a list of appropriate species, planting specifications, monitoring procedures, success criteria, and a contingency plan if success criteria are not met.	Qualified biologist to prepare a Revegetation Plan.	Following construction.	Contractor to revegetate; oversight by County.
Impact BIO-8: Proposed improvements would require construction work and placement of structures within Tunitas Creek and atop the creek bank and the proposed trail crossing may require placement of fill within the intermittent stream on	**BIO-8A:** Impacts to areas of wetland and other water shall be avoided to the greatest extent possible. If impacts to areas of wetlands and other water is unavoidable, the area impacted shall be confined to the smallest area possible.	Contractor to avoid wetland areas and other water to the extent possible.	Prior to and during construction.	Contractor to avoid wetlands; oversight by County.
	BIO-8B: For project activities that impact wetlands or other waters requiring permits from the Corps, RWQCB, and/or CDFW, the County shall obtain permits and comply with all permit requirements. For on-site, in-kind mitigation, the County shall mitigate impacts to wetlands by restoring, preserving, and managing wetlands and aquatic habitats, or	County to obtain permits from Corps and RWQCB, and comply with permit requirements.	Prior to project activities that impact wetlands or other waters.	County to obtain permits from Corps and RWQCB; oversight by

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Tunitas Creek Beach Improvement Project County of San Mateo, Parks Department Mitigation Monitoring & Reporting Program				
Impact	**Mitigation Measure**	**Mitigation Action(s)**	**Mitigation Timing**	**Action/ Oversight Responsibility**
the project site. This impact can be reduced to a less-than-significant level through implementation of mitigation measures BIO-7C through BIO-7F, and Mitigation Measures BIO-8A and BIO-8B. With implementation of these mitigation measures, impacts to wetlands and other waters would be less than significant.	substantially improve the quality of highly degraded wetlands and aquatic habitats at a ratio of 1.5:1 (meaning 1.5 acres of wetlands or other waters shall be restored/created for every 1 acre of wetlands and other waters permanently impacted by the project). For off-site, in-kind mitigation, the County shall acquire, preserve, enhance, and manage lands that provide similar ecological functions and values to the wetlands and other waters impacted by project. The acquisition and preservation/enhancement of these higher quality lands shall occur at a ratio of 3:1 (meaning 3 acres of wetlands or other waters shall be acquired, preserved, and enhanced for every 1 acre of wetlands and other waters impacted by the project). Enhancement may include modification of existing management, limited planting, or invasive plant removal, or other activities to enhance wetland/aquatic habitat functions and values.			Corps and RWQCB.

APPENDIX B

Tunitas Creek Beach Improvement Project County of San Mateo, Parks Department Mitigation Monitoring & Reporting Program				
Impact	**Mitigation Measure**	**Mitigation Action(s)**	**Mitigation Timing**	**Action/ Oversight Responsibility**
Cultural Resources				
Impact CULT-1: The proposed project has the potential to unearth previously unidentified archaeological historical resources. Disturbance of such remains could result in a substantial adverse change in the significance of a historical resource. Implementation of Mitigation Measures CULT-1A and CULT-1B would reduce potential impacts to unrecorded archaeological historical resources that may be unearthed during construction to a less-than-significant level.	**CULT-1A:** Archaeological Monitoring. During project construction, archaeological monitoring shall be conducted for any ground-disturbing activities in the project site, including grubbing or removal of vegetation. A qualified archaeologist shall (1) identify any archaeological resources that may be present; and (2) ensure that if human remains are identified they are treated in an appropriate and respectful manner and provisions outlined in Section 7050.5 of the California Health and Safety Code are followed. If previously unidentified cultural materials are unearthed during construction, work shall be halted in that area until a qualified archaeologist can assess the significance of the find. If major adjustments are made to the horizontal or vertical extent of the project site, then an archaeologist shall be consulted to determine if further identification efforts are recommended.	County to retain qualified archaeologist to monitor excavation activities, identify any resources encountered, and develop and implement recommendations.	During excavation activities.	Archaeologist to monitor excavation activities.
	CULT-1B: Unidentified Archaeological Resources. The potential for encountering previously unidentified buried archaeological cultural resources in the project site is moderate based on the geological landforms and on the presence of previously recorded archaeological sites identified within and adjacent to the project site. If deposits of prehistoric or historical archaeological materials are encountered during project activities that are not monitored, all work within 50 feet of the discovery shall be redirected and a qualified archaeologist contacted to assess the situation, and make recommendations regarding the treatment of the discovery. Project personnel shall not collect or move any archaeological materials or human remains and associated materials. Archaeological cultural resources shall be avoided by project activities. If such resources cannot be avoided, they shall be evaluated for	Contractor to cease all excavation or disturbance of the site and notify qualified archaeologist to evaluate any resources encountered, and develop and implement recommendations.	During excavation activities.	Archaeologist to determine the appropriate treatment of the discovery; oversight by County.

APPENDIX B

Tunitas Creek Beach Improvement Project County of San Mateo, Parks Department Mitigation Monitoring & Reporting Program				
Impact	**Mitigation Measure**	**Mitigation Action(s)**	**Mitigation Timing**	**Action/ Oversight Responsibility**
	their CRHR eligibility, under the direction of a qualified professional archaeologist, to determine if they qualify as a historical resource under CEQA. If the deposit is not eligible, a determination shall then be made as to whether it qualifies as a unique archaeological resource under CEQA. If the deposit is not a historical, unique archaeological or tribal cultural resource, avoidance is not necessary. If the deposit is eligible for the CRHR or is a unique archaeological resource and cannot be avoided by project actions that may result in impacts, such impacts must be mitigated. Mitigation may consist of, but is not limited to, recording the resource; recovery and analysis of archaeological deposits; preparation of a report of findings; and accessioning recovered archaeological materials at an appropriate curation facility. Public educational outreach may also be appropriate. Upon completion of the study, the archaeologist shall prepare a report documenting the methods and results of the investigation and provide recommendations for the treatment of the archaeological materials discovered. The report shall be submitted to the County and to the Northwest Information Center. Likewise, during operation and maintenance activities at the proposed park, impacts to cultural resources may occur as a result of ground disturbing activities. Implementation of BMPs CUL-4, CUL-5, and CUL-6 in the Maintenance Program Manual (see Appendix A) would reduce potential impacts to a less than significant level.			
Geology and Soils				
Impact GEO-1: Ground disturbance has the potential to impact	**GEO-1:** If paleontological resources are encountered during the course of ground disturbance, work in the immediate area of the find shall be redirected and a paleontologist shall	Contractor to cease all excavation or disturbance of the site and notify	During excavation activities.	Paleontologist to determine the appropriate

APPENDIX B

Tunitas Creek Beach Improvement Project County of San Mateo, Parks Department Mitigation Monitoring & Reporting Program				
Impact	**Mitigation Measure**	**Mitigation Action(s)**	**Mitigation Timing**	**Action/ Oversight Responsibility**
scientifically important paleontological resources. With implementation of Mitigation Measure GEO-1, impacts to paleontological resources would be less than significant.	be contacted to assess the find for scientific significance. If determined to be significant, the fossil shall be collected from the field. The paleontologist may also make recommendations regarding additional mitigation measures, such as paleontological monitoring. Scientifically significant resources shall be prepared to the point of identification, identified to the lowest taxonomic level possible, cataloged, and curated into the permanent collections of a museum repository. If scientifically significant paleontological resources are collected, a report of findings shall be prepared to document the collection.	qualified paleontologist to evaluate any resources encountered, and develop and implement recommendations.		treatment of the discovery; oversight by County.
Hazards and Hazardous Materials				
Impact HAZ-1: Disturbance and improper management of contaminated soil during construction could cause the release of contaminants into the environment, and could result in exposure of the public and construction workers to hazardous materials. Implementation of Mitigation Measure HAZ-1 would ensure impacts to construction and maintenance workers during any disturbance of contaminated on-site soils would be less than significant	**HAZ-1:** The Parks Department shall hire a qualified contractor to prepare a site-specific Health and Safety Plan (HSP). The HSP shall establish soil management and control specifications for excavation, grading, and construction activities, including procedures for evaluation of soil disposal options, and health and safety provisions for monitoring the exposure of construction workers to contaminants. The HSP shall be submitted to the County for review and approval. The County shall review and approve the HSP and the project contractor shall implement the recommended soil management and control specifications.	Contractor to prepare and implement a site-specific HSP.	Prior to and during construction activities.	Contractor to prepare and implement HSP; oversight by County.

APPENDIX B

Tunitas Creek Beach Improvement Project County of San Mateo, Parks Department Mitigation Monitoring & Reporting Program				
Impact	**Mitigation Measure**	**Mitigation Action(s)**	**Mitigation Timing**	**Action/ Oversight Responsibility**
Utilities and Service Systems				
Impact UTIL-1:	**UTIL-1:** Prior to issuance of the Coastal Development Permit, the Parks Department shall prepare a study examining the hydrologic conditions of the site to determine if there is adequate water to supply the residence and if the water extracted will not adversely affect a water-dependent sensitive habitat or result in depletion of the aquifer. The study shall also determine whether the water quality meets potable water standards. If the study determines that insufficient water supply is available, then the proposed ranger residence shall be removed from the project design. In addition, the Parks Department shall coordinate with the State of California Water Resources Control Board to secure an approval of the right to extract water from Tunitas Creek. If approval is denied and another water source cannot be secured, the ranger residence shall be removed from the project design. If the ranger residence is constructed, for the first three years, the County shall monitor the impact of the water extraction on groundwater and surface levels, water quality, and plant and animal species of water-dependent sensitive habitats to determine if the preliminary pumping restrictions adequately protect the sensitive habitats and what measures should be taken if and when adverse effects occur. If monitoring shows impacts to water-dependent sensitive habitats, the pumping rate shall be reduced until it is clear that such impacts will not occur.	County to prepare study evaluating hydrological conditions, coordinate with the State Water Resources Control Board to secure approval for water extraction, and conduct monitoring.	Prior to issuance of the Coastal Development Permit and for the first three years of ranger residence occupation.	County to conduct study, obtain approval from the State Water Resources Control Board, and conduct monitoring for the first three years of ranger residence occupation.

APPENDIX C

RESPONSE TO COMMENTS

CARLSBAD
FRESNO
IRVINE
LOS ANGELES
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

MEMORANDUM

DATE: October 15, 2021

TO: Mario Nastari, County of San Mateo Parks Department

FROM: Shanna Guiler, AICP, Associate/Environmental Planner
Theresa Wallace, AICP, Principal

SUBJECT: Tunitas Creek Beach Improvement Project Initial Study/Mitigated Negative Declaration - Response to Comments

In accordance with Section 15074 of the CEQA Guidelines, prior to approving a project, the decision-making body of the lead agency shall consider the proposed environmental document together with any comments received during the public review process. Although there is no legal requirement to formally respond to comments on a proposed Mitigated Negative Declaration (MND) as there is for an Environmental Impact Report (EIR), this memorandum provides a response to the written comments received on the Tunitas Creek Beach Improvement Project Initial Study/Mitigated Negative Declaration (Draft IS/MND) to aid the County of San Mateo (County) decision-makers in their review of the project.

The Draft IS/MND was available for public review and comment from September 2, 2021 to October 1, 2021. Three comment letters were received on the Draft IS/MND. In the following pages, the comments and responses are enumerated to allow for cross-referencing of CEQA-related comments. The enumerated comment letters are included in this memorandum, followed by the respective responses. As noted above, CEQA does not require or provide guidance on responding to comments on MNDs; therefore, this memorandum follows CEQA Guidelines Section 15088, applicable to responses to comments on EIRs, which requires that agencies respond only to significant environmental issues raised in connection with the project. Therefore, this document focuses primarily on responding to comments that relate to the adequacy of the information and environmental analysis provided in the IS/MND.

COMMENTS AND RESPONSES

This section includes responses to each substantive CEQA-related comment. Each comment letter is assigned a letter (A, B, C, etc.), and individual comments within each letter are numbered consecutively. For instance, comment A1 is the first numbered comment in Letter A. Please note that text within individual letters that has not been numbered does not raise environmental issues or relate to the adequacy of the information or analysis within the IS/MND, and therefore, no comment is enumerated or response required, per CEQA Guidelines Section 15132.

The following comment letters on the IS/MND were submitted to the County of San Mateo Parks Department:

LETTER A
California Coastal Commission, Erik Martinez
October 1, 2021

LETTER B
California Department of Transportation, Mark Leong
October 1, 2021

LETTER C
Thomas Huntington
October 1, 2021

Written responses to all written and verbal comments on the IS/MND are provided after the comment letters.

Comment Letter A

From: Martinez, Erik@Coastal <erik.martinez@coastal.ca.gov>
Sent: Friday, October 1, 2021 2:27 PM
To: Mario Nastari <mnastari@smcgov.org>
Subject: CCC Comments Tunitas Creek Beach Improvement Project ISMND

Hello,

Thank you for the opportunity to comment on the ISMND for the Tunitas Creek Beach Improvement Project. Please note that we are generally supportive of projects such as this that aim to increase public access and recreation opportunities along the San Mateo County coast, and we look forward to continued coordination with County staff on this project. Below are our preliminary comments and feedback at this time as the project pertains to LCP and Coastal Act consistency: A-1

Bluff Development
While LUP Policy 8.4 allows for public access stairways where deemed necessary and where public facilities are required public safety, health and welfare, LUP Policy 8.17 requires that development be located and designed to conform with, rather than change, landforms and that the alteration of landforms as a consequence of grading, cutting, excavating, filling or other development should be minimized. It also states that to the degree possible, pre-existing topographic contours after any alteration by development should be restored. As proposed, the project includes grading as a means by which to landslides along the proposed trail to the beach resulting in cuts of 10, 12, and 15 feet in depth. The project would rebuild the slope in a series of compacted buttress fills that slightly extend the toe of the slope in order to improve its stability. The project would also install geogrids of either high density polyethylene or steel coated in polyethylene to help stabilize the slope. This would highly alter the face of the bluff instead of conforming to the existing conditions. The County should provide an alternatives analysis that describes what alternative paths were considered that involve less grading and shorter pathways so as to limit the alteration of the bluff and in order to determine what the least environmentally damaging feasible alternative, and most LCP-consistent project, is in this case. A-2

Further, LUP Policy 9.8 requires that development on blufftops be allowed only if designed and set back adequately to assure stability and structural integrity for the expected economic life span of the development (which the LCP measures as at least 50 years). Additionally, LCP Policy 9.8(b) requires the submittal of a site stability evaluation report to demonstrate the area of stability that considers: 1) historic, current and foreseeable erosion; 2) bluff geometry and site topography; 3) geologic conditions; 4) evidence of past or potential landslide conditions; 5) wave and tidal action, including effects of marine erosion on bluffs; 6) ground and surface water conditions and variations; 7) potential effects of seismic forces resulting from a maximum credible earthquake; 8) effects of the proposed development including siting and design of structures, septic system, landscaping, drainage and grading, and impacts of construction activity on the stability of the site and adjacent area; 9) any other factors that may affect slope stability; and 10) potential erodibility of the site and A-3

mitigating measures to be used. Please provide an analysis that meets the requirements of LUP Policy 9.8, in particular in order to be able to evaluate the proposed siting and design of the ranger residence and the amphitheater on the mid-bluff in addition to the parking/view area on the upper bluff. A-3 cont.

Coastal Hazards

The ISMND states that consultants identified a large active slide along the northeast side of the property with the right lateral margin encroaching on Highway 1 and the left lateral margin extending close to the entrance of the existing informal beach access trail, with the toe of the slide encroaching on Tunitas Creek, and the headscarp located near the maintenance area along the existing driveway. Additional slides were mapped across the existing informal beach access trail along the bluffs. Active sliding along the bluffs was also identified south of the existing residence that is proposed to be demolished as part of this project. Recent and less active sliding was identified extending up to the Mid Bluff and Top Bluff zones, as well as to the cut slope above Highway 1. Many of these slides are large and deep, rendering them irreparable. As defined by LUP Policy 9.1, this would qualify as a hazardous area, thus, as mentioned above, a full analysis meeting the requirements of LUP Policy 9.8 should be completed. A-4

Biological Resources

The project description states that the proposed development would include a 4-foot-wide unpaved trail that would require a stream crossing either via a rock ford or a clear-span bridge, along with vault toilets and associated treatment system and storage, a proposed water system that would require removal of riparian vegetation or placement of structures within Tunitas Creek and a beach boardwalk which would all be within the 100-year flood hazard area and through/adjacent to sensitive habitats. Please keep in mind that sensitive habitats such as streams, riparian corridors and wetlands, all require bluff setbacks per LUP Policies 7.11, 7.12, 7.18, 7.19. Please delineate these buffers in the project plans. A-5

As required by LUP Policy 11.12, recreation and visitor-serving facilities can be permitted uses adjacent to sensitive habitats only when (1) there is adequate distance or separation by barriers such as fences, (2) the habitat is not threatened, and (3) there would not be substantial impacts on habitat, topography, and water resources. Development standards and management practices must be adequate to protect the resources, consistent with Policy 11.18 and the Sensitive Habitats Component. The County should provide more information to support and be consistent with the aforementioned LCP policies. A-6

Cultural Resources

The ISMND states that the County sent a consultation letter to the currently recognized Native American representatives for the County in accordance to AB 52 and that, to date, no tribes have requested consultation. We highly encourage the County to reach the appropriate Native American representatives via other methods such as phone call or email. A-7

Please let me know if you have any questions, and again, thank you for the opportunity to comment.

Best,

Erik Martinez
Coastal Planner
California Coastal Commission

Comment Letter B

CALIFORNIA STATE TRANSPORTATION AGENCY GAVIN NEWSOM, GOVERNOR

California Department of Transportation

DISTRICT 4
OFFICE OF TRANSIT AND COMMUNITY PLANNING
P.O. BOX 23660, MS–10D | OAKLAND, CA 94623-0660
www.dot.ca.gov

October 1, 2021

SCH #: 2021090045
GTS #: 04-SM-2021-00384
GTS ID: 24154
Co/Rt/Pm: SM/1/20.68

Mario Nastari, Park Ranger IV
County of San Mateo Parks Department
455 County Center, 4th Floor
Redwood City, CA 94063

Re: Tunitas Creek Beach Improvement Project Mitigated Negative Declaration (MND)

Dear Mario Nastari:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the Tunitas Creek Beach Improvement (Project). We are committed to ensuring that impacts to the State's multimodal transportation system and to our natural environment are identified and mitigated to support a safe, sustainable, integrated and efficient transportation system. The following comments are based on our review of the September 2021 Draft IS/MND.

Project Understanding

The project proposes the construction of a parking facility, pathways, overlooks, restrooms, picnic areas, amphitheater, ranger shed, ranger residence, and related amenities to the Tunitas Creek Beach area. The project is located along State Route (SR)-1 near the Tunitas Creek Road intersection. B-1

Permits

This project will require a State Right of Way (ROW) Use Agreement, with the payment of a fair market lease rate, for the use within the operating ROW. Please be advised that the District Airspace Review Committee (DARC) will need to review the preliminary plans and specifications for work within the operating ROW prior to providing conceptual approval. Due to the complexity of this project, it would most likely go through the Design Engineering Evaluation Report (DEER) process and will need to have a dedicated Caltrans Project Manager assigned to this project. B-2

To ensure that Caltrans' Standards for any design work within the State ROW are met,

Comment Letter B *Cont.*

refer to the Highway Design Manual (HDM). If any non-standard items are proposed, prepare a non-standard exception document that will be reviewed by Caltrans.

Please note that landscape work within the State ROW, including hardscape and plantings removed or added, will require approval by the district landscape architect. See Chapter 500 of the Encroachment Permits manual for more information.

Any utilities that are proposed, moved or modified within the State ROW shall be discussed. If utilities are impacted by the project, provide site plans that show the location of existing and/or proposed utilities. Mitigation for significant impacts due to construction and noise should be identified. Project work that requires movement of oversized or excessive load vehicles on State roadways requires a transportation permit that is issued by Caltrans.

A Maintenance Agreement will be required to account for the maintenance of transportation elements, including but not limited to, guardrails, retaining walls, etc.

To download the permit application and to obtain more information on all required documentation, visit https://dot.ca.gov/programs/traffic-operations/ep/applications.

B-2 cont.

Lead Agency

As the Lead Agency, the County of San Mateo Parks Department is responsible for all project mitigation, including any needed improvements to the State Transportation Network (STN). The project's fair share contribution, financing, scheduling, implementation responsibilities and lead agency monitoring should be fully discussed for all proposed mitigation measures.

B-3

Thank you again for including Caltrans in the environmental review process. Should you have any questions regarding this letter, please contact Nick Hernandez at nick.hernandez@dot.ca.gov. Additionally, for future notifications and requests for review of new projects, please email LDIGR-D4@dot.ca.gov.

Sincerely,

Mark Leong

MARK LEONG
District Branch Chief
Local Development - Intergovernmental Review

c: State Clearinghouse

Comment Letter C

-----Original Message-----
From: Thomas Huntington <tomhca2@gmail.com>
Sent: Friday, October 1, 2021 4:57 PM
To: PARKS_ParksAndRecreation <ParksAndRecreation@smcgov.org>
Cc: tom Huntington <tomhca2@gmail.com>
Subject: Tunitas Creek Beach County Park CEQA Comments.

Dear Mario Nastari, San Mateo Co Park Dept and others associated with this project.

Once again I want to commend you all for your continuing good work on this unfolding project. Below are some comments in response to the document and to assist in future planning.

These are in tended to support and further the project objectives of safety and security for the visiting public, habitat protection and restoration and best management and conservation measures. I have been pleased to be able to participate on the Tunitas Creek citizens advisory board for over two years and well as work with the Tunitas Beach Loacls on this issue with Supervisor Don Horsley and other local leaders helped create the new Park . Comments include: C-1

Improving safety on Highway 1 in both directions and especially aimed at slowing down the arriving traffic from both directions to ensure safe turning off the highway into the parking area. Additionally a serious effort need to be made to slow fast moving traffic on of the bridge over to Tunitas Creek and to alert drivers too dangerous conditions concerning bicyclist and pedestrians on the bridge. There have been three instances of death on the highway in this area in recent years. Traffic will increase considerably the opening of the new park. Additionally we hope all involved will work to create a safe C-2

conditions on Tunitas Creek Road by limiting parking. The current document References the trail under under the highway 1 bridge leading to the beach. This trail will lead to unsupervised access as well as habitat distraction and erosion to the creek corridor. Throughout this process of establishing the new park many voices have spoken about closing the back entrance trail, once the new park opens, and restoring and protecting the creek area. We hope the Parks Department and others will continue to pursue this goal with local neighbors in the area. This will ensure the safety of the general public who arrive through the main entrance only and will allow for protection of significant reparian habitat along the creek and at the creek mouth. Additionally it should be noted that during high tides and big surf the lower end of the creek trail becomes flooded, Inaccessible and dangerous due tothe surging waves. This will only increase with sea level rise and create difficult management problems for San Mateo county parks and staff. C-3

The issue of safety on the beach from the surf applies to the entire area. In the last few years there have been two groundings on the beach and the public should be warm to proper signage about dangerous surf conditions and serious riptides. It should also be noted that the southern end of the beach constrain people who are wandering south during low tide and not able to return at high Tide. Assuring safety at the waters edge throughout the year she continue to be a high priority of the parks department. C-4

Please let me know you revived this and I look forward to working with all going forward. Thanks

Tom Huntington

LETTER A
California Coastal Commission
October 1, 2021

Response A1: This introductory comment acknowledges receipt of the Draft IS/MND, expresses general support of the proposed project and introduces the more detailed comments included in the letter, which are responded to in Responses A2 through A7, below. This summary comment, which does not raise concerns regarding the adequacy of the information or analysis provided in the Draft IS/MND, is noted. No further response is required.

Response A2: This comment expresses concerns related to the proposed bluff stabilization methods proposed as part of the Tunitas Beach Improvement Project and requests that an alternatives analysis be provided to identify the least damaging environmental alternative. The proposed trail from the mid bluff to Tunitas Beach follows an existing pathway that has existed for many years and has undergone past stabilization efforts. As part of the planning process, the County evaluated various alternative pathways; however, due to the steep slope, the County determined that improving the existing pathway would require the least amount of grading, provide the most accessible path for the public, and result in fewer environmental effects than creating a new pathway along a different alignment.

As described in the Draft IS/MND, to repair the slope and accommodate the trail widening, the Parks Department proposes to either: 1) remove the landslide debris and rebuild the slope, thereby reducing the slope of the hillside by shifting the toe of the slope westward by approximately 5 feet; or 2) install a retaining wall with anchors to support the slope. Both of these alternatives were evaluated as part of the environmental review. At this point in the planning process, rebuilding the slope is the preferred option, as soil generated from other project improvements could be re-used on the project site and no structures along the bluff would need to be constructed. When complete, the slope would generally match the current configuration and would be re-seeded with native grasses.

As described in Section 3.11, Land Use, of the Draft IS/MND, policy consistency determinations are ultimately made by the local decision-making body. The County of San Mateo Board of Supervisors would determine the proposed project's consistency with the County's applicable plans and policies, including the Local Coastal Program (LCP), as part of the project approval. If needed, the California Coastal Commission would determine the project's consistency with the LCP as part of the permitting process

Per CEQA Guidelines, policy conflicts do not, in and of themselves, constitute significant environmental impacts. Policy conflicts are considered

to be environmental impacts only when they would result in direct physical impacts or where those conflicts relate to avoiding or mitigating environmental impacts. As such, associated physical environmental impacts are discussed in the Draft IS/MND under specific topical sections.

Response A3: This comment, which requests that a site stability evaluation report be prepared to evaluate the proposed siting and design of the range residence and amphitheater on the Mid Bluff, as well as the parking/view area on the Top Bluff, is noted. As part of the planning process, existing site conditions were evaluated, including erosion potential, slope stability and landslide conditions. Proposed improvements have been sited and designed to promote slope stability and minimize hazards. All proposed structures, such as the ranger residence, shed, and restroom, would be portable and could be relocated should slope movement occur. The requested stability evaluation report can be provided as part of the LCP permitting process, if required. Please also see Response A2.

Response A4: This comment, which raises concerns regarding the slide areas present on the project site and requests a site stability evaluation report, is noted. The project is designed to minimize the potential to activate landslides by retaining the existing loads and controlling the flow of runoff from the site. Additional analysis can be provided during the permitting process, if required. Please see Response A2 and A3.

Response A5: This comment states that buffers/setbacks are required for all sensitive habitats, such as streams, riparian corridors, and wetlands, pursuant to LCP Policies 7.11, 7.12, 7.18, and 7.19. As described in Section 3.4, Biological Resources, of the Draft IS/MND, the proposed project has been designed to avoid impacts to sensitive communities, including riparian areas, to the extent possible and most of the proposed improvements are located outside of required setbacks as outlined in the LCP. As described in the Draft IS/MND, impacts to Tunitas Creek and its associated riparian vegetation are anticipated to accommodate proposed water supply infrastructure for the ranger residence. In addition, implementation of the loop trail would require a stream crossing, which could affect an ephemeral stream, depending on the method of crossing. Implementation of Mitigation Measures BIO-7A through 7F and BIO-8A and BIO-8B, as identified in the Draft IS/MND would reduce potential impacts to streams, wetlands, and riparian areas to a less-than-significant level.

As outlined in LCP Policy 7.9, trails and necessary water supply projects are permitted within riparian corridors; bridges and pipelines are permitted when no feasible or practicable alternative exists. As described above in Response A2, the County of San Mateo Board of Supervisors would determine the proposed project's consistency with the LCP, as part of the project approval. If needed, the California Coastal Commission would

determine the project's consistency with the LCP as part of the permitting process.

Response A6: The comment, which requests additional information from the County to support the finding that development standards and management practices are adequate to protect sensitive habitats consistent with Policy 11.18 of the LCP, is noted. Impacts to sensitive habitats, topography and water resources are described in the Draft IS/MND and mitigation measures are identified, as needed, to reduce potential impacts to a less-than-significant level. Therefore, the proposed project would not threaten habitat or result in substantial impacts on habitat, topography, and water resources. Additional information can be provided, if needed, as part of the permitting process.

Response A7: This comment, which encourages the County to reach out to the appropriate Native American representatives via phone or email, is noted. As described in the IS/MND, on July 8, 2020, the County of San Mateo Parks Department provided formal notification by mail to those California Native American tribes that are traditionally and culturally affiliated with the geographic area within which the proposed project is located. Tribal outreach was conducted pursuant to the consultation requirements of AB 52; therefore, no additional notification is required**.**

LETTER B
California Department of Transportation, Mark Leong
October 1, 2021

Response B1: This comment, which summarizes the proposed project as described in the Draft IS/MND and does not raise concerns regarding the adequacy of the information or analysis provided in the Draft IS/MND, is noted. No further response is required.

Response B2: This comment relates to the permits that the County may need to obtain from the California Department of Transportation (Caltrans). Such permits/approvals include a State Right of Way Use Agreement (with payment), District Airspace Review Committee review, non-standard exception, encroachment permit for work within the Caltrans right-of-way, a transportation permit for movement of oversized or excessive load vehicles on State roadways, and a Maintenance Agreement for maintenance of transportation elements. This comment does not pertain to the adequacy of the Draft IS/MND. The County will request appropriate permits from Caltrans for proposed work within Caltrans right-of-way, and the County will coordinate with Caltrans staff to ensure concerns are resolved prior to requesting a permit. No further response is required.

Response B3: This concluding comment, which acknowledges the County's responsibilities for mitigations that affect the State transportation network, is noted. No further response is required.

LETTER C
Thomas Huntington
October 1, 2021

Response C1: This comment, which expresses support for the proposed project and does not relate to the adequacy of the information or analysis provided in the IS/MND, is noted. This comment will be considered by County decision-makers when considering whether or not to approve the proposed Project.

Response C2: This comment, which expresses concerns related to the speed of traffic on Highway 1 and potential safety for park visitors, is noted. As discussed in Section 3.17, Transportation, of the Draft IS/MND, the proposed project would create a parking area that provides safe ingress and egress from Highway 1. Formalized points of ingress and egress between the parking and highway would reduce the potential for traffic hazards as compared to the current condition. These egress points have been selected and designed to account for highway speed of travel and are consistent with Caltrans line of sight requirements. Therefore, impacts related to design hazards were determined to be less than significant. No further improvements are required related to this topic.

Response C3: This comment, which identifies safety concerns associated with and recommends closure of the existing informal trail from Tunitas Creek Road to the beach, is noted. As described on page 5 of the Draft IS/MND, currently, beachgoers park along Tunitas Creek Road and walk under Highway 1 and along Tunitas Creek to access the beach. The informal trail from Tunitas Creek Road is not located on County property and is not part of the proposed project; however, the intent of the proposed project is to provide convenient and safe parking and access for the public to visit Tunitas Creek Beach, which could reduce the number of visitors accessing the beach from this informal trail. In addition, with implementation of the proposed project, either a Parks Department ranger would live on the project site or a video surveillance system would be installed, which would provide oversight and monitoring of activities at and around the project site. This comment does not relate to the adequacy of the information or analysis provided in the IS/MND and no further response is required.

Response C4: This comment, which relates to the issue of safety on the beach from dangerous surf conditions and riptides, is noted. As described on page 25 of the Draft IS/MND, Parks Department staff would operate Tunitas Creek Beach Park consistent with current Parks Department regulations, as outlined in Chapter 3.68, County Park and Recreation Area Rules, of the San

Mateo County Ordinance Code. Considerations related to safety of all park visitors will continue to be a priority for Parks Department staff. This comment does to relate to the adequacy of the information or analysis provided in the IS/MND and no further response is required.

County of San Mateo - Planning and Building Department

ATTACHMENT E

H. T. HARVEY & ASSOCIATES
Ecological Consultants

March 27, 2017

Mr. Thomas Harris, Land Transactions Coordinator
Peninsula Open Space Trust
222 High Street
Palo Alto, California 94301

Subject: **POST Cabrillo Highway Parcels (APN 081-060-020, 081-060-030, & 081-060-130): Biotic Resources Report (HTH 4007)**

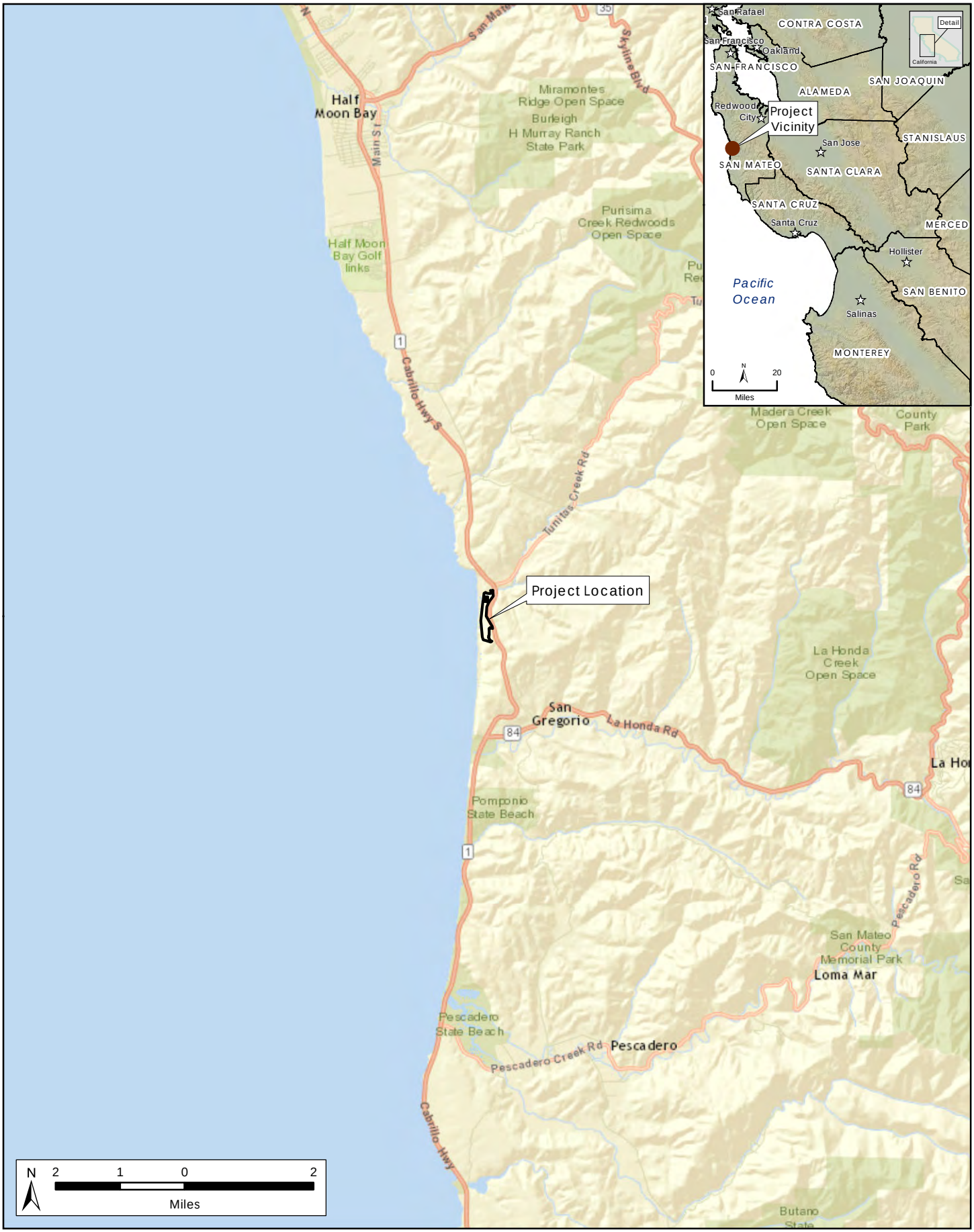
Dear Mr. Harris,

Per your request, this biological resources report provides H. T. Harvey & Associates' assessment of existing biological conditions at the Peninsula Open Space Trust (POST) Cabrillo Highway Parcels site (herein referred to as the Project site) in unincorporated San Mateo County, California and the potential for impacts on sensitive biological resources as a result of proposed development activities at the site.

Project Description and Location

POST proposes to take ownership of three parcels (APNs 081-060-020, 081-060-030, and 081-060-130) comprising approximately 52 acres (ac) along Highway 1/Cabrillo Highway in unincorporated San Mateo County, California, approximately 6 miles south of Half Moon Bay (Figure 1). POST would then manage these parcels (Project site) as part of its open space preserve system. Currently the Project site is largely undeveloped except for an existing paved driveway, a paved parking area approximately 9,000 square feet (sq ft) in size, an unoccupied residence, and six unused cabins. Though the parcel limits do not extend substantially into the sandy beach to the west, various trails through the Project site, largely established by trespassers, do allow for on-foot beach access. Current use of the Project site includes unauthorized access by the public using the existing trails. The beach to the west of the parcels is sometimes used for large camp-outs, nighttime parties, or other gatherings.

POST proposes to construct a small number of new trails, particularly concentrated in the northern areas of the Project site. The precise layout of the proposed trail system is not known at this time, but would be purposefully planned based on the existing conditions described in this report and other constraints such as geotechnical stability to establish optimally aligned and stable access to the beach and through the Project site. Trails are expected to be mostly, if not fully, unpaved and approximately 6-8 feet (ft) in width. Parking for the



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H. T. HARVEY & ASSOCIATES
Ecological Consultants

Figure 1. Vicinity Map
POST Cabrillo Highway Parcels - Biotic Resources Report (4007-01)
March 2017

public to access the proposed preserve would be provided at the existing paved parking area and possibly supplemented along the Cabrillo Highway roadside within Caltrans right-of-way. POST proposes to demolish and remove all or most of the existing buildings, possibly re-purposing one building as an on-site post for preserve security. Other management and improvement activities may include control or removal of invasive or non-native vegetation, installation of signage, and efforts to direct the public off of the unauthorized trails and onto the purposefully designed trail system. POST rules of use would not allow nighttime beach parties or access that would potentially disturb sensitive resources within this area. Therefore, nighttime use of the Project site and adjacent beach are expected to be reduced, relative to existing conditions. Daytime use is not expected to substantially change, though foot traffic would be diverted from the ad hoc trail system to the purposefully designed and maintained trail system proposed by POST, and on-site car traffic along the existing paved driveway would increase over existing conditions.

Methods

H. T. Harvey & Associates plant ecologists Gregory Sproull, M.S., and Matthew Mosher, B.S., characterized the existing biological conditions on the Project site, including the presence and distribution of biotic habitats, potentially regulated habitats, and special-status plant species, including coastal marsh milk-vetch (*Astragalus pycnostachyus* var. *pycnostachyus*), which CNDDB records indicate is located on the parcels. This assessment involved a review of relevant background information combined with reconnaissance-level surveys conducted on March 14 and 15, 2017. Habitat types were distinguished using natural community descriptions discussed in Holland (1986) and habitats described in the San Mateo Local Coastal Program (LCP) (2013). Plant species were identified using Baldwin et al. 2012. Habitat assessments for special-status wildlife that may reside on or near the parcels, such as the California red-legged frog (*Rana draytonii*), San Francisco garter snake (*Thamnophis sirtalis tetrataenia*), western snowy plover (*Charadrius alexandrinus nivosus*), and San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), were conducted concurrently on March 14, 2007 by H. T. Harvey & Associates wildlife ecologist, Kim Briones, M.S. Additionally, Ms. Briones inspected an abandoned residence and the cabins for bats and signs of bat use (e.g., guano or urine staining), and deployed a bat acoustic detector for five nights, to evaluate potential habitat suitability for pallid bat (*Antrozous pallidus*) or Townsend's big-eared bat (*Corynorhinus townsendii*) maternity roosts.

Information concerning threatened, endangered, or other special-status species that could occur in the Project region was reviewed, including information from the following sources:

- California Natural Diversity Database (CNDDB) and its associated species accounts (CNDDB 2017)
- Species list information for the vicinity from the website of the U.S. Fish and Wildlife Service (USFWS) (https://ecos.fws.gov/ipac/)
- California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California (CNPS 2017)
- eBird online database of bird distribution and abundance (eBird 2017)

- Relevant scientific literature, technical databases, and resource agency reports

A search of CNDDB Rarefind published accounts (CNDDB 2017) was conducted for special-status plant and wildlife species occurring in the *San Gregorio*, *California* U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle within which the Project site is located, as well as the five surrounding quadrangles (*Half Moon Bay, Pigeon Point, La Honda, Woodside,* and *Franklin Point*). In addition, for plants we reviewed the Online Inventory of Rare Plants (CNPS 2017) for information regarding the distribution and habitats of vascular plants designated as California Rare Plant Rank (CRPR) 1A, 1B, 2A, 2B, or 3 that occur in any of the six USGS quadrangles listed above. We also considered the CNPS plant list for San Mateo County, as the CNPS does not maintain quadrangle-level records for CRPR 4 species.

Existing Biological Conditions

General Habitat Conditions and Wildlife Use

Vegetation. The reconnaissance-level field survey identified 13 biotic habitat types on the Project site (Table 1, Figure 2). Habitats located on the Project site include: northern (Franciscan) coastal scrub, Monterey pine forest, dune, central coast riparian scrub, red alder riparian forest, ephemeral stream, landscaped, coastal strand, developed, perennial stream, intermittent stream, coastal terrace prairie, and coastal and valley freshwater marsh.

Table 1. Biotic Habitat/Land Cover Acreages for the Project Site

Biotic Habitats/Land Cover Types	Approximate Area (acres)
Northern (Franciscan) Coastal Scrub	34.64
Monterey Pine Forest	4.90
Coastal Dunes	4.49
Central Coast Riparian Scrub	2.67
Red Alder Riparian Forest	1.84
Landscaped	1.29
Coastal Strand	1.24
Developed	0.38
Ephemeral Stream	0.20
Perennial Stream	0.17
Intermittent Stream	0.15
Coastal Terrace Prairie	0.04
Coastal and Valley Freshwater Marsh	0.01
Total	**52.02**

Legend

Habitats **in Project Site**

- Central Coast Riparian Scrub (2.67 ac)
- Coastal Strand (1.24 ac)
- Coastal Terrace Prairie (0.04 ac)
- Coastal and Valley Freshwater Marsh (0.01 ac)
- Developed (0.38 ac)
- Coastal Dunes (4.49 ac)
- Ephemeral Stream (0.20 ac)
- Intermittent Stream (0.15 ac)
- Landscaped (1.29 ac)
- Monterey Pine Forest (4.90 ac)
- Northern (Franciscan) Coastal Scrub (34.64 ac)
- Perennial Stream (0.17 ac)
- Red Alder Riparian Forest (1.84 ac)

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H. T. HARVEY & ASSOCIATES

Ecological Consultants

Figure 2. Biotic Habitats

POST Cabrillo Hwy (4007-01)

March 2017

Northern (Franciscan) Coastal Scrub. Northern (Franciscan) coastal scrub comprises 34.64 ac of the 52.02-ac Project site (Photo 1). Some stretches of the northern (Franciscan) coastal scrub habitat are barren and generally devoid of vegetation, whereas others are densely vegetated with low-lying shrubs that range from 1 to 4 ft in height. Shrubs that dominate the northern (Franciscan) coastal scrub include coyote brush (*Baccharis pilularis*), California sagebrush (*Artemisia californica*), poison oak (*Toxicodendron diversilobum*), California coffeeberry (*Frangula californica*), monkey bush (*Mimulus aurantiacus*), and lizard tail (*Eriophyllum staechadifolium*). Though the understory of the northern coastal scrub on the Project site is often undeveloped, herbaceous vegetation such as black mustard (*Brassica nigra*), blessed milk thistle (*Silybum marianum*), vetch (*Vicia* sp.), common yarrow (*Achillea millefolium*), sowthistle (*Sonchus* sp.), fescue (*Festuca* sp.), and redstem filaree (*Erodium cicutarium*) grows amid the shrub layer in small admixtures. Northern coastal scrub is situated along steeply sloped bluffs that stand roughly 400 ft above sea level. This habitat is exposed to wind and contains shallow, unstable soils.

Photo 1: Northern (Franciscan) coastal shrub densely vegetated with shrubs

Monterey Pine Forest. Monterey pine forest habitat (4.90 ac) is confined to the northeastern section of the Project site, east of the existing residence (Photo 2). The Monterey pine forest is dominated by mature Monterey pine (*Pinus radiata*) and Monterey cypress (*Hesperocyparis macrocarpa*) that reach up to 60 ft in height. This closed canopy habitat is situated on moist, sandy soils and contains a shaded understory layer composed of bigleaf periwinkle (*Vinca major*), California bedstraw (*Galium californicum*), poison oak, English ivy (*Hedera helix*), cape ivy (*Delairea odorata*), lupine (*Lupinus* sp.), and California blackberry (*Rubus ursinus*). A large swath of Monterey pine forest, located south of the red alder riparian forest, was affected by a landslide in the mid-1990s which resulted in a steep-walled 20-ft deep slump. Soils and banks surrounding the landslide region remain unstable and are highly eroded.

Photo 2: View of Monterey pine forest facing west from the eastern portion of the Project site

Coastal Dunes. The dune habitat (4.49 ac) includes all northern foredunes and active coastal dunes located on the Project site (Photo 3). Here, dune habitat contains barren mobile sand accumulations, as well as partially stable shoreline foredunes dominated by sparse and scattered patches of perennial grasses, such as American dune grass (*Elymus mollis*) and beachgrass (*Ammophila arenaria*), and forbs, such as coastal sand verbena (*Abronia latifolia*), sea rocket (*Cakile* sp.), beach morning glory (*Calystegia soldanella*), and invasive sea fig (*Carpobrotus chilensis*). The dune habitat is exposed to strong, blowing winds and is situated on along the western portion of the Project site, where it intergrades with coastal strand habitat at the toe of slope.

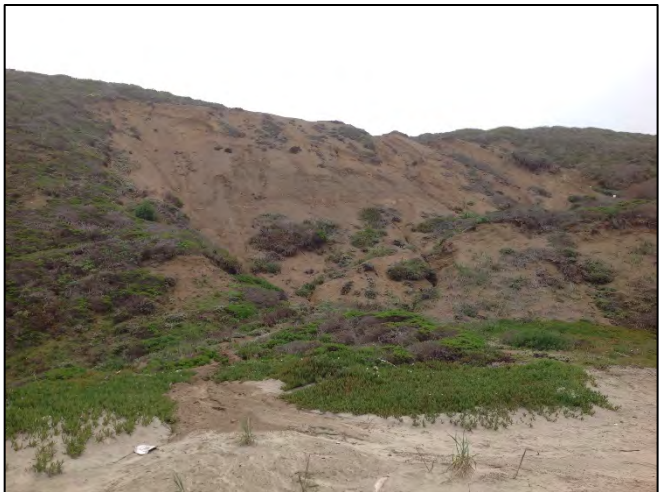

Photo 3: View of sparsely vegetated dune habitat from the beach in the southwestern section of the Project site

Central Coast Riparian Scrub. Central coast riparian scrub on the Project site (2.67 ac) surrounds an intermittent stream located in a deeply incised channel that runs parallel to Cabrillo Highway (Photo 4). Central coast riparian scrub habitat on the Project site occurs as a scrubby streamside thicket, varying from open to impenetrable, dominated by arroyo willow (*Salix lasiolepis*), poison oak, California blackberry, and stinging nettle (*Urtica dioica*). Soil in the central coast riparian scrub is mesic and is composed of relatively fine-grained sand and gravel bars. The habitat slopes steeply downward from Cabrillo Highway and intergrades with northern (Franciscan) coastal scrub habitat on the oceanside of the Project site.

Photo 4: Impenetrable central coast riparian scrub dominated by arroyo willow along Cabrillo Highway

Red Alder Riparian Forest. Red alder riparian forest comprises 1.84 ac of the Project site and surrounds Tunitas Creek with dense vegetation (Photo 5). Here, the overstory is dominated by mature red alder (*Alnus rubra*) that grow up to 60 ft tall, and shorter-statured arroyo willow. This habitat extends up to several hundred feet away from Tunitas Creek in the northeastern portion of the Project site. As a result of heavy rainfall and

flooding in the winter of 2017, many red alders, particularly those rooted along creek banks, have been uprooted (Photo 5).. North of Tunitas Creek, this habitat is primarily dominated by red alder, whereas south of Tunitas Creek, homogenous patches of arroyo willow are more common. The understory of the red alder riparian forest habitat is heavily shaded and rich with vegetation. Common herbaceous species in the red alder riparian forest include English ivy, cape ivy, California blackberry, stinging nettle, bigleaf periwinkle, common horsetail (*Equisetum arvense*), and California mugwort (*Artemisia douglasiana*). Soils in this habitat are shaped by alluvial forces such as flooding and sediment deposition.

Photo 5: Red alder riparian forest impacted by recent 2017 winter floods

Landscaped. Landscaped habitat (1.29 ac) surrounds the existing house on the Project site (Photo 6). This habitat is primarily comprised of planted ornamental shrubs, herbs, and forbs. Common trees and shrubs in the landscaped habitat include Mexican fan palm (*Washingtonia robusta*), silver dollar gum (*Eucalyptus polyanthemos*), weeping bottlebrush (*Callistemon viminalis*), Peruvian pepper tree (*Schinus molle*), pride of madeira (*Echium candicans*), and privet (*Ligustrum* sp.). Other ornamental species include lily of the Nile (*Agapanthus africanus*), rosemary (*Rosmarinus officinalis*), rose (*Rosa* sp.), a variety of succulents, such as krantz aloe (*Aloe aborescens*), stonecrop (*Sedum* sp.), and agave (*Agave* sp.), as well as the invasive pampas grass (*Cortaderia jubata*). This habitat gradually slopes downward and intergrades with northern (Franciscan) coastal scrub.

Photo 6: Landscaped habitat facing northwest towards Tunitas Creek

Coastal Strand. This habitat comprises a narrow band (1.24 ac) of densely-growing sea fig that extends from the high tide line landward to the base of the coastal dunes (Photo 7). Salt spray, slow nutrient cycling and desiccating winds contribute to this desert-like environment (Holland 1986). Other species found in trace amounts in the coastal strand habitat include coastal sand verbena and beach morning glory. This habitat type extends west of the parcels onto a broad sandy beach.

Photo 7: Coastal strand habitat composed of dense patches of sea fig between dune and northern (Franciscan) coastal scrub habitat

Developed. The developed habitat on the Project site (0.38 ac) represents the winding paved driveway that extends from Cabrillo Highway to the existing house, as well as the parking lot adjacent to the house. This habitat includes the existing house on the Project site, as well as the dilapidated cabins that are located south of Tunitas Creek (Photo 8). The approximately 9,000 sq ft unoccupied residence is located at the end of the paved road that leads into the Project site. One cabin remains in fair condition, and is located near the edge of the landslide area. The other cabins are in poor condition and are situated atop the southern bank of Tunitas Creek. Due to the unstable nature of these banks, these cabins could not be accessed during the March 2017 reconaissance survey. No vegetation is present in the structure habitat. The developed habitat is devoid of vegetation.

Photo 8: Unused cabin near the landslide area

Ephemeral Stream. Two ephemeral streams, which carry flows during or directly after rainfall events, were detected on the Project site and comprise 0.20 ac. One is a short, erosive, but regularly incised feature on the steep foredune slope. The second ephemeral stream bisects the Project site and is a continuation of the intermittent stream, where the streambed does not have a connection to groundwater for the final reach that flows to the ocean. This stream has been also used as an ad hoc trail surface when dry.

Perennial Stream. The perennial stream habitat (0.17 ac) extends from ordinary high water mark (OHWM) to the opposing OHWMt along Tunitas Creek within the Project site (Photo 9). Tunitas Creek is a 6.6-mile fast-flowing perennial stream that runs from King's Mountain to the Pacific Ocean, emptying onto Tunitas Beach. The upper mouth of Tunitas Creek is located on the Project site. Here, the active wetted channel is approximately 20 ft wide and ranges from several inches to several feet deep. The majority of the perennial stream is surrounded by red alder riparian forest habitat. At the time of the March 2017 reconnaissance survey, the perennial stream showed signs of flooding, as downed trees in the channel, substantial sedimentation and woody debris, and erosion were observed. The perennial stream habitat is generally devoid of living vegetation.

Photo 9: Perennial stream habitat facing upstream (east)

Intermittent Stream. Intermittent stream habitat (0.15 ac) on the Project site includes the active, wetted portion of a channel between opposing OHWMs that runs parallel to Cabrillo Highway (Photo 10). This portion of the channel is situated between impenetrable dense swaths of central coast riparian scrub habitat and transitions into an ephemeral stream at its lower reaches. The intermittent stream is several inches deep and several feet wide, and contains arroyo willow and stinging nettle. Intermittent streams are distinguished from ephemeral streams by having a connection to groundwater, and as such, these features flow seasonally, not just during and after rain events. The intermittent stream is not visible from Cabrillo Highway and cannot be accessed by foot. This habitat was mapped using aerial photograph analysis.

Photo 10: Intermittent stream habitat parallels power lines; upstream view

Coastal Terrace Prairie. This habitat (0.04 ac) is a small, isolated patch of grassland located amid the central coast riparian scrub (Photo 11). It contains sour grass (*Oxalis pes-caprae*), Pacific reedgrass (*Calamagrostis nutkaensis*), cutleaf geranium (*Geranium dissectum*), fescue, and Douglas iris (*Iris douglasiana*). Here, grass grows densely and reaches heights of up to 8 inches in March. As it is proximal to a nearby intermittent stream, the soil in this habitat is moist and rich, and is composed of sandy loams.

Photo 11: Small patch of coastal terrace prairie adjacent to the central coast riparian scrub habitat

Coastal and Valley Freshwater Marsh. A small area of coastal and valley freshwater marsh habitat (0.01 ac) is located in a relatively flat, northeast section of the Project site (Photo 13). The coastal and valley freshwater marsh habitat is situated under dense canopy cover and is adjacent to a larger marsh that is located outside of the Project site, which is observable on aerial imagery. The coastal and valley freshwater marsh contains nearly one ft of pooled water, significant leaf litter. Though no marsh vegetation was identified in this habitat due to the impenetrable density of the surrounding vegetation, marsh vegetation may be present.

Photo 13: Coastal and valley freshwater marsh where storm water is pooled

Wildlife. The wildlife most often associated with developed and landscaped areas are those that are tolerant of periodic human disturbances, including introduced species such as the European starling (*Sturnus vulgaris*), rock pigeon (*Columba livia*), eastern gray squirrel (*Sciurus carolinensis*), house mouse (*Mus musculus*), and Norway rat (*Rattus norvegicus*). However due to the isolated nature of the site, numerous common, native species are also able to utilize these habitats, especially the buildings and landscaped areas, including the western fence lizard (*Sceloporus occidentalis*), striped skunk (*Mephitis mephitis*), and a variety of birds. Birds such as the Anna's hummingbird (*Calypte anna*), Califonrnia towhee (*Melozone crissalis*), purple finch (*Haemorhous purpureus*) and chestnut-backed chickadee (*Poecile rufescens*) were observed foraging near the developed portion of the Project site. In addition, the eaves and crevices of the buildings on the site may be attractive to other nesting and/or roosting birds in the area, such as the house finch (*Haemorhous mexicanus*) and black phoebe (*Sayornis nigricans*). Numerous crevices or entry points for bats were observed on the abandoned residence. These areas could attract small numbers of individual bats and could provide habitat for small roosting or maternity colonies. Three Townsend's big-eared bats were observed roosting inside the abandoned residence, but no bats or sign of bats (i.e., guano or urine staining) were observed in the cabins. The bat acoustic detector recorded calls of Townsend's big-eared bats, but no calls of other bats species.

Scrub, riparian and Monterey pine forests, and stream habitats on the Project site provide food and nesting opportunities for a variety of native and non-native species, including the fox squirrel (*Sciurus niger*), chestnut-backed chickadee, California scrub-jay (*Aphelocoma californica*), song sparrow (*Melospiza melodia*), and San Francisco dusky-footed woodrat. Many woodrat nests were observed on the Project site. In addition the mature Monterey pine trees provide potential nesting habitat for raptors such as the red-shouldered hawk (*Buteo lineatus*). However, no old nests of raptors were observed on the site during the reconnaissance survey. Further, an examination of the trees on the site failed to find any large cavities that might provide suitable habitat for a large roosting or maternity colony of bats.

Aquatic habitat associated with Tunitas Creek on the Project site provide foraging and refugia habitat for variety of native amphibian and fish species, including Pacific chorus frog (*Pseudacris regilla*), California red-legged frog (*Rana draytonii*), and Central California Coast steelhead (*Oncorhynchus mykiss*).

Coastal strand or dune habitat, and coastal and valley freshwater marsh provide nesting and foraging opportunities for the western snowy plover (*Charadrius alexandrinus nivosus*), killdeer (*Charadrius vociferus*), song sparrow, and San Francisco common yellowthroat (*Geothlypis trichas sinuosa*).

Special-Status Plant and Animal Species

As described in Methods above, information concerning threatened, endangered, or other special-status species that could occur on the Project site was collected from several sources and reviewed by H. T. Harvey & Associates biologists. The specific habitat requirements and the locations of known occurrences of each special-status species were the principal criteria used for inclusion in the list of species potentially occurring on the site. Figures 3 and 4 are maps of the CNDDB's special-status plant and animal species records in the general vicinity of the Project site, defined for the purposes of this report as the area within a 5-mile (mi) radius. These generalized maps are valuable on a historic basis, but do not necessarily represent current conditions. While these records are not definitive, they show areas where special-status species occur or have occurred previously.

Special-Status Plants. A list of special-status plants with some potential for occurrence in the Project site vicinity was compiled using CNPS lists (CNPS 2017) and CNDDB records (CNDDB 2017) and reviewed for their potential to occur on the Project site. Based on an analysis of the documented habitat requirements and occurrence records associated with these species, 24 species were determined to have the potential to be present on or in the vicinity of the Project site, in coastal dunes, northern coastal scrub, coastal terrace prairie, coastal strand, and adjacent habitats where these intergrade into other habitat types on-site (Table 2). Of these 24 species, one species, coastal marsh milk-vetch, is mapped by the CNDDB as being present on the Project site (Figure 3). Coastal marsh milk-vetch was not observed on the Project site during the March 14 and 15, 2017 reconnaissance surveys due to the timing of the surveys (which occurred outside of the coastal marsh milk-vetch's bloom period). Below is a description of coastal marsh milk-vetch.

Coastal marsh milk-vetch (*Astragalus pycnostachyus* var. *pycnostachyus*). Federal Listing Status: None; State Listing Status: None; CRPR: 1B.2. Coastal marsh milk-vetch is a perennial herb in the legume family (Fabaceae) and is endemic to California. It has a variable blooming period extending from April through October. Coastal marsh milk-vetch occurs on mesic coastal dunes, in coastal scrub, and in streamside and coastal salt marshes and swamps (CNDDB 2017 and CNPS 2017). Six occurrences of coastal marsh milk-vetch were recorded by CNDDB (2017) on the Project site; four of which occur on APN 081-060-130 and two of which occur on APN 081-060-020 (Figure 3). This population was presumed to be extant as recently as 2009. Thus, coastal marsh milk-vetch may still occur on the Project site.

Table 2. Special-status Plant Species within the Project Site Vicinity

Scientific Name	Common Name	Listing Status, California Rare Plant Rank
Agrostis blasdalei	Blasdale bentgrass	CRPR 1B.2
Astragalus nuttallii var. *nuttallii*	Nuttall's milkvetch	CRPR 4.2
Astragalus pycnostachyus var. *pycnostachyus*	Coastal marsh milk-vetch	CRPR 1B.2
Castilleja latifolia	Monterey Indian paintbrush	CRPR 4.3
Centromadia parryi ssp. *parryi*	pappose tarplant	CRPR 1B.2
Chorizanthe cuspidata var. *cuspidata*	San francisco spineflower	CRPR 1B.2
Collinsia multicolor	San Francisco blue eyed mary	CRPR 1B.2
Corethrogyne leucophylla	branching beach aster	CRPR 3.2
Glehnia littoralis ssp. leiocarpa	American silvertop	CRPR 4.2
Grindelia hirsutula var. *maritima*	San Francisco gumplant	CRPR 3.2
Hesperevax sparsiflora var. *brevifolia*	Mt. Diablo helianthella	CRPR 1B.2
Horkelia cuneata var. *sericea*	Short leaved evax	CRPR 1B.1
Horkelia marinensis	Point Reyes Horkelia	CRPR 1B.2
Iris longipetala	Central Coast iris	CRPR 4.2
Lasthenia californica ssp. *macrantha*	Perennial Goldfields	CRPR 1B.2
Leptosiphon croceus	Coast yellow leptosiphon	CRPR 1B.1
Leptosiphon rosaceus	Rose leptosiphon	CRPR 1B.1
Lupinus arboreus var. *eximius*	San Mateo tree lupine	CRPR 3.2
Lupinus tidestromii	Tidestrom's lupine	Federally endangered, State endangered, CRPR 1B.1
Microseris paludosa	marsh microseris	CRPR 1B.2
Plagiobothrys chorisianus var. *chorisianus*	Choris's popcorn flower	CRPR 1B.2
Polemonium carneum	Oregon Polemonium	CRPR 2B.2
Sidalcea malviflora ssp. *purpurea*	purple-stemmed checkerbloom	CRPR 1B.1
Silene verecunda ssp. *verecunda*	San Francisco campion	CRPR 1B.2

Monterey pine (CRPR 1B.1) and Monterey cypress (CRPR 1B.2) are both considered rare by the CNPS, but only where these occur as native stands (CNPS 2017). The Project site does not contain any native stands for these species, and as such, these trees are not considered special-status plants for the purposes of this report.

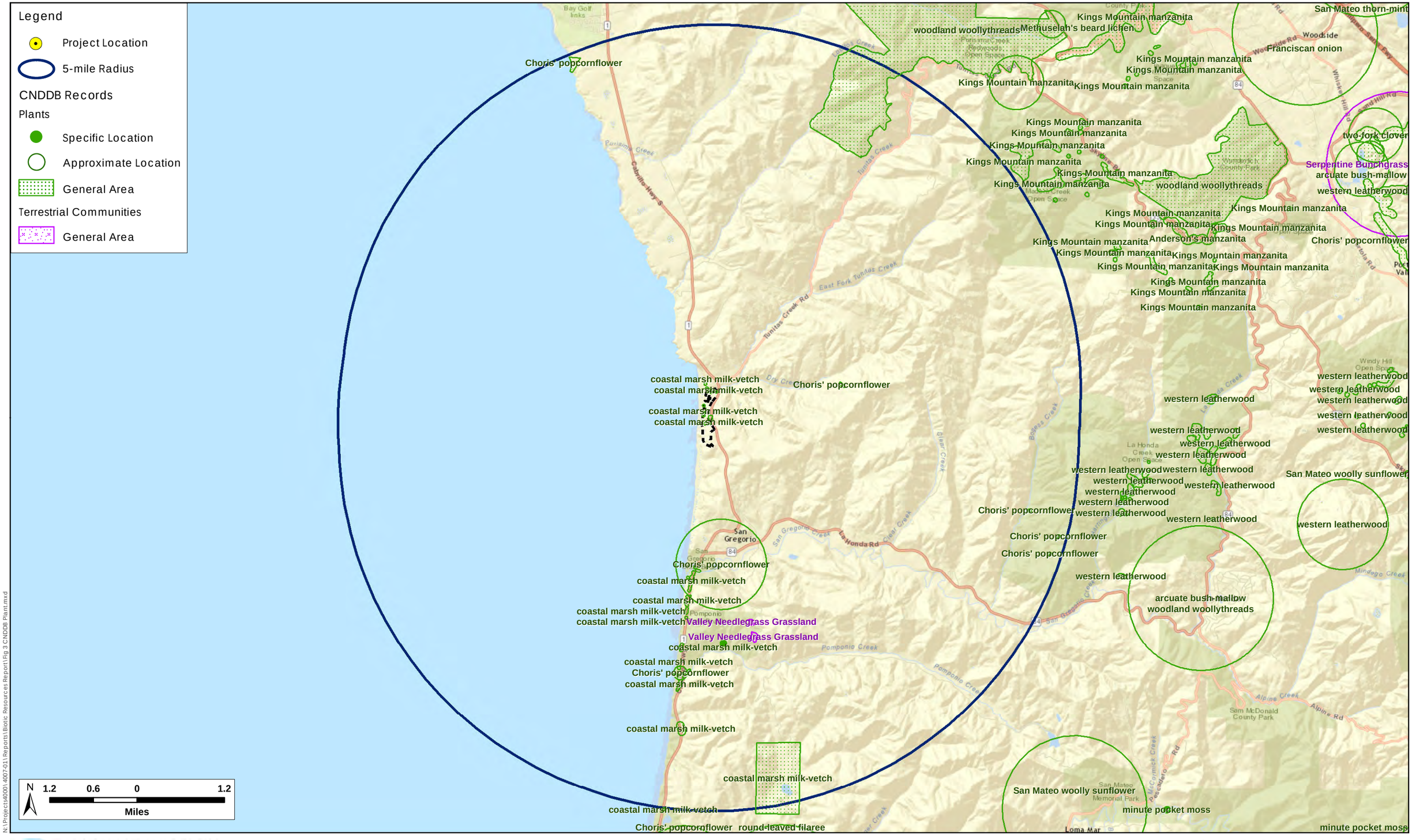

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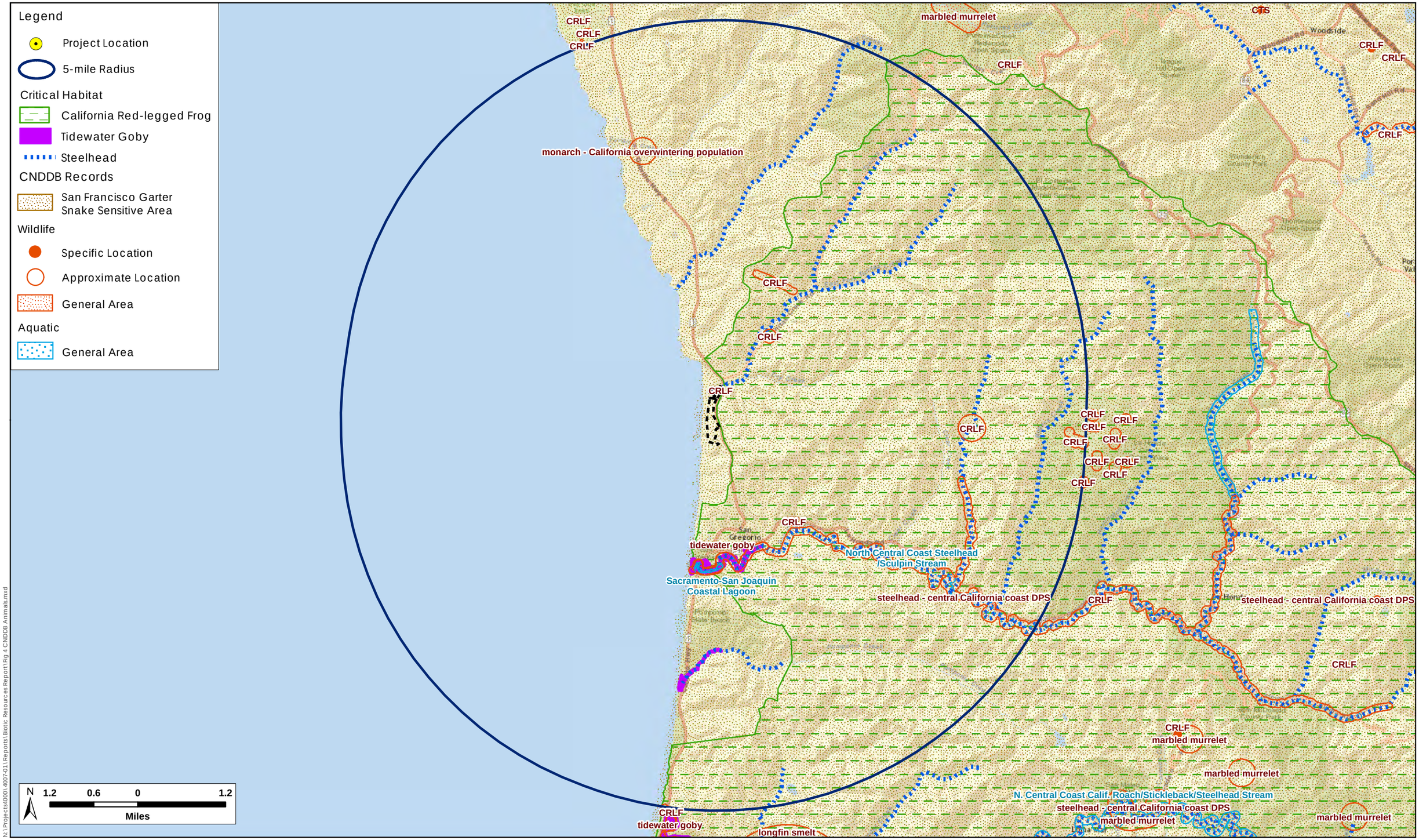
Figure 3. CNDDB Plant Records
POST Cabrillo Highway Parcels - Biotic Resources Report (4007-01)
March 2017



N:\Projects\4000\4007-01\Reports\Biotic Resources Report\Fig 4 CNDDB Animals.mxd

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Figure 4. Critical Habitats and Federally Listed CNDDB Animal Records
POST Cabrillo Highway Parcels - Biotic Resources Report (4007-01)
March 2017

Special-Status Animals. Based on our review of current CNDDB (2017) records (Figure 4) and other data sources, as well as our extensive experience with other projects in the region, we are aware of the occurrence of a number of special-status animal species in the Project region. The following sections discuss these species, indicating which are or are not known or expected to occur on the Project site itself.

- The monarch butterfly (*Danaus plexippus*), a USFWS sensitive species, overwinters (October through February) along the California coast from Mendocino County south to Baja California, with the largest groups typically occurring in Santa Cruz, Monterey, San Luis Obispo, and Santa Barbara Counties, where they form dense clusters on the branches and leaves of trees. Based on current threats to host plants and overwintering habitat this species is currently being considered for protection under the Federal Endangered Species Act. Monarch butterflies feed and breed exclusively on plant species in the subfamily Asclepiadoideae, with 27 species of milkweed (*Asclepias* sp.), as well as a few plants in closely related genera, having been recorded as larval food plants (Malcolm and Brower 1986). In 1998 a small overwintering population was documented in a mixed grove of Monterey pine, Monterey cypress, and eucalyptus (*Eucalyptus* sp.), approximately 3.5 miles north of the Project site. This population is presumed to be extant. The Project site supports a small but fairly dense Monterey pine forest on the northeastern portion of the site. No evidence of monarch concentrations was observed during our surveys, although these surveys took place after winter roosts break up. This stand of trees provides potentially suitable overwintering habitat, and thus, there is some potential for this species to form winter roosts on the Project site.

- The tidewater goby (*Eucyclogobius newberryi*), a federally listed as threatened and a California species of special concern, is found in brackish water habitats along the coast, in still but not stagnant water with high oxygen levels. Breeding typically occurs on sandy substrates but the species can be found on rocky, mud, and silt substrates as well. The tidewater goby has been recorded in the lower mouths of creeks along the southern portion of the San Mateo County coast to San Gregorio Creek. However, an apparently natural gap in the tidewater goby distribution along the California coast occurs north of San Gregorio Creek to the San Francisco Bay (USFWS 2005). The closest Critical Habitat (Unit SM-1) is located less than two miles south of the Project site (USFWS 2013b). While Tunitas Creek supports seemingly suitable sandy substrates, brackish water, and water depths (<1 meter deep), it does not form lagoon or estuarine habitat where tidewater gobies typically occur. Thus, this species is not expected to occur in the Project site.

- The Central California Coast steelhead distinct population segment is a federally threatened species, and the on-site reach of Tunitas Creek is located within the San Mateo Hydrologic Critical Habitat Unit (2202) (USFWS 2005b). Steelhead typically spawn in gravel substrates located in clear, cool, perennial sections of relatively undisturbed streams, with dense canopy cover that provides shade, woody debris, and organic matter. Steelhead have been documented in Tunitas Creek (Titus et al., in prep, Becker et al. 2008, 2010). Although no spawning habitat is present in the on-site reach, steelhead are expected to occur in the Project site during migration between upstream areas (where spawning could potentially occur) and the ocean.

- The Central California Coast coho salmon (*Oncorhynchus kisutch*) evolutionary significant unit, which is federally and state listed as endangered, has been documented rearing young in San Gregorio Creek (Stillwater Sciences et al. 2010), and it is thought to be present in the southwestern portion of San Mateo

County, in Pescadero Creek, San Gregorio Creek, and Gazos Creek (CNDDB 2017). Tunitas Creek is located within the critical habitat designation for this species (NMFS 1999), and NMFS (2005a) found strong historical evidence (pre-1988) of Coho salmon historical occurrence in Tunitas Creek, based on museum records. As a result, NMFS considers this creek to have currently modest habitat potential to support the species (NMFS 2005a). However, this species was described as absent from Tunitas Creek by the California Department of Fish and Game (2004), and it is unlikely that this species occurs on the Project site.

- The California giant salamander (*Dicamptodon ensatus*), a California species of special concern occurs in coastal forests associated near streams or seepages. The Santa Cruz black salamander (*Aneides niger*), a California species of special concern, occurs in mixed deciduous woodland, coniferous forests, and coastal grasslands. Both species can be found under rocks near streams, under damp logs, and other objects. The Project supports suitable aquatic breeding habitat for the California giant salamander in Tunitas Creek and moist forest foraging and refugia habitat for both species. There are multiple documented occurrences of the California giant salamander within five miles of the Project site along Tunitas Creek and its associated tributaries east of the Project site (CNDDB 2017). The Santa Cruz black salamander is known to occur within the Project region; however, the closest reported occurrence is approximately seven miles east of the Project site south of La Honda Road (CNDDB 2017). Based on the presence of suitable habitat on site and their regional presence, both species are expected to occur on the Project site.

- The foothill yellow-legged frog (*Rana boylii*), a California species of special concern, has been documented in Pescadero Creek, over 10 miles from the project site (CNDDB 2017). Although more upstream portions of Tunitas Creek (upstream from the Project site) may support partially shaded shallow stream habitat with riffles and rocky substrate suitable for this species, habitat conditions on the Project site are likely unsuitable for this species, and we do not expect it to occur on the site.

- The California red-legged frog, a federally listed threatened species and California species of special concern, frequents streams, freshwater pools, and ponds with emergent or overhanging vegetation. USFWS-designated Critical Habitat (Unit SNM-2) for this species is located directly adjacent to the Project site on the east side of Highway 1 (USFWS 2010). Red-legged frog adults and juveniles have been documented on the west side of the Tunitas Creek Bridge within the Project site, and further upstream, approximately one mile from the Project site (CNDDB 2017). Within the Project site Tunitas Creek supports scant patches of overhanging vegetation, primarily of red alder, and small areas of ponded water, but no emergent vegetation. As a result, there is a low potential for breeding on the Project site. Breeding likely occurs further upstream or in a small pond less than one-half mile from the Project site on the east side of Highway 1. Although there is a low potential for breeding, red-legged frogs use the on-site portion of Tunitas Creek as nonbreeding aquatic habitat and likely disperse across the entire site.

- The western pond turtle (*Actinemys marmorata*), a California species of special concern, can be found in intermittent and perennial slow-moving waters, including stock ponds, streams, rivers, marshes, and lakes. They require areas with ample basking sites and underwater refugia, and eggs are laid in grasslands or other open uplands. Portions of Tunitas Creek within the Project site provide ponded water and small basking

areas. However, the surrounding upland areas are dominated by coastal scrub and deciduous forest, and are not expected to support nesting. Pond turtles have been observed in La Honda Creek, a little more than five miles east of the Project site (CNDDB 2017). Although there is no suitable breeding habitat, there is some potential for this western pond turtles to occur in Tunitas Creek on the Project site.

- The San Francisco garter snake, a federal and state listed species, occurs primarily in densely vegetated freshwater habitats. The San Francisco garter snake is well documented in the Project region (CNDDB 2017), and although the on-site reach of Tunitas Creek does not support any densely vegetated aquatic habitat, the San Francisco garter snake can occupy a number of aquatic and terrestrial habitats, such as ponds, pools in or next to streams, streams, lakes, and reservoirs. In addition, this species' primary prey, the California red-legged frog, occurs on the Project site. Therefore, this species cannot be ruled out from occurring on the Project site, if only as an occasional visitor. Like the red-legged frog, it is most likely to occur along Tunitas Creek, although it could potentially disperse across the entire site.

- Although documented in San Mateo County (CNDDB 2017), the federally-threatened, state-endangered marbled murrelet (*Brachyramphus marmoratus*) is absent from the Project site due to the absence of suitable dense, mature forests of redwood and Douglas-fir.

- Critical habitat for the western snowy plover, federally listed as threatened, is located approximately 8 miles north of the Project site (USFWS 2013a). Ostensibly suitable nesting and foraging habitat is present on the sandy beach, which borders the western portion of the Project site, and seven individuals were observed roosting and foraging near the dune habitat near the northern portion of the site during our survey. Furthermore, small numbers of breeding (4 adults in 1998, and 2 between 2000 and 2005) and wintering birds (34 between 2000 and 2005) have been documented along Tunitas Creek Beach during long term monitoring (USFWS 2007). Therefore, suitable nesting and foraging habitat is present on the sandy beach and dunes on and immediately adjacent to the Project site.

- The bank swallow (*Riparia riparia*), state listed as threatened, nests colonially and inhabits isolated places where fine-textured or sandy vertical bluffs or riverbanks are available in which to dig burrows 2 to 3 feet deep. Bank swallows occur as rare migrants along the San Mateo coast but they are very rare as breeders in this area. The only known extant breeding colony in San Mateo County is at Point Año Nuevo (CNDDB 2017), over 15 miles south of the Project site. Although the Project site supports bluff habitat, it is densely vegetated, with scant patches of sandy soil, and is considered to be marginal at best for breeding. Furthermore, this species is not known to breed in this area. Thus, this species is not expected to breed on the Project site.

- The San Francisco common yellowthroat (*Geothlypis trichas sinuosa*), a California species of special concern, nests and forages in fresh and saltwater marshes and seasonal wetlands, and it breeds to some extent in coastal scrub as well. It breeds on the ground or up to 8 centimeters off the ground under the cover of dense shrubs and emergent aquatic vegetation. Within the Project site, the red alder forest in Tunitas Creek supports suitable breeding habitat for this species, and it is possible that some birds may breed in coastal scrub. Common yellowthroats have been observed at the mouth of Tunitas Creek and San Gregorio Creek to the south (CNDDB 2017, eBird 2016). Thus, this species is likely to breed on site.

- The Townsend's big-eared bat, a California species of special concern, is known to occur in the Project region (CNDDB 2017). Unlike other bat species which seek refuge in crevices, the Townsend's big-eared bat normally roosts in open, cavernous spaces, hanging in the top of a natural cavity, or in the top corner of ceilings and walls of an undisturbed room (this species is easily disturbed while roosting in buildings). Three individuals were observed roosting in the hallway of the abandoned residence. Although we did not observe abundant sign indicating historical presence of a maternity colony (i.e., large amounts of guano), March is a transition month between the winter hibernation season and the maternity season in this region, and pregnant females will begin to form maternity colonies in the coming weeks. While it is possible that this structure serves as a winter hibernaculum for a few individuals, we cannot rule out the possibility that this structure could also support a maternity colony.

- The pallid bat, a California species of special concern, roosts in buildings, large oaks or redwoods, rocky outcrops and rocky crevices in mines and caves. This species is known to occur in San Mateo County and has been detected inland to the east of the Project site in the La Honda Creek Open Space Preserve (CNDDB 2017). No pallid bats were detected during a focused search of the two structures on the Project site, nor were any recorded by the bat acoustic detector. Although small amounts of scattered bat guano were found in the abandoned residence, it is unknown whether they could have been left by pallid bats, and the lack of large amounts of guano indicates that no large pallid bat maternity colonies occupy, or have occupied, this structure. Therefore, if the species occurs on the site at all, it is expected to occur only as an occasional visitor.

- The San Francisco dusky-footed woodrat, a California species of special concern, nests in a variety of habitats including riparian areas, oak woodlands, and scrub. The Project site supports suitable habitat for this species. Eleven woodrat nests, at least some of which exhibited signs of current use, were documented on the Project site.

- Most pinniped (seals and sea lions) species are protected under the Marine Mammal Protection Act. Pinnipeds form large groups of individuals on beaches, known as haul-out groups, which include non-breeding animals, moulting groups, and breeding animals with young. In San Mateo County, the closest documented haul out site, and one of the largest concentrations of Pacific harbor seals (*Phoca vitulina richardii*) in San Mateo County, is located at Cowell Ranch Beach approximately 5 miles to the north of the Project site (Vanderhoof and Allen 2005, NMFS 2016). Beyond 5 miles, large concentrations of harbor seals also occur at the Fitzgerald Marine Reserve, with smaller groups occurring at Pebble Beach and Bean Hollow to the north, and the largest haul out group of elephant seals (*Mirounga leonina*) and California sea lions (*Zalophus californianus*) occurring at Año Nuevo to the south. However, there are no recent or historical occurrences of any pinniped hauls out groups occurring on beach areas adjacent to the Project site. Thus, we do not expect any large pinniped haul out groups to occur on or immediately adjacent to the Project site.

Sensitive and Regulated Habitats

The California Department of Fish and Wildlife (CDFW) ranks certain rare or threatened plant communities, such as wetlands, meadows, and riparian forest and scrub, as 'threatened' or 'very threatened'. These communities are tracked in the CNDDB. Impacts on CDFW sensitive plant communities, or any such community identified in local or regional plans, policies, and regulations, must be considered and evaluated under the California Environmental Quality Act (CEQA) (California Code of Regulations: Title 14, Div. 6, Chap. 3, Appendix G). Furthermore, aquatic, wetland and riparian habitats are also afforded protection under applicable federal, state, or local regulations, and are generally subject to regulation, protection, or consideration by the U.S. Army Corps of Engineers, Regional Water Quality Control Board, CDFW, and/or the USFWS.

Waters of the U.S./State. Various habitats on the Project site possess the field characteristics used by the federal and state resource/regulatory agencies in defining their jurisdiction (i.e., waters of the U.S., under the Clean Water Act, or waters of the State, under the Porter-Cologne Water Quality Control Act). The active channel of Tunitas Creek and the intermittent stream, measured from opposing OHWMs on each bank and any adjacent wetlands, would be considered waters of the U.S. The channel of Tunitas Creek and the intermittent stream from top of bank to top of bank and any trees that contribute deadfall to the channels, would be regulated by the RWQCB. Tunitas Creek and the unnamed intermittent stream, as well as the full extent of the canopy of red alder riparian forest or central coast riparian scrub that surrounds them, would also be regulated by the the CDFW as riparian habitat under Section 1600 of State Fish and game Code. Similarly all ephemeral streams mapped on the Project site would constitute USACE, RWQCB, and CDFW jurisdiction within the limits of bank incision on these features. The coastal and valley freshwater marsh habitat would be claimed as waters of the U.S. by the USACE and waters of the State by the RWQCB. Finally, any portion of the beach habitat on or adjacent to the Project site that extends west of the high tide line would be waters of the U.S./State under Sections 404 and 401 of the Clean Water Act.

CDFW Sensitive Habitats. To identify other potentially occurring natural communities of special concern, a CNDDB (2017) search within the six USGS 7.5-minute quadrangles that contain or surround the Project site was performed. The CNDDB identified five sensitive habitats as occurring within this six-quadrangle area: Monterey pine forest, northern coastal salt marsh, northern interior cypress forest, serpentine bunchgrass, and valley needlegrass grassland. A patch of Monterey pine forest that occurs in the northern portion of the Project site is not considered a native stand and is therefore not one of the stands designated as sensitive by the CNDDB.

CDFW maintains a list of vegetation alliances and associations within the state of California (CDFG 2010). This list includes global (G) and state (S) rarity ranks for associations and alliances. Alliances and associations currently ranked as S1-S3 are considered highly imperiled. On the Project site, the Monterey pine forest alliance carries a critically imperiled G1/S1 rank, which qualifies as a sensitive alliance.

California Coastal Commission (CCC) and Local Coastal Program. The Coastal Act is intended to "protect, maintain, and, where feasible, enhance and restore the overall quality of the coastal zone environment and its natural and artificial resources." The CCC claims wetlands more broadly than the USACE, RWQCB, and CDFW, by regulating features with only one of the following characteristics: active wetland hydrology, hydric soils, and/or hydrophytic vegetation. All wetlands, riparian forest and scrub, and streams on site would be jurisdictional coastal wetlands. The Coastal Act requires preparation of a Local Coastal Program (LCP) for areas of cities and counties within the coastal zone, which must be certified by the CCC. The County's certified LCP for this area also specifically lists as sensitive riparian corridors, wetlands, marine habitats, sand dunes (coastal dunes), sea cliffs, and habitats supporting rare, endangered, and unique species, all of which occur on the Project site. All development in the coastal zone requires approval of a coastal development permit, which is administered by the City with its certified LCP. A USGS Topographic map (Figure 5) has been provided to satisfy LCP permit requirements.

Biotic Impacts and Mitigation

Overview

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

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

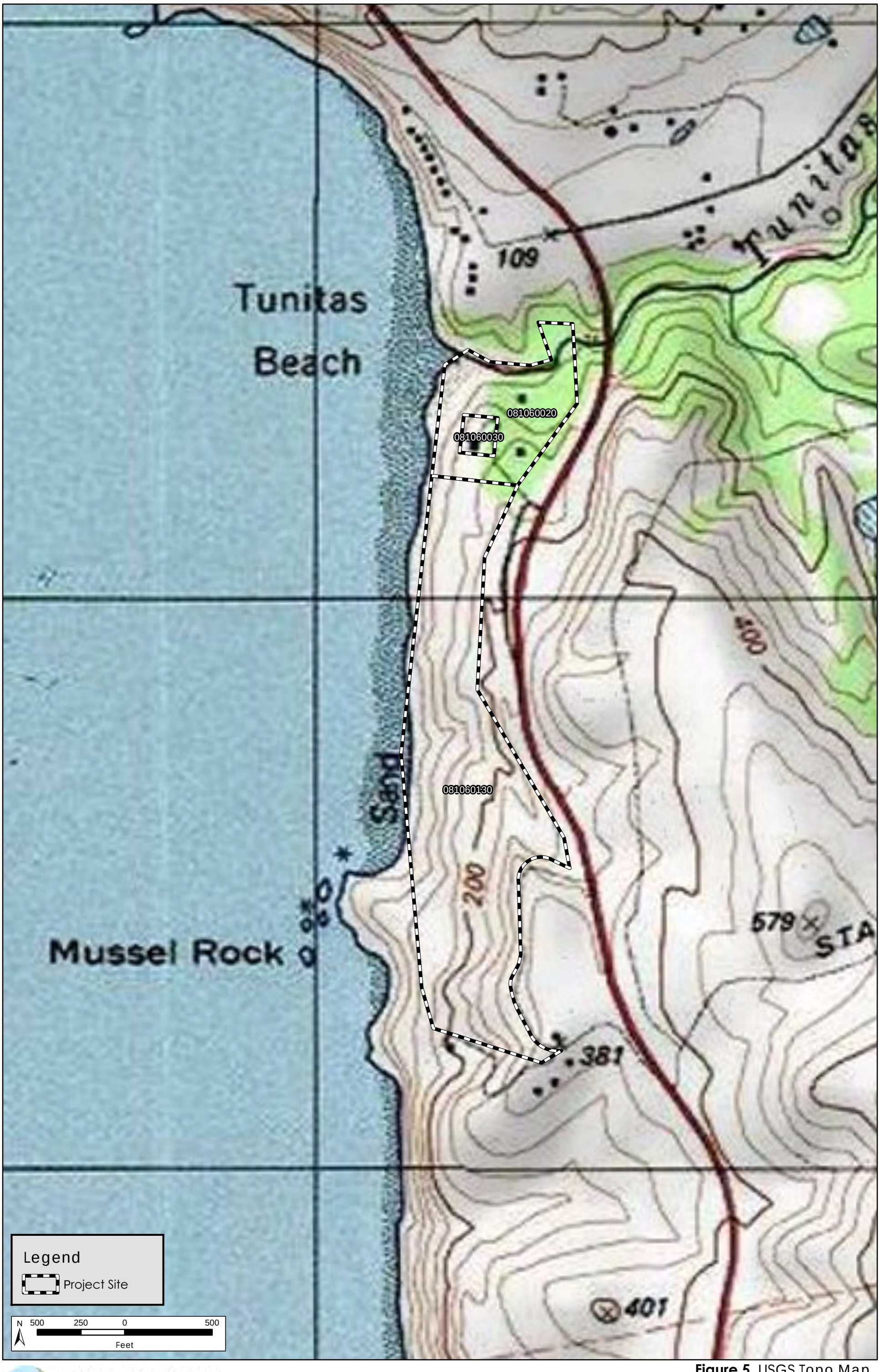

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Figure 5. USGS Topo Map
POST Cabrillo Hwy (4007-01)
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In addition to the section 15065 criteria that trigger mandatory findings of significance, Appendix G of State CEQA Guidelines provides a checklist of other potential impacts to consider when analyzing the significance of project effects. The impacts listed in Appendix G may or may not be significant, depending on the level of the impact. For biological resources, these impacts include whether the project would**:**

E. "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"
F. "have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service"
G. "have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act"
H. "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"
I. "conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance"
J. "conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan"

Impact Assessment Assumptions

As stated in the project description above, we have assumed that nighttime use of the Project site and adjacent beach will be reduced relative to current/baseline conditions due to increased patrols and enforcement under POST ownership. Daytime use of the beach is not expected to substantially change with respect to the number of human users or the types of activities that occur on the beach. However, foot traffic would be diverted from the ad hoc trail system to the purposefully designed and maintained trail system proposed by POST, which will reduce impacts on vegetation by concentrating pedestrian traffic in fewer, better maintained areas. Parking would occur primarily in existing paved areas, although it is possible that POST will expand parking areas slightly. Any construction activities (e.g., parking areas) or maintenance activities (e.g., vegetation management) would need to comply with Local Coastal Program conditions, which among other things would require setbacks between Tunitas Creek and construction and maintenance activities.

Following is a brief summary of potential Project impacts on biological resources.

Less-than-Significant Impacts

Impacts on Upland Sensitive Habitats. Though no sensitive habitats are mapped by the CNDDB as occurring on the Project site, the San Mateo LCP (Section 7.1) defines the following uplands as sensitive habitats: habitats containing rare or endangered species, coastal and offshore areas containing breeding or

nesting sites, and coastal (sand) dunes. Thus, all upland habitats on the Project site (e.g., coastal dunes, coastal terrace prairie, northern coastal scrub, coastal strand, and even landscaped) would qualify as sensitive habitats under the San Mateo LCP due to providing some habitat value for special-status species. San Mateo County aims to protect these habitats by prohibiting land use or development that would have significant or adverse effects. Prior to construction, the applicant must demonstrate the proposed project will have no significant impacts on sensitive habitats.

However, the San Mateo LCP provides specific guidance for the installation of public access in sensitive habitats (Section 10.26):

"a. Provide improvements and management practices in sensitive habitats and their buffer zones adequate to protect the resources. Include, but do not limit, improvements and management practices to the following: (1) in areas not subject to tidal action, interpretive trails posted with educational signs which minimize public intrusions and impacts, (2) brochures and educational displays at trailheads leading to areas subject to tidal action, (3) organized tours, (4) limited number of persons per visitor tour, (5) restricted number of access points which are improved and managed, and (6) limit the seasons of the year when public access is permitted.

b. Refer to the Site Specific Recommendations for Shoreline Destinations (Table 10.6) for a listing of required improvements to protect fragile resources in existing shoreline destinations.

c. Post signs on all access trails leading to unimproved or underprotected sensitive habitats to restrict public intrusion."

We assume these guidelines will be adhered to where relevant and feasible, and that the Project as proposed would meet the substance of these measures. Though organized tours are not specifically proposed, the Project will provide greater organization, limits, and structure to use of these habitats by the public than currently exists. Available parking will limit the number of visitors to the proposed Project, and in general, the site is not expected to get greater day use than existing levels, and less night use. Under the Project, impacts and access will be confined to certain areas that are improved and managed, thus minimizing the Project's footprint on sensitive habitats. There are no proposed restrictions on seasons of the year, but there will also be no anticipated increased use in any season of the year over existing conditions. Therefore, impacts to sensitive upland habitats are less than significant (although, see impacts to special status species that could occur in these habitats, including impacts to Townsend's big-eared bats, impacts to special status plants, impacts to California red-legged frog, and impacts to San Francisco garter snake, below).

Impacts on Riparian, Intermittent and Perennial Stream, and Wetland Habitats. Red alder riparian, Central Coast riparian scrub, the intermittent and perennial streams on site, and the coastal and valley freshwater marsh wetland are all considered sensitive habitats by the LCP and would be claimed by the CCC, and in some cases, USACE, RWQCB, and/or CDFW. The Project could have a direct, negative impact on wetland and riparian habitats if such habitats were subject to new trail impacts, weed control efforts, placement of parking

or other similar facilities, or degradation of water quality from nearby impacts. However, as the Project will follow applicable LCP guidelines, including observance of setbacks of 50 ft from the riparian habitat along Tunitas Creek and 30 ft from the riparian scrub associated with the unnamed intermittent stream, 100 ft from coastal and valley freshwater marsh wetlands, the Project will avoid these sensitive habitats. Additionally as per LCP requirements, no herbicides may be used in any of these habitats for weed abatement and management activities unless it has been specifically approved by the County Agricultural Commissioner. Based on conformance with applicable LCP policies to protect these habitats, impacts to riparian, intermittent and perennial streams, and wetland habitats will be less than significant.

Impacts on Selected Special-Status Animals. Several special-status animals occur, or may occur, on the Project site, and could be impacted by the Project. However, impacts to these species are considered less than significant for various reasons. Most notably, human use of the Project site is not expected to increase as a result of the Project, and thus human disturbance of these species will not increase from the Project. Potential impacts to these species, and the reasons why such impacts are considered less than significant (in addition to the lack of an increase in human activity relative to the baseline), are as follows:

- It is possible that a winter roost of monarch butterflies could occur in Monterey pine forest in the northeast part of the site. However, the Project does not propose to remove this habitat, and even in the event that removal of a small number of trees is necessary, the effects on this forest habitat are not expected to substantially change the extent of this forest nor the thermal conditions or protection from wind offered by this stand of trees. Furthermore, any disturbance of roosting monarchs by humans is not expected to exceed baseline levels.

- Central California Coast steelhead, and possibly Central California Coast coho salmon, occur in Tunitas Creek on the Project site. As discussed under *Impacts on Sensitive Habitats* above, the Project will not impact Tunitas Creek, and Project activities will be removed from the creek far enough to avoid any indirect impacts (e.g., to water quality). Furthermore, any disturbance of anadromous fish by humans is not expected to exceed baseline levels.

- The California giant salamander and western pond turtle are expected to occur on the site primarily along or near Tunitas Creek, which will not be impacted as discussed under *Impacts on Sensitive Habitats* above. These species, and the Santa Cruz black salamander, may occur in upland portions of the Project site as well, and there is some potential for injury or mortality of these species due to vehicular and pedestrian activity on the site. However, such impacts are likely to be similar to existing, baseline levels. Also, the number of individuals that could potentially be impacted would represent a very small proportion of these species' regional populations, and thus such impacts do not meet the CEQA standard of having a *substantial* adverse effect.

- Western snowy plovers nesting, roosting, or foraging on the beach or in the sandier portions of the dunes on the Project site would be far removed from any trail construction or other Project activities,

and the coastal bluffs would block any construction activities from the view of plovers on the beach. Human activity on the beach could disturb snowy plovers, but such disturbance would not exceed baseline levels, and nighttime disturbance will decline as a result of the Project.

- A few pairs of San Francisco common yellowthroats may nest along Tunitas Creek or in coastal scrub on the site. Trail construction or other Project activities has the potential to reduce habitat for this species (e.g., in coastal scrub), directly impact active nests, and indirectly disturb nesting birds, possibly to the point of nest abandonment. However, the number of pairs of yellowthroats that could potentially be disturbed would represent a very small proportion of this species' regional populations, and thus such impacts do not meet the CEQA standard of having a *substantial* adverse effect. Furthermore, by establishing dedicated trails, the Project would reduce disturbance of yellowthroats that may occur from the current informal trail system that humans use to access the beach. However, see *Regulatory Overview for Nesting Birds* below for recommendations regarding impacts to nesting birds.

- If pallid bats occur on the site at all, they are expected to do so as occasional visitors. There was no evidence that this species roosts regularly or in large numbers on the Project site. Demolition or modification of on-site structures could result in injury, mortality, or disturbance of any pallid bats that are using the structures. However, this species is unlikely to be present when such activities occur, and the number of individuals that could potentially be impacted would represent a very small proportion of this species' regional populations. Thus, such impacts do not meet the CEQA standard of having a *substantial* adverse effect.

- Eleven San Francisco dusky-footed woodrat nests were observed within the Project site during the biotic resources survey. If planned trails are planned in the area where woodrat nests are located, the nests could be subject to disturbance or destruction. Thus, Project implementation may result in the injury or mortality of dusky-footed woodrats as a result of clearing and grading, Project vehicle traffic, equipment use, or worker foot traffic, particularly if disturbance occurs when woodrats are taking refuge in their stick nests. Further, indirect impacts could occur due to over-crowding (resulting from individuals in disturbed habitat moving to areas that are already occupied) and increased risk of predation. However, this species is abundant in suitable habitat, and the number of individual woodrats that could potentially be disturbed would represent a very small proportion of this species' regional populations. Thus, such impacts do not meet the CEQA standard of having a *substantial* adverse effect.

Impacts that are Less-than-Significant with Mitigation

Impacts on Significant Trees, and Trees within Monterey Pine Forest. The San Mateo County Ordinance Code includes a Significant Tree Ordinance of San Mateo (Chapter 3, Section 12.020), which addresses the removal and trimming of "significant trees", defined as any woody plant greater than 38 inches circumference at 4.5 ft above grade. Removal of any significant tree requires a Tree Cutting Permit from the San Mateo County

Planning Division payment of a fee as set by resolution of the Board of Supervisors, and approval of San Mateo County. Though the proposed Project may involve the installation of a trail among significant trees, such trees would likely not require removal. If the Project were to remove a significant tree without obtaining a permit from the County, this would conflict with local ordinances and would be considered a significant impact. With the following measures below, expected minor impacts to significant trees and Monterey pine forest will be less than significant.

Mitigation Measure 1a. Avoid Tree Removal. Avoid and minimize tree removal to the extent possible, especially within the Monterey pine forest that may provide habitat for winter roosting monarch butterflies.

Mitigation Measure 1b. Obtain Tree Cutting Permit if a Significant Tree will be Removed. If significant trees are to be removed, the applicant will procure a Tree Cutting Permit from the County and comply with all applicable provisions.

Impacts on Special-Status Plants. As described above, coastal marsh milk-vetch has been recorded on some portions of the Project site, as it has been mapped by the CNDDB in multiple locations. The Project site may also be suitable for an additional 23 special-status plant species. The San Mateo LCP (Section 7.34) requires that any development on or within 50 feet of any rare plant population must be avoided and minimized. When no feasible alternative exists, development can be permitted if the site or a significant portion thereof is returned to a natural state to allow for the reestablishment of the plant.

Impacts to coastal marsh milk-vetch would be considered significant if the known occurrences were directly impacted by trail construction, thus reducing the number of individuals and/or occupied area, therefore jeopardizing the continued persistence of the occurrence. Similarly, if currently unknown special-status plants occurring on site were directly impacted, this could be significant under CEQA. In general, several of the other 23 special-status plant species that could occur on the site are very rare and/or limited to very specific coastal habitat types and microhabitats, and impacts that could endanger these populations could be significant. Some of the special-status plants are ranked CRPR 3 or 4, and these plants are only of a limited distribution, so with careful planning to minimize impacts, some limited direct Project impacts to Rank 3 or 4 plants could occur without reaching the level of a substantial, adverse impact to these species or their persistence. However, with the incorporation of measures to avoid previously mapped coastal marsh milk-vetch occurrences and any unknown rare plant occurrences during the trail construction process, and to minimize impacts to less-rare Rank 3 or 4 plants, such impacts would be less than significant. Implementation of the following measures would reduce impacts on special-status plant species to a less-than-significant level and ensure that the Project complies with the San Mateo LCP's policies on rare plants.

Mitigation Measure 2a: Avoid CNDDB-mapped Coastal Marsh Milk-vetch Occurrences. The Project proponent will design all aspects of the Project to be at least 50 ft away from each mapped occurrence of coastal marsh milk-vetch.

Mitigation Measure 2b: Conduct Pre-Construction Rare Plant Surveys. A series of pre-construction rare plant surveys, targeting the 24 plants that have the potential to inhabit the Project site, will be conducted at several times during the growing season to account for both early and late-blooming species. This will be conducted by a qualified biologist walking the proposed alignment and a 50-ft buffer to allow for assessment of required avoidance setbacks from any rare plant occurrences.

Mitigation Measure 2c. Avoid Other Rank 1 and 2 Rare Plant Occurrences and Minimize Impacts to Rank 3 and 4 Rare Plants. The Project proponent will design all aspects of the Project to be at least 50 ft away from each CRPR 1 or 2 rare plant occurrence detected during pre-construction surveys. If full avoidance of CRPR 3 or 4 plants is found to be infeasible, the population or a significant portion thereof (no less than 90% by individuals or occupied area) will be returned to and managed in a natural state following Project activities.

Impacts on Ephemeral Streams. The Project site contains one ephemeral stream that bisects the site. If a trail system is desired that allows access from the southern portion pf the Project site to the northern portion, this stream will have to have a trail crossing. A trail crossing could impact the stream by contributing to bank instability and affect sedimentation within the channel and water quality downstream of the crossing. Even still, compared to the existing condition of the site (where several trails cross or utilize the existing ephemeral streams on site), with applicable avoidance and minimization measures, and incorporation of the mitigation measures outlined below, overall foot traffic impacts to streams is expected to be reduced, and would be less than significant.

Mitigation Measure 3a: Minimization of Stream Crossings. The Project will be designed to minimize the use of existing ephemeral streams as trails, by using signage to dissuade foot traffic from using these areas. Any planned stream crossing will only occur where it is required to traverse the site, and if possible an existing crossing location will be used.

Mitigation Measure 3b. Design and Construct a Low-Impact Stream Crossing. The Project will design and construct a low impact stream crossing, if necessary for the proposed trail system, that would elevate foot traffic onto a wooden walkway or similar to avoid impacts to the streambed and banks. The crossing would be designed to accommodate high flows and would be monitored regularly by the proponent to remove any collected materials from the crossing area to prevent any unwanted check dam effects. Footings will be sited fully outside of top-of-bank for the stream, and pressure treated wood shall not be allowed. This will prevent impacts to the banks or degradation of water quality within the aquatic habitat, and is a strategy consistent with the LCP wetland policies.

Impacts on the Townsend's Big-eared Bat. The Townsend's big-eared bat was confirmed to be present in the abandoned residence. The sex of these bats could not be determined, and based on the timing of this finding (mid-March), it is unclear if these bats represent a winter colony or a maternity colony. The demolition or modification of the residence could result in injury or mortality of Townsend's big-eared bats, and any other

Project activities involving this building could result in disturbance of these bats, possibly to the point of abandonment of young or abandonment of the roost site. Removal or modification of the building currently being used as a roost site could also result in the loss of this roost. Because nonbreeding roost sites are unlikely to limit this species' abundance and distribution to the extent that breeding roosts do, the loss of a nonbreeding roost would be less than significant. However, given the rarity of this species regionally, injury or mortality of Townsend's big-eared bats as a result of the Project, or the loss of a maternity roost site, would be potentially significant. Implementation of the following mitigation measures would reduce impacts to this species to less than significant levels.

Mitigation Measure 4a: Determine the Status of the Roosting Bats. Prior to demolition, a qualified biologist will conduct an additional survey during the summer maternity season (ideally June) to determine whether the abandoned residence supports a Townsend's big-eared bat maternity colony or whether the site is only used by wintering bats or by males.

Mitigation Measure 4b: Avoid Impacts to the Roost. If demolition or modification of the building used as a roost can be avoided, so that bats are able to continue using the roost site, no further measures are necessary.

Mitigation Measure 4c: Avoid Direct Impacts to Roosting Bats. Prior to building demolition or modification, a qualified biologist will conduct a focused survey for bats within any structures to be demolished. If any bats are found, but they do not represent an active maternity roost, they shall be excluded from the building through installation of one-way doors, closure of potential entry points, or use of acoustic deterrents. Alternatively, opening up the structure (i.e., removal of boards from windows and doors) will increase wind flow through the structure and may also deter bats from roosting. A qualified bat biologist will consult on the methods used to exclude bats.

If a maternity colony is present, then no demolition or modification of the roost site, nor of any areas within 100 feet of the roost site and any points of ingress or egress, will occur during the period April 1 to August 31 (or until young are demonstrated to be flying well). After August 31 (or after the young are flying), then bat exclusion can proceed. No exclusion will occur during rainy or cold conditions.

Mitigation Measure 4d: Provide a Replacement Roost Structure. If a Townsend's big-eared bat maternity colony is confirmed in the abandoned residence, and demolition or modification (to the point that bats no longer use the building) of this structure cannot be avoided, replacement maternity roost habitat will be provided on the site. Note that bat boxes and bat condominiums do not provide suitable replacement habitat for Townsend's big-eared bats. Rather, larger, more cavernous bat structures are required to replace maternity roost habitat for this species. The replacement roost structure will be designed and sited in consultation with a qualified bat biologist. The structure will be monitored for a period of 3 years to determine whether it is occupied. Success of the habitat replacement will be achieved if the roost structure is determined by a qualified bat biologist to provide similar thermal and light conditions to those that exist in the abandoned residence that is currently being used as a roost site.

Impacts on the California Red-legged Frog and San Francisco Garter Snake. California red-legged frogs and San Francisco garter snakes are expected to occur within the Project area primarily along Tunitas Creek. As discussed under *Impacts on Sensitive Habitats* above, the Project will not impact Tunitas Creek, and Project activities will be removed from the creek far enough to avoid any indirect impacts to these species' aquatic habitats (e.g., to water quality). Furthermore, any disturbance of these species by humans is not expected to exceed baseline levels. However, individuals of these species could occasionally occur in upland areas (i.e., away from Tunitas Creek). Construction activities associated with trail development would result in minor impacts on upland habitat, although such impacts would be countered by the benefits of habitat regeneration when the current informal trail system is no longer in use. As a result, no net loss of habitat for these species is expected to occur.

However, there is some potential for injury or mortality of individual California red-legged frogs and San Francisco garter snakes during trail construction or other demolition or construction activities on the site (e.g., demolition or repurposing of existing buildings). Given the low sizes of these species' regional populations, such impacts would be potentially significant. Implementation of the following mitigation measures would reduce impacts to this species to less than significant levels.

Mitigation Measure 4a: California Red-legged Frog/San Francisco Garter Snake Protection Measures.

- A qualified biologist will be on-site during all construction or demolition activities that may result in take of the California red-legged frog or San Francisco garter snake.

- No more than 24 hours prior to initial ground disturbance, a pre-activity survey for the California red-legged frog and San Francisco garter snake will be conducted by the qualified biologist. The survey will consist of walking the Project limits to ascertain the possible presence of the species. The biologist will investigate all potential areas that could be used by the California red-legged frog or San Francisco garter snake. If any individuals are found, the biologist will contact the USFWS and CDFW to determine if moving any of the individuals is appropriate. If these agencies approve moving animals, the biologist and agencies will identify a suitable relocation site. Otherwise, the animals will be allowed to move out of the Project area on their own.

- The qualified biologist will conduct employee education training for employees working on construction or demolition activities. Personnel will be required to attend the presentation which will describe the California red-legged-frog and San Francisco garter snake, avoidance, minimization, and conservation measures, legal protection of these species, and other related issues.

- Ground-disturbing activities will be avoided between November 1 and March 31 because that is the time period when California red-legged frogs are most likely to be moving through upland areas.

- If a California red-legged frog or San Francisco garter snake is encountered in the Project area, all activities which have the potential to result in the harassment, injury, or death of the individual will be immediately halted. The qualified biologist will then assess the situation in order to select a course of action that will avoid or minimize adverse impacts to the animal. To the maximum extent possible, contact with the frog or snake will be avoided, and the individual will be allowed to move out of the potentially hazardous situation to a secure location on its own volition. If the individual will not move out of the impact area on its own, the biologist will contact the USFWS and CDFW to determine if moving the individual is appropriate. If these agencies approve moving animals, the biologist and agencies will identify a suitable relocation site.

- For on-site storage of pipes, conduits and other materials that could provide shelter for California red-legged frogs or San Francisco garter snakes, an open-top trailer will be used to elevate the materials above ground. This is intended to reduce the potential for animals to climb into the conduits and other materials.

- To the maximum extent practicable, no Project construction or demolition activities will occur during rain events or within 24 hours following a rain event. Prior to Project activities resuming, a qualified biologist will inspect the Project area and all equipment/materials for the presence of California red-legged frogs or San Francisco garter snakes. The animals will be allowed to move away from the Project site of their own volition or moved by the biologist, if approved by the USFWS and CDFW.

- Night-time Project activities will be minimized or avoided by the County.

- Plastic monofilament netting (erosion control matting), loosely woven netting, or similar material in any form will not be used at the Project site because California red-legged frogs can become entangled and trapped in them. Any such material found on site will be immediately removed by the USFWS-approved biologist, Project personnel, or County contractors. Materials utilizing fixed weaves (strands cannot move), polypropylene, polymer or other synthetic materials will not be used.

Compliance with Additional Laws and Regulations Applicable to Biotic Resources of the Project Site

Regulatory Overview for Nesting Birds

Impacts on Nesting Birds. Construction disturbance during the breeding season (February 1 through August 31, for most species) could result in the incidental loss of eggs or nestlings, either directly through the destruction or disturbance of active nests or indirectly by causing the abandonment of nests. This type of impact would not be significant under CEQA for the species that could potentially nest in or near construction areas on the Project site due to the local and regional abundances of these species and/or the low magnitude of the

potential impact of the Project on these species. However, such an impact would be considered a violation of the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code. Implementation of the following measures will ensure that Project activities do not violate the MBTA and California Fish and Game Code:

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

Measure B. Preconstruction Surveys. If it is not possible to schedule construction activities between September 1 and January 31, then preconstruction surveys for nesting birds should be conducted by a qualified ornithologist to ensure that no nests will be disturbed during Project implementation. We recommend that these surveys be conducted no more than seven days prior to the initiation of construction activities. During this survey, the ornithologist will inspect all trees and other potential nesting habitats (e.g., trees, shrubs, ruderal grasslands, buildings) in and immediately adjacent to the impact areas for nests. If an active nest is found sufficiently close to work areas to be disturbed by these activities, the ornithologist will determine the extent of a construction-free buffer zone to be established around the nest (typically 300 ft for raptors and 100 ft for other species), to ensure that no nests of species protected by the MBTA and California Fish and Game Code will be disturbed during Project implementation.

Measure C. Inhibition of Nesting. If construction activities will not be initiated until after the start of the nesting season, we recommend that all potential nesting substrates (e.g., bushes, trees, grasses, and other vegetation) that are scheduled to be removed by the Project be removed prior to the start of the nesting season (e.g., prior to February 1). This will preclude the initiation of nests in this vegetation, and reduce the potential for the presence of an active nest to delay Project construction.

If you have any questions regarding the results of our surveys please feel free to contact me by email at khardwicke@harveyecology.com or by phone at 408.458.3236.

Sincerely,

Kelly Hardwicke, Ph.D.
Senior Plant Ecologist, Division Head

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County of San Mateo - Planning and Building Department

ATTACHMENT F

GEOTECHNICAL INVESTIGATION AND GEOLOGIC FEASIBILITY STUDY

POST TRAIL AND RANGER STATION

CABRILLO HIGHWAY (APNS: 081-060-020 & 030)

HALF MOON BAY, CALIFORNIA 94019

Prepared for

PENINSULA OPEN SPACE TRUST

222 High Street

Palo Alto, California 94301

March 2017

Project No. 3957-1

March 17, 2017
3957-1

Peninsula Open Space Trust
222 High Street
Palo Alto, California 94301

RE: GEOTECHNICAL INVESTIGATION AND GEOLOGIC FEASIBILITY STUDY
POST TRAIL & RANGER STATION
(APNs: 081-060-020, 030)
CABRILLO HIGHWAY
HALF MOOM BAY, CALIFORNIA

Attention: Mr. Taylor Jang

Gentlemen:

In accordance with your request, we have performed a geotechnical investigation and geologic feasibility study for the proposed ranger station and trail improvements to be constructed on your unincorporated San Mateo County property (APNs: 081-060-020 and 081-060-030) located along the west side of Cabrillo Highway and south of Tunitas Creek Road and Half Moon Bay, California. The accompanying report summarizes the results of our geologic reconnaissance, field exploration, laboratory testing, and engineering analysis, and presents our geotechnical recommendations for the proposed improvements.

We refer you to the text of our report for specific recommendations.

Thank you for the opportunity to work with you on this project. If you have any questions or comments about the findings or recommendations from our investigation, please call.

Very truly yours,

ROMIG ENGINEERS, INC.

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GEOTECHNICAL INVESTIGATION AND GEOLOGIC FEASIBILITY STUDY POST TRAIL & RANGER STATION (APNs: 081-060-020 & 030) CABRILLO HIGHWAY HALF MOON BAY, CALIFORNIA 94019

PREPARED FOR:
PENINSULA OPEN SPACE TRUST
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MARCH 2017

ROMIG ENGINEERS

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GEOTECHNICAL INVESTIGATION
AND
GEOLOGIC FEASIBILITY STUDY
POST TRAIL & RANGER STATION IMPROVEMENTS
(APNs: 081-060-020 and 081-060-030)
CABRILLO HIGHWAY
HALF MOON BAY, CALIFORNIA

INTRODUCTION

This report presents the results of our geotechnical and geologic feasibility investigation for the proposed ranger station and trail improvements to be constructed on your property (APNs: 081-060-020 and 081-060-030) located along the west side of Cabrillo Highway, south of Tunitas Creek Road and Half Moon Bay, in an unincorporated area of San Mateo County, California. The approximate location of the site is shown on the Vicinity Map, Figure 1. The purpose of this investigation was to evaluate the subsurface conditions at the site, address potential geologic hazards, and to provide geotechnical recommendations for the proposed site improvements.

Our feasibility study focused on the following elements:

- Geologic hazards which could impact the existing vacant ranger station (a primary consideration).
- Identifying a geologically suitable location for the proposed road/path down to the beach (a primary consideration).
- Occurrence of an active landslide located immediately south of Tunitas Creek (northeast of the existing ranger station) (a secondary consideration).
- General condition of the slopes south of the existing vacant residence (a secondary consideration).

Project Description

We understand that the project consists of renovating the existing fire-damaged building (appeared to be a former residence) at the northern portion of the site (within APN 081-060-030) into a ranger station, and constructing a trail and/or stairway to access the beach west of the property.

Based on our discussion with you, our study was limited to the northern one-quarter of the property (from south of Tunitas Creek to about 400 feet south of the existing vacant structure). As part of our study, we have evaluated a location for a geologically feasible trail.

Scope of Work

Our scope of work for this investigation was presented in our agreement with Peninsula Open Space Trust (POST), dated October 12, 2016. In order to complete our investigation, we performed the following work.

- Review of readily available geologic and geotechnical literature pertinent to the general area of the site.
- Subsurface exploration consisting of drilling, sampling, and logging of two exploratory borings near the ranger station.
- Geologic reconnaissance and field mapping by our certified engineering geologist and geotechnical engineering/geology staff.
- Review and interpretation of stereo-pair aerial photographs and of LIDAR imagery associated with Google Earth.
- Laboratory testing of selected samples to aid in soil classification and to help evaluate the engineering properties of the soil and rock encountered at the site.
- Engineering analysis and evaluation of the exploration and laboratory data to develop geotechnical design criteria for the project.
- Preparation of this report presenting our findings and geotechnical and geologic recommendations for the proposed site improvements.

Limitations

This report has been prepared for the exclusive use of Peninsula Open Space Trust for specific application to developing geotechnical design criteria for the proposed improvements on your property (APNs: 081-060-020 and 081-060-030) located along the west side of Cabrillo Highway (California Highway 1) and south of Tunitas Creek Road in the Half Moon Bay vicinity, an unincorporated area of San Mateo County, California. We make no warranty, expressed or implied, for the services we performed for this project. Our services are performed in accordance with geotechnical engineering principles generally accepted at this time and location.

This report was prepared to provide engineering opinions and recommendations only. In the event there are any changes in the nature, design, or location of the project, or if any future improvements are planned, the conclusions and recommendations presented in this report should not be considered valid unless 1) the project changes are reviewed by us, and 2) the conclusions and recommendations presented in this report are modified or verified in writing.

The analysis, conclusions, and recommendations presented in this report are based on site conditions as they existed at the time of our investigation; the currently planned construction; review of previous reports and literature relevant to the site conditions; and laboratory test results. In addition, it should be recognized that certain limitations are inherent in the evaluation of subsurface conditions, and that certain conditions may not be detected during an investigation of this type. Changes in the information or data gained from any of these sources could result in changes in our conclusions or recommendations. If such changes occur, we should be advised so that we can review our report in light of those changes.

PREVIOUS INVESTIGATIONS

Bay Area Geotechnical Group (BAGG) conducted a geotechnical consultation in 1997 and geologic reconnaissance in 1998. Subsurface investigation (e.g. borings or test pits) was not conducted. BAGG noted that the existing building was constructed in 1959 and that the house had not subsequently experienced any damage due to settlement or landsliding (our current investigation has resulted in similar observations of the residence). However, BAGG noted that the area around the residence had experienced substantial landsliding, slumping, and soil creep.

BAGG revisited the site on February 13 and 18, 1998 following an occurrence of landsliding northeast of the primary residence in an area occupied by several cottages. BAGG interpreted aerial photographs from 1963 and 1974, which indicated that the landslide had previously been active in the hillside area of the property between the cottages and Tunitas Creek. The 1998 BAGG site visit indicated that the landslide had extended laterally up to Highway 1 on the east and further south to incorporate the cottages, with a 10 to 15 foot high scarp laterally extending several hundred feet. The condition of the existing vacant residence was essentially unchanged form BAGG's previous site visit. BAGG observed that the coastal bluff south of the residence was underlain by landslides.

The BAGG reports provide additional background information which essentially conforms with our current observations.

SITE RECONNAISSANCE AND EXPLORATION

The subsurface exploration was performed under the supervision of staff geologist, Lauren Froberg, on January 31, 2017, using portable Minuteman drilling and sampling equipment. Two exploratory borings were advanced to depths of 11.9 and 18 feet below the ground surface at the locations shown on the Engineering Geologic Reconnaissance Map, Figure 2. The boring logs and the results of our laboratory tests are attached in Appendices A and B, respectively.

Site reconnaissance to evaluate the existing site surface features and general geologic conditions, including slope stability, were also performed on January 31, 2017. The reconnaissance was performed by Ms. Froberg and Consulting Engineering Geologist David F. Hoexter, CEG, accompanied by Thomas Harris, POST Land Transaction Coordinator. The results of the site reconnaissance are indicated on Figure 2**.**

General Site Surface Conditions

The site is located in a rural area along the coast south of the community of Half Moon Bay, and located along Cabrillo Highway (California Highway 1), immediately south of Tunitas Creek. The site is approximately bound by the Pacific Ocean on the west, Tunitas Creek on the north, Cabrillo Highway on the east; and a continuation of the bluffs to the south.

The overall nearby site vicinity consists of a locally relatively flat to sloping surface which descends from a ridge on the east down to the Pacific Ocean beach on the west. Slope inclinations within the property are highly variable, generally descending down to the west at inclinations of 1.5:1 to 4:1 (horizontal:vertical), with local flat-lying to near-vertical intervals. The average slope down to the beach from the existing residence is approximately 2.3:1 (horizontal:vertical), and the average slope through the residence from Highway 1 down to the beach is approximately 4.6:1 (horizontal:vertical). The existing vacant residence is located at elevations of ranging from about 80 to 95 feet above sea level, with maximum site elevation approximately 160 feet (refer to Figures 1 and 2).

The site is located along the narrow coastal plain adjacent to the Pacific Ocean on the west, and the ascending Santa Cruz Mountains, to the east. It is within the coastal bluff, which descends down towards the Pacific Ocean. The bluff crest is irregular, and its inclined face is incised with erosion channels and irregular escarpments. The bluff face is both eroding and impacted by landsliding (see subsequent discussion). Tunitas Creek has cut through the bluff at the north end of the property. The site is vegetated with native grass, small to large shrubs, and small to large trees.

An asphalt concrete driveway provides access to the fire damaged residence from Cabrillo Highway. The structure is currently vacant and is of split-level design with wood siding exterior. Concrete walkways, patios, and landscaping surround much of the residence. A raised wood deck was located on the west (downslope) side of the residence overlooking the ocean.

An overgrown path originates from the 180-degree access driveway turn/apex north of the existing residence, extends northward and then turns west and southward, descending to the beach. The path is present in 1943 air photos. We were not able to access the path except at the toe of the bluff. This is the location of potential beach access, and is discussed subsequently in this report.

The Ocean Shore Railroad, constructed in the first decade of the 20th century, extended south from San Francisco and was originally intended to terminate in Santa Cruz, but was heavily damaged during the 1906 Earthquake and apparently never operated south of Tunitas Creek. However, the right of way appears to have been constructed across the site between the adjacent highway and beach, at the approximate location of the existing vacant residence and continuing southward. A proposed route transecting the site is shown on the 1894 Official Map of San Mateo County, and the mapped route on the 1940 USGS Half Moon Bay 15' Quadrangle. There are currently no definitive visible indications of the railroad grade, although it reportedly passed immediately upslope of the residence, and the San Mateo County assessor's map indicates a railroad parcel immediately south of the residence.

Existing Vacant Structure Condition

The existing vacant residence was reportedly constructed in approximately 1959 (based on our air photo interpretation, between 1956 and 1960). It has been damaged by a fire and is currently unoccupied. Vertical and horizontal cracks up to 1/8-inch wide were observed in the exterior stem wall along the southwest side of the residence near the concrete patio. The raised wood deck appeared to be supported on shallow spread footings. Based on the appearance of the isolated footings inside the crawl space, the residence also appeared to be supported on conventional shallow foundation system. We also noted that a portion of the perimeter foundations along the downslope side of the residence was undermined due to near-surface soil creeping and/or erosion. Roof drain downspouts generally discharged adjacent to the perimeter foundations. A detailed evaluation of the structure was not within our scope of investigation. However, we walked within both levels of the structure, and did not notice any obvious indications of significant distress, differential settlement or lateral movement. A liquid manometer or other method of measuring the floor levels would be required to confirm this observation.

In addition, although the interior walls were in poor condition, we did not observe indications of stress (such as cracking over door and window openings) which typically would indicate differential movement of the structure.

Subsurface Conditions

At the location of our Boring EB-1, located west (downslope) of the residence, we generally encountered approximately 6 feet of stiff sandy elastic silt of moderate to high plasticity underlain by severely weathered claystone and siltstone bedrock of the Purisima Formation Lobitos Mudstone Member extending to the maximum depth explored of approximately 11.9 feet.

In Boring EB-2, located east (on the upslope side of the residence), we encountered about 2 feet of stiff sandy elastic silt of moderate to high plasticity underlain by severely weathered claystone and siltstone bedrock of the Purisima Formation Lobitos Mudstone Member extending to the maximum depth explored of approximately 18 feet.

A Liquid Limit of 52 and a Plasticity Index of 22 were measured on a near surface sample of soil obtained from Boring EB-1. These test results indicate that the native near-surface soil at the site has moderate to high plasticity and a moderate to high potential for expansion.

Ground Water

Ground water was not encountered in our borings during or immediately following drilling. The borings were backfilled with grout immediately after drilling and sampling were completed; therefore, a stabilized ground water level was not obtained. Please be cautioned that fluctuations in the level of ground water can occur due to variations in rainfall, landscaping, underground drainage patterns, and other factors. It is also possible that perched ground water conditions could develop in the soils and near the surface of the bedrock during and after significant rainfall or due to landscape watering at the property.

GEOLOGIC SETTING

Regional Geology

The site is located near the San Francisco Bay Region, within the California Coast Range geomorphic province. The site is located west of the Santa Cruz Mountains on a narrow coastal plain along the Pacific Coast.

The site and vicinity are shown on several published geologic maps, including Brabb and Pampeyan (1972a and 1972b); Leighton & Associates (1976); Brabb (1980); Brabb, Graymer, and Jones (1998); and Brabb, Graymer, and Jones (2000). The maps indicate that the site is underlain by the Purisima Formation Pliocene age Lobitos Mudstone Member (Tpl), which is comprised primarily of "unbedded", silty mudstone and exhibits a maximum thickness of 140 meters. The maps indicate that the axis of a northwest-southeast trending syncline underlies the site, and thus that bedding, if present, is essentially flat-lying at the location of the existing residence. The geologic map by Brabb and Pampeyan (1972b) indicates that the site is located within a probable landslide which extends from Tunitas Creek south along the bluffs, and upslope to the east of Highway 1 to the crest of the adjacent ridge.

The site is located within the San Gregorio 7.5-Minute Quadrangle, but is not located within an Alquiet-Priolo California Earthquake Fault Zone (formally Special Studies Zone) (there is no map for the San Gregorio Quadrangle). However, the San Gregorio Fault Zone, commonly considered to be Holocene-active, lies approximately 0.5 to 1 mile southwest of the site. There is also no California Seismic Hazards Zones Map for the San Gregorio Quadrangle.

Engineering Geologic Reconnaissance and Site Geology

The engineering geologic reconnaissance was conducted on January 31, 2017. Significant features on the subject site and in the immediate vicinity are shown on Figure 2 and on Figure 5, Cross Section A-A'. Our reconnaissance consisted of traversing the site vertically and laterally where accessible by foot, including the subject property, adjacent properties, and walking along Tunitas Beach, Tunitas Creek, and Cabrillo Highway.

In general, the site is located in an area underlain by Purisima Formation Lobitos Mudstone member, as previously noted. We observed bedrock outcrops along the ocean bluff at various elevations above the beach along the entire distance from Tunitas Creek south for the 0.3-mile distance we traversed (with similar conditions appearing to continue at least an additional 0.2-miles south to Mussel Rock), and our Borings EB-1 and EB-2 confirm the presence of relatively shallow Lobitos Mudstone bedrock beneath the site. Where exposed, the mudstone is intensely fractured, with no apparent preferred fracture orientations.

The ground surface is commonly underlain by residual soil (weathered bedrock) and colluvium. These soils range from 2 feet (upslope) to 6 feet (downslope) thick in the residence vicinity, although they may be thicker at other locations. Artificial fill and localized cuts were noted around the existing vacant residence (not mapped in detail on Figure 2). Fill also underlies the downslope (western) side of Highway 1 adjacent to the site. There are no indications of large-scale grading within the existing residence immediate vicinity, although some grading for the former railroad grade likely occurred immediately upslope and to the south of the residence.

Landslides of varying age, extent and nature, identified by scarps and hummocky topography, underlie much of the site. The landslides are discussed in a following subsection of this report.

There were no surface indications of springs or creeks, with the exception of the through-flowing Tunitas Creek along the northern property line. However, we observed the growth of pampas grass along the sloping bluff, on indication of the presence of at least locally-occurring relatively shallow ground water. In addition, the site's previous potable water source is reportedly a spring located near the Highway 1 overcrossing of Tunitas Creek. We were not able to access this location at the time of our reconnaissance.

There are no surface indications of faulting within or projecting towards the property.

Landslides

As noted, the site is underlain by siltstone and claystone bedrock of the Purisima Formation Lobitos Mudstone Member, which underlies much of the site vicinity. Published geologic maps, particularly Brabb and Pampeyan (1972b) indicate the presence of a landslide headscarp upslope east of Highway 1 and probable and questionable landslides respectively underlying the site and coastal bluffs to the south. Our air photo interpretation and reconnaissance confirm the Brabb and Pampeyan interpretation of the presence of likely landslides underlying the existing vacant residence and balance of the site. However, there are no indications of active landslide movement below or along the bluff face or in the immediate residence vicinity and thus landsliding at this location currently appears to be dormant.

The area northeast of the residence is an active landslide dating prior to at least 1943 (Location B on Figure 2). This slide reportedly impacted the adjacent Highway 1 in the 1950s, resulting in relocation of the highway to the east and construction of the current Tunitas Creek bridge. The slide reactivated during the winter of 1997-98, expanding laterally to the east and south. The slide is a complex rotational block glide feature, on the order of 500 feet wide along the toe on the north along Tunitas Creek and 400 to 600 feet long perpendicular to the creek. The head scarp on the south and east appears to be currently stable (no indications of further upslope migration), but is near-vertical on the order of 20 feet high and has the potential to recede further to the south. Several cottages located within the slide have been damaged or destroyed, as well (reportedly) as a water tank and associated piping. Detailed mapping or evaluation of this landslide was not within our scope of services, and there are no indications that it will directly impact the propose improvements.

There are no indications of landsliding at or immediately surrounding the existing vacant residence. One feature of note is a "peninsula" or short ridge located east (upslope) of the residence near a vacant cottage, marked by an approximately 6 foot deep topographic swale on the east (Location C on Figure 2). This feature does not appear to be cultural (e.g. a former road or excavation, although a rough-graded road appears to pass through this location on some of the early air photos) and drains toward the north to the active adjacent landslide. It is conceivable that this swale is an old landslide head scarp graben, although it is not laterally extensive to the south and is not evident on earlier air photos.

The slope east of Highway 1 (Location D on Figure 2) appears to be underlain by the remnants of older landsliding, with a prominent scarp near the ridge crest. Movement appears to be dormant at this location, as evidenced by the lack of lateral movement along the Highway 1 crossing of the toe of this feature, and lateral continuity of concrete drainage ditches constructed along the slope face. Movement appears to have been relatively shallow, without definitive indication that it extends under the highway or laterally to the beach on the west. However, detailed evaluation was beyond the scope of this investigation.

A relatively shallow bowl-shaped dormant landslide is located along the bluff northwest of the existing residence. There is a potential for renewed movement within this feature, which is crossed by the existing path down to the beach. Based on our air photo interpretation, there has been no movement within the slide since the existing path was constructed, prior to 1943. This slide is indicative of possible future shallow landsliding which could occur along the face of the bluff. This slide itself, however, is laterally removed from the existing vacant residence and thus renewed movement will not likely impact the residence.

The bluffs to the south of the residence are underlain by multiple landslides likely caused by ocean wave erosion of the toe of the slopes removing support from the intensely fractured and thus weak mudstone bedrock. There no longer is a visible indication of the railroad bed constructed in the early 1900s. The appearance of the bluff has changed markedly over the period of our air photo interpretation (since the early 1940s), indicating that the slides are active. This slope will likely continue to move down towards the beach.

Aerial Photographs

Six sets of stereo pair aerial photographs flown from 1943 to 2005 were interpreted to supplement our on-site engineering geologic observations. Imagery scales ranged from 1:12,000 to 1:24,000. The photographs are referenced at the conclusion of this report. Based on our air photo interpretation and images available on the website HistoricAerials/NETROnline, the existing residence was constructed between 1956 and 1960, conforming with the 1959 date indicated by BAGG.

The 1943 imagery indicates Highway 1 in an alignment immediately west of the current location. The Ocean Shore Railroad alignment is evident north of Tunitas Creek, terminating near a rectangular building (likely a station building) on the bluff immediately north of Tunitas Creek, but is not evident south of the creek. A large arcuate feature indicative of a complex landslide is present upslope (east) of Highway 1. Several rough graded roads cross the site, including the currently inaccessible path from north of the residence site down to the beach. The 1997-98 landslide area northeast of the residence is an older landslide composed of multiple smaller slides, with overall direction of movement northward down to Tunitas Creek. Less extensive landslides are also evident descending from the bluff north of the creek, down southward to the creek. A relatively small shallow concave dormant landslide with weathered scarps and lacking a toe, located north of the residence on the downsloping bluff face, appears essentially as it does today (2017). A rough graded path or road extends down from north of the residence location to the beach below; this feature crosses the shallow dormant landslide. There is no apparent active landsliding at the current residence location, but there is active landsliding along the bluff face south of the residence location; a prominent headscarp appears to extend northward as an eroded (dormant) feature immediately upslope (east) of the resident location. The swale area (Figure 2, Location C) is present; a rough graded road extends northward from this location but the swale does not appear to have been formed by grading.

The existing vacant residence is present by 1963, as well as several cabins northeast of the residence. A new highway bridge is present immediately east of the previous bridge. The highway east of the site has been regraded and is supported by fill on the western (downslope) side. The upslope area east of the highway has been regraded with the construction of benches and drainage ditches. The 1973 image is similar, with indications of landsliding northeast of the residence in the cabin area, particularly adjacent to the highway and downslope (north) of the cabins. Continued landsliding along the bluff is evident south of the existing vacant residence.

Continued sliding in both the northern and southern bluff areas is evident in the 1991 and 1997 imagery, including extending up to the Tunitas Creek bridge southern abutment. The 2005 imagery dates approximately seven years after the northern cabin area landslide reactivated and destroyed the cabins. The northern beach trail alignment is evident, with no indications of slumps or slides, and no significant changes except for vegetation covering the trail.

Faulting and Seismicity

The San Francisco Bay Area is located in an active seismic region. Earthquakes in the region result from strain energy constantly accumulating because of the northwestward movement of the Pacific Plate relative to the North American Plate. On average about 1.6-inches of movement occurs per year. Historically, the Bay Area has experienced large, destructive earthquakes in 1838, 1868, 1906 and 1989. The faults considered most likely to produce large earthquakes in the area include the San Gregorio, San Andreas, Hayward, and Calaveras.

As depicted on various published and unpublished geologic maps, the San Gregorio Fault Zone is located under the Pacific Ocean approximately 0.5 to 1 mile southwest of the site. Based on this distance from the site and absence of fault-related features within the site, ground surface fault rupture hazard within the site is judged to be low. The San Andreas Fault is located approximately 8 miles northeast of the site. The Hayward and Calaveras faults are located approximately 26 and 33 miles northeast of the site, respectively. These faults and significant earthquakes that have been documented in the Bay Area are listed in Table 1 below and are shown on the Regional Fault and Seismicity Map, Figure 4.

Table 1. Earthquake Magnitudes and Historical Earthquakes
POST Trail & Ranger Station
Half Moon Bay, California

Fault	Maximum Magnitude (Mw)	Historical Earthquakes		Estimated Magnitude
San Andreas	7.9	1989	Loma Prieta	6.9
		1906	San Francisco	7.9
		1865	N. of 1989 Loma Prieta Earthquake	6.5
		1838	San Francisco-Peninsula Segment	6.8
		1836	East of Monterey	6.5
Hayward	7.1	1868	Hayward	6.8
		1858	Hayward	6.8
Calaveras	6.8	1984	Morgan Hill	6.2
		1911	Morgan Hill	6.2
		1897	Gilroy	6.3
San Gregorio	7.3	1926	Monterey Bay	6.1

In the future, the subject property will undoubtedly experience severe ground shaking during moderate and large magnitude earthquakes produced along the San Andreas fault or other active Bay Area fault zones. The Working Group On California Earthquake Probabilities, a panel of experts that are periodically convened to estimate the likelihood of future earthquakes based on the latest science and ground motion prediction modeling, concluded there is a 72 percent chance for at least one earthquake of Magnitude 6.7 or larger in the Bay Area before 2045. The Hayward fault has the highest likelihood of an earthquake greater than or equal to magnitude 6.7 in the Bay Area, estimated at 14 percent, while the likelihood on the San Andreas and Calaveras faults is estimated at approximately 6 and 7 percent, respectively (Working Group, 2015).

Earthquake Design Parameters

The State of California currently requires that buildings and structures be designed in accordance with the seismic design provisions presented in the 2016 California Building Code and in ASCE 7-10, "Minimum Design Loads for Buildings and Other Structures." Based on site geologic conditions and on information from our subsurface exploration at the site, the site may be classified as Site Class C, very dense soil and soft rock, in accordance with Chapter 20 of ASCE 7-10. Spectral acceleration response parameters S_S and S_1, and site coefficients Fa and Fv, may be taken directly from the figures and tables in the California Building Code and in the lookup tables at the U.S.G.S. website based on the latitude and longitude of the site. For the site latitude (37.3555) and longitude (-122.3997) and Site Class C, SDs = 1.510 and SD1 = 0.816.

Tsunami Hazards

Tsunami risk is common along the California coast and within adjacent bays and estuaries. The California Geological Survey Information Warehouse website indicates anticipated tsunami runup along the California coast. The map indicates a potential runup to an approximate elevation of 80 feet along the coast and inland along the Tunitas Creek to a short distance east of Highway 1. The existing residence is located at elevation of ranging from approximately 80 to 95 feet. In addition, the Association of Bay Area Governments (ABAG) online Resilience Program map indicates potential tsunami inundation of the coastal beach and into the Tunitas Creek drainage a short distance east of Highway 1. The 80 foot runup elevation is likely conservative, and as the existing structure is located primarily above the runup elevation, the risk of tsunami runup is judged to be relatively low.

Coastal Bluff Retreat

A detailed coastal bluff retreat analysis is beyond the scope of this investigation. However, two references provide information on bluff retreat. Griggs and Savoy (1985) indicate an average bluff erosion rate of 0 inches per year at the site, although nearby sites, such as the near-vertical bluff immediately north of Tunitas Creek, exhibit average rates of as much as 10 inches/year. Griggs and Savoy describe the site and bluff to the south as *"Unstable, high coastal bluffs. Landslides gradually destroying abandoned railroad grade. Wave erosion destabilizes slopes below railroad grade. Large landslides cause some highway damage"*. Griggs, Patsch and Savoy (2005) indicate that the rocks forming the bluffs in the site vicinity are sheared and fractured by the (nearby) San Gregorio Fault, resulting in the bluffs being *"unstable and scarred by deep gullies and large landslides"*. The authors indicate that overall bluff retreat has been minimal, but that a landslide *"just south of Tunitas Creek damaged the coastal highway in the 1950s"*. Finally, *"just south of Tunitas Creek, the old rock-cut for the Ocean Shore Railroad grade (built in 1905-08 but never used) that traverses these bluffs about 100 feet above the beach is gradually being destroyed by gullying and small landslides caused by wave erosion at the base of the slope. Grade destruction was greatly accelerated by severe cliff erosion during the storms of January 1983"*.

CONCLUSIONS AND RECOMMENDATIONS

From a geotechnical and engineering geologic viewpoint, the site is suitable for the proposed improvements provided the recommendations presented in this report are followed during design and construction. Detailed recommendations are provided in the following sections of our report.

Existing Vacant Residence (Ranger Station)

The existing vacant residence is located near the current bluff face. There are no indications of slope movement/landsliding at this location during the lifetime of the structure (constructed in approximately 1959), either as sliding along the adjacent bluff face or as deep-seated movement under the structure. However, our air photo interpretation suggests that the currently active landslides along the bluff south of the structure previously (prior to 1943) extended northward and possibly included the structure location. In addition, the shallow swale east (upslope) of the residence adjacent to Highway 1 may have formed as a landslide headscarp graben. The bluff at the residence location is lower than to the south, which would reduce the potential for future landsliding, and there are no indications of deep seated landslide movement underlying the residence structure since at least 1943. However, there remains a risk of possible future landsliding at this location. In our opinion, conversion of the vacant residence as a ranger station is a reasonable use of the structure, however, it should be understood that there is a risk of future slope movements at this location. Extensive subsurface investigation and possibly remediation would be required in order to decrease the hazard of future landsliding at this location. Strengthening and underpinning of the structure with relatively deep drilled piers to increase resistance to slope movement would be prudent, but will not eliminate the risk of structural damage due to deep-seated landslide below the structure or due to the existing active landslides progression to the building area, should these scenarios occur in the future.

Road/Path Down to Beach

We have been tasked with recommending one or more geologically feasible access paths or roads to the beach. A previously constructed path originates from north of the existing residence and descends down to the beach. The path is evident on aerial photos, and dates from prior to 1943. We were not able to access the path as it was inaccessible due to vegetation growth. However, as viewed on aerial photographs and from the beach below, the pathway appears essentially unchanged from its initial excavation, including its crossing of the shallow dormant landslide northwest of the existing residence. The slope at this location currently appears to be relatively stable and inclines less steeply than the slope to the south, impacted primarily by deposition of soil onto the path by erosion and gradual gravity movement of soil from the upslope cut. Elsewhere to the south, a potential graded path would require extensive excavation into higher and relatively steeper potentially unstable slopes and/or placement of fill on the downslope side. Thus, in our opinion, the optimum location for the proposed path would be reusing the existing path north of the residence, which would reduce both construction impact as well as future maintenance (although periodic maintenance would be required over time). An alternative would be a constructed walkway with stairs, which would be feasible but would require numerous drilled piers to support the stairway and ongoing maintenance.

However, widening the existing pathway (if necessary) for vehicular access may not be practical due to the steeply sloping nature of the area; we note that retaining walls may be necessary to support an overly-steepened cut along the upslope side or to retain fill soils along the downslope side of the widened pathway. After the vegetation at the existing pathway are removed, and a more detail topographic survey and grading plans are available for the pathway improvements, we can provide additional guidelines regarding foundation support for site retaining walls, if necessary.

Landslide Adjacent to Tunitas Creek

The complex landslide northeast of the residence will continue to be unstable and subject to periodic movement. Future movement may consist of both remobilization of the current landslide mass and further movement down towards Tunitas Creek, as well as gradual headward migration of scarps along the margins of the landslide. Extensive subsurface investigation and remediation would be required in order to stabilize this landslide.

General Slope Stability

Continued landsliding and overall ocean bluff slope retreat south of the residence is likely to occur. In our opinion, development/use of this area is not economically feasible. Use of this location should be limited to day-time recreational use of the beach.

Plan Review and Construction Observation

Because subsurface conditions may vary from those encountered at the locations of our borings, and to observe that our recommendations are properly implemented, we recommend that we be retained to 1) review the project plans for conformance with our report recommendations and 2) observe and test during earthwork and foundation construction.

FOUNDATIONS

Pier and Grade Beam Foundation System

To reduce the potential for foundation distress due to shallow slope movement, in our opinion, the ranger station building should be underpinned with relatively deep drilled piers bearing in weathered bedrock. We note that it may not be practical to underpin the interior of the residence with drilled piers; as a minimum, the entire perimeter continuous footings and the downslope portion of the residence extending over the slope should be underpinned with drilled piers.

In our opinion, the piers should be at least 24-inches in diameter. From a geotechnical viewpoint, piers should extend at least 20 feet below the bottom of the grade beams and at least 12 feet into weathered bedrock below the native and fill soils, whichever is deeper; the structural design may require a deeper embedment. The piers may be designed for an allowable skin friction in bedrock of 450 pounds per square foot for dead plus live loads, with a one-third increase allowed when considering additional short-term wind or seismic loading. The uplift capacity of the piers may be based on a skin friction value of 360 pounds per square foot. Vertical support provided by soil against the upper 4 feet of the piers should be neglected in design.

Piers should have minimum reinforcement in the vertical direction equivalent to at least four No. 6 bars from a geotechnical viewpoint and/or as determined by the structural engineer to resist bending from lateral loads. Piers should have a center-to-center spacing of at least three pier diameters.

We recommend that grade beams be constructed between the piers as required by the structural engineer. From a geotechnical viewpoint, the grade beams should be reinforced with the equivalent of at least two No. 5 bars, top and bottom. The perimeter grade beams should be embedded at least 6 inches below the surface of the crawl-space, or slab subgrade, to help limit infiltration of surface water into the crawl-space under the residence.

Pier drilling should be observed by our representative to confirm that the pier holes extend the required minimum depth, expose the anticipated competent material, and are properly cleaned or all loose or soft soil and debris. The minimum pier depths recommended above may require adjustment if differing conditions are encountered during drilling.

Concrete should be placed in the pier excavations as soon as practical after drilling. Limited ground water seepage may be encountered during pier drilling. This can be further evaluated during drilling of the initial piers. If ground water cannot be effectively pumped from the pier holes, concrete will need to be placed in the pier holes by the tremie method.

Settlement

On a preliminary basis, 30-year post-construction differential settlement due to static loads is not expected to exceed about 1/2-inch across the underpinned portions of the residence supported on drilled piers, provided foundations for the structure are designed and constructed as recommended. However, differential movement due to significant slope movement/failure is difficult to estimate. As discussed above, underpinning the existing foundations with drilled piers will not eliminate the risk of structural damage due to the deep-seated landslide below the structure or due to the existing active landslides progression to the building area, should these scenarios occur in the future.

Lateral Loads

Due to the potential for lateral creep of the near-surface soils, we recommend that the upper 5 feet of the piers be designed to resist an active soil pressure equal to 125 pounds per cubic foot, acting against 2 times the projected area of the piers acting in the downhill direction. The active load and other lateral loads may be resisted by passive earth pressure based upon an equivalent fluid pressure of 350 pounds per cubic foot, acting on 2 times the projected area of the pier below a depth of 5 feet below the bottom of the grade beam. The passive resistance of the upper 5 feet of the piers should be neglected.

RETAINING WALLS

Retaining walls should be designed to resist lateral pressures from the adjacent colluvial and fill soils and backfill. We recommend retaining walls with level backfill that are not free to deflect or rotate, such as retaining walls as part of the residence, may be designed to resist an equivalent fluid pressure of 50 pounds per cubic foot, plus an additional uniform lateral pressure of 8H pounds per square foot, where H is the height of the wall in feet. Retaining walls with level backfill that are free to rotate may be designed to resist an equivalent fluid pressure of 50 pounds per cubic foot.

Walls with sloping backfill should be designed for an additional equivalent fluid pressure of 1 pound per cubic foot for every 1 degree of slope inclination. Where retaining walls will be subjected to surcharge loads, such as from adjacent foundations, vehicle loads, or construction, the walls should be designed for an additional uniform lateral pressure equal to one-half of the surcharge pressure.

Based on the site peak ground acceleration (PGA), on Seed and Whitman (1970); Al Atik and Sitar (2010); and Lew et al. (2010); seismic loads on retaining walls that can yield may be simulated by a line load of $5H^2$ (in pounds per foot, where H is the wall height in feet). Seismic loads on walls that cannot yield, such as the building retaining walls, may be subjected to a seismic load as high as about $11H^2$. This seismic surcharge line load should be assumed to act at 1/3H above the base of the wall (in addition to the active wall design pressure of 50 pounds per cubic foot for level wall backfill, with additional 1 pound per cubic foot for every 1 degree of slope inclination for sloping backfill). The additional uniform lateral pressure of 8H pounds per square foot need not be applied for seismic condition.

To prevent buildup of water pressure from surface water infiltration, a subsurface drainage system should be installed behind the walls. The drainage system should consist of a 4-inch diameter perforated pipe (perforations placed down) embedded in a section of 1/2- to 3/4-inch, clean, crushed rock at least 12 inches wide. Backfill above the perforated drain line should also consist of 1/2- to 3/4-inch, clean, crushed rock to within about 1½ to 2 feet below exterior finished grade. A filter fabric should be wrapped around the crushed rock to protect it from infiltration of native soil. The upper 1½ to 2 feet of backfill should consist of compacted native clayey soil. The perforated pipe should discharge to a suitable location. Damp-proofing of the walls should be included in areas where wall dampness and efflorescence would be undesirable.

Miradrain, Enkadrain or other drainage fabrics approved by our office may be used for wall drainage as an alternative to the gravel drainage system described above. If used, the drainage fabric should extend from a depth of about 1 foot below the top of the wall backfill down to the drain pipe at the base of the wall. A minimum 12-inch wide section of ½-inch to ¾-inch clean crushed rock and filter fabric should be placed around the drainpipe, as recommended previously.

Backfill placed behind the walls should be compacted to at least 90 percent relative compaction using light compaction equipment. If heavy equipment is used for compaction of wall backfill, the walls should be temporarily braced.

Retaining walls to be built on sloping ground should generally be supported on drilled piers designed in accordance with the recommendations presented in the above section titled “Drilled Piers.” During design, we can provide additional guidelines regarding foundation support for site retaining walls.

SLABS-ON-GRADE

General Slab Considerations

The near-surface soils at the site have a moderate to high expansion potential. Expansive soils have a tendency to expand due to increases in moisture content and shrink as they dry. This can result in some slab cracking and heave regardless of the geotechnical measures implemented. Our recommendations below will help mitigate the impacts of the expansive soils beneath slabs-on-grade, but will not eliminate the risk entirely.

To reduce the potential for movement of the slab sub-grade, at least the upper 6 inches of the slab sub-grade should be scarified and compacted at a moisture content at least 2 percent above the laboratory optimum. The native soil sub-grade should be kept moist up until the time the non-expansive fill, crushed rock and vapor barrier, and/or aggregate base is placed. Slab sub-grades and non expansive fill should be prepared and compacted as recommended in the section of this report titled "Earthwork." Exterior flatwork and interior slabs-on-grade should be underlain by a layer of non expansive fill as discussed below. The non expansive fill should consist of aggregate base rock or a clayey soil with a plasticity index of 15 or less.

We expect that a reinforced slab will perform better than an unreinforced slab. Consideration should also be given to using a control joint spacing on the order of 2 feet in each direction for each inch of slab thickness.

Exterior Flatwork

Concrete walkways and exterior flatwork should be at least 4 inches thick and should be constructed on at least 10 inches of Class 2 aggregate base. To improve performance, exterior slabs-on-grade, such as for patios, should be constructed with a thickened edge to improve edge stiffness and to reduce the potential for water seepage under the edge of the slabs and into the underlying base and subgrade. In our opinion, thickened slab edges should be at least 8 inches wide and should extend at least 4 inches below the bottom of the underlying aggregate base layer.

Interior Slabs

Concrete slab-on-grade floors should be constructed on a layer of non-expansive fill at least 12 inches thick where underlain by expansive soils. Due to the potential for expansive soil movement, we recommend that slab-on-grade floors be at least 5 inches thick, and be reinforced with sufficient steel reinforcement to span across local irregularities. It would also be preferable for the slabs in non-living areas to float relative to the perimeter foundation.

In areas where dampness of concrete floor slabs would be undesirable, such as within the building interior, concrete slabs should be underlain by at least 4 inches of free-draining gravel, such as ½- to ¾-inch clean crushed rock with no more than 5 percent passing the ASTM No. 200 sieve. Pea gravel should not be used for this capillary break material. The crushed rock layer should be densified and leveled with vibratory equipment, and may be considered as the upper portion of the non-expansive fill recommended above.

To reduce vapor transmission up through concrete floor slabs, the crushed rock section should be covered with a high quality, UV-resistant vapor barrier conforming to the requirements of ASTM E 1745 Class A, with a water vapor transmission rate less than or equal to 0.01 perms (such as 15-mil thick "Stego Wrap Class A"). The vapor barrier should be placed directly below the concrete slab. Sand above the vapor barrier is not recommended. The vapor barrier should be installed in accordance with ASTM E 1643. All seams and penetrations of the vapor barrier should be sealed in accordance with manufacturer's recommendations.

The permeability of concrete is affected significantly by the water cement ratio of the mix, with lower ratios producing more damp-resistant slabs (or mats) and being stronger structurally. Where moisture protection is important and/or where the concrete will be placed directly on the vapor barrier, the water-to-cement ratio should be 0.45 or less. To increase the workability of the concrete, mid-range plasticizers can be added to the mix. Water should not be added to the mix unless the slump is less than specified and the ratio will not exceed 0.45. Other steps that may be taken to reduce moisture transmission through the slab (or mat) include moist curing for 5 to 7 days and allowing the slab to dry for a period of two months or longer prior to placing floor coverings. Also, prior to installation of the floor covering, it may be appropriate to test the slab moisture content for adherence to the manufacturer's requirements to determine whether a longer drying time is necessary.

EARTHWORK

Clearing and Subgrade Preparation

All deleterious materials, such as existing slabs, pavements, utilities and foundations to be abandoned, fill, vegetation, topsoil, and root systems, should be cleared from areas to be built on or paved. The actual stripping depth should be established by us at the time of construction. Excavations that extend below finish grade should be backfilled with structural fill that is water-conditioned, placed, and compacted as recommended in the section titled “Compaction.”

After the site has been properly cleared, stripped, and excavated to the required grades, exposed soil surfaces in areas to receive structural fill or slabs-on-grade should be scarified to a depth of 6 inches, moisture conditioned, and compacted as recommended for structural fill in the section titled "Compaction."

To help mitigate the potential effects of the expansive on-site soils, exterior flatwork, slab and pavement subgrades, grade beam and foundation excavations, and utility trench excavations should be kept in a moist condition throughout the construction period.

Large fills are generally not desirable on a hillside site like this. However, if fills are to be constructed on natural slopes (not retained by retaining walls) having an inclination steeper than 6 horizontal to 1 vertical, the fill should be benched, and a key excavated into the competent native soils, and subdrains installed if required by our field representative. If significant fills are required, we should be contacted to evaluation their feasibility and to provide benching criteria as necessary.

Material For Fill

On-site soil containing less than 3 percent organic material by volume (ASTM D2974) should be suitable for use as structural fill (but not as non-expansive fill below concrete slabs-on-grade). Structural fill should not contain rocks or pieces larger than 6 inches in greatest dimension and no more than 15 percent larger than 2.5 inches. Imported non-expansive fill should have a Plasticity Index no greater than 15, should be predominately granular, and should have sufficient binder so as not to slough or cave into foundation excavations or utility trenches. Our representative should approve proposed import materials prior to their delivery to the site.

Compaction

Scarified soil surfaces and all structural fill should be compacted in uniform lifts no thicker than 8 inches in pre-compacted thickness, conditioned to the appropriate moisture content, and compacted as recommended for structural fill in Table 2 below. The relative compaction and moisture content recommended in Table 2 is relative to ASTM Test D1557, latest edition.

Table 2. Compaction Recommendations
POST Trail & Ranger Station
Half Moon Bay, California

	Relative Compaction*	Moisture Content*
General		
• Scarified subgrade in areas to receive structural fill.	90 percent	At least 2 percent above optimum
• Structural fill composed of native soil.	90 percent	At least 2 percent above optimum
• Structural fill composed of non-expansive fill.	90 percent	Above optimum
• Fills below a depth of 4 feet.	92 percent	Above optimum
Pavement Areas		
• Upper 6-inches of soil below baserock.	90 percent	About 2 percent above optimum
• Aggregate baserock.	95 percent	Near optimum
Utility Trench Backfill		
• On-site soil.	90 percent	At least 2 percent above optimum
• Imported sand	95 percent	Near optimum

* Relative to ASTM Test D1557, latest edition.

Temporary Slopes and Excavations

The contractor should be responsible for the design and construction of all temporary slopes and any required shoring. Shoring and bracing should be provided in accordance with all applicable local, state, and federal safety regulations, including current OSHA excavation and trench safety standards.

Because of the potential for variation of the on-site soils, field modification of temporary cut slopes may be required. Unstable materials encountered on slopes during and after excavation should be trimmed off even if this requires cutting the slopes back to a flatter inclination.

Protection of structures near excavations will also be the responsibility of the contractor. In our experience, a preconstruction survey is generally performed to document existing conditions prior to construction, with intermittent monitoring of the structures during construction.

Finished Slopes

We recommend that new finished slopes be cut or filled to an inclination no steeper than 2:1 (horizontal:vertical). Exposed slopes may be subject to minor sloughing and erosion, which could require periodic maintenance. We recommend that all slopes and soil surfaces disturbed during construction be planted with erosion-resistant vegetation.

Surface Drainage

Finished grades should be designed to prevent ponding of water and to direct surface water runoff away from foundations, and edges of slabs and pavements, and toward suitable collection and discharge facilities. Slopes of at least 2 percent are recommended for flatwork and pavement areas with 5 percent preferred in landscape areas within 8 feet of the structures, where possible. At a minimum, splash blocks should be provided at the discharge ends of roof downspouts to carry water away from perimeter foundations. Preferably, roof downspout water should be collected in a closed pipe system that is routed to a storm drain system or other suitable discharge outlet.

In order to reduce the potential for adverse impact to the stability of the existing steep slope onsite, it would be preferable not to discharge large quantities of surface water runoff and roof downspout onto the existing slope. Ideally, surface runoff, downspout drainage and retaining wall back-drain water collected should be discharged in a closed-pipe system and routed to a gently sloping or flat area below the existing steep slope, if feasible.

Drainage facilities should be observed to verify that they are adequate and that no adjustments need to be made, especially during first two years following construction. We recommend an as-built plan showing the locations of surface and subsurface drain lines and clean-outs be developed.

Drainage facilities should be periodically checked to verify that they are continuing to function properly. Drainage lines and facilities will probably need to be periodically cleaned of silt and debris that may build up in the lines.

FUTURE SERVICES

Plan Review

Romig Engineers should review the completed structural and civil plans for conformance with the recommendations contained in this report. We should be provided with these plans as soon as possible upon completion in order to limit the potential for delays in the permitting process that might otherwise be attributed to our review process. In addition, it should be noted that many of the local building and planning departments now require "clean" geotechnical plan review letters prior to acceptance of plans for their final review. Since our plan reviews often do result in recommendations for additional changes to the plans, our generation of a "clean" review letter often requires two iterations. At a minimum, we recommend that the following note be added to the general note sections of the architectural, structural and civil plans:

"Earthwork and site drainage, foundation excavation, pier drilling, utility trench backfill, retaining wall drainage and backfilling, pavement construction, and slab-on-grade subgrade preparation should be performed in accordance with the geotechnical report prepared by Romig Engineers, Inc., dated March 17, 2017. Romig Engineers should be notified at least 48 hours in advance of any earthwork or foundation installation operations and should observe and test the earthwork and foundation installation phases of the project as recommended in the geotechnical report."

Construction Observation and Testing

The earthwork and foundation phases of construction should be observed and tested by us to 1) Establish that subsurface conditions are compatible with those used in the analysis and design; 2) Observe compliance with the design concepts, specifications and recommendations; and 3) Allow design changes in the event that subsurface conditions differ from those anticipated. The recommendations in this report are based on a limited number of borings. The nature and extent of variation across the site may not become evident until construction. If variations are then exposed, it will be necessary to reevaluate our recommendations.

REFERENCES

Aerial Photographs

United States Geologic Survey Library, Menlo Park, California (USGS), and Pacific Aerial Surveys, Oakland, California (PAS): black and white vertical stereo pairs (color imagery noted)

Source	Imagery	Date	Scale
USGS	DDB-2B-151/152	10/11/43	1:20.000
USGS	DDB-1DD-16/17	7/8/63	1:20,000
USGS	3567-3-051/051	5/8/73	1:12,000
PAS	AV-4075-0207-5/6	10/28/91	1:12,000
PAS	SMT-AV-5431-7-43/44	8/5/97	1:12,000
PAS	KAV-9200-7-21/22 (color)	10/13/05	1:15,000

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Southern California Earthquake Center, 2002, "Recommended Procedures for Implementation of DMG Special Publication 117, Guidelines for Analyzing and Mitigating Landslide Hazards in California", dated June 2002.

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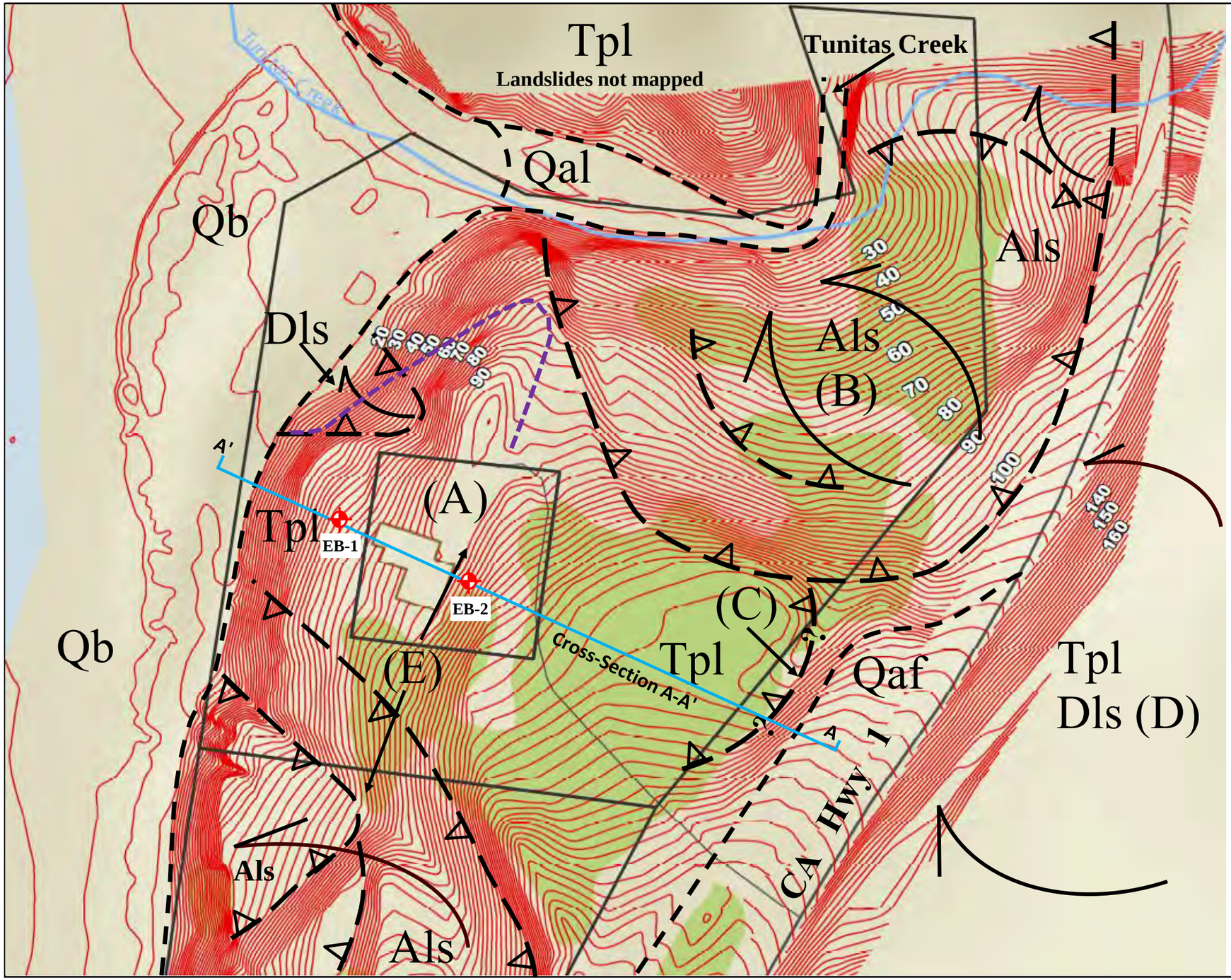
Scale: 1 inch = 2000 feet
Base is United States Geological Survey San Gregorio 7.5 Minute Quadrangle, dated 1997.

VICINITY MAP **FIGURE 1**
POST TRAIL AND RANGER STATION IMPROVEMENTS MARCH 2017
HALF MOON BAY, CALIFORNIA PROJECT NO. 3957-1

ROMIG ENGINEERS



Explanation

Qaf - Artifical fill

Qb - Beach deposits

Qal - Alluvium

Als - Active landslide

Dls - Dormant landslide

Tpl - Lobitos Mudstone

Old road/path (potential beach access)

Geologic contact

Landslide (approximate)

Notes

A - Landscaping fill & cuts not mapped in residence vicinity.

B - 1998 ± Landslide.

C - Swale - possible older dormant landslide scarp.

D - Probable dormant landslide extends down slope from east.

E - Early 20th century railroad location no longer identifiable; precise location obscured.

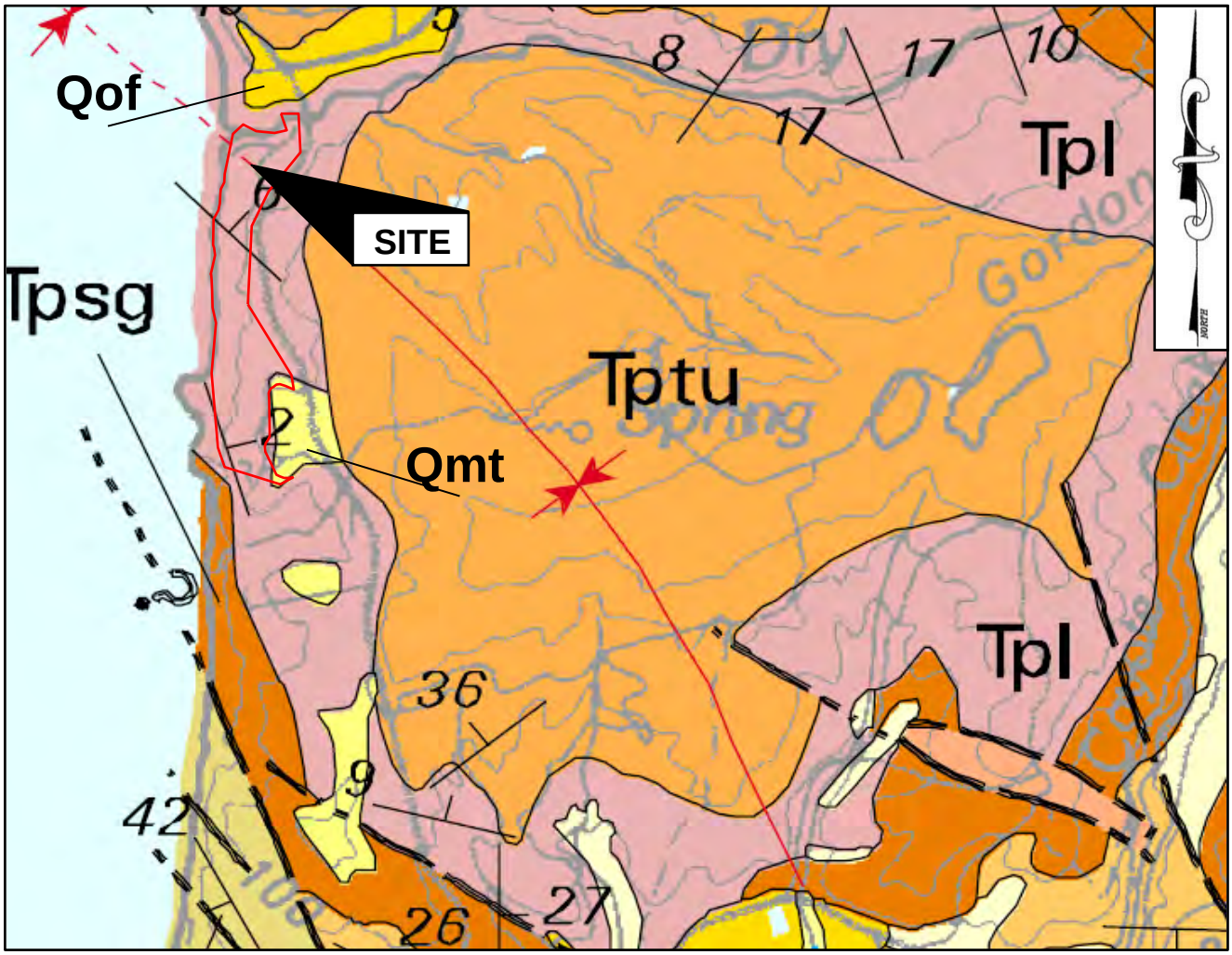
EB-2 Approximate Location of Exploratory Borings. Site Reconnaissance performed by D. Hoexter and L. Froberg, January 31, 2017. Base is topographic survey provided by P.O.S.T., dated December 27, 2016.

0 60 120 240 feet

ENGINEERING GEOLOGIC RECONNAISSANCE MAP
POST TRAIL AND RANGER STATION IMPROVEMENTS
HALF MOON BAY, CALIFORNIA

ROMIG ENGINEERS

FIGURE 2
MARCH 2017
PROJECT NO. 3957-1



LEGEND

Qof	Coarse-grained older alluvial fan and stream terrace deposits
Qmt	Marine terrace deposits
Tptu	Tunitas sandstone member
Tpl	Lobitos mudstone member
Tpsg	San Gregorio sandstone member

Geologic Contact - dashed where approximate, dotted where inferred.

Fault - dashed where approximate, dotted where inferred.

Fault - thrust or reverse

35 — Strike and dip of bedding

0 1000 2000 4000 feet

Scale: 1 inch = 2000 feet

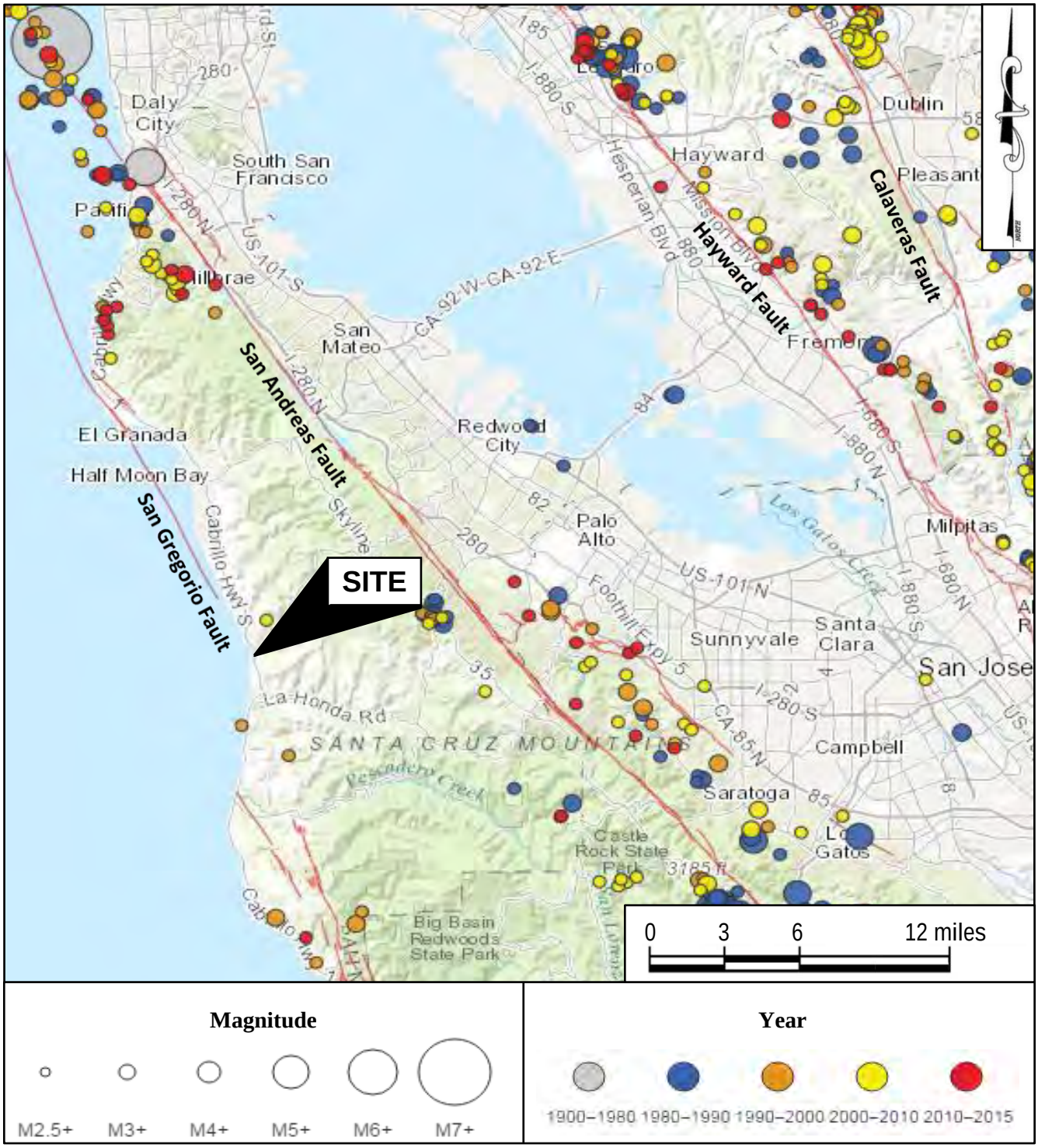
Base is Geologic Map of Palo Alto 30 x 60 Minute Quadrangle (Brabb, Graymer, and Jones, 2000).

VICINITY GEOLOGIC MAP **FIGURE 3**

POST TRAIL AND RANGER STATION IMPROVEMENTS MARCH 2017

HALF MOON BAY, CALIFORNIA PROJECT NO. 3957-1

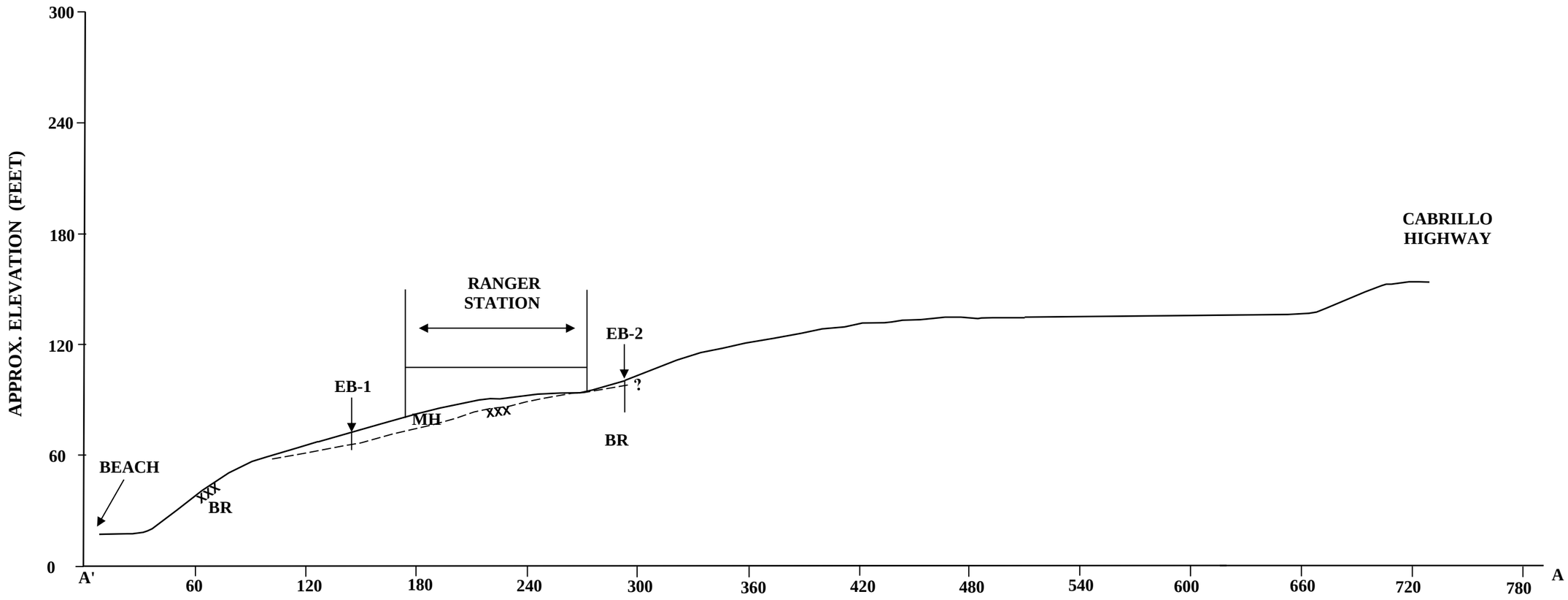
ROMIG ENGINEERS



Earthquakes with M5+ from 1900 to 1980, M2.5+ from 1980 to January 2015. Faults with activity in last 15,000 years. Based on data sources from Northern California Earthquake Data Center and USGS Quaternary Fault and Fold Database, accessed May 2015.

REGIONAL FAULT AND SEISMICITY MAP **FIGURE 4**
POST TRAIL AND RANGER STATION IMPROVEMENTS MARCH 2017
HALF MOON BAY, CALIFORNIA PROJECT NO. 3957-1

ROMIG ENGINEERS



Geologic Cross-Section A-A'

LEGEND

Horizontal = Vertical

Approximate Scale: 1 inch = 60 feet.

0 30 60 120 feet

GEOLOGIC CROSS-SECTION A-A'
POST TRAIL AND RANGER STATION IMPROVEMENTS
HALF MOON BAY, CALIFORNIA

ROMIG ENGINEERS

FIGURE 5
MARCH 2017
PROJECT NO. 3957-1

APPENDIX A

FIELD INVESTIGATION

The soils encountered during drilling were logged by our representative and samples were obtained at depths appropriate to the investigation. The samples were taken to our laboratory where they were evaluated and classified in accordance with the Unified Soil Classification System. The logs of our borings, as well as a summary of the soil classification system (Figure A-1) and bedrock descriptions (Figure A-2) that have been used, are attached.

Several tests were performed in the field during drilling. The standard penetration resistance was determined by dropping a 140-pound hammer through a 30-inch free fall and recording the blows required to drive the 2-inch (outside diameter) sampler 18 inches. The standard penetration test (SPT) resistance is the number of blows required to drive the sampler the last 12 inches and is recorded on the boring logs at the appropriate depths. Soil samples were also collected using 2.5-inch and 3.0-inch O.D. drive samplers. The blow counts shown on the logs for these larger samplers do not represent SPT values and have not been corrected in any way.

The locations of the borings were established by pacing using the site plan provided by Peninsula Open Space Trust, dated January 5, 2017. The locations of the borings should be considered accurate only to the degree implied by the method used.

The boring logs and related information depict our interpretation of subsurface conditions only at the specific location and time indicated. Subsurface conditions and ground water levels at other locations may differ from conditions at the locations where sampling was conducted. The passage of time may also result in changes in the subsurface conditions.

USCS SOIL CLASSIFICATION

PRIMARY DIVISIONS			SOIL TYPE	SECONDARY DIVISIONS
COARSE GRAINED SOILS (< 50 % Fines)	GRAVEL	CLEAN GRAVEL (< 5% Fines)	GW	Well graded gravel, gravel-sand mixtures, little or no fines.
			GP	Poorly graded gravel or gravel-sand mixtures, little or no fines.
		GRAVEL with FINES	GM	Silty gravels, gravel-sand-silt mixtures, non-plastic fines.
			GC	Clayey gravels, gravel-sand-clay mixtures, plastic fines.
	SAND	CLEAN SAND (< 5% Fines)	SW	Well graded sands, gravelly sands, little or no fines.
			SP	Poorly graded sands or gravelly sands, little or no fines.
		SAND WITH FINES	SM	Silty sands, sand-silt mixtures, non-plastic fines.
			SC	Clayey sands, sand-clay mixtures, plastic fines.
FINE GRAINED SOILS (> 50 % Fines)	SILT AND CLAY Liquid limit < 50%		ML	Inorganic silts and very fine sands, with slight plasticity.
			CL	Inorganic clays of low to medium plasticity, lean clays.
			OL	Organic silts and organic clays of low plasticity.
	SILT AND CLAY Liquid limit > 50%		MH	Inorganic silt, micaceous or diatomaceous fine sandy or silty soil.
			CH	Inorganic clays of high plasticity, fat clays.
			OH	Organic clays of medium to high plasticity, organic silts.
HIGHLY ORGANIC SOILS			Pt	Peat and other highly organic soils.
BEDROCK			BR	Weathered bedrock.

RELATIVE DENSITY

SAND & GRAVEL	BLOWS/FOOT*
VERY LOOSE	0 to 4
LOOSE	4 to 10
MEDIUM DENSE	10 to 30
DENSE	30 to 50
VERY DENSE	OVER 50

CONSISTENCY

SILT & CLAY	STRENGTH^	BLOWS/FOOT*
VERY SOFT	0 to 0.25	0 to 2
SOFT	0.25 to 0.5	2 to 4
FIRM	0.5 to 1	4 to 8
STIFF	1 to 2	8 to 16
VERY STIFF	2 to 4	16 to 32
HARD	OVER 4	OVER 32

GRAIN SIZES

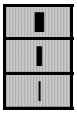
BOULDERS	COBBLES	GRAVEL		SAND			SILT & CLAY
		COARSE	FINE	COARSE	MEDIUM	FINE	
12 "		3"	0.75"	4	10	40	200
SIEVE OPENINGS				U.S. STANDARD SERIES SIEVE			

Classification is based on the Unified Soil Classification System; fines refer to soil passing a No. 200 sieve.

* Standard Penetration Test (SPT) resistance, using a 140 pound hammer falling 30 inches on a 2 inch O.D. split spoon sampler; blow counts not corrected for larger diameter samplers.

^ Unconfined Compressive strength in tons/sq. ft. as estimated by SPT resistance, field and laboratory tests, and/or visual observation.

KEY TO SAMPLERS



Modified California Sampler (3-inch O.D.)
Mid-size Sampler (2.5-inch O.D.)
Standard Penetration Test Sampler (2-inch O.D.)

KEY TO EXPLORATORY BORING LOGS **FIGURE A-1**
POST TRAIL AND RANGER STATION IMPROVEMENTS MARCH 2017
HALF MOON BAY, CALIFORNIA PROJECT NO. 3957-1

ROMIG ENGINEERS

WEATHERING

Fresh
Rock fresh, crystals bright, few joints may show slight staining. Rock rings under hammer if crystalline.

Very Slight
Rock generally fresh, joints stained, some joints may show thin clay coatings, crystals in broken face show bright. Rock rings under hammer if crystalline.

Slight
Rock generally fresh, joints stained, and discoloration extends into rock up to 1 inch. Joints may contain clay. In granitoid rocks some occasional feldspar crystals are dull and discolored. Crystalline rocks ring under hammer.

Moderate
Significant portions of rock show discoloration and weathering effects. In granitoid rocks, most feldspars are dull and discolored; some are clayey. Rock has dull sound under hammer and shows significant loss of strength as compared with fresh rock.

Moderately Severe
All rock except quartz discolored or stained. In granitoid rocks, all feldspars dull and discolored and majority show kaolinization. Rock shows severe loss of strength and can be excavated with geologist's pick. Rock goes "clunk" when struck.

Severe
All rock except quartz discolored or stained. Rock "fabric" clear and evident, but reduced in strength to strong soil. In granitoid rocks, all feldspars kaolinized to some extent. Some fragments of strong rock usually left.

Very Severe
All rock except quartz discolored and stained. Rock "fabric" discernible, but mass effectively reduced to "soil" with only fragments of strong rock remaining.

Complete
Rock reduced to "soil". Rock fabric not discernible or discernible only in small scattered locations. Quartz may be present as dikes or stringers.

HARDNESS

Very hard
Cannot be scratched with knife or sharp pick. Hand specimens requires several hard blows of geologist's.

Hard
Can be scratched with knife or pick only with difficulty. Hard blow of hammer required to detach hand specimen.

Moderately Hard
Can be scratched with knife or pick. Gouges or grooves to 1/4 inch deep can be excavated by hard blow of point of a geologist's pick. Hard specimen can be detached by moderate blow.

Medium
Can be grooved or gouged 1/16 inch deep by firm pressure on knife or pick point. Can be excavated in small chips to pieces about 1 inch maximum size by hard blows of the point of a geologist's pick.

Soft
Can be gouged or grooved readily with knife or pick point. Can be excavated in chips to pieces several inches in size by moderate blows of a pick point. Small thin pieces can be brocken by finger pressure.

Very Soft
Can be carved with knife. Can be excavated readily with point of pick. Pieces 1 inch or more in thickness can be broken with finger pressure. Can be scratched readily by fingernail.

JOINT BEDDING AND FOLIATION SPACING

Spacing	Joints	Bedding and Foliation
Less than 2 in.	Very Close	Very Thin
2 in. to 1 ft.	Close	Thin
1 ft. to 3 ft.	Moderately Close	Medium
3 ft. to 10 ft.	Wide	Thick
More than 10 ft.	Very Wide	Very Thick

ROCK QUALITY DESIGNATOR (RQD)

RQD, as a percentage	Descriptor
Exceeding 90	Excellent
90 to 75	Good
75 to 50	Fair
50 to 25	Poor
Less than 25	Very Poor

KEY TO BEDROCK DESCRIPTIONS **FIGURE A-2**
POST TRAIL AND RANGER STATION IMPROVEMENTS MARCH 2017
HALF MOON BAY, CALIFORNIA PROJECT NO. 3957-1

ROMIG ENGINEERS

DRILL TYPE: Minuteman with 3-1/4" Continuous Flight Auger **LOGGED BY:** LF

DEPTH TO GROUND WATER: Not Encountered **SURFACE ELEVATION:** NA **DATE DRILLED:** 1/31/17

CLASSIFICATION AND DESCRIPTION	SOIL CONSISTENCY/ DENSITY or ROCK HARDNESS* (Figure A-2)	SOIL TYPE	SOIL SYMBOL	DEPTH (FEET)	SAMPLE INTERVAL	PEN. RESISTANCE (Blows/ft)	WATER CONTENT (%)	SHEAR STRENGTH (TSF)*	UNCONFIN. COMP. (TSF)*
Dark brown/orange, Sandy Elastic Silt, moist, fine to medium sand, moderate to high plasticity, orange mottling, sandstone fragments, some roots.	Stiff	MH		0		12	32		0.5
Color changes to brown and yellowish brown.									
■ Liquid Limit = 52, Plasticity Index = 22.						12	30		0.8
Appears to be residual soil.				5		40	33		1.8
Lobitos Mudstone Member: Dark gray-brown, Claystone and Siltstone, moist, fine grained, manganese oxide staining, severly weathered.	Soft to Medium	BR				41	31		>4.5
				10		66	29		
						74	28		
						50/5"			
Bottom of Boring at 11.9 feet.				15					
				20					

Note: The stratification lines represent the approximate boundary between soil and rock types, the actual transition may be gradual.

*Measured using Torvane and Pocket Penetrometer devices.

EXPLORATORY BORING LOG EB-1 **BORING EB-1**

POST TRAIL AND RANGER STATION IMPROVEMENTS MARCH 2017

HALF MOON BAY, CALIFORNIA PROJECT NO. 3957-1

ROMIG ENGINEERS

DRILL TYPE: Minuteman with 3-1/4" Continuous Flight Auger **LOGGED BY:** LF

DEPTH TO GROUND WATER: Not Encountered **SURFACE ELEVATION:** NA **DATE DRILLED:** 1/31/17

CLASSIFICATION AND DESCRIPTION	SOIL CONSISTENCY/ DENSITY or ROCK HARDNESS* (Figure A-2)	SOIL TYPE	SOIL SYMBOL	DEPTH (FEET)	SAMPLE INTERVAL	PEN. RESISTANCE (Blows/ft)	WATER CONTENT (%)	SHEAR STRENGTH (TSF)*	UNCONFIN. COMP. (TSF)*
Brown, Sandy Elastic Silt, moist, fine to medium grained sand, moderate to high plasticity, orange mottling, some roots.	Stiff	MH		0			32		
Residual Soil: Brown, Sandy Elastic Silt, moist, moderate to high plasticity, fine to medium grained sand, orange mottling.	Stiff	MH				16	38		
Lobitos Mustone Member: Gray-brown, Claystone and Siltstone, moist, fine grained, manganese oxide staining, somewhat friable, very severely weathered.	Soft	BR				25	34		
				5		23	31		
Wet in veins.						27	33		
Becomes wet.				10		16	37		
						41	35		
						45	36		
Becomes bluish-gray.				15		33	33		
Note: The stratification lines represent the approximate boundary between soil and rock types, the actual transition may be gradual.									
*Measured using Torvane and Pocket Penetrometer devices.						20	36		
Bottom of Boring at 18 feet.				20					

EXPLORATORY BORING LOG EB-2 **BORING EB-2**

POST TRAIL AND RANGER STATION IMPROVEMENTS MARCH 2017

HALF MOON BAY, CALIFORNIA PROJECT NO. 3957-1

ROMIG ENGINEERS

APPENDIX B

LABORATORY TESTS

Samples from subsurface exploration were selected for tests to help evaluate the physical and engineering properties of the soils that were encountered. The tests that were performed are briefly described below.

The natural moisture content was determined in accordance with ASTM D2216 on most of the soil samples recovered from the borings. This test determines the moisture content, representative of field conditions, at the time the samples were collected. The results are presented on the boring logs at the appropriate sample depths.

The Atterberg Limits were determined on one sample of soil in accordance with ASTM D4318. The Atterberg Limits are the moisture content within which the soil is workable or plastic. The results of this test are presented in Figure B-1 and on the log of Boring EB-1 at the appropriate sample depth.

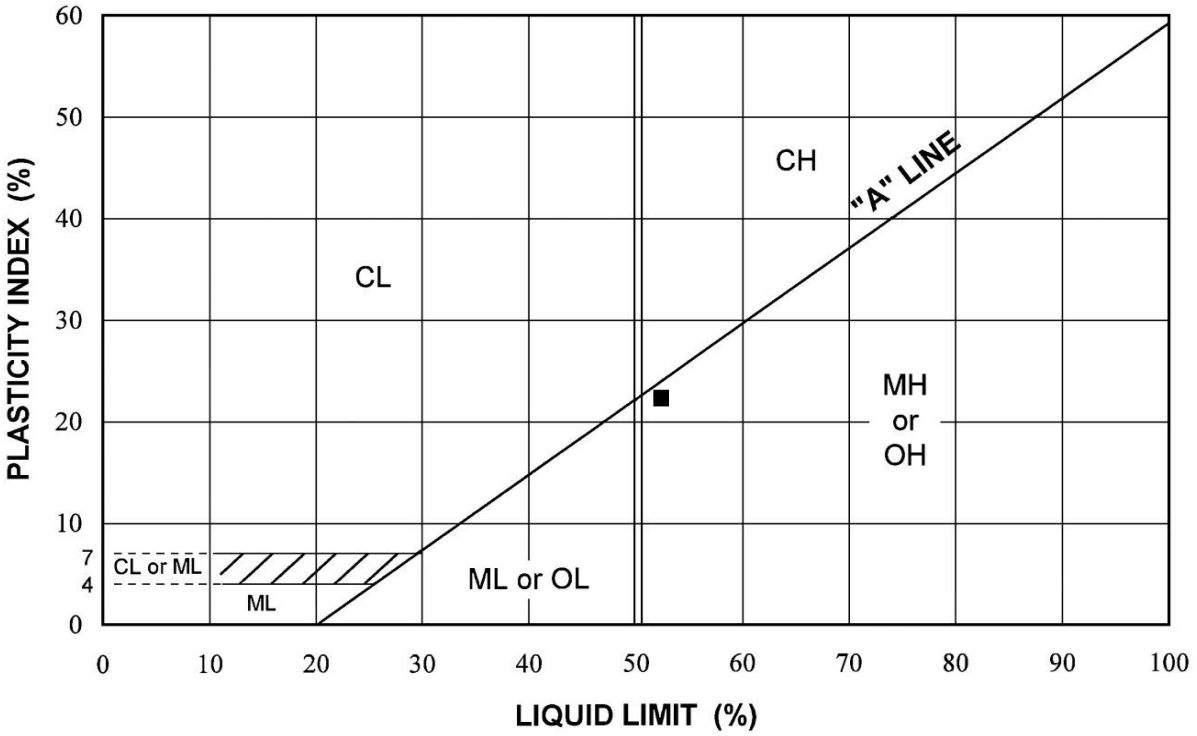


Chart Symbol	Boring Number	Sample Depth (feet)	Water Content (percent)	Liquid Limit (percent)	Plasticity Index (percent)	Liquidity Index (percent)	Passing No. 200 Sieve (percent)	USCS Soil Classification
■	EB-1	2-4	30	52	22	0		MH

PLASTICITY CHART **FIGURE B-1**
POST TRAIL AND RANGER STATION IMPROVEMENTS MARCH 2017
HALF MOON BAY, CALIFORNIA PROJECT NO. 3957-1

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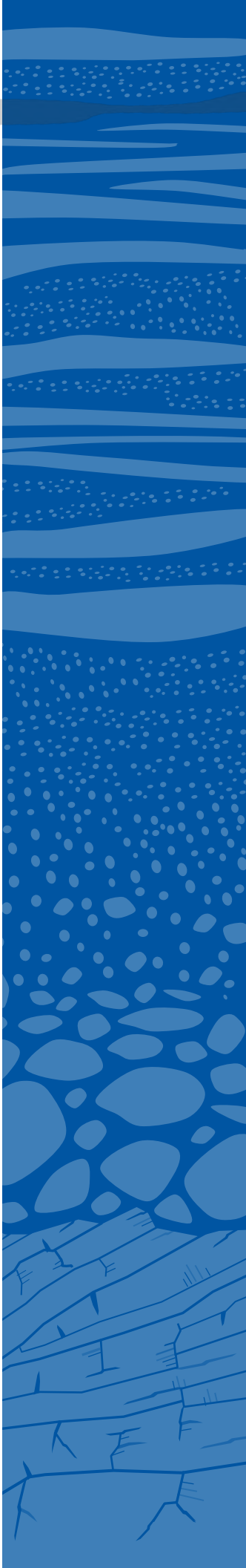

County of San Mateo - Planning and Building Department

ATTACHMENT G

CSW | ST2

MEMORANDUM

To: Michael Schaller, San Mateo County Senior Planner

From: Julia Harberson and Robert Stevens, CSW|ST2

CC: Nicholas Calderon, Hannah Ormshaw, and Mario Nastari, San Mateo County Parks

Date: September 2, 2022

Subject: Tunitas Creek Beach County Park – Response to California Coastal Commission's Comments

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This memorandum addresses comments received from the California Coastal Commission (CCC) regarding the development of a new public park at Tunitas Creek Beach (hereafter referred to as the "project") in San Mateo County. On August 16, 2022, San Mateo County received comments from Erik Martinez of the CCC. To support our response, we have included the following attachments for your review.

1. Biological Resources Report prepared by H.T. Harvey and Associates dated March 27, 2017
2. Geotechnical Alternatives Evaluation for the Tunitas Creek Beach Improvements prepared by Cal Engineering and Geology dated June 15, 2020.
3. Detailed slide mitigations plans prepared by Cal Engineering and Geology dated January 4, 2022.
4. An excerpt from the Tunitas Creek Beach Technical Studies report for Sea Level Rise prepared by CSW|ST2.
5. San Mateo County Sherriff calls for service at Tunitas Creek Beach from 2016 to 2018.
6. Tunitas Creek Beach Riparian setback exhibit in accordance with the Local Coastal Program (LCP) Policy number 7.11.

The following are our responses to the comments.

Comment 1. *Bluff Development* - *We raised concerns with Policy 8.17 which requires that development be located and designed to conform with, rather than change, landforms and that the alteration of landforms as a consequence of grading, cutting, excavating, filling or other development should be minimized. It also states that to the degree possible, pre-existing topographic contours after any alteration by development should be restored. We also asked for an alternatives analysis and a full hazards analysis as required by policy 9.8. In response, the contractor stated that the proposed path is the least damaging because it is following an existing pathway that has existed for many years from the mid-bluff to the beach and has undergone past stabilization efforts. They stated that two alternatives were analyzed: 1) remove landslide debris and rebuild the slope in order to reduce the slope of the hillside by shifting the toe of the slope west by 5 feet, and 2) install a retaining wall with anchors to support the slope and concluded that alternative one is the least impactful as soil generated in other projects could be reused and no structures along the bluff would be built. Please provide a complete alternatives analysis that describes what alternative paths were considered that involve less grading and shorter pathways so as to limit the alteration of the bluff and*

in order to determine what the least environmentally damaging feasible alternative, and most LCP-consistent project, is in this case.

Response to Comment 1. A key project goal of this project is to provide the public with access to Tunitas Creek Beach while protecting environmental resources and eliminating vandalism, poaching, and illicit activities that historically have occurred along this segment of the San Mateo coastline.

For reference, LCP policy 8.17 states the following:

a. *Require that development be located and designed to conform with, rather than change, landforms. Minimize the alteration of landforms as a consequence of grading, cutting, excavating, filling or other development.*
b. *To the degree possible, ensure restoration of pre-existing topographic contours after any alteration by development, except to the extent necessary to comply with the requirements of Policy 8.18.*
c. *Control development to avoid the need to construct access roads visible from State and County Scenic Roads. Existing private roads shall be shared wherever possible. New access roads may be permitted only where it is demonstrated that use of existing roads is physically or legally impossible or unsafe. New roads shall be (1) located and designed to minimize visibility from State and County Scenic Roads and (2) built to fit the natural topography and to minimize alteration of existing landforms and natural characteristics.*

The proposed design of the project seeks to remain within the area that was developed in the 1950's for use as a residence. To construct the residence, the previous developers installed a paved roadway to the mid bluff where they graded the area to construct the home, driveway, and patio area. Additionally, they graded a non-paved roadway from the mid bluff to the beach. Since 1961, these features have been shown in topographic maps. The following 1972 aerial photograph shows the access road to the beach, which is similar to the current configuration.

Figure 1: 1972 aerial photograph of Tunitas Creek Beach

Outreach conducted with stakeholders and community groups led by County Parks to support the project's planning found that most participants sought to open the area to the public with the minimal amount of development maintaining the existing character of the coastline. Thus, the project includes the following components:

1. Modifies the area currently used for vehicle parking to provide safe ingress and egress to State Route 1.
2. Provides an accessible pathway from the parking area to the mid bluff.
3. Modifies the mid bluff area (the site of the existing residence) to include features to support visitors including restrooms, waste receptacles, and other features to support the public's enjoyment of the beach.
4. Provides a secondary trail to the beach discouraging visitors from creating their own path to the beach, which is currently damaging environmental resources and creating erosion on the bluff.

Accessing the beach at this location is difficult as the elevation change from State Route 1 to Tunitas Creek Beach is approximately 150 feet. The bluffs along this segment of the coast are nearly vertical except near the throat of Tunitas Creek where landform processes have reduced their steepness. Thus, the original developers of the residence at the site took advantage of this topography when they constructed the access road to the beach.

For this project, the road serves as access for people walking toward the beach as well as for vehicles responding to emergencies. Thus, it must be at least 10 feet in width and reasonably smooth to accommodate a vehicle such as an ambulance. The following figure 2 illustrates the topographic conditions at Tunitas Creek Beach. Note that the contours shown are at 2-foot intervals demonstrating the site's steepness. For reference, the existing residence is shown with the yellow box, the existing roadway to the beach is shown in brown, and an alternate roadway to the beach is shown in red.

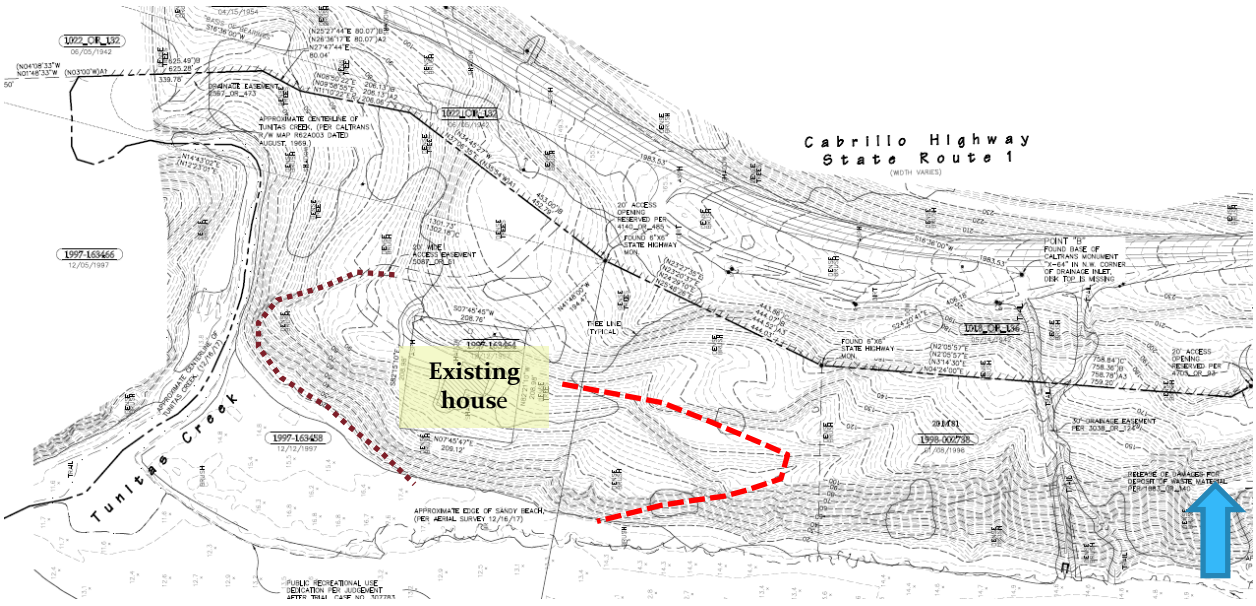

Figure 2. Existing/ proposed and alternative roadways to Tunitas Creek Beach

As can be seen in the figure above, it is possible to provide an alternative roadway to the beach, but the route has much steeper topography than the existing roadway. This would require extensive grading and vegetation removal

to create a roadway that is about 10 feet wide, relatively smooth, and has a running slope of no more than 20%. Furthermore, as the bluff face is nearly vertical, constructing this alternative roadway would require significant earthwork to reach the beach. The following aerial photograph illustrates the path of the alternative roadway.

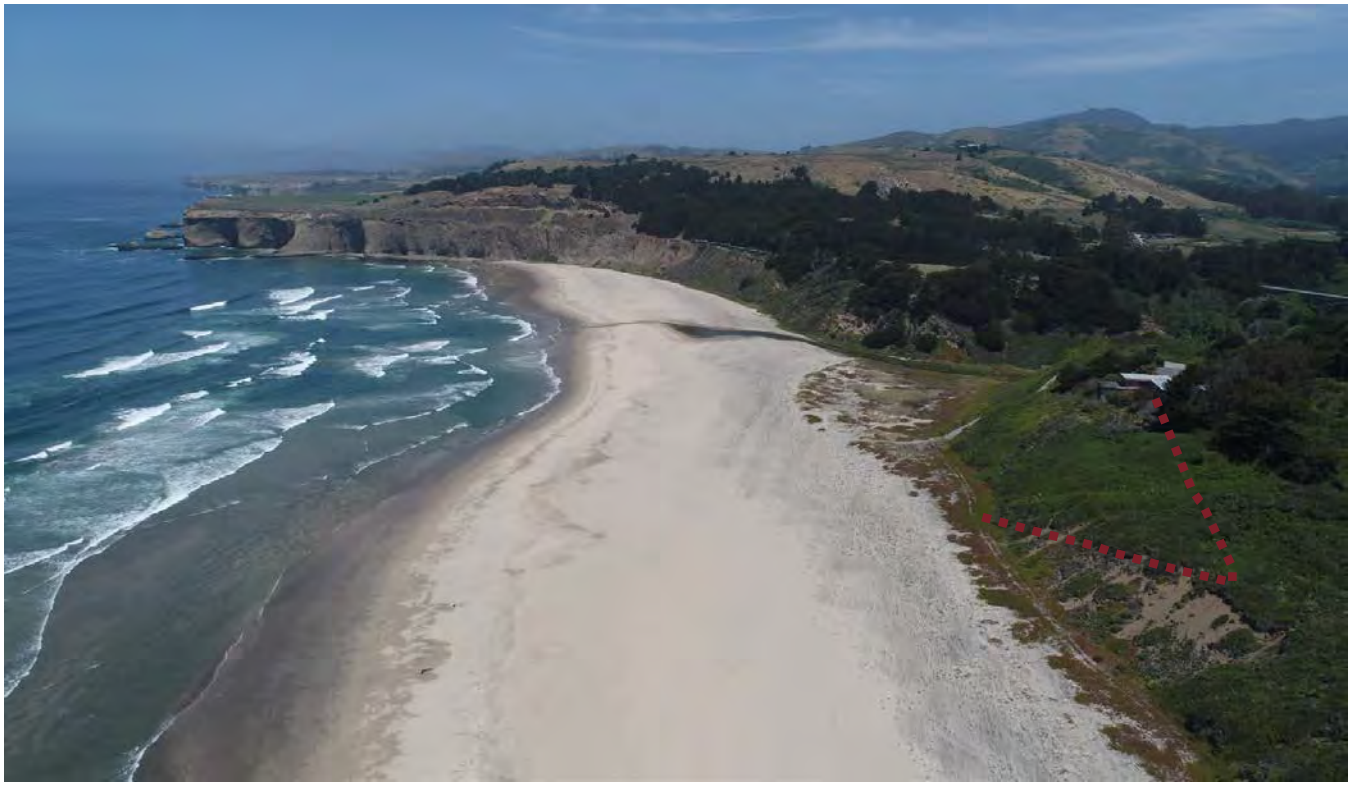

Figure 3. Alternative roadway to Tunitas Creek Beach

This alternative route would require removal of northern coastal scrub as generally shown in the following biological resources map. Please find attached the full Biological Resources report that provides additional details.

Figure 4. Biological resources at Tunitas Creek Beach.

The stability of the slope is a key in planning for the project's features. For instance, routing the roadway to the beach south of the existing house is complicated by the presence of an active slide. Constructing the roadway along this route would require remedial grading to stabilize the bluff. Please note that the existing roadway is also located on a slide area, but it is dormant. The project proposes to stabilize this slide to ensure the public's access for the foreseeable future. The following figure illustrates landslide activity at the site.

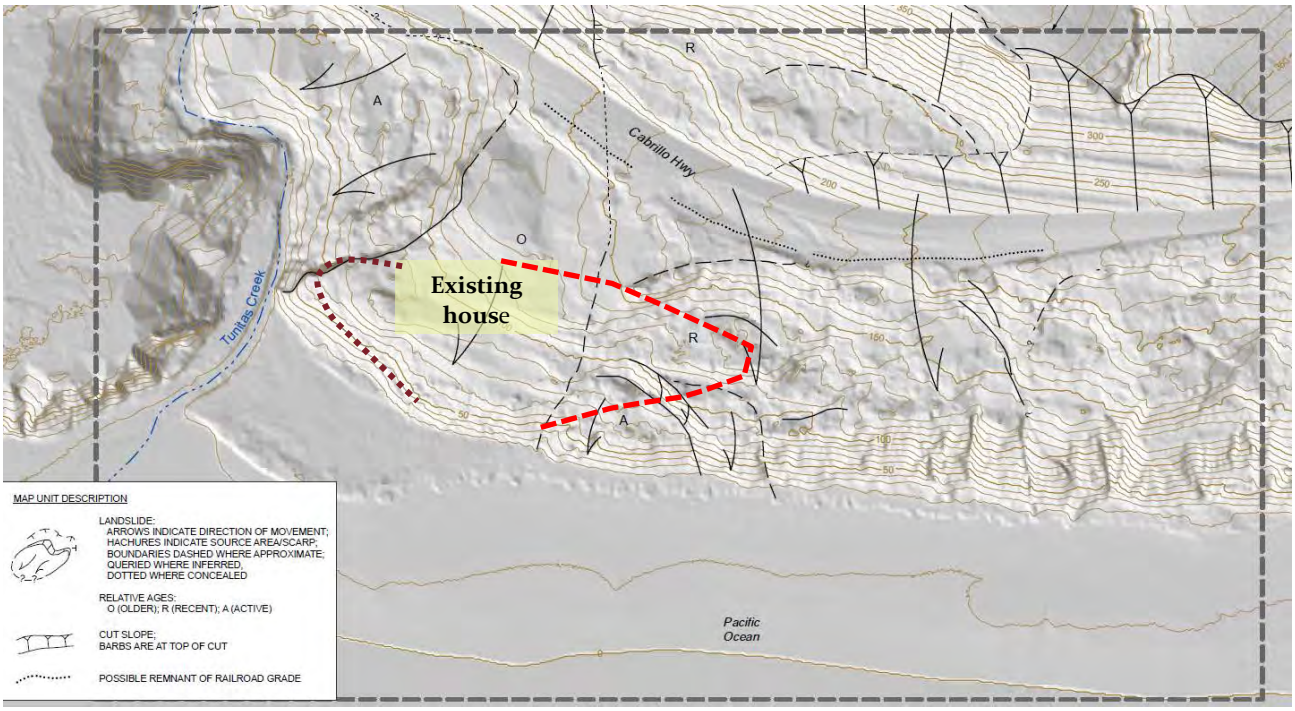

Figure 5. Landslides at Tunitas Creek Beach.

A comparison of the existing roadway and the alternative in terms of disturbance area and earthwork requirements includes the following:

Roadway	Walking Distance Feet	Earthwork Cubic Yards (CY)	Disturbed Area Square Feet (SF)
Existing	600 feet	7,000 CY	36,000 SF
Alternative	900 feet	22,000 CY +/-	75,000 SF +/-

This alternative route increases the area of disturbance as it requires re-grading of the slope on both sides of the path. Furthermore, it will be visually impactful as it will require both cutting and filling of the existing bluff creating an unnatural profile that is inconsistent with LCP policy 8.18, which states the following:

> *Require that development (1) blend with and be subordinate to the environment and the character of the area where located, and (2) be as unobtrusive as possible and not detract from the natural, open space or visual*

qualities of the area including, but not limited to, siting, design, layout, size, height, shape, materials, colors, access and landscaping. The colors of exterior materials shall harmonize with the predominant earth and vegetative colors of the site. Materials and colors shall absorb light and minimize reflection. Exterior lighting shall be limited to the minimum necessary for safety. All lighting, exterior and interior, must be placed, designed and shielded so as to confine direct rays to the parcel where the lighting is located.

While the proposed project does re-grade the bluff downslope, it does so by matching the general contours of the bluff only with a slight adjustment in the profile. A comparison in cross section of the two roadways are shown below.

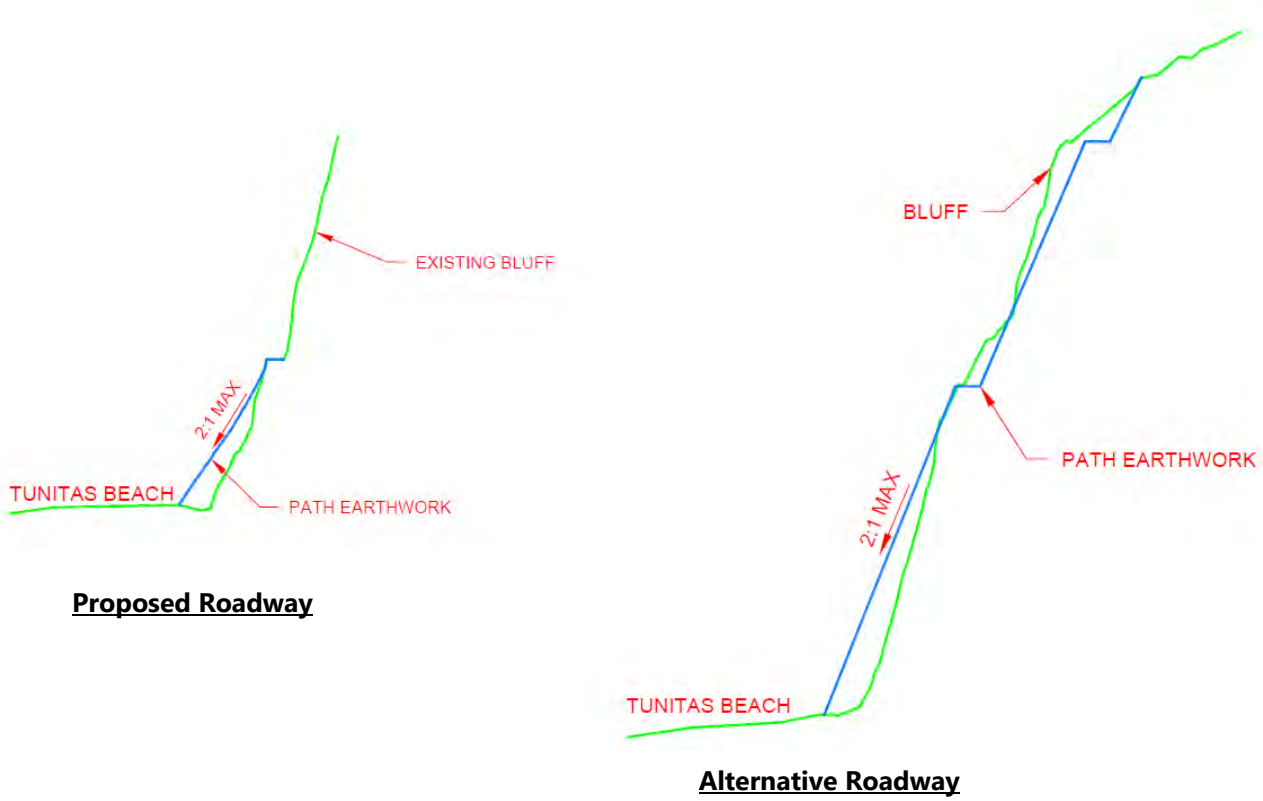

Figure 6. Proposed and alternative access roadway typical sections.

As previously noted, a key to the project is to ensure the public's access to the beach without traveling along unsafe segments of the bluff creating erosion and damage to environmental resources. Thus, a roadway is necessary to access the beach. Buttressing the slope as included in the project enhances its stability supporting the economic life span of the project consistent with LCP Policy 9.8, which states the following:

Permit bluff and cliff top development only if design and setback provisions are adequate to assure stability and structural integrity for the expected economic life span of the development (at least 50 years) and if the development (including storm runoff, foot traffic, grading, irrigation, and septic tanks) will neither create nor contribute significantly to erosion problems or geologic instability of the site or surrounding area.

Comment 2. ***Coastal Hazards*** *– As mentioned above, we also asked for a full hazards analysis as required by LUP policy 9.8 which requires that development on blufftops be allowed only if designed and set back adequately to assure stability and structural integrity for the expected economic life span of the development (which the LCP measures as at least 50 years). Additionally, LCP Policy 9.8(b) requires the submittal of a site stability evaluation report to demonstrate the area of stability that considers: 1) historic, current and foreseeable erosion; 2) bluff geometry and site topography; 3) geologic conditions; 4) evidence of past or potential landslide conditions; 5) wave and tidal action, including effects of marine erosion on bluffs; 6) ground and surface water conditions and variations; 7) potential effects of seismic forces resulting from a maximum credible earthquake; 8) effects of the proposed development including siting and design of structures, septic system, landscaping, drainage and grading, and impacts of construction activity on the stability of the site and adjacent area; 9) any other factors that may affect slope stability; and 10) potential erodibility of the site and mitigating measures to be used. Given the project is located on a bluff face with a large active slide along the northeast side of the property with the right lateral margin encroaching on Highway 1 and the left lateral margin extending close to the entrance of the existing informal beach access trail, with the toe of the slide encroaching on Tunitas Creek, and the head-scarp located near the maintenance area along the existing driveway, this area would qualify as a hazardous area as defined by policy 9.1 and would require a full analysis meeting the above mentioned requirements of LUP Policy 9.8. Please provide an analysis that meets the requirements of LUP Policy 9.8, in particular in order to be able to evaluate the proposed siting and design of the ranger residence and the amphitheater on the mid-bluff in addition to the parking/view area on the upper bluff.*

Response to Comment 2. Please find attached an evaluation of geotechnical alternatives for the Tunitas Creek Beach project. This report addresses existing hazards and potential mitigations. Consistent with LCP Policy 9.8, a summary of the potential hazards from the report includes the following:

- The potential of surface rupture due to primary faulting at the site is considered to be low.
- Significant ground acceleration is possible due to seismic event.
- The potential for liquefaction is low.
- The potential for lateral spreading is low.
- The potential for seismically induced subsidence is low.
- The potential for ground lurching due to a seismic event is low.
- The property has older, recent, and active landslides mapped. These slides as well as bluff erosion could be exacerbated by future sea level rise scenarios. The attached sea level rise assessment illustrates the potential encroachment of wave action resulting from the 100-year event and future ocean levels in 2070 and 2100. In both cases waves will reach the bluff as it exists today.

As indicated in the report, there are various landslides on the site that are active, recent, and older. As indicated in the Romig Engineers report from March 2017, "there are no indications of active landslide movement below or along the bluff face or in the immediate residence vicinity and thus land sliding at this location currently appears to be dormant."

The project evaluated repairing these landslides, however we concluded that it is not feasible and economically impractical. Many of the dormant slides are deep. To repair these slides would require extensive excavation which

would require removal and reconstruction of much of the bluff. This would be expensive and disrupt a large area of the bluff and beach. Thus, the project relies on the following elements to mitigate earth movement as well as prevent damage from landslides.

1. Buildings are not placed on active landslides.
2. Major improvements are set back from the bluff edge.
3. The project integrates drainage features designed to prevent concentration of runoff on slopes, which lead to erosion and landslide.
4. The project does not add fill on the existing terrain that could add weight, which could contribute to slope failure.
5. Site paving is limited to ensuring accessible access to the Park.
6. Buildings are prefabricated units placed on rigid foundations. These building are brought to the site nearly complete and can be moved as needed. The following figure illustrates a potential restroom.

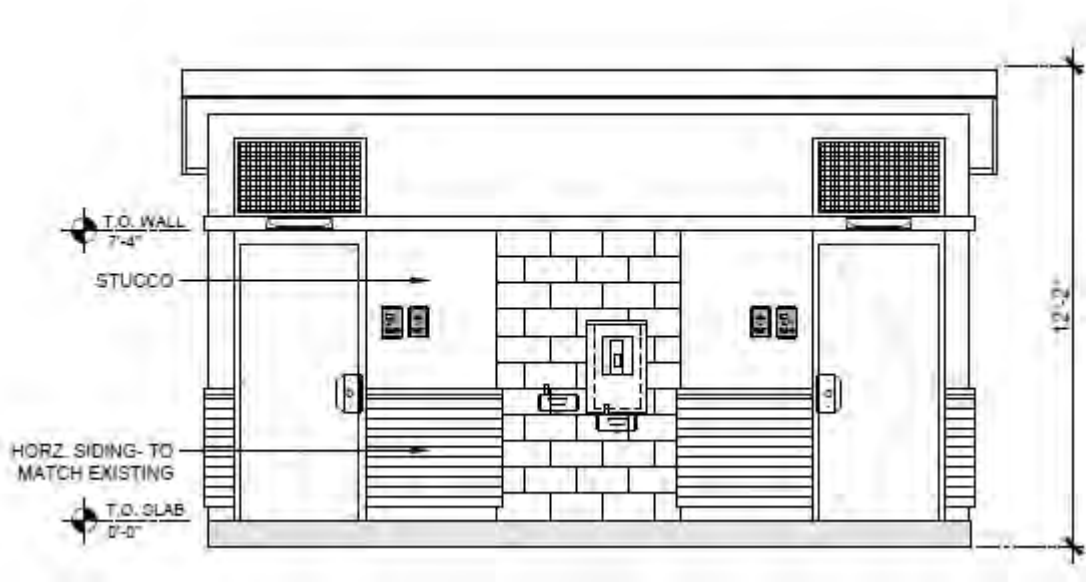

Figure 7. Typical prefabricated building proposed for the project.

As noted in the attached geotechnical alternatives report, to verify the performance of slope stability, County Parks would schedule regular inspections from qualified personnel and would install monitoring devices such as inclinometers and vibrating wire piezometers to monitor landslide movement. Should Parks detect a slope stability issue, major park elements would be moved.

As noted in the previous response, the project seeks to stabilize the existing bluff supporting the roadway that links the mid bluff to the beach by re-grading the slope and adding a buttress fill. The slide mitigation plan attached shows the design elements included in the project, which mitigate the landslide potential.

Comment 3. ***Biological Resources*** *– Staff raised concerns regarding biological resources give that the project description proposes development that includes a 4-foot-wide unpaved trail that would require a stream crossing either via a rock ford or a clear-span bridge, along with vault toilets and associated treatment system and storage, a proposed water system that would require removal of riparian vegetation or placement of structures within Tunitas Creek and a beach boardwalk which would all be within the 100-year flood hazard area and through/adjacent to sensitive habitats. The contractor's response to our comments stated that the project is designed to avoid impacts to sensitive communities, including riparian areas, to the extent possible and that most improvements are located outside of the required setbacks. Please keep in mind that sensitive habitats such as streams, riparian corridors and wetlands, all require bluff setbacks per LUP Policies 7.11, 7.12, 7.18, 7.19. Please delineate these buffers in the project plans.*

The contractor's response acknowledges that impacts to Tunitas Creek and its associated riparian vegetation are anticipated to accommodate proposed water supply infrastructure for the ranger residence. While policy 7.9 allows necessary water supply projects in riparian corridors, as mentioned above, staff would like to review alternatives to ranger residence placement. Additionally, LUP Policy 11.12 states that recreation and visitor-serving facilities can be permitted uses adjacent to sensitive habitats only when (1) there is adequate distance or separation by barriers such as fences, (2) the habitat is not threatened, and (3) there would not be substantial impacts on habitat, topography, and water resources. Development standards and management practices must be adequate to protect the resources, consistent with Policy 11.18 and the Sensitive Habitats Component. The County should provide more information to support and be consistent with the aforementioned LCP policies.

Response to Comment 3. Policy 7.11 of the LCP states the following regarding buffer zones:

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

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

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

We have attached the Biological Resources Report prepared by HT Harvey for reference to riparian vegetation and streams at the site. These buffers are depicted on the attached exhibit for your reference.

The following are specific responses to the above comments:

- Boardwalk. County Parks has deleted this element from the project.
- Loop Trail. The loop trail crosses an intermittent watercourse. Per Policy 7.9, "trails and scenic overlooks on public land" is a permitted use in riparian corridors.

The development of a ranger residence on the site resulted from the public's request to have a permanent on-site presence to prevent poaching, vandalism, and damage to environmental resources at Tunitas Creek Beach. To illustrate the challenges faced at Tunitas Creek Beach, we have attached a two-year incident report indicating calls for service at the property. The following are images illustrating the results from illicit activity at the beach.

Figure 8. Results of illicit use of the Tunitas Creek Beach

During the outreach process, stakeholders felt it was imperative to have a 24-hour presence at the site with an onsite ranger. The design process developed a location for the residence that was on a stable portion of the site and was located away from prominent visitor amenities. The house will not be visible from State Route 1.

As required by the LCP, a residence cannot be constructed without a water supply. County Parks installed test wells but was unable to find ground water at the site. We explored harvesting, storing, and treating of rainwater, but this is currently against the regulations of the State of California. Trucking water and storing it at the site is not allowed by the San Mateo County's Health Department. Thus, the project proposes extracting water as allowed by the LCP and the Water Resources Control Board from Tunitas Creek.

As Tunitas Creek is a perennial stream, the buffer would be 50 feet. Access to the extraction system would only be required during installation and during annual maintenance. This work would be supervised by biologists to ensure environmental resources were not disrupted. The extraction system features a baffle system to prevent ingestion of wildlife.

The proposed project within the Tunitas Creek buffer is consistent with Policy 7.12 of the LCP, as a residential use is allowed on the property and there is no other source of potable water. Policy 7.12 states the following:

> *Within buffer zones, permit only the following uses: (1) uses permitted in riparian corridors; (2) residential uses on existing legal building sites, set back 20 feet from the limit of riparian vegetation, only if no feasible alternative exists, and only if no other building site on the parcel exists; (3) on parcels designated on the LCP Land Use Plan Map: Agriculture, Open Space, or Timber Production, residential structures or impervious surfaces only if no feasible*

alternative exists; (4) crop growing and grazing consistent with Policy 7.9; (5) timbering in "streamside corridors" as defined and controlled by State and County regulations for timber harvesting; and (6) no new residential parcels shall be created whose only building site is in the buffer area

Finally, County Parks will operate and maintain the Tunitas Creek Beach Park consistent with its Routine Maintenance Program Manual (Maintenance Manual) dated July 2020. This manual provides guidance for protection of biological resources, vegetation management, and repairs of park facilities. A copy of this document can be found at the following link: https://www.smcgov.org/media/65021/download?inline= As a reminder, County Parks developed this manual with review by the California Coastal Commission.

Comment 4. *Cultural Resources* - *Staff encouraged the County to reach out to the appropriate Native American representatives via other methods such as phone call or email. While the County of San Mateo has conducted outreach pursuant to the consultation requirements of AB 52, we still encourage the County to attempt other methods of communication other than a formal notification by mail.*

Response to Comment 4. County Parks is currently collaborating with local tribes to integrate a land acknowledgement sign into the project.

We appreciate your review of the project and our responses. While this site has many challenges, it is a tremendous amenity to be shared with the public. Our team looks forward to meeting with CCC staff to share the background and process used to develop the design for this exciting new beach park serving California.