GARRAPATA TANKS SLOPE REPAIR PROJECT
LOW-EFFECT HABITAT CONSERVATION PLAN

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Prepared for

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EXECUTIVE SUMMARY

California American Water (Cal Am) is seeking an incidental take permit under Section 10(a)(1)(B) of the federal Endangered Species Act to cover take of the federally endangered Smith's blue butterfly (*Euphilotes enoptes smithi*) which will result from implementation of the Garrapata Tanks Slope Repair Project (project). The approximately 1.1 acre project site is located in Big Sur within Monterey County, California, and consists of slope stabilization and repair of a concrete pad to support two 40,000-gallon water tanks. Potential impacts to Smith's blue butterfly include removal of approximately ten[1] seacliff buckwheat (*Eriogonum parvifolium*) plants (an obligate host plant for Smith's blue butterfly) that, if present during project activities, would result in take of individual Smith's blue butterfly. In addition, take of Smith's blue butterfly occur within other areas of the project site or immediately adjacent areas where presumed-occupied seacliff buckwheat plants are present as a result of dust generated by access and work, installation of protective barrier fencing, and restoration activities from seed collection, pesticide use, or hand pulling weeds. This low-effect Habitat Conservation Plan (HCP) has been prepared to mitigate for take of Smith's blue butterfly. No other federally listed species will be impacted by the project.

A five-year permit term is requested to address impacts to Smith's blue butterfly during project construction. Impacts resulting from this project would be fully mitigated through on-site replacement of disturbed Smith's blue butterfly habitat (i.e., seacliff buckwheat plants) at a 3:1 ratio. No ongoing impacts to Smith's blue butterfly are expected from maintenance of the water tanks after project construction. As such, five years is sufficient to assess the successful implementation of post-construction revegetation.

Due to the project's small size and the proposed avoidance, minimization, and mitigation measures, the project is not anticipated to significantly impact the persistence of Smith's blue butterfly within the project area, or the persistence of the species as a whole. This low-effect HCP's mitigation strategy includes the following measures designed to avoid, minimize, and mitigate the project's impacts on Smith's blue butterfly:

- Construction-phase avoidance and minimization measures,
- Construction-phase compliance and effectiveness monitoring and reporting,
- Preparation and implementation of a post-construction Revegetation Plan that mitigates for loss of presumed-occupied seacliff buckwheat at a 3:1 ratio, and
- Revegetation compliance and effectiveness monitoring and reporting.

Cal Am, the Applicant and Permittee, will fund all elements of this low-effect HCP.

[1] Number estimated.

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SECTION 1. INTRODUCTION

This low-effect Habitat Conservation Plan (HCP) for the Garrapata Tanks Slope Repair Project (project), located in Monterey County, California, has been prepared pursuant to the requirements of the federal Endangered Species Act of 1973 (ESA; 16 USC 1532 et seq., as amended), and is intended to provide the required information and serve as the basis for issuance of a Section 10(a)(1)(B) incidental take permit (ITP) from the U.S. Fish and Wildlife Service (Service) for project-related impacts to the federally endangered Smith's blue butterfly (*Euphilotes enoptes smithi*). The Applicant and Permittee is California American Water (Cal Am).

This low-effect HCP includes an assessment of the existing Smith's blue butterfly habitat within and adjacent to the site and evaluates the potential effects of the project on Smith's blue butterfly. This HCP also includes measures to avoid and minimize impacts to Smith's blue butterfly during project construction, and provides mitigation measures to offset habitat losses and direct impacts to Smith's blue butterfly individuals that may result from implementation of the project. No other federally listed species will be impacted by the project.

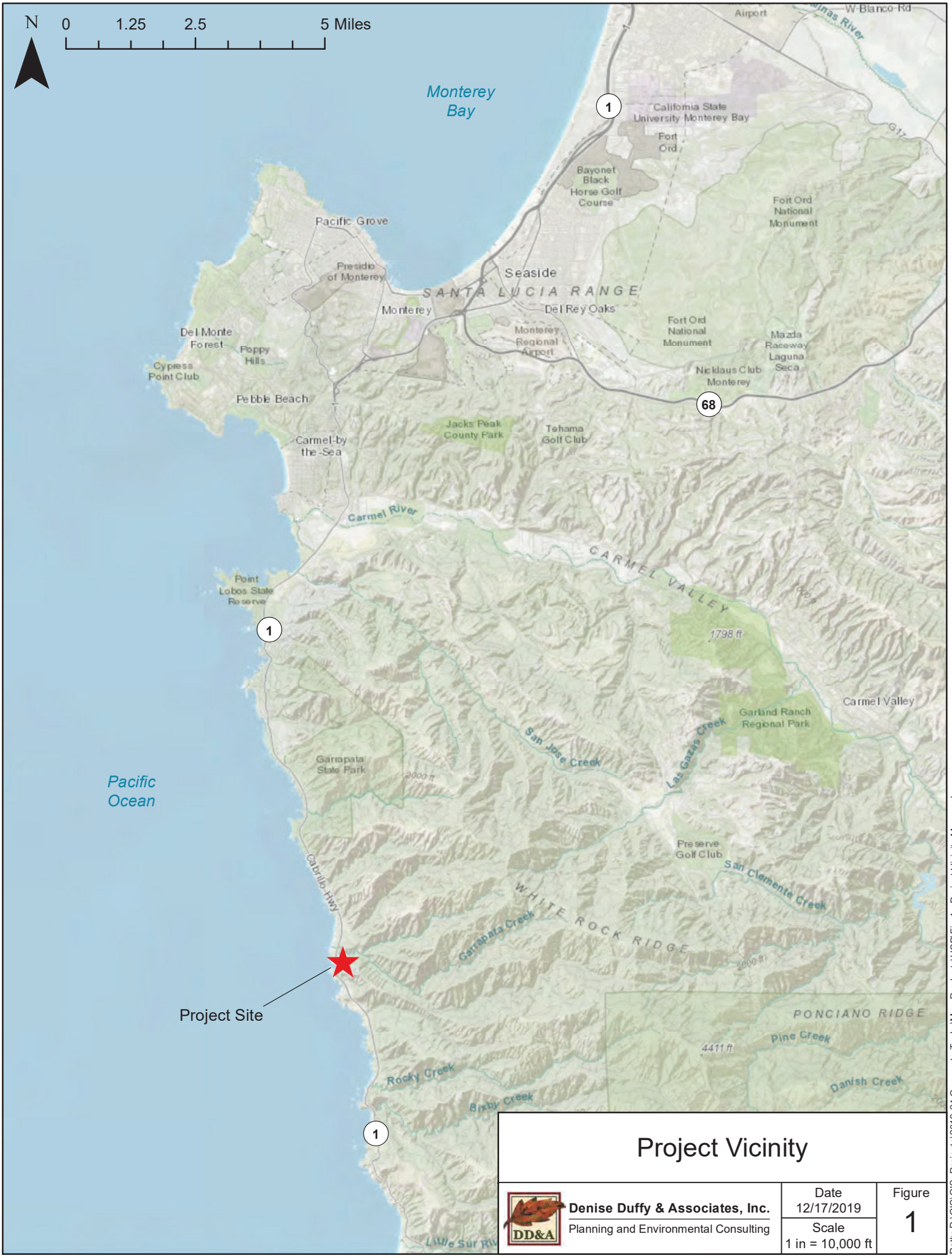
1.1 Permit Boundaries

The project site lies within the Big Sur area of unincorporated Monterey County, California (**Figure 1**). The project site is located within two parcels (Monterey County assessor's parcel numbers [APNs] 243-301-030-000 and 243-301-031-000; **Figure 2**) which are not owned by Cal Am; however, Cal Am is authorized to use and access the site through grant deeds of easements and rights-of-way. The permit boundaries include only the project site, as identified on **Figure 2**, not the entirety of the two project parcels. The project site includes the Twin Tanks, the slide area (including an approximate five- to ten-foot buffer around the slide area), and the existing gravel road access route, totaling approximately 1.1 acre.

1.2 Project Background

Two 40,000-gallon water tanks (Garrapata Tanks 1 and 2, or the "Twin Tanks") and their associated infrastructure, owned and operated by Cal Am, are present within the project site. The Twin Tanks feed Cal Am's Garrapata Water System, which provides drinking water to 40 domestic services. The tanks lie on a concrete pad on a steep hillside with an approximate slope gradient of 1:1 or steeper. Severe rainstorms in 2017 resulted in two landslides below the concrete pad (hereafter the "slide area"), creating a nearly vertical head scarp. If repairs are not made to provide structural support and, thus, slope stability for the fill material supporting the Twin Tanks, the face of the slope will continue to fail and ultimately destroy the tanks and associated pump station, piping, and appurtenances. This risk is exacerbated by the potential for heavy winter rains and seismic activity at the project site, which lies within the active San Gregorio earthquake fault zone.

The proposed project consists of slope stabilization of the slide area and repair of the concrete pad to provide long-term stability of the slide area and the Twin Tanks. Smith's blue butterfly is known to occur within the vicinity of the project site, and Smith's blue butterfly habitat consisting of populations of seacliff buckwheat (*Eriogonum parvifolium*), is present within and directly adjacent to the site. Therefore, Smith's blue butterfly is assumed present within the project site and may be impacted by the project through habitat loss and/or mortality of individuals.



Project Vicinity

Denise Duffy & Associates, Inc. Planning and Environmental Consulting	Date 12/17/2019 Scale 1 in = 10,000 ft	Figure 1

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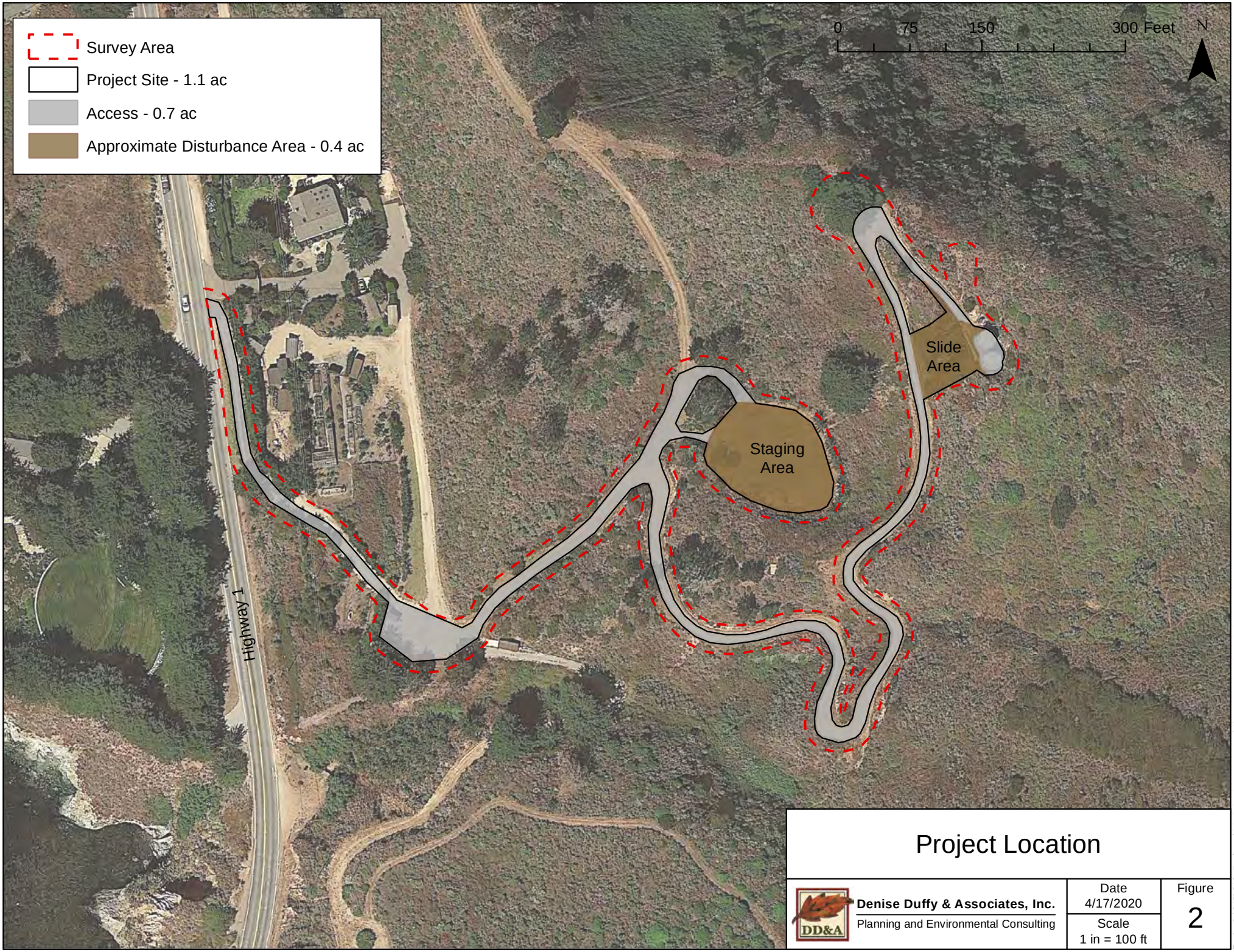

Project Location

Denise Duffy & Associates, Inc. Planning and Environmental Consulting	Date 4/17/2020 Scale 1 in = 100 ft	Figure 2

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1.3 Permit Holder/Permit Duration

Cal Am will be the permit holder. The ITP is requested and will be in effect for five years, unless terminated sooner in accordance with governing laws and regulations. No on-going impacts to Smith's blue butterfly or its habitat are expected from maintenance of the water tanks after project construction. As such, five years is sufficient to successfully implement a post-construction Revegetation Plan.

If required, permit renewal beyond the five-year term will be governed by the laws and regulations then in effect.

1.4 Species to be Covered by Permit

The following species would be "covered species" under the ITP, if it is issued.

Covered Species	Federal Status
Smith's blue butterfly (*Euphilotes enoptes smithi*)	Endangered

The potential for other federally listed species to occur within the project site was evaluated in the *Garrapata Tanks Slope Repair Project Biological Assessment* (DD&A, 2019; **Appendix B**). The assessment included a field survey and a review of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) species occurrence reports (CDFW, 2019), the Service's IPaC Resource List (USFWS, 2019), and previous biological documentation for the project site (Nedeff, 2009 and DD&A, 2011). The evaluation determined that no additional federally listed species would be affected by the project. However, the staging area was not included in the 2019 biological assessment; therefore, DD&A conducted a supplemental survey of the site on December 10, 2019 to determine presence or potential presence of listed species. No federally listed species, or suitable habitat for such species, were identified within the staging area.

1.5 Regulatory Framework

1.5.1 Endangered Species Act of 1973

Provisions of the ESA of 1973 (16 USC 1531 et seq., as amended) protects federally listed endangered species from unlawful take. Listed species include those for which proposed and final rules have been published in the Federal Register. The ESA is administered by the Service or the National Marine Fisheries Service (NMFS). In general, NMFS is responsible for the protection of ESA-listed marine species and anadromous fish, whereas other listed species are under the Service's jurisdiction.

Section 9 of ESA prohibits the take of any fish or wildlife species listed under ESA as endangered; by regulation promulgated pursuant to section 4(d) of the ESA, the take prohibition also applies to certain species listed as threatened. Take, as defined by ESA, is "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." Harm is defined as "any act that kills or injures the species, including significant habitat modification." If there is the potential for incidental take of a federally listed fish or wildlife species, take can be authorized through either the Section 7 consultation process for federal actions or a Section 10 incidental take permit process for non-federal actions. Federal agency actions include activities that are on federal land, conducted by a federal agency, funded by a federal agency, or authorized by a federal agency (including issuance of federal permits).

Incidental take is defined by the ESA as take that is incidental to, and not the purpose of, carrying out of an otherwise lawful activity. Under Section 10 of the ESA, incidental take is authorized through issuance of an incidental take permit where the applicant has prepared a voluntary agreement to conserve or minimize and mitigate impacts to federally listed fish and wildlife, such as an HCP. The Section 10 process is an opportunity to provide species protection and habitat conservation within the context of non-federal development and land and water use activities. It provides a mechanism for allowing economic development that will not significantly reduce the likelihood of the survival and recovery of federally listed species in the wild. Section 10 of the ESA requires that an applicant for an ITP submit an HCP that specifies the impacts that are likely to result from take of federally listed species and the measures the applicant will undertake to minimize and mitigate for such impacts. The regulatory standard under Section 10 of the ESA is that the effects of authorized incidental take must be minimized and mitigated to the maximum extent practicable, a proposed project must not appreciably reduce the likelihood of the survival and recovery of the species in the wild, and adequate funding must be ensured.

Section 7 of the ESA requires federal agencies to ensure that their actions, including issuing permits, do not jeopardize the continued existence of listed species or destroy or adversely modify listed species' critical habitat. "Jeopardize the continued existence of…" pursuant to 50 CFR 402.2, means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species. Issuance of an ITP under Section 10 by the Service is a federal action subject to Section 7 of the ESA. As a federal agency issuing a discretionary permit, the Service is required to consult with itself (i.e., conduct an internal consultation).

1.5.2 Section 10(a)(1)(B) Process/HCP Requirements and Guidelines

The Section 10 process for obtaining an ITP consists of three primary phases:

- The HCP development phase,
- The formal permit processing phase, and
- The post-issuance phase.

During the HCP development phase, the applicant prepares a plan that integrates the proposed project or activity with the protection of the listed species. The HCP must include the following information:

- Impacts likely to result from the proposed taking of the species for which permit coverage is requested,
- Measures the applicant will undertake to monitor, minimize, and mitigate such impacts; the funding that will be made available to undertake such measures; and the procedures to deal with unforeseen circumstances,
- Alternative actions that the applicant considered that would not result in take, and the reasons why such alternatives are not being utilized, and
- Additional measures the Service or NMFS may require as necessary or appropriate for purposes of the HCP.

The HCP development phase is concluded when the applicant submits a complete application package, which includes the completed HCP, a permit application form, and a fee.

The permit processing phase involves review of the application package by the appropriate Regional Office, announcement in the Federal Register of the receipt of the permit application and availability of the NEPA analysis for public review and comment, intra-Service consultation under Section 7 of the ESA, and determination whether the HCP meets ESA statutory issuance criteria. Once the Service or NMFS determines the HCP is complete, the USFWS will proceed in accordance with the following:

(i) Upon receiving an application completed in accordance with paragraph (b)(1) of this section, the Director will decide whether or not a permit should be issued. The Director shall consider the general issuance criteria in § 13.21(b) of this subchapter, except for § 13.21(b)(4), and shall issue the permit if he or she finds that:

(A) The taking will be incidental;

(B) The applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such takings;

(C) The applicant will ensure that adequate funding for the conservation plan and procedures to deal with unforeseen circumstances will be provided;

(D) The taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild;

(E) The measures, if any, required under paragraph (b)(1)(iii)(D) of this section will be met; and

(F) He or she has received such other assurances as he or she may require that the plan will be implemented.

(ii) In making his or her decision, the Director shall also consider the anticipated duration and geographic scope of the applicant's planned activities, including the amount of listed species habitat that is involved and the degree to which listed species and their habitats are affected.

The post-issuance phase is the period during which the permittee and other responsible entities implement the HCP and its monitoring and funding programs. The Service monitors the permittee's compliance with the conservation program and other terms and conditions of the permit, and the HCP's long-term progress and success.

Low-Effect HCP

The Service and NMFS have developed several processes for expediting the permitting process. One of these processes was the establishment of "low-effect HCPs," which have substantially simplified permit processing requirements and are expedited to the maximum extent possible, consistent with federal law. Low-effect HCPs are those that, despite their authorization of some small level of incidental take, individually and cumulatively have a minor or negligible effect on the species covered in the HCP. Low-effect HCPs often involve a single small area of land and relatively few acres of species habitat. However, the geographic size of a project may not always reflect the severity of the impacts; i.e. a project may be large in size, but still be categorized as low-effect if it is expected to result in minor or negligible impacts. The determination of whether an HCP qualifies for the low-effect category must be based on anticipated impacts prior to implementation of the mitigation plan. Low-effect HCPs are intended for projects with inherently low impacts, not for projects with significant potential impacts that are subsequently reduced through mitigation programs.

1.5.3 National Environmental Policy Act

NEPA was signed into law in 1970 and established an environmental review process that applies to federal agencies. Under NEPA, federal agencies are authorized and directed, to the fullest extent possible, to carry out their regulations, policies, and programs in accordance with NEPA's policies of environmental protection. NEPA applies to all federal agencies and to most of the activities they manage, regulate, or fund that affect the environment.

Issuance of an ITP is a federal action subject to NEPA compliance. The NEPA analysis covers the direct, indirect, and cumulative effects of the proposed incidental take and the mitigation and minimization measures proposed from the implementation of the HCP. The scope of the NEPA analysis varies depending on the nature of the activities described in the HCP. In some cases, the anticipated environmental effects in the NEPA analysis may be confined to effects on ESA-listed species and other wildlife and plants, simply because there are no other important effects. In other cases, the minimization and mitigation activities proposed in the HCP may affect a wider range of resources analyzed under NEPA, such as cultural resources or water use. Depending on the scope of the impact of the HCP, NEPA requirements can be satisfied by one of the following documents or actions:

- Environmental Impact Statement—generally prepared for projects with potentially significant adverse effects,
- Environmental Assessment—generally prepared for projects with less-than-significant effects or potentially adverse significant effects that can be reduced to less-than-significant with mitigation incorporated, or
- Categorical Exclusion—allowed for low-effect HCPs.

SECTION 2. PROJECT DESCRIPTION/COVERED ACTIVITIES

2.1 Project Description

The project consists of slope stabilization of the slide area and repair of the concrete pad supporting the Twin Tanks (**Appendix A**). Stabilization of the slide area will be accomplished by installing poured-in-place reinforced concrete piers at the top of the slope. These piers will be connected by a reinforced rail wall that will help support the fill under the tanks by providing horizontal support on the scarp face. A reinforced shotcrete mat with tieback anchors will then be installed over the slide area beginning at the rail and extending down the slope to a toe anchor keyed into the bedrock. Behind the upper rail wall, the existing fill material will be removed and replaced in compacted layers to prevent future settlement. Inlet and outlet pipes that currently lie within the fill material will be relocated above grade and fitted with flexible connections to the Twin Tanks, thereby facilitating monitoring of their condition in the event the fill settles or moves as a result of seismic activity. The surface of the fill material immediately surrounding the tanks will be paved with a concrete slab sloped to a catch basin and drain line that will convey stormwater down the hillside to the appropriate discharge point. Thus, leaks or ruptures of the inlet and outlet pipes will be contained in the drainage system and conveyed down the slope in a pipe. These facilities will be located behind the rail wall, the face of which will be covered with shotcrete that will be designed to look like a natural rock feature.

The amount of grading will be dependent upon the site conditions discovered when the membrane covering is removed. The intent is to only remove that amount of the loose slide debris necessary for the placement of the structural repair, reinforced shotcrete facing. It is assumed that any material removed will be placed on the existing parcel with a maximum amount of off haul being approximately 20 cubic yards. To construct the temporary bench shown on the wall profile, barrier blocks will be used to form a temporary wall with rock fill material being imported to provide the construction bench needed during construction. At the completion of the placement of the shotcrete face, the rock material will be used as road surfacing and in the roadside drainage ditch to minimize erosion and will not be visible from below.

Access to the site will be provided via the existing gravel road off Highway 1, and staging will occur within a disturbed, regularly maintained non-native grassland open area (**Figure 2**). Construction equipment will include two work trucks (pickups with service beds), a dump truck, a water truck, a CAT 15 excavator, an 8k reach forklift, a drill rig, and a shotcrete pump. Construction will commence around April 15, 2020, weather permitting, and continue for 90 consecutive days between the hours of 7:00am and 6:00pm.

2.2 Activities Covered by the Permit

The ITP is requested to cover impacts to Smith's blue butterfly that could result from vegetation removal, grading, equipment access to the Twin Tanks and the slide area (including an approximate five- to ten-foot buffer around the slide area), installation of protective fencing around seacliff buckwheat plants, and implementation of the Revegetation Plan, including seed collection and weed management (see *Section 5, Conservation Plan*). Equipment access will be limited to the boundaries of the existing gravel road access route.

No ground disturbing activities, and, therefore, no ongoing impacts to Smith's blue butterfly or its habitat, are expected from maintenance of the water tanks after project construction and revegetation.

SECTION 3. ENVIRONMENTAL SETTING/COVERED SPECIES

3.1 Environmental Setting

3.1.1 Land Use

The project site lies within the Monterey County Big Sur Coast Land Use Plan (LUP), which designates the land use category of the site as *Watershed and Scenic Conservation* (WSC). The primary objective of the WSC land use designation is protection of watersheds, streams, plant communities, and scenic values; however, a number of uses—including ranches, rural residences, low intensity recreation, rustic visitor accommodations, and, under careful controls, forestry, mining, and aquaculture—are permitted. The development and resource policies of the WSC land use designation guide landowners in ensuring that development is compatible with protection of the land. At the same time, this land use designation provides flexibility for landowners to obtain a reasonable return from the land.

The site is currently in use as a water tank site. Adjacent uses (including other uses within the project parcels) include low-density residential developments.

3.1.2 Climate

The project site lies in the central California coast and is subject to a typical coastal California wet-dry seasonal pattern. Mean annual rainfall within the Big Sur region is approximately 45 inches, and average temperature is 58°F. More than 90% of the annual rainfall occurs during the six-month period between November and April. Located within the Coastal Zone, the site is also highly influenced by coastal fog, especially in the summer months.

3.1.3 Hydrology

The project site lies within the Santa Lucia Watershed. There are no surface water bodies within the site; however, the site is located approximately 450 feet east of the Pacific Ocean and approximately 300 feet south of Garrapata Creek, which drains into the ocean. The site is mostly undeveloped; only the concrete pad supporting the Twin Tanks constitutes an impervious surface.

3.1.4 Topology and Geology

The project site is located on the western edge of the Santa Lucia Mountains, a 150-mile long, north-west trending range extending along the California Coast from Monterey to San Luis Obispo. These mountains consist of granitic and metamorphic base rocks overlain by younger sedimentary rocks, all of which have been folded and uplifted. The site lies within the active San Gregorio fault zone.

The project is located on a steep hillside with an approximate slope gradient of 1:1 or steeper, at elevations of 250 to 350 feet above mean sea level. Soils vary from *Junipero-Sur complex* at the concrete pad and slide area, *Sheridan coarse sandy loam, 15 to 30 percent slopes, MLRA 15* along the upper and middle portions of the dirt road access route, and *Arroyo Seco gravelly sandy loam, 5 to 9 percent slopes* along the lower end of the access route (USDA, 2019). Project activities will mostly occur within the steep soils of the *Junipero-Sur complex*, for which runoff is very rapid and erosion hazard is very high.

3.1.5 Vegetation Communities

Two vegetation communities—northern coastal scrub and ruderal (disturbed) vegetation—were identified within the project site during a 2009 biological assessment (Nedeff, 2009). Northern coastal scrub was identified within the entire hillside around the Twin Tanks, and was characterized by low, dense shrub

cover dominated by coast sagebrush (*Artemisia californica*), poison oak (*Toxicodendron diversilobum)*, lizard tail (*Eriophyllum staechadifolium*), coyote brush (*Baccharis pilularis*), blue blossom (*Ceanothus thyrsiflorus*), deerweed (*Acmispon glaber*), sticky monkeyflower (*Diplacus aurantiacus*), coffeeberry (*Frangula californica*), and occasional black sage (*Salvia mellifera*). Seacliff buckwheat was also identified within this vegetation community. Ruderal vegetation was identified within the area immediately surrounding the Twin Tanks, and was characterized by mostly non-native, weedy species such as ice plant (*Carpobrotus* sp.), French broom (*Genista monspessulana*), large mats of crabgrass (*Digitaria* sp.), and annual grasses.

The 2019 biological assessment verified that these vegetation communities are currently present within the project site and are characterized by the same species as identified in 2009 (DD&A, 2019). Coastal scrub occurs throughout all undeveloped areas of the site but is being invaded by non-native, weedy species. Specifically, the slide area is being invaded by ice plant. Additionally, a supplemental survey of the site in December 2019 identified non-native, disturbed grassland within the proposed staging area. This area is dominated by non-native grasses and forbs, is regularly mowed, and is currently used for staging and stockpiling.

3.2 Covered Species

Smith's blue butterfly is the only federally listed species potentially occurring within the project site (DD&A, 2019). Smith's blue butterfly was listed as a federally endangered species on June 1, 1976 (41 FR 22041 22044). This species historically ranged along the California coast from Monterey Bay south through Big Sur to near Point Gorda, occurring in scattered populations in association with coastal dune, coastal scrub, chaparral, and grassland habitats. The primary limiting factor for Smith's blue butterfly populations is the occurrence of their host plants, seacliff buckwheat and coast buckwheat (*E. latifolium*), in which they are associated with for their entire life span. There is also a potential for Smith's blue butterfly to use naked buckwheat (*E. nudum*) within a range of the obligate host species (pers. comm. Dave Dixon, California State Parks). The presence of the host plant, however, is not always an indication of the occurrence of the butterfly, as the host plant distribution is much more extensive than that of Smith's blue butterfly.

Individual adult males and females live approximately one week between mid-June or July to early September. Adult emergence and seasonal activity is synchronized with the blooming period of their host plant at any given site typically beginning in mid-June or July. Dispersal data from capture-recapture studies (Arnold, 1983) indicate that most adults are quite sedentary, with home ranges no more than a few acres. Smith's blue butterfly has only one generation per year. Females lay single eggs into buckwheat flower heads, which hatch in approximately one week. Caterpillars mature over a span of approximately three to four weeks, feeding on petals and seeds of the buckwheat plant. Chrysalis formation then takes place in the buckwheat flower head and the chrysalis eventually falls into leaf litter and topsoil beneath the plant, where it remains for approximately 47 weeks until the cycle begins again (Dixon, 1999).

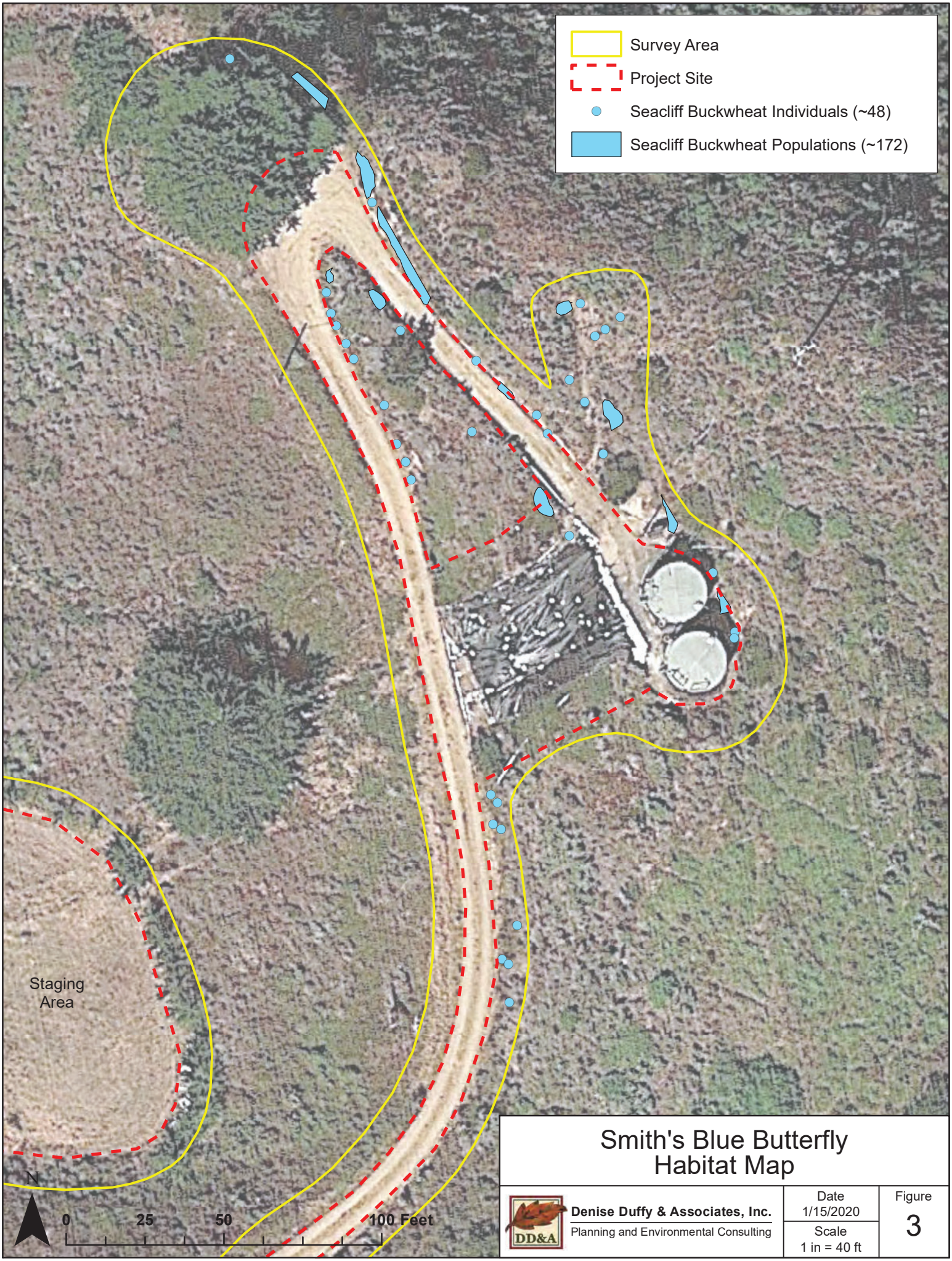
3.2.1 Smith's blue butterfly Occurrence Information

The CNDDB reports 24 occurrences of Smith's blue butterfly within 1,000 feet of the project site. During the 2019 biological assessment approximately 220 seacliff buckwheat plants were identified within the

survey area[2]. Of these, approximately 25 were identified within the 1.1 acre project site (**Figure 3**; DD&A, 2019). As such, Smith's blue butterfly is assumed present within the project site and adjacent areas where its host plant occurs.

The 2019 biological assessment and supplemental site visit included surveys of only the project site and immediately adjacent areas. Based on a visual assessment of the surrounding areas, the same habitat conditions (i.e., coastal scrub) are present far beyond the areas surveyed; therefore, seacliff buckwheat and Smith's blue butterfly likely occur beyond the survey area.

[2] Seacliff buckwheat plants were mapped as individuals if five or fewer plants were identified within three feet of each other. Populations of seacliff buckwheat plants with more than five individuals within three feet of each other were mapped as polygons. Number of individual plants within polygons were estimated assuming each plant represents two square feet.



Smith's Blue Butterfly Habitat Map

Denise Duffy & Associates, Inc.
Planning and Environmental Consulting

Date	Figure
1/15/2020	3
Scale	
1 in = 40 ft	

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SECTION 4. BIOLOGICAL IMPACTS/TAKE ASSESSMENT

4.1 Impacts to Covered Species

Project activities have the potential to negatively impact Smith's blue butterfly. Impacts from the project include potential injury or mortality of Smith's blue butterfly individuals—if present during construction—as a result of ground disturbance and removal of presumed-occupied seacliff buckwheat plants. Ingress and egress by equipment and vehicles and ground disturbance could cause dust to coat seacliff buckwheat, rendering it unusable by Smith's blue butterfly, and smother Smith's blue butterfly larval individuals on host plants near the road and construction area. Overspray from dust control activities with a water truck into areas adjacent to work, access, and staging sites with seacliff buckwheat plants could injure or kill feeding or reproducing Smith's blue butterfly adults or feeding Smith's blue butterfly larvae.

Collection of seacliff buckwheat seeds for revegetation purposes may result in take of Smith's blue butterfly larvae and pupae. In addition, integrated weed management activities could result in injury or mortality of Smith's blue butterfly individuals or could kill available host plants, making them no longer be available for breeding, feeding and sheltering in the project area. The following table identifies each covered activity (as identified in Section 2.2 above), its take mechanism, and duration, as well as the corresponding avoidance and minimization measures (AMM) or mitigation measures (MM) (as identified in *Sections 5.3* and *5.4* below).

Covered Activity	Take Mechanism	Duration	Avoidance/ Minimization/ Mitigation Measures
Vegetation Removal	Removal of presumed-occupied seacliff buckwheat plants would kill available host plants and could capture, kill or injure Smith's blue butterfly larvae or pupae.	Once at beginning of construction	AMMs 1-4, AMM 6, and MM 1-3
Grading and Equipment Access	Vehicles and equipment could injure or kill seacliff buckwheat or Smith's blue butterfly adults, larvae, or pupae located adjacent to work areas. Dust could coat seacliff buckwheat plants preventing adults from feeding or laying eggs in the flowers. Dust could coat and kill Smith's blue butterfly adults, larvae, or pupae. Overspray from water trucks could injure or kill Smith's blue butterfly adults or larvae.	90 days	AMM 1, AMMs 3-5
Installation of Protective Fencing	Smith's blue butterfly pupae or larvae in the soil surrounding seacliff buckwheat plants could be killed or injured.	Once prior to construction	AMM 1, AMM 4
Revegetation and Management	Collection of seeds from presumed-occupied seacliff buckwheat plants could kill Smith's blue butterfly pupae or larvae. Pesticide use and hand pulling of weeds could kill available host plants.	Seed collection: once in September/October Weed management: 5 years following construction	AMM 6 and MM 1

4.2 Anticipated Take of Covered Species

The project may result in the removal of approximately ten seacliff buckwheat plants, an obligate host plant for Smith's blue butterfly. Focused surveys and population counts for Smith's blue butterfly have not been

conducted at the site; however, the presence of Smith's blue butterfly within the project site is inferred based on the presence of its host plant within the site and documented occurrences of this species within 1,000 feet of the site. It is not feasible to quantify the number of individuals that may be occupying a seacliff buckwheat plant, or the duff layer and soil beneath a plant. As such, the anticipated level of take is based on the amount of presumed-occupied seacliff buckwheat plants impacted, not the number of Smith's blue butterfly individuals impacted.

The seacliff buckwheat population (10 individuals) that may be removed are located directly adjacent to the slide area (**Figure 3**). In addition to take of Smith's blue butterfly individuals from the removal and relocation of existing buckwheat plants from the work area, take could occur within other areas of the project site (approximately 15 individuals) or immediately adjacent areas where presumed-occupied seacliff buckwheat plants are present (**Figure 3**). Within these areas, take could occur as a result of dust generated by access and work, installation of protective barrier fencing, and restoration activities from seed collection, pesticide use, or hand pulling weeds, as described in more detail in *Section 4.1* above.

The maximum levels of take of the Smith's blue butterfly anticipated to occur under this HCP, and requested for coverage under a Section 10(a)(1)(B) permit, are as follows (Note: take limits for Smith's blue butterfly are derived by the numbers of seacliff buckwheat plants):

1) any Smith's blue butterfly and seacliff buckwheat plants (approximately 10 plants) that may be associated with up to 20 square feet of foraging and breeding habitat that will be removed by the project;
2) any Smith's blue butterfly and seacliff buckwheat plants (< 5 plants) that may be killed, harmed, or injured as a result of impacts by habitat protection fencing, construction equipment or vehicles, activities related to construction, or dust; and
3) any Smith's blue butterfly and seacliff buckwheat plants [< 5 plants per year (on average, but not to exceed 10 plants in any given year) throughout the remaining term of the incidental take permit, or not to exceed 25 plants during the 5-year term of the permit] that may be killed, harmed, or injured after completion of all construction activities as a result of habitat restoration (including seed collection), habitat management (including integrated weed control activities), or monitoring activities.

4.3 Anticipated Impacts of the Taking

Given the amount of available Smith's blue butterfly habitat documented within the survey area and likely occurring outside the survey area, direct construction impacts are likely to have a low impact on Smith's blue butterfly individuals because it is unlikely that the majority of the population is concentrated within the seacliff buckwheat plants that would be impacted by the project. Further, the project would not result in a net loss of habitat as it would be replaced following construction, as described in *Section 5.4* below.

4.4 Cumulative Impacts

In contrast with the analysis of cumulative impacts under Section 7 of the ESA, NEPA analysis of cumulative impacts account for incremental impacts of the action on the environment when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. The geographic area for analysis may be defined by the manifestation of all consequences of covered activities. Cal Am is unaware of any additional projects in the area that may affect Smith's blue butterfly.

SECTION 5. CONSERVATION PROGRAM

Section 10 of the ESA requires that an HCP specify the measures that the permittee will take to minimize and mitigate to the maximum extent practicable the impacts of the taking of any federally listed animal species as a result of activities addressed by the HCP. In accordance with the ESA, the following section outlines the Conservation Program that Cal Am will implement to minimize and mitigate for the taking of Smith's blue butterfly.

5.1 Biological Goals and Objectives

As part of the "Five Point" Policy adopted by the Service in 2000, HCPs must establish biological goals and objectives (65 *Federal Register* 35242, June 1, 2000). The purpose of the biological goals is to ensure that the operating conservation program in the HCP is consistent with the conservation and recovery goals established for the species. The goals are also intended to provide to the permittee an understanding of why these actions are necessary. These goals are developed based on the species' biology, threats to the species, the potential effects of the Covered Activities, and the scope of the HCP. The goals and objectives of this low-effect HCP are as follows:

- *Goal 1:* Minimize take of Smith's blue butterfly during project construction.
  - *Objective 1:* Implement the avoidance and minimization measures detailed in *Section 5.3*.
- *Goal 2*: Restore approximately 0.3 acre[3] area temporarily disturbed during construction.
  - *Objective 2:* Implement the revegetation measures detailed in *Section 5.3.*
- *Goal 3:* Mitigate for the loss of Smith's blue butterfly presumed-occupied host plants by successfully replacing all seacliff buckwheat plants removed on site at a 3:1 ratio.
  - *Objective 3:* Plant seacliff buckwheat on site at a 3:1 ratio per the measures detailed in *Section 5.4*.
  - *Objective 4:* If, at the end of each annual monitoring period, it is determined that plants have failed or are dying, replant to ensure survival of seacliff buckwheat at the 3:1 ratio.

5.2 Success Criteria

Success criteria to achieve Goal 1 include the following:

- Document that avoidance and minimization measures have been implemented via the monitoring and reporting protocols detailed in *Section 5.6* and *Section 5.7*.

Success criteria to achieve Goal 2 include the following:

- The overall percent aerial coverage of vegetation within the revegetation area is greater than 20% the first year, 40% the third year, and 80% the fifth year.
- The overall percent aerial coverage of native vegetation within the revegetation area is greater than 30% in year three, and 70% at year five.

[3] The acreage of the area to be restored is estimated as the exact amount of grading necessary for slope repair and the extent of the shotcrete wall will be dependent upon the site conditions discovered when the membrane covering is removed.

- The revegetation area does not have greater than 10% relative cover of any plant listed in the *California Plant Pest Council's 2006 Inventory* or the most recent update to that inventory at the time of monitoring.

Success criteria to achieve Goal 3 include the following:

- Confirm, via monitoring, that revegetation is conducted according to measures detailed in *Section 5.4*.
- Survival of all seacliff buckwheat planted (or seacliff buckwheat replanted to replace dying plants) at the end of the five-year monitoring period.

If success criteria are not met, an analysis of the cause(s) of failure will be prepared and, if determined necessary, remedial action will be proposed for approval. The permit holder will be responsible for reasonable funding of the adaptive management actions necessary for successful completion of the mitigation effort. In addition, an adaptive management approach will be employed which consists of evaluating the monitoring data and modifying the mitigation approach as necessary to increase the potential to achieve the success criteria (see *Section 5.8*).

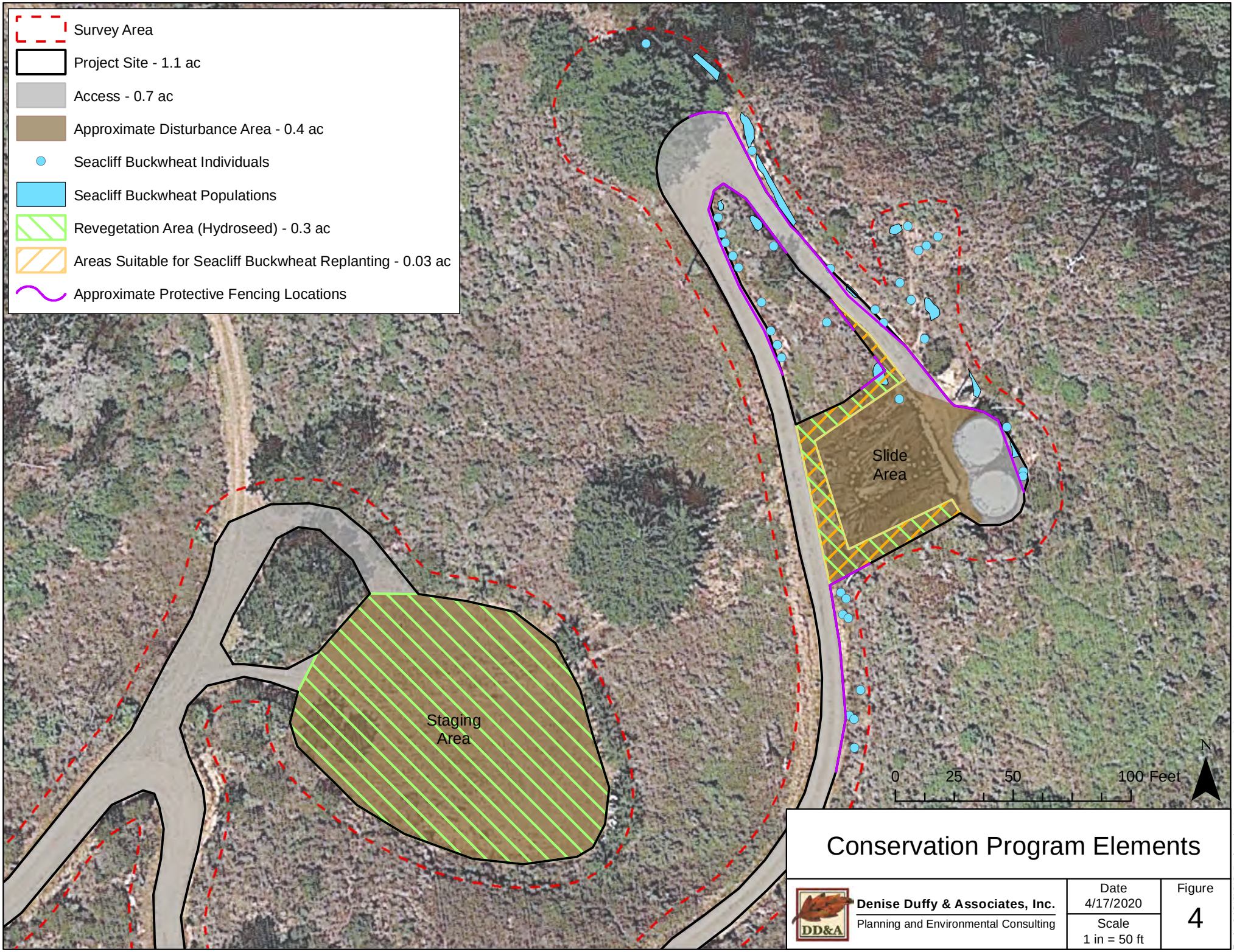
5.3 Measures to Avoid and Minimize Impacts During Construction

The following measures will be implemented to achieve Goals 1 and 2:

AMM 1 Smith's blue butterfly (i.e., presumed-occupied seacliff buckwheat plants) will be avoided to the greatest extent feasible. Presumed-occupied Smith's blue butterfly habitat that will not be impacted by the project will be protected prior to and during construction to the maximum extent possible with protective fencing and/or flagging to avoid impacts to Smith's blue butterfly. A biological monitor will supervise the installation of protective fencing/flagging and monitor at least once per week until construction is complete to ensure that the protective fencing/flagging remains intact. The protective barrier will be installed to avoid areas directly under and surrounding seacliff buckwheat plants to avoid impacts to pupae in the soil and duff layer. The approximate locations of protective fencing/flagging is shown in **Figure 4**.

AMM 2 Presumed-occupied seacliff buckwheat plants that will be impacted by the project, as well as the duff and/or soils underneath these plants, will be removed by hand by a Service-approved biologist prior to disturbance, and will be placed as close as possible to, but not on, living seacliff buckwheat plants not scheduled for removal, within the boundaries of exclusionary fencing/flagging. The number of plants removed will be quantified.

AMM 3 A Service-approved biologist will conduct an Employee Education Program for the construction crew prior to any construction activities. The Service-approved biologist will meet with the construction crew at the onset of construction at the project site to educate the construction crew on the following: 1) the appropriate access route(s) in and out of the construction area and review project boundaries; 2) the life history and habitat of Smith's blue butterfly and identification of its host plant, seacliff buckwheat; 3) the specific avoidance and minimization measures that will be incorporated into the construction effort; 4) the general provisions and protections afforded by Service; and 7) the proper procedures if a special-status species is encountered within the project site.



Conservation Program Elements

Denise Duffy & Associates, Inc. Planning and Environmental Consulting	Date 4/17/2020	Figure 4
	Scale 1 in = 50 ft	

Path: C:\GIS\GIS_Projects\2019-21 Garrapata Tanks\Map Products\HCP\Fig 4 - Mitigation and Avoidance Measures.mxd

AMM 4 A Service-approved biologist will monitor initial ground disturbing construction activity for a sufficient amount of time to train an individual to act as the on-site construction monitor. This would typically take two days. The determination of when the construction monitor is sufficiently trained to act independently will be made by the Service-approved biologist and may be less or more than two days. The construction monitor will have attended the training described above. Both the Service-approved biologist and the construction monitor will have the authority to stop and/or redirect project activities to ensure protection of resources and compliance with all environmental permits and conditions of the project. The construction monitor will complete a daily log summarizing activities and environmental compliance.

AMM 5 To avoid impacts to Smith's blue butterfly from excess dust, drivers will maintain a 10 mile per hour speed limit for ingress and egress and equipment staging. If necessary, water will be used to control excess dust on road, staging area, and excavation sites. Personnel applying the water will avoid spraying seacliff buckwheat adjacent to the road, staging area, and excavation site.

AMM 6 Following construction, temporarily disturbed areas (approximately 0.3 acre as shown on **Figure 4**) will be restored to pre-project contours to the maximum extent possible and revegetated using locally-occurring native species and native erosion control seed mix, per the recommendations of a qualified biologist and/or restoration contractor. The following planting specifications will be implemented for the revegetation area:

- Following construction, all temporarily disturbed areas will be hydroseeded with native, locally-occurring plant species.
- As the site already includes the species that would be replanted, it is well suited for the restoration and soil amendments are not recommended within the revegetation area. Additionally, fertilizer is not recommended within the revegetation area as fertilizers often promote the growth of non-native, invasive plant species. Soil amendments and fertilizers may be used as adaptive management if necessary, as described in *Section 5.8* of this low-effect HCP.
- Irrigation is not typically recommended for native restoration as it can promote prolific growth of non-native invasive species. As such, the local weather conditions will be used to the best advantage (i.e. seeding and planting immediately before or at the beginning of the rainy season). However, supplemental irrigation during the normal wet season (October 15 to April 15) may increase survival and promote germination during rain-free periods of more than two to three weeks.
- Invasive plant species (such as iceplant) will be removed from the revegetation area annually for five years after initial installation. An integrated weed management approach will be applied that considers site-specific strategies that provide the best combination of protecting biological resources, human health, and non-target organisms, and are efficient and cost-effective in controlling the invasive plant species within revegetation area. Hand-weeding and herbicide treatment are both effective methods of weed control; however, herbicide treatment can be more time and cost-effective as hand-weeding is labor intensive. The life-cycle of each invasive species will be considered by a qualified biologist and/or restoration contractor in determining the appropriate time and methodology for weed control in the revegetation area. If herbicide is used, it will be applied directly to target species.

Non-target species will be clearly marked and the applicator will be knowledgeable about the life cycle of Smith's blue butterfly and the identification of seacliff buckwheat.

5.4 Measures to Mitigate Unavoidable Impacts

The following measures will be implemented to achieve Goal 3:

MM 1 Seacliff buckwheat seedlings will be acquired from a local nursery and/or will be collected as seeds from the project site and grown to seedlings in a local nursery, as determined by the Revegetation Contractor. Any collection of seacliff buckwheat seed will be done by a Service-approved collector, familiar with life cycle of the Smith's blue butterfly between September and October. Seacliff buckwheat plants will be installed at two feet on center intervals in the same areas where they were removed or in other coastal scrub areas disturbed by the project. **Figure 4** identifies areas suitable for seacliff buckwheat replanting. Plants will be installed in a hole that is approximately twice the width of and slightly shallower than their rootball. When planted, the rootball should be approximately 0.5 inches above the surrounding soil. The holes will be filled in only with native soils. Planting will occur in the fall after the first rain, and will occur after any weed and erosion control efforts.

MM 2 As seacliff buckwheat is already present within the site, the site is well suited for this species and soil amendments are not recommended. Additionally, fertilizer is not recommended as fertilizers often promote the growth of non-native, invasive plant species. Soil amendments and fertilizers may be used as adaptive management if necessary, as described in *Section 5.8* of this low-effect HCP.

MM 3 Irrigation is not typically recommended for native restoration as it can promote prolific growth of non-native invasive species. As such, the local weather conditions will be used to the best advantage (i.e. planting immediately before or at the beginning of the rainy season). However, supplemental irrigation during the normal wet season (October 15 to April 15) may increase survival and promote germination during rain-free periods of more than two to three weeks.

5.5 Monitoring

5.5.1 Construction Monitoring

Monitoring tracks compliance with the terms and conditions of the HCP and ITP. As outlined in *Section 5.2*, a Service-approved biologist will train all project staff regarding habitat sensitivity, identification of covered species, and required practices before the start of construction, and document contractor attendance. The Service-approved biologist will monitor initial ground disturbing construction activity for a sufficient amount of time to train an individual to act as the on-site construction monitor. The construction monitor will have attended the training described above. Both the Service-approved biologist and the construction monitor will have the authority to stop and/or redirect project activities to ensure protection of resources and compliance with all environmental permits and conditions of the project. The construction monitor will complete a daily log summarizing activities and environmental compliance.

5.5.2 Revegetation Monitoring

A qualified biologist with documented Smith's blue butterfly experience will be contracted prior to revegetation and designated as the Project Monitor[4]. The Project Monitor will work with the Revegetation

[4] The Project Monitor must possess an education in biology or another related field and must demonstrate management experience with revegetation projects of a similar nature in the region.

Contractor(s) prior to and during revegetation (including plant material collection), perform the required inspections, and prepare the monitoring reports as detailed in *Section 5.7*. Any changes in the planting specifications will be approved by the Project Monitor and Cal Am. All revegetation areas will be monitored within 30 days after plant installation, and then annually in the month of June for the next five years. The total duration of monitoring will be a minimum of five years after initial revegetation, but may be extended if the success criteria are not met. If an extension of the management and monitoring is necessary, renewal of the ITP would be required, as discussed in *Section 6.4* below.

If it is determined that the revegetation effort did not meet the success criteria, the Project Monitor will prepare a supplemental report that identifies the causes of failure and, if determined necessary, will propose remedial action to Cal Am for approval, and the monitoring period will be extended by one year. At the end of this extended period, an additional report will be prepared as described below. This report will satisfy the same criteria as outlined below for the final report. If at the end of the extended monitoring period, the report indicates the success criteria have not been met, the monitoring will be extended again, and the process repeated until success is achieved.

5.5.3 Long-Term Compliance Monitoring

Following construction, and as outlined in *Section 5.5*, a Service-approved biologist will conduct long-term compliance monitoring to review the land use and determine if it is consistent with the terms and conditions of the HCP, including an evaluation of any changed circumstances, as outlined in *Section 6.1*.

5.6 Reporting

5.6.1 Post-Construction Reporting

A post-construction report will be provided to the Service no more than 30 days after work is complete and will include:

- Brief summary or list of project activities accomplished during construction (e.g. this includes development/construction activities and other covered activities),
- Project impacts (e.g. number of acres impacted, number of presumed-occupied seacliff buckwheat individuals removed, etc.),
- Description of any take of covered species that occurred (includes cause of take, form of take, take amount, location of take and time of day, and deposition of dead or injured individuals),
- Brief description of how the conservation strategy was implemented,
- Compliance monitoring results, and
- Description of any changed or unforeseen circumstances that occurred and how they were dealt with.

5.6.2 Annual Revegetation Reporting

Monitoring of revegetation areas will be conducted by the Project Monitor within 30 days after revegetation, and then annually in late spring for the next five years. A monitoring report will be submitted to the Service within 30 days after each monitoring visit. The Project Monitor will notify the Service no more than 30 days prior to anticipated monitoring visit and will provide an estimated date of monitoring report submission. The total duration of monitoring will be a minimum of five years from initial

revegetation implementation monitoring, but may be extended if the success criteria are not met. Monitoring reports will be based on field observations and measurements, and will include, but not be limited to, the following information:

- The overall percent aerial coverage of vegetation, including native and non-native vegetation within revegetation areas,
- The relative percent cover of any plants listed in the *California Plant Pest Council's 2006 Inventory* or the most recent update to that inventory at the time of monitoring,
- The total number of revegetated seacliff buckwheat individuals surviving and the number seacliff buckwheat individuals that are unhealthy or have died since the beginning of the monitoring period,
- Description of the general health and vigor of the plants,
- Description of any pests or circumstances substantially affecting the plants,
- Description of any changes in the physical environment of the plants since the end of the previous monitoring period,
- Dates and descriptions of all maintenance activities conducted during the monitoring period, including, but not limited to, the amount and frequency of irrigation applied, weed control measures implemented, and other activities,
- Photographic documentation, and
- Recommendations for further maintenance and management that may be necessary for achieving the success criteria.

Recommendations made in each monitoring report will be implemented in a timely manner after approval from Cal Am and the Service. Implementation of recommended actions will be documented by the Project Monitor in follow-up reports and will be submitted within 30 days of the end of such follow-up maintenance and management activities.

Monitoring reports will include a cumulative analysis, including a summary of the data collected throughout the previous year, and will identify any adaptive management measures necessary for the success of the revegetation effort. A final report will be submitted at the end of the entire monitoring period and will include a cumulative analysis, a summary of the data collected throughout the duration of the five-year monitoring period, and a definitive statement if the revegetation effort met the success criteria.

5.6.3 Long-Term Compliance Reporting

Long-term compliance monitoring reports will be provided to the Service within 30 days of each annual compliance monitoring event. Annual reports will include, but are not limited to:

- Brief summary or list of project activities accomplished during the reporting year (e.g. maintenance activities and other covered activities),
- Project impacts (e.g. number of acres disturbed, number of resumed-occupied seacliff buckwheat plants disturbed),

- Description of any take that occurred for each covered species (includes cause of take, form of take, take amount, location of take and time of day, and deposition of dead or injured individuals),
- Brief description of how the conservation strategy was implemented,
- Monitoring results and survey information,
- Description of circumstances that made adaptive management necessary and how it was implemented, including a table of the cumulative totals by reporting period, all adaptive management changes to the HCP, and a very brief summary of the actions,
- Description of any changed or unforeseen circumstances that occurred and how they were dealt with (please refer to Section 6.1 below),
- Identification of any discoveries of newly-listed or other currently-listed species within the project site (please refer to Section 6.1 below),
- Funding expenditures, balance, and accrual, and
- Description of any minor or major amendments.

5.7 Adaptive Management Strategy

Adaptive management is the process by which the HCP may be adjusted to reflect new information based on the results of monitoring. These adjustments may occur as a result of continuing research on the species or evaluation of the monitoring results and the effectiveness of the minimization and mitigation measures contained in the HCP. Adaptive management for this low-effect HCP may include:

- Changes in duration or frequency of specific monitoring actions or reporting protocols, and/or
- Changes to the revegetation measures, such as planting additional plants, irrigation, soil amendments, and/or weeding schedules.

SECTION 6. PLAN IMPLEMENTATION

6.1 Changed and Unforeseen Circumstances

Section 10 regulations [(69 *Federal Register* 71723, December 10, 2004 as codified in 50 C.F.R., Sections 17.22(b)(2) and 17.32(b)(2))] require that an HCP specify the procedures to be used for dealing with changed and unforeseen or extraordinary circumstances that may arise during the implementation of the HCP. "Unforeseen" or "extraordinary" circumstances are defined by 50 CFR 17.3 as changes in circumstances surrounding an HCP that were not or could not be anticipated by HCP participants and the Service, that result in a substantial and adverse change in the status of a covered species. This does not include "changed circumstances" which are not uncommon during the course of an HCP and can be reasonably anticipated and planned for (e.g. listing of a new species, modifications in a project as described in the original HCP, or modifications of the HCP's monitoring program). Changed circumstances are defined in 50 CFR 17.3 as changes in circumstances affecting a species or geographic area covered by an HCP that can reasonably be anticipated by plan developers and the Service and for which contingency plans can be prepared (e.g., the new listing of species, a fire, or other natural catastrophic event in areas prone to such event).

In addition, Service's "No Surprises" Policy defines the obligations of the Permittee and the Service, stating that if unforeseen circumstances occur during the life of an HCP, the Service will not require additional lands, funds, or restrictions on lands or other natural resources released for development or use from any Permittee who in good faith is adequately implementing or has implemented an approved HCP. Consequently, the "No Surprises" Policy provides that if additional mitigation measures are deemed necessary to provide for the conservation of a species that was otherwise adequately covered under the terms of a properly functioning HCP, the obligation will not rest with the HCP Permittee.

6.1.1 Changed Circumstances

If additional conservation and mitigation measures are deemed necessary to respond to changed circumstances, and these additional measures were already provided for in the plan's operating conservation program (e.g., the conservation management activities or mitigation measures expressly agreed to in the HCP), then the Permittee will implement those measures as specified in the plan. However, if additional conservation and mitigation measures are deemed necessary to respond to changed circumstances, and such measures were not provided for in the plan's operating conservation program, the Service will not require these additional measures absent the consent of the Permittee, provided that the HCP is being "properly implemented" and the species in question is adequately covered (properly implemented means the commitments and the provisions of the HCP have been or are being fully implemented).

Long-term compliance monitoring, as monitoring outlined in *Sections 5.6* , would include an evaluation of any changed circumstances.

Newly Listed Species and Discovery of Other Currently-Listed Species

If a new species that is not covered by the HCP, but that may be affected by activities covered by the HCP, is listed under ESA during the term of the ITP, the ITP will be re-evaluated by the Service and the HCP covered activities may be modified, as necessary, to ensure that the activities covered under the HCP are not likely to jeopardize a population of the newly listed species or adversely modify any newly designated critical habitat. The Permittee will implement the modifications to the HCP covered activities identified by

the Service as necessary to avoid the likelihood of jeopardy of the newly listed species or adverse modification of newly designated critical habitat. The Permittee will continue to implement such modifications until such time as the Permittee has applied for and the Service has approved an amendment of the ITP, in accordance with applicable statutory and regulatory requirements, to cover the newly listed species for the remainder of the permit term, or until the Service notifies the Permittee in writing that the modifications to the HCP covered activities are no longer required to avoid the likelihood of jeopardy of the newly listed species or adverse modification of newly designated critical habitat.

If one or more federally listed species other than the covered species are identified within the project area of impact, the Permittee will cease any project activities that would result in the incidental take of the newly discovered species and apply for a permit amendment.

It is not anticipated that a new species with the potential to be impacted by the project would be listed or new critical habitat be designated that includes the project site during the term of the HCP. No additional mitigation is proposed as the impact is unlikely and appropriate mitigation is subjective.

Fire

It is possible that fire could occur on the project site. In the event of a fire, the Permittee will work closely with local fire response crews to ensure that impacts to covered species are minimized, within safety limits. Following construction, and as outlined in Section 5.5, a Service-approved biologist will conduct long-term compliance monitoring to review the land use and determine if it is consistent with the terms and conditions of the HCP, including an evaluation of any changed circumstances, as outlined in Section 6.1. If during the monitoring, there is habitat loss identified resulting from fire, land management and restoration measures will be implemented within affected areas to encourage the reestablishment of native vegetation. The measures will be determined by the qualified biologist and project proponent in coordination with the Service and will include erosion control and planting of additional buckwheat if determined appropriate. The scale and intensity of the efforts will be commensurate with the impacts and sufficient to restore and maintain habitat values, such as the number of buckwheat plants and vegetation cover, consistent with the Conservation Program's goals, objectives, and success criteria presented in this low-effect HCP.

6.1.2 Unforeseen Circumstances

In the case of an unforeseen or extraordinary circumstance, the Permittee will immediately notify the Service staff who have functioned as the principal contacts for the proposed action. In determining whether such an event constitutes an unforeseen or extraordinary circumstance, the Service will consider, but not be limited to, the following factors:

- Size of the current range of the affected species,
- Percentage of range adversely affected by the HCP,
- Percentage of the range conserved by the HCP,
- Ecological significance of the portion of the range affected by the HCP,
- Level of knowledge about the affected species and the degree to specificity of the species' conservation program under the HCP, and

- Whether failure to adopt additional conservation measures would appreciably reduce the likelihood of survival and recovery of the affected species in the wild.

If the Service determines that additional conservation and mitigation measures are necessary to respond to the unforeseen or extraordinary circumstances where the HCP is being properly implemented, the additional measures required of the Permittee must be as close as possible to the terms of the original HCP. Additional conservation and mitigation measures will involve the commitment of additional financial compensation or restoration of other natural resources only with the consent of the Permittee.

6.2 Amendments

6.2.1 Minor Amendments

Minor amendments are changes that do not affect the scope of the HCP's impact and conservation strategy, change amount of take, add new species, or change significantly the boundaries of the HCP. Minor amendments are accomplished through an exchange of letters between the ITP holder and the Service. Examples of minor amendments to this HCP include:

- Corrections to spelling or grammatical errors that do not change the intended meaning,
- Corrections to maps or figures to correct errors, and
- Minor changes to surveying, monitoring, or reporting protocols.

6.2.2 Major Amendments

Major amendments to the HCP and ITP are changes that do affect the scope of the HCP and conservation strategy, increase the amount of take, add new species, and change significantly the boundaries of the HCP. Major amendments often require amendments to the Service's decision documents, including the NEPA document, Biological Opinion, and findings and recommendations document. Major amendments will often require additional public review and comment.

6.3 Suspension and Revocation

The Service may suspend or revoke the ITP if the Permittee fails to implement the HCP in accordance with the terms and conditions of the ITP or if suspension or revocation is otherwise required by law. Suspension or revocation of the ITP, in whole or in part, by the Service will be in accordance with 50 CFR 13.27-29, 17.32 (b)(8).

6.4 Permit Renewal

Although not currently anticipated, upon expiration, the ITP may be renewed without the issuance of a new permit, provided that the ITP is renewable and that biological circumstances and other pertinent factors affecting covered species are not significantly different than those described in the original HCP. To renew the ITP, the Permittee will submit to the Service, in writing:

- A request to renew the permit, referencing to the original permit number,
- Certification that all statements and information provided in the original HCP and permit application, together with any approved HCP amendments, are still true and correct, and inclusion of a list of changes,
- A description of any take that has occurred under the existing permit, and
- A description of any portions of the project still to be completed, if applicable, or what activities under the original permit the renewal is intended to cover.

If the Service concurs with the information provided in the request, it will renew the ITP consistent with permit renewal procedures required by 50 CFR 13.22. If the Permittee files a renewal request and the request is on file with the issuing Service office at least 30 days prior to the permit expiration, the ITP will remain valid while the renewal is being processed, provided the existing ITP is renewable. However, the Permittee may not take covered species beyond the quantity authorized by the original ITP or change the

scope of the HCP. If the Permittee fails to file a renewal request within 30 days prior to ITP expiration, the ITP will become invalid upon expiration.

The Permittee may desire to renew the ITP in order to preclude prosecution under Section 9 of the ESA if take were to occur subsequent to the expiration of the ITP. Although unlikely, permit renewal would be necessary if the success criteria of the revegetation are not met within the term of the original ITP, requiring extended management and monitoring.

6.5 Permit Transfer

In the event of a sale or transfer of ownership of the property (the Twin Tanks and associated infrastructure owned by Cal Am, not the land) during the life of the ITP, the following will be submitted to the Service by the new owner(s):

- An application for permit transfer, and
- Written documentation providing assurances pursuant to 50 CFR 13.25 (b)(2) that the new owner will provide sufficient funding for the HCP and will implement the relevant terms and conditions of the permit, including any outstanding minimization and mitigation.

The new owner(s) will commit to all requirements regarding the take authorization and mitigation obligations of this low-effect HCP unless otherwise specified in writing and agreed to in advance by the Service.

SECTION 7. FUNDING

7.1 Costs of HCP Implementation

The following table lists the estimated costs to implement the Conservation Program described in this low-effect HCP.

Item/Activity	**One-Time Cost**	**Recurring Costs**	**Total Cost (5 Years)**
Conservation Strategy			
Measures to Avoid and Minimize Impacts	$5,000		$5,000
Measures to Mitigate Unavoidable Impacts	$20,000	$2,000/yr.	$30,000
Monitoring			
Construction Biological Monitoring	$10,000		$10,000
Revegetation Monitoring		$2,000/yr.	$10,000
Reporting			
Post-Construction Reporting	$5,000		$5,000
Revegetation Reporting		$2,000/yr.	$10,000
Changed and Unforeseen Circumstances			
Changed and Unforeseen Circumstances	$10,000		$10,000
Total	**$50,000**	**$6,000/yr.**	**$80,000**

7.2 Funding Source

Cal Am, the Applicant and Permittee, is responsible for funding all elements of this low-effect HCP. If Cal Am sells their property prior to the end of the monitoring period, requirements of this HCP will run with the land, and the new owner will be responsible for funding the HCP through the end of the monitoring period.

7.3 Funding Mechanism and Management

Cal Am will establish a performance bond to fund compensatory mitigation and management activities that meets Government Code Sections 65965- 65968. The funding amount will be sufficient to meet all of the cost outlined in Section 7.1 of the low-effect HCP. The bond will be a third party guaranteed line of credit or a wasting bulk reserve for the total estimated cost of the HCP equaling $80,000. The bond will be established prior to the initiation of construction.

SECTION 8. ALTERNATIVES

Section 10(a)(2)(A)(iii) of the ESA, as amended, [and 50 CFR 17.22(b)(1)(iii) and 17.32(b)(1)(iii)] requires that alternatives to the taking of species be considered and reasons why such alternatives are not implemented be discussed. Cal Am considered several alternatives to the project, detailed below.

8.1 Alternative 1: No Action Alternative

Under a No Action Alternative, the HCP would not be prepared and the ITP would not be issued. However, current conditions and activities that would not result in take of federally listed species could continue. Therefore, this alternative would consist of only revegetating the slide area. Because the slope and fill supporting the Twin Tanks are continuing to move down the hillside, this alternative would ultimately result in complete slope failure and destruction of the Twin Tanks. Therefore, the No Action Alternative was rejected for not achieving the project purpose of providing long-term stability of the site.

8.2 Alternative 2: Soldier Piles and Wood Lagging

Alternative 2 would consist of placing cantilever soldier piles (large steel H piles) with wood lagging at the top of the slope to support the Twin Tanks. This alternative would consist of drilling holes, placing the soldier piles in the holes, then concreting the piles in place. Once the solider piles are in place, wood lagging would be placed from the top down as material is excavated, and lagging would slide down the soldier piles. To facilitate placement of the soldier piles and wood lagging, the existing access road would need to be significantly improved through widening and regrading. This would result in significant impacts to the hillside, including potential additional take of Smith's blue butterfly. In addition, the resulting aesthetics of this alternative would be a flat wall with wood lagging or planks visible from Highway 1, which is a designated scenic highway under the State Scenic Highway Program. Therefore, Alternative 2 was rejected due to the potential for significant construction-related impacts to the hillside and to Smith's blue butterfly, and the potential for significant visual impacts.

8.3 Alternative 3: Sheet Pile Retaining Wall

Alternative 3 would consist of installing a sheet pile retaining wall at the top of the slope to support the Twin Tanks. Large 18-inch to 24-inch rip rap would be installed to cover the slide area and provide support to the sheet piles. Under Alternative 3, there would be a potential for slope failure during construction due to the significant ground vibration created by driving the sheet piles. This alternative would require significant improvements—if not alterations—to the access road to facilitate transport of equipment and materials, which would also potentially result in additional take of Smith's blue butterfly. In addition, visual impacts of this alternative would be the worst of all alternatives as the large rip rap material and the size of the area covered would contrast with native soils and vegetation. Therefore, Alternative 3 was rejected due to the potential for slope failure during construction, the potential for significant construction-related impacts to the hillside and to Smith's blue butterfly, and the potential for significant visual impacts.

SECTION 9. REFERENCES

Arnold, R.A., 1983. Ecological studies of six endangered butterflies (Lepidoptera: Lycaenidae): Island biogeography, patch dynamics, and design of habitat preserves. University of California Publications in Entomology, Vol. 99. Pp. 1-161.

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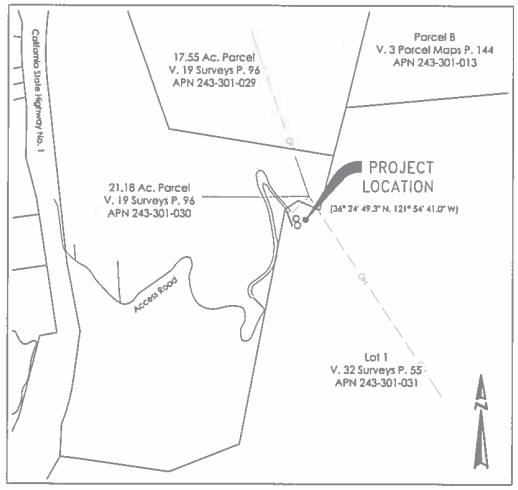
APPENDIX A

Site Plan

LOWER GARRAPATA TANK SLIDE REPAIR

CALIFORNIA AMERICAN WATER

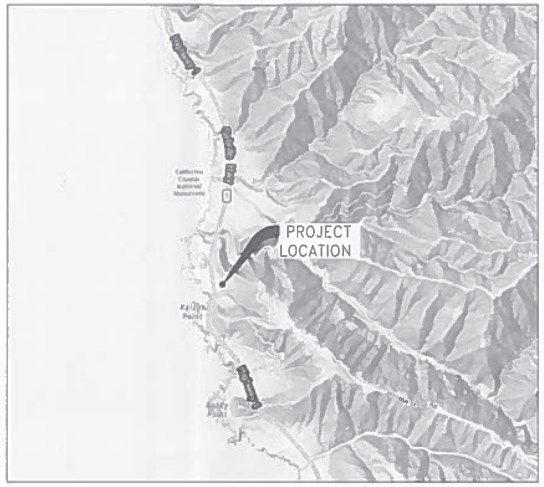
MONTEREY COUNTY, CALIFORNIA



VICINITY MAP
NOT TO SCALE

PROJECT DETAILS

This project is for the repair and stabilization of an existing tank site to prevent further failure of the slope and lose of the water storage tanks located at the site and is not a new development. Therefore, the work involved will be accomplished within easements that currently exist for the tanks and will not impact any other easement on the property.	
APN 243-301-030-000	APN 243-301-031-000
Owner: Yolanda and Ron Gurries	Owner: Vasseghi Nader & Vasseghi Frozeh
Parcel Address:35781 HWY 1, Monterey, CA	Parcel Address: 35904 Weston Ridge Road, Monterey, CA
Parcel Size: 21.180 Acres +/- (922,600 Sq Ft)	Parcel Size: 70.860 Acres +/- (3,086,661 Sq Ft)
Project Size: 1,500 Sq Ft +/-	Project Size 1,800 Sq Ft +/-
Lot Coverage: 0.2%	Lot Coverage: 0.06%
Parcel Zoning :WSC/40-D(CZ)	Parcel Zoning :WSC/40-D(CZ) / RDR/40-D (CZ)
Project is located in WSC Zoned Area	Project is located WSC Zoned Area
Grading: The amount of grading will be dependent upon the site conditions discovered once the membrane covering is removed. The intent is to only remove that amount of the loose slide debris necessary for the placement of the structural repair, reinforced shotcrete facing. Color to match base material. It is assumed that any material removed will be placed on the existing parcel with a maximum amount of off haul being approximately 20 cubic yards. To construct the temporary bench shown on the wall profile, barrier blocks will be used to form a temporary wall with rock fill material being imported to provide the construction bench needed during construction. At the completion of the placement of the shotcrete face, the rock material will be used as road surfacing and in the roadside drainage ditch to minimize erosion and will not be visible from below.	
No trees are to be removed as part of this project.	
The project site plan was prepared with two foot contours to provide better clarity of steep physical features of this site. All areas of the site have slope greater than 30%.	
As noted in the Geotechnical Report and shown on the site plan, the tank site is located within the boundaries of the San Gregorio Fault Zone.	
Parking and stockpile area will be existing work areas and fairly flat areas that are void of sensitive plants or habitats as shown in the Project Management Plan.	



VICINITY MAP
NOT TO SCALE

LEGEND

BUILDING
CONCRETE
AC PAVEMENT

FOUND MONUMENT
DRAIN INLET
ELECTRIC BOX
UTILITY POLE
GUY WIRE
ELECTRIC RISER
COMMUNICATIONS BOX
COMMUNICATIONS ANTENNA
WHITE MARKING
TREE, TYPE AND DIAMETER SPECIFIED
SEE PHOTOGRAPH

LOT LINE
OVERHEAD UTILITY LINE
WHITE UNDERGROUND UTILITY MARKING
BLUE UNDERGROUND UTILITY MARKING
ABOVE GROUND WATER LINE
ABOVE GROUND COMMUNICATIONS LINE
ABOVE GROUND ELECTRIC LINE
EDGE OF PAVEMENT
TOP OF BANK
TOE OF BANK
LIMIT OF SLIDE AREA

INDEX OF DRAWINGS

SHEET

1 TITLE SHEET, LOCATION MAP AND VICINITY MAP
2 SITE PLAN
3 CROSS SECTION
4 TIEBACK WALL
5 DETAILS AND TIEBACK NOTES

REGISTERED PROFESSIONAL ENGINEER
ROBERT DONALD MAHONEY
GE 554
GEOTECHNICAL
EXP. 06-30-2021
STATE OF CALIFORNIA

BASIS OF BEARINGS

THE NORTH AMERICAN DATUM OF 1983 (NAD83), CALIFORNIA STATE PLANE ZONE 4, WAS TAKEN AS BASIS OF BEARINGS SHOWN UPON THIS MAP.

NOTES

1. ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
2. CONTOUR INTERVAL = 2'
3. DISTANCES ARE EXPRESSED IN FEET AND DECIMALS THEREOF.

SOIL ENGINEERING
CONSTRUCTION

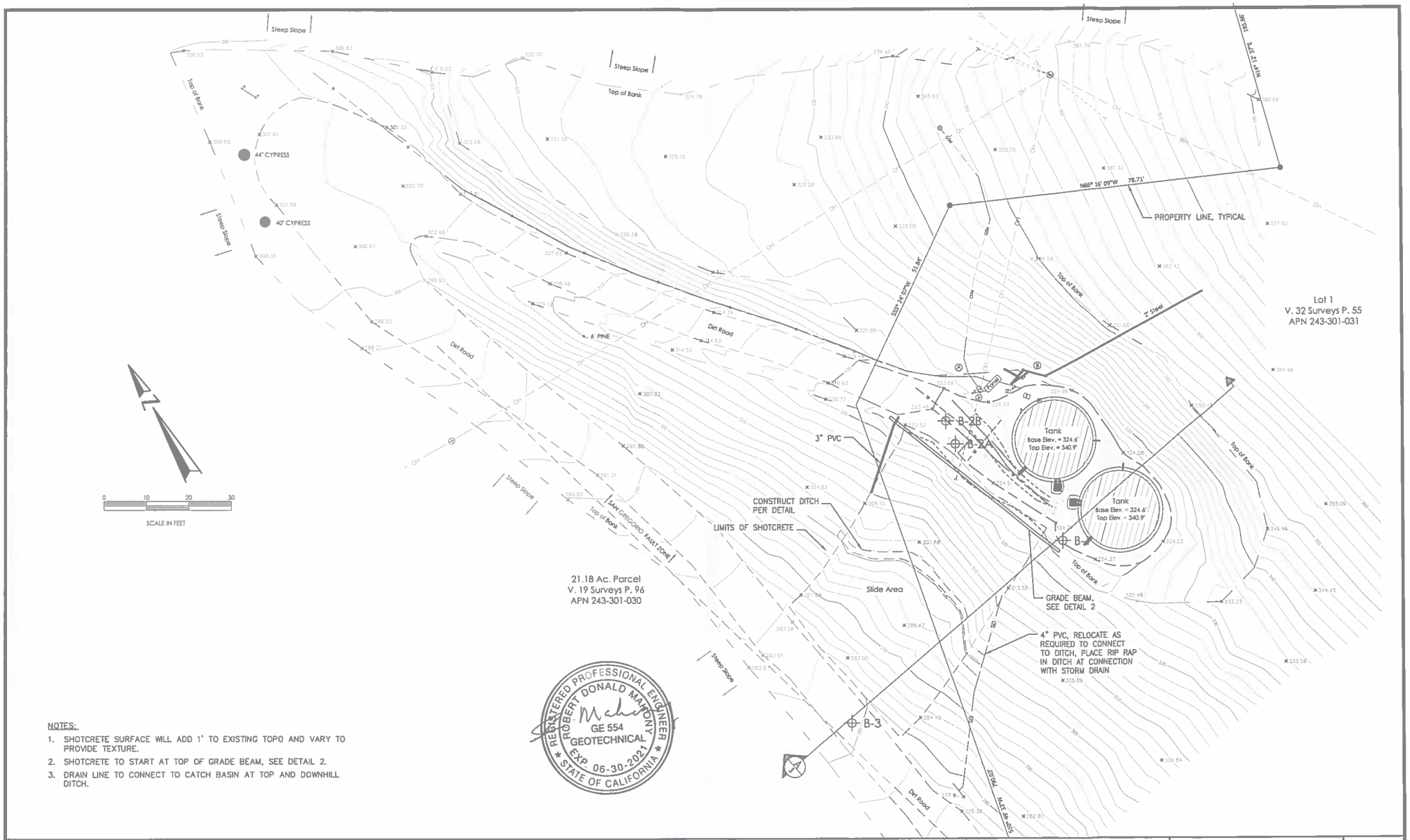
CALIFORNIA
AMERICAN WATER

TITLE SHEET, LOCATION MAP AND VICINITY MAP
LOWER GARRAPATA TANK SLIDE REPAIR
CALIFORNIA AMERICAN WATER

REV	DATE	BY	DESCRIPTION

DRAWN BY:	JMR
CHECKED BY:	CRK
NV5 PROJECT:	PN19086
DATE:	OCTOBER 2019

SHEET
1



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ROBERT DONALD MAHONY
GE 554
GEOTECHNICAL
EXP. 06-30-2021
STATE OF CALIFORNIA

NOTES:

1. SHOTCRETE SURFACE WILL ADD 1' TO EXISTING TOPO AND VARY TO PROVIDE TEXTURE.
2. SHOTCRETE TO START AT TOP OF GRADE BEAM, SEE DETAIL 2.
3. DRAIN LINE TO CONNECT TO CATCH BASIN AT TOP AND DOWNHILL DITCH.

SOIL ENGINEERING
CONSTRUCTION

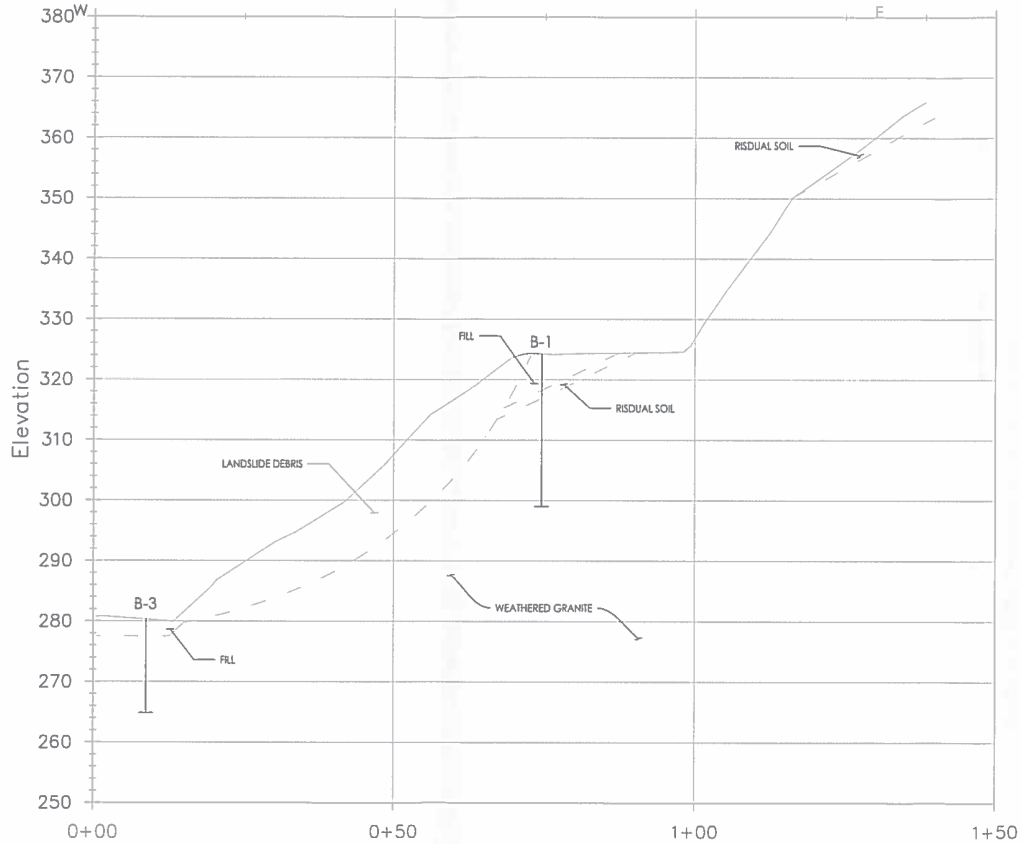
CALIFORNIA AMERICAN WATER

SITE PLAN
GARRAPATA TANK SLIDE
CALIFORNIA AMERICAN WATER

REV	DATE	BY	DESCRIPTION

DRAWN BY:	JMR
CHECKED BY:	CRK
NV5 PROJECT:	PN19086
DATE:	OCTOBER 2019

SHEET 2



SECTION "A"

LEGEND

B-1 — SCHEMATIC BORING LOG

— — — GEOLOGIC CONTACT APPROXIMATELY LOCATED

0 10 20 30

SCALE IN FEET

NOTES:

1. SEE GEOTECHNICAL REPORT FOR BORING DETAILS.

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ROBERT DONALD MAHONY
GE 554
GEOTECHNICAL
EXP. 06-30-2021
STATE OF CALIFORNIA

SOIL ENGINEERING
CONSTRUCTION

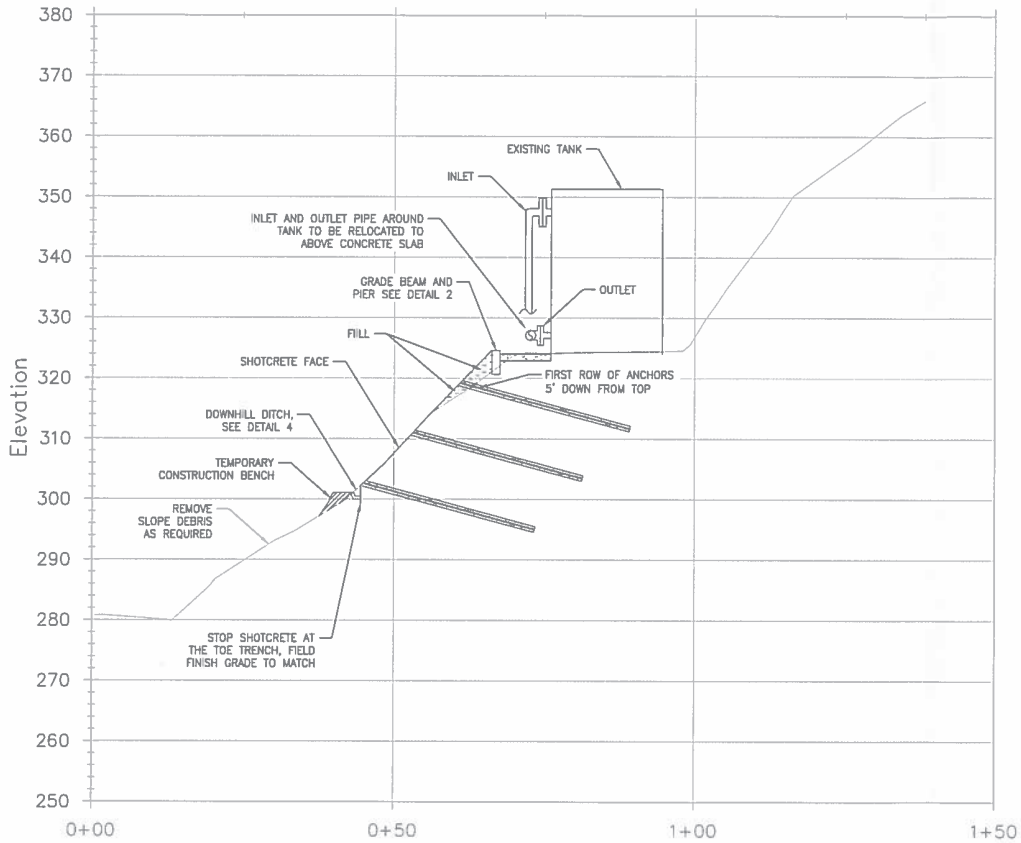
CALIFORNIA
AMERICAN WATER

CROSS SECTION
GARRAPATA TANK SLIDE
CALIFORNIA AMERICAN WATER

REV	DATE	BY	DESCRIPTION

DRAWN BY:	JMR
CHECKED BY:	CRK
NV5 PROJECT:	PN19086
DATE:	OCTOBER 2019

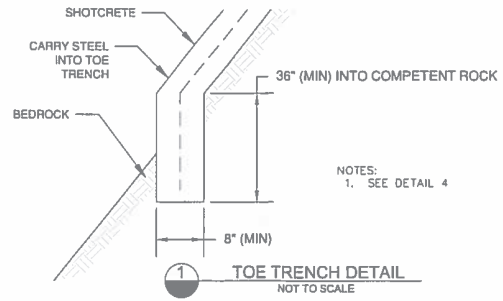
SHEET 3



SECTION "A"

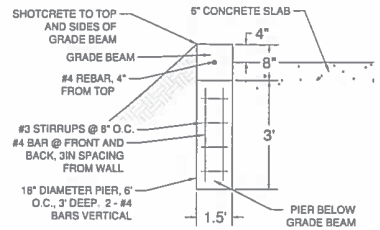
0 10 20 30

SCALE IN FEET

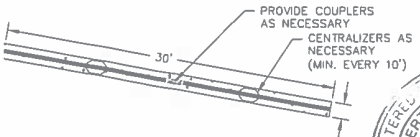


NOTES:
1. SEE DETAIL 4

1 TOE TRENCH DETAIL
NOT TO SCALE



2 GRADE BEAM DETAIL
NOT TO SCALE



3 SOIL NAIL DETAIL
NOT TO SCALE

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GE 554
GEOTECHNICAL
EXP. 06-30-2021
STATE OF CALIFORNIA

SOIL ENGINEERING CONSTRUCTION

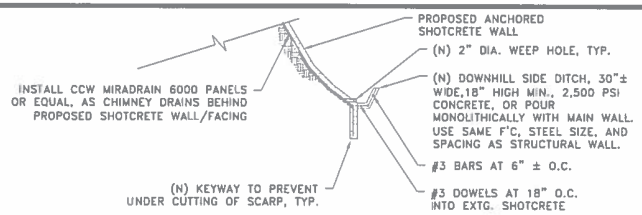
CALIFORNIA AMERICAN WATER

TIEBACK ANCHOR WALL
GARRAPATA TANK SLIDE
CALIFORNIA AMERICAN WATER

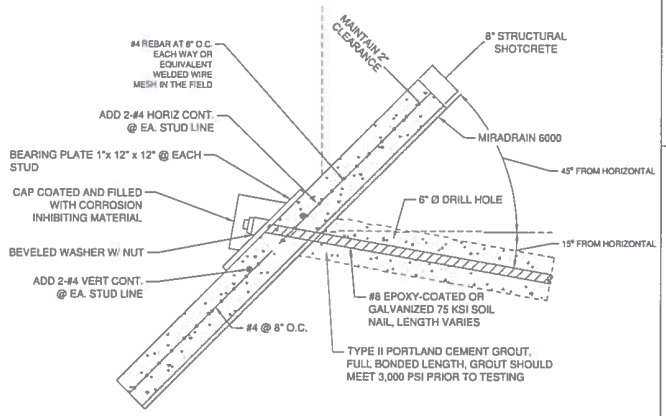
REV	DATE	BY	DESCRIPTION

DRAWN BY:	JMR
CHECKED BY:	CRK
NV5 PROJECT:	PN19086
DATE:	OCTOBER 2019

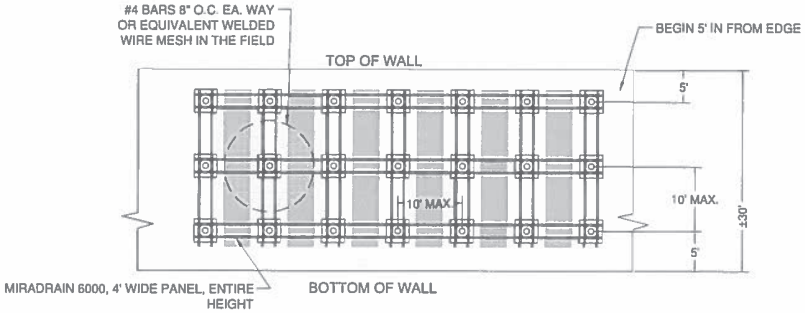
SHEET 4



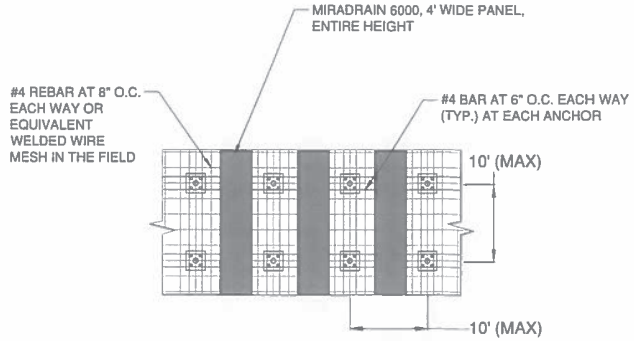
4 DOWNHILL DITCH
NOT TO SCALE



5 TIEBACK ANCHOR DETAIL
NOT TO SCALE



6 WALL DETAIL I
NOT TO SCALE



1. PROVIDE WEEP HOLES AT BOTTOM OF DRAIN MATS

7 WALL DETAIL II
NOT TO SCALE

TIEBACK NOTES/TABLE

Mark	Design Load KIPS	Test Load KIPS	Lock-off Load KIPS	Unbonded zone FEET (min)	Bonded Zone FEET 6" DIA	Total Length FEET 6" DIA	Total Number	Plate Size (in)
T1-T21	23	35	23	15	15	30	21	12x12x1

Details

1. TIEBACKS TO BE BY DCI DYWIDAG, OR EQUAL.
2. ANCHOR RIGID BAR OR MULTISTRAND ANCHORS MAY BE UTILIZED.
3. BAR ANCHOR: USE 1" DIA., GR. 75 ASTM A722, DYWIDAG BAR OR HARDWARE, DCP.
4. MULTISTRAND ANCHOR: USE (1) 0.6" DIA. 270 KSI ANCHORS, ASTM A722, DYWIDAG HARDWARE.
5. ALL TIEBACKS TO BE DOUBLE CORROSION PROTECTED.
6. ALL TIEBACKS TO BE PROOF TESTED
7. PROOF TEST ALL TIEBACKS TO 150% DESIGN LOAD (D.L.).
8. LOCK-OFF ALL TIEBACKS TO 100% DESIGN LOAD (D.L.).
9. LOCK-OFF ALL TIEBACKS AFTER ACCEPTED TESTING.
10. TIEBACKS TESTING PROCEDURE TO BE IN GENERAL CONFORMANCE WITH PTI MANUAL, SIXTH EDITION AND SPECIFICALLY IN ACCORDANCE WITH THE FOLLOWING SECTION:
    - 9.1. Performance Testing Section 15.5.1
    - 9.2. Proof Testing Section 15.5.1
    - 9.3. Acceptance Section 15.6
11. TIEBACK INCLINATION BELOW HORIZONTAL PLANE: APPROX. 20°.
12. HORIZONTAL SPACING OF TIEBACK ANCHORS TO BE 10' O.C. (MAX.) V.I.F.
13. PRESSURE GROUTED, DRILLED 6" DIA. ANCHOR HOLES USED FOR DESIGN PURPOSES.
14. MINIMUM UNBONDED ZONE IS 15'-0".
15. WORKING SHAFT BOND FRICTION BEYOND UNBONDED ZONE 2000 PSF FOR PRESSURE GROUTING APPLICATION, AS PER REPORT
16. SHOTCRETE/CONCRETE/GROUT FOR TIEBACKS SHALL HAVE 28 DAY COMPRESSIVE STRENGTH OF 3,000 PSI
17. APPROX. TOTAL TIEBACKS ANTICIPATED AS SHOWN ABOVE. TOTAL NUMBER OF EACH MARK IS ESTIMATED ONLY, BASED ON DESIGN SECTIONS, V.I.F. ADDITIONAL TIEBACKS MAY BE INSTALLED IF DEEMED NECESSARY BY ENGINEER OF RECORD'S REPRESENTATIVE BASED ON FIELD CONDITIONS

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SOIL ENGINEERING CONSTRUCTION

CALIFORNIA AMERICAN WATER

DETAILS AND TIEBACK NOTES
GARRAPATA TANK SLIDE
CALIFORNIA AMERICAN WATER

REV	DATE	BY	DESCRIPTION

DRAWN BY:	JMR
CHECKED BY:	CRK
NV5 PROJECT:	PN19086
DATE:	OCTOBER 2019

SHEET 5

APPENDIX B

Biological Assessment

DENISE DUFFY & ASSOCIATES, INC.
PLANNING AND ENVIRONMENTAL CONSULTING

MEMORANDUM

Date: August 9, 2019

To: Walter Sadler
California American Water
4701 Beloit Drive
Sacramento, California 95838

From: Josh Harwayne and Liz Camilo
Denise Duffy & Associates, Inc.
947 Cass Street, Suite 5
Monterey, California 93940

Subject: Garrapata Tanks Slope Repair Project — Biological Assessment

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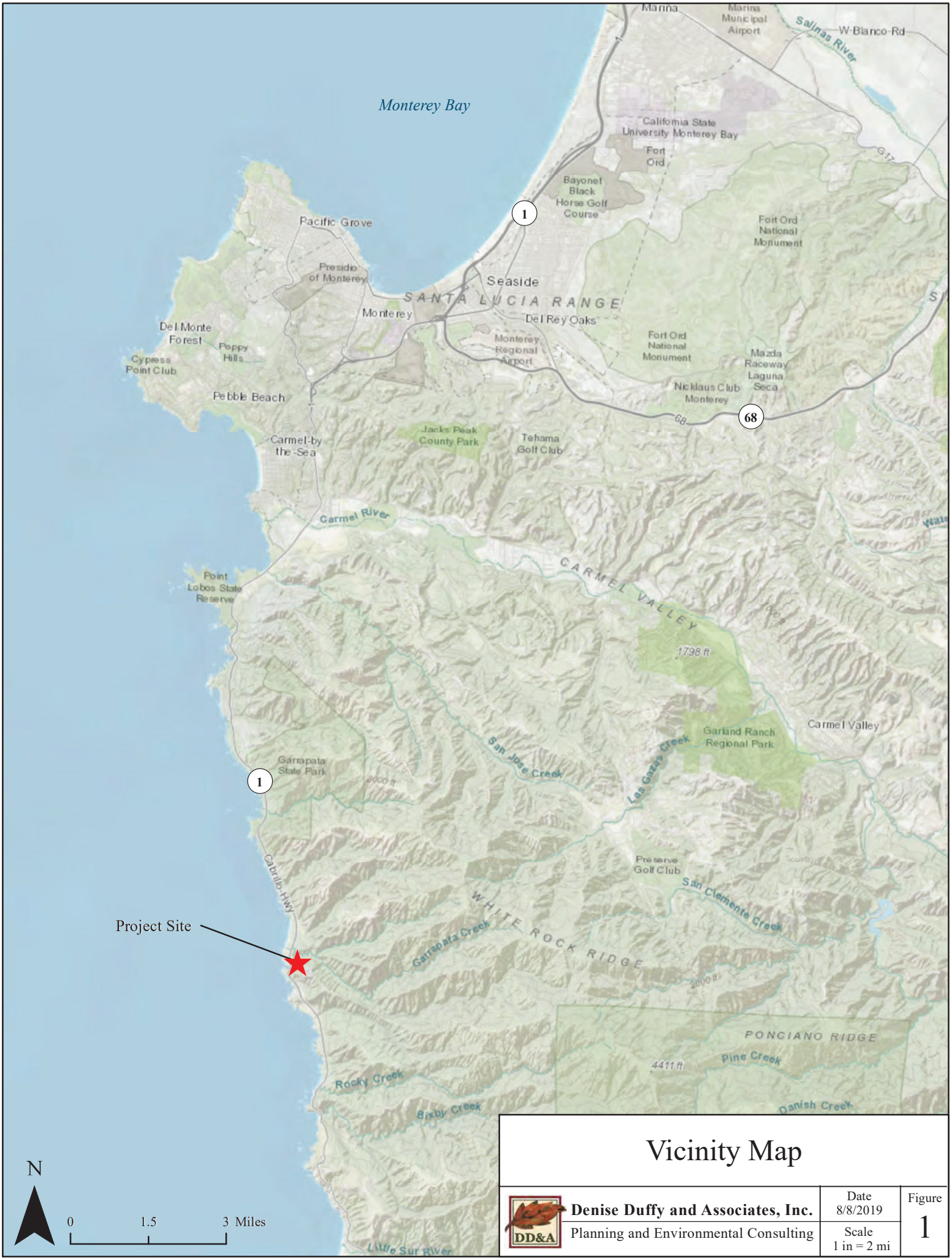
Denise Duffy & Associates, Inc. (DD&A) was contracted by California American Water (Cal Am) to prepare this biological assessment for the Garrapata Tanks Slope Repair Project (project or proposed project), located in Big Sur within Monterey County, California (Figure 1 and 2). The project involves emergency repairs to address impacts from 2017 landslides and prevent future damage from gravity, 2019/2020 winter storms, or seismic events.

The purpose of this assessment is to update the previous biological reports for the project site, including the *Garrapata Water Company Proposed Improvements to Water Storage and Delivery System Preliminary Biological Assessment* (Nedeff, 2009) and the *Garrapata Water System Emergency Improvements Biological Impact Assessment (*DD&A, 2011), and to determine the need for additional analysis in accordance with the California Environmental Quality Act (CEQA).

Project Background

The Garrapata Water System, located within Cal Am's service area, provides drinking water to 40 domestic services. Two 13,000 gallon tanks within this system, Garrapata Tanks 1 and 2 (or the Twin Tanks), constructed on a concrete pad on a steep hillside with an approximate slope gradient of 1:1 or steeper, were replaced with 40,000 gallon tanks in 2010. Severe rainstorms in 2017 resulted in two landslides below the concrete pad (hereafter the "slide area"; Figure 2), creating a nearly vertical head scarp. If repairs are not made to provide structural support and, thus, slope stability for the fill material supporting the Twin Tanks, the face of the slope will continue to fail and ultimately destroy the tanks and associated pump station, piping, and appurtenances. This risk is exacerbated by the potential for heavy winter rains and seismic activity at the project site, which lies within the active San Gregorio earthquake fault zone.



Vicinity Map

Denise Duffy and Associates, Inc. Planning and Environmental Consulting	Date 8/8/2019	Figure 1
	Scale 1 in = 2 mi	

Path: D:\GIS\GIS_Projects\2019-21 Garrapata Tanks\Map Products\Fig 1 - Vicinity Map.mxd

Location Map

Denise Duffy and Associates, Inc. Planning and Environmental Consulting	Date 8/9/2019 Scale 1 in = 300 ft	Figure 2

Path: D:\GIS\GIS_Projects\2019-21 Garrapata Tanks\Map Products\Fig 2 - Location Map.mxd

Project Description

Cal Am is proposing emergency repairs to stabilize the slide area by installing poured-in-place reinforced concrete piers at the top of the slope. These piers will be connected by a reinforced rail wall that will help support the fill under the tanks by providing horizontal support on the scarp face. A reinforced concrete (shotcrete) mat with tieback anchors will then be installed over the slide area beginning at the rail and extending down the slope to a toe anchor keyed into the bedrock.

Behind the upper rail wall, the existing fill material will be removed and replaced in compacted layers to prevent future settlement. Inlet and outlet pipes which currently lie within the fill material will be relocated above grade and fitted with flexible connections to the Twin Tanks, thereby facilitating monitoring of their condition in the event the fill settles or moves as a result of seismic activity. The surface of the fill material immediately surrounding the tanks will be paved with a concrete slab sloped to a catch basin and drain line that will convey stormwater down the hillside to the appropriate discharge point. Thus, leaks or ruptures of the inlet and outlet pipes will be contained in the drainage system and conveyed down the slope in a pipe. These facilities will be located behind the rail wall, the face of which will be covered with shotcrete for texture and color.

METHODS

Personnel and Survey Methods

DD&A Senior Environmental Scientist Jami Colley conducted a survey of the project site on May 21, 2019 to verify that site conditions had not changed from that documented in the 2009 and 2011 biological assessments. The survey area include the dirt road access route to the site (including a 10 ft buffer on either side of the road), the area immediately surrounding the Twin Tanks, and the slide area. The survey consisted of verification of habitat mapping and evaluation of the presence or potential presence of special-status species not evaluated in the previous biological assessments. Survey methods included walking the survey area using aerial images and GPS to map biological resources.

Data Sources

The following literature and data sources were reviewed to determine the presence of potential presence of special-status species or sensitive habitats within the project site:

- Current agency status information from the U.S. Fish and Wildlife Service (Service) and the California Department of Fish and Wildlife (CDFW) for species listed, proposed for listing, or candidates for listing as threatened or endangered under the federal Endangered Species Act (ESA) or the California Endangered Species Act (CESA), and those considered CDFW "species of special concern", including:
    - California Natural Diversity Database (CNDDB) occurrences reports for the Big Sur, Mt. Carmel, Point Sur, and Soberanes Point quadrangles (CDFW, 2019); and
    - The Service's IPaC Resource List for the project site (Service, 2019).
- The California Native Plant Society (CNPS) *Inventory of Rare and Endangered Vascular Plants of California* (CNPS, 2019);
- CDFW's *California Natural Communities List* (CDFW, 2018);

- *Garrapata Water Company Proposed Improvements to Water Storage and Delivery System Preliminary Biological Assessment* (Nedeff, 2009); and
- *Garrapata Water System Emergency Improvements Biological Impact Assessment (*DD&A, 2011).

From these resources, a list of special-status plant and wildlife species known or with the potential to occur in the vicinity of the project site was created (Appendix A). This list presents these species along with their legal status, habitat requirements, and a brief statement of the likelihood to occur within the project site.

RESULTS

Vegetation Communities

The 2009 biological assessment identified two vegetation communities within the project site: northern coastal scrub and ruderal (disturbed) vegetation. Northern coastal scrub was identified within the entire hillside around the Twin Tanks, and was characterized by low, dense shrub cover dominated by coast sagebrush (*Artemisia californica*), poison oak (*Toxicodendron diversilobum)*, lizard tail (*Eriophyllum staechadifolium*), coyote brush (*Baccharis pilularis*), blue blossom (*Ceanothus thyrsiflorus*), deerweed (*Acmispon glaber*), sticky monkeyflower (*Diplacus aurantiacus*), coffeeberry (*Frangula californica*), and occasional black sage (*Salvia mellifera*). Seacliff buckwheat (*Eriogonum parvifolium*), a host plant for the federally Endangered Smith's blue butterfly (SBB; *Euphilotes enoptes smithi*), was also identified within this vegetation community. Ruderal vegetation was identified within the area immediately surrounding the Twin Tanks, and was characterized by mostly non-native, weedy species such as ice plant (*Carpobrotus* sp.), French broom (*Genista monspessulana*), large mats of crabgrass (*Digitaria* sp.), and annual grasses.

The 2019 biological survey verified that these vegetation communities are present within the project site and are characterized by the same species as identified in 2009. Coastal scrub occurs throughout all undeveloped areas of the site but is being invaded by non-native, weedy species. Specifically, the slide area is being invaded by ice plant.

Sensitive Habitats

Sensitive habitats include riparian corridors, wetlands, habitats for legally protected species, areas of high biological diversity, areas supporting rare or special-status wildlife habitat, and unusual or regionally restricted habitat types. Habitat types considered sensitive include those listed on CDFW's *California Natural Communities List* (CDFW, 2018), those that are occupied by species listed under ESA or are critical habitat in accordance with ESA, and those that are defined as Environmentally Sensitive Habitat Areas (ESHA) under the California Coastal Act (CCA).

The seacliff buckwheat plants within the project site are habitat for the federally Endangered Smith's blue butterfly, and may be considered ESHA under the CCA. No other sensitive habitats occur within the site.

Special-Status Species

Special-status species are those plants and animals that have been formally listed or are Candidates for listing as Endangered or Threatened under ESA or CESA, are CDFW "species of special concern," are listed as rare under the California Native Plant Protection Act (CNPPA), are included in the CNPS California Rare Plant Ranks (CRPR) 1A, 1B, 2A, or 2B, or are California Fully Protected Species. In

addition, raptors (e.g., eagles, hawks, and owls), migratory birds, and their nests are protected under California Fish and Game Code.

An analysis was completed to determine if any special-status species with known occurrences in the vicinity have become present within the site since the 2009 and 2011 biological assessments were completed. A list of special-status species with the potential to occur on the site (Appendix A) was compiled utilizing all available occurrence data, including CNDDB reports for the Big Sur, Mt. Carmel, Point Sur, and Soberanes Point quadrangles. Each species was analyzed to determine their presence or potential presence within the project site. From this analysis it was determined that only SBB has the potential to occur within the site. All other species evaluated were determined to have a low potential to occur or were determined to be unlikely to occur or not present within the site for the species-specific reasons presented in Appendix A, and are not discussed further.

Smith's Blue Butterfly

Smith's blue butterfly was listed as a federally Endangered species on June 1, 1976 (41 FR 22041 22044). This species historically ranged along the California coast from Monterey Bay south through Big Sur to near Point Gorda, occurring in scattered populations in association with coastal dune, coastal scrub, chaparral, and grassland habitats. The primary limiting factor for SBB populations is the occurrence of their host plants, seacliff buckwheat and coast buckwheat (*E. latifolium*), in which they are associated with for their entire life span. The presence of the host plant, however, is not always an indication of the occurrence of the butterfly, as the host plant distribution is much more extensive than that of SBB.

The CNDDB reports 24 occurrences of SBB within the quadrangles reviewed, the nearest occurrence reported less than 1,000 ft from the project site. Approximately 343 ft^2 and 48 individuals of seacliff buckwheat were identified within the project site during the May 2019 survey (Figure 3). As such, SBB is assumed present within the project site where its host plant occurs.

IMPACTS AND MITIGATION

Smith's blue butterfly and its host plant seacliff buckwheat are the only sensitive biological resources known or with the potential to occur within the project site. Implementation of the project may result in take of seacliff buckwheat and SBB, if present at the time of construction. Implementation of the following mitigation measures would reduce this potentially significant impact to a less than significant level under CEQA.

Mitigation Measure 1

SBB habitat (i.e., seacliff buckwheat) shall be avoided to the greatest extent feasible. SBB habitat that will not be impacted by the project shall be protected prior to and during construction to the maximum extent possible with protective fencing and/or flagging. A biological monitor will supervise the installation of protective fencing/flagging and monitor at least once per week until construction is complete to ensure that the protective fencing/flagging remains intact. If all SBB habitat is avoided, no additional mitigation is necessary.

If the project will impact SBB habitat, Cal Am shall contact the Service for emergency consultation in order to comply with the ESA. Any additional measures recommended by the Service shall be implemented.

Smith's Blue Butterfly Habitat Map

Denise Duffy and Associates, Inc. Planning and Environmental Consulting	Date 8/8/2019 Scale 1 in = 30 ft	Figure 3

Path: D:\GIS\GIS_Projects\2019-21 Garrapata Tanks\Map Products\Fig 3 - Rare Plant Map.mxd

Mitigation Measure 2

The following best management practices will be implemented during all identified phases of construction (i.e., pre-, during, and post-) to reduce impacts to special-status wildlife species and natural resources:

- A qualified biologist will conduct an Employee Education Program for the construction crew prior to any construction activities. The qualified biologist will meet with the construction crew at the onset of construction at the project site to educate the construction crew on the following: 1) the appropriate access route(s) in and out of the construction area and review project boundaries; 2) the special-status species that may be present; 3) the specific mitigation measures that will be incorporated into the construction effort; 4) the general provisions and protections afforded by Service and CDFW; and 7) the proper procedures if a special-status species is encountered within the project site.
- Following construction, disturbed areas will be restored to pre-project contours to the maximum extent possible and revegetated using locally-occurring native species and native erosion control seed mix, per the recommendations of a qualified biologist.
- Grading, excavating, and other activities that involve substantial soil disturbance will be planned and implemented in consultation with a qualified hydrologist, engineer, or erosion control specialist, and will utilize standard erosion control techniques to minimize erosion and sedimentation to native vegetation (pre-, during, and post-construction).
- No firearms will be allowed on the project site at any time.
- All food-related and other trash will be disposed of in closed containers and removed from the project area at least once a week during the construction period, or more often if trash is attracting wildlife. Construction personnel will not feed or otherwise attract wildlife to the area.

REFERENCES

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