Project-Specific Analysis and Addendum to the CalVTP Program EIR

Lockhart-Zayante Vegetation Treatment Project

Prepared for:

RESOURCE CONSERVATION DISTRICT OF SANTA CRUZ COUNTY

August 2024

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Prepared for:

Resource Conservation District of Santa Cruz County
820 Bay Ave Apt 136
Capitola, CA 95010

Contact:

Angie Richman
Forest Health Program Specialist
831.464.2950

Prepared by:

Ascent
2054 University Ave, Suite 400
Berkeley, CA 94704

Contact:

Lara Rachowicz, PhD
Senior Ecologist/Senior Environmental Project Manager
510.956.4906

20220137.09

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LIST OF ABBREVIATIONS

Board	California Board of Forestry and Fire Protection
BMP	best management practices
CAAQS	California ambient air quality standard
CalVTP	California Vegetation Treatment Program
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Ranks
dbh	diameter at breast height
DPR	Department of Pesticide Regulation
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FPHCP	Felton Plant Habitat Conservation Plan
FRI	fire return interval
GHG	greenhouse gas
HCP	Habitat Conservation Plan
LRA	Local Responsibility Area
MBARD	Monterey Bay Air Resources District
MCV	Manual of California Vegetation
MMRP	mitigation monitoring and reporting program
NAAQS	national ambient air quality standard
NAHC	Native American Heritage Commission
NCCP	Natural Community Conservation Plan
NO_X	nitrous oxide
NWIC	Northwest Information Center
PM	particulate matter
Program EIR	Program Environmental Impact Report
PSA	Project-Specific Analysis
PSA/Addendum	Addendum to the Program EIR
RCDSCC	Resource Conservation District of Santa Cruz County
ROG	reactive organic gas
RPF	Registered Professional Forester

RSAA	Revegetation Set Aside Area
RWQCB	Regional Water Control Board
SPR	Standard Project Requirement
SR	State Route
SRA	State Responsibility Area
TAC	toxic air contaminant
USGS	U.S. Geological Survey
VMT	vehicle miles traveled
WLPZs	watercourse and lake protection zones
WPSAA	West Perimeter Set Aside Area

1 INTRODUCTION

1.1 PROJECT OVERVIEW AND DOCUMENT PURPOSE

The California Board of Forestry and Fire Protection (Board) certified the Program Environmental Impact Report (Program EIR) for the California Vegetation Treatment Program (CalVTP) in December 2019. The Program EIR evaluates the potential environmental effects of implementing vegetation treatments throughout much of the State Responsibility Area (SRA) and selected portions of the Local Responsibility Area (LRA) in California. This document is a Project-Specific Analysis (PSA) and Addendum to the Program EIR (PSA/Addendum). The PSA process was designed during Program EIR preparation for use by many state, special district, and local agencies to help increase the pace and scale of vegetation treatment by employing California Environmental Quality Act (CEQA) efficiency tools (i.e., a within-the-scope finding based on the PSA). An Addendum to the Program EIR is another CEQA efficiency tool designed to address project components that are not within the scope of the Program EIR, but result in only minor technical changes or additions, in accordance with CEQA Guidelines Section 15164. This PSA/Addendum comprises the joint implementation of these CEQA efficiency tools in a single document.

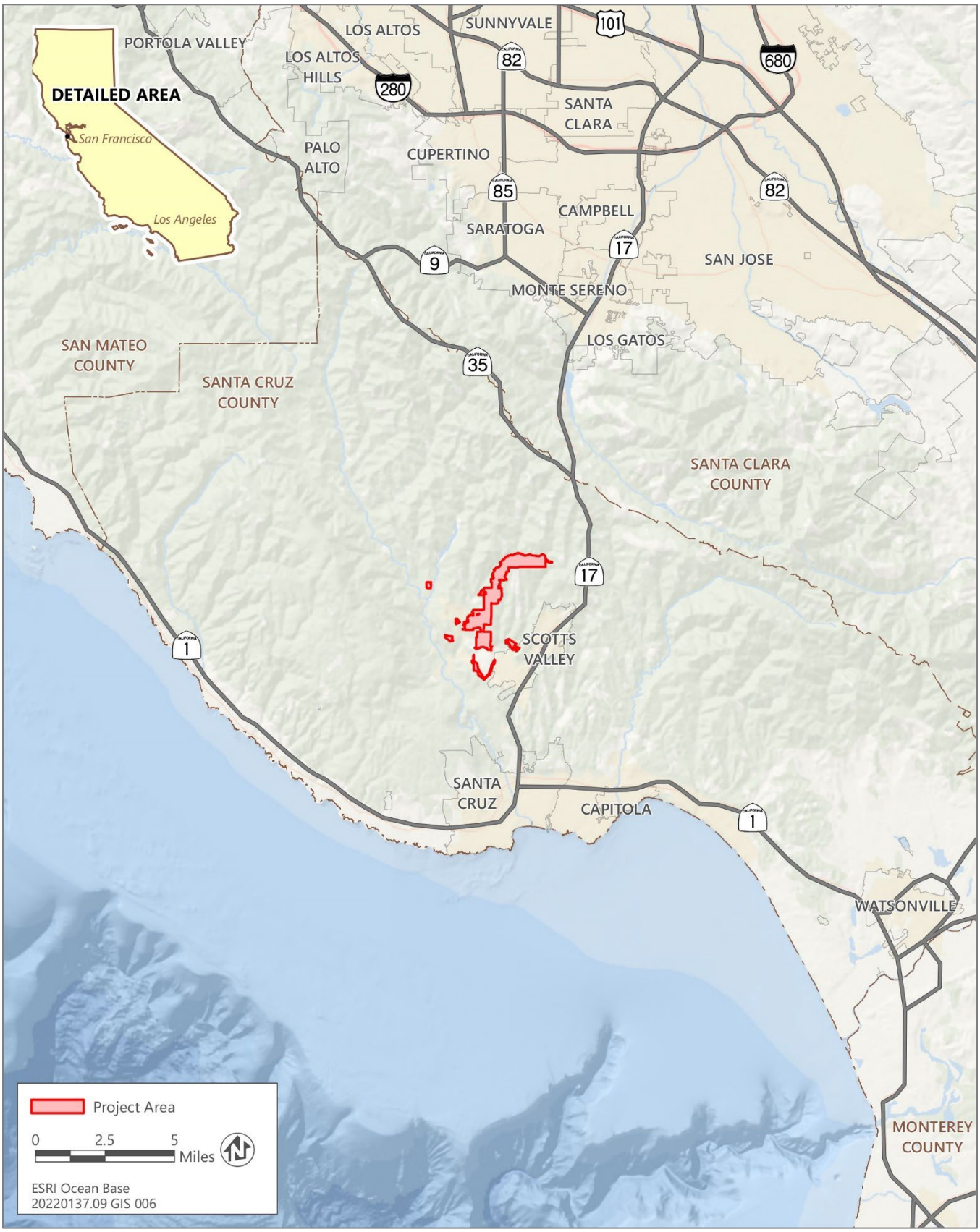
Pursuant to state directives to provide training on use of the CalVTP to increase the pace and scale of vegetation treatment by streamlining CEQA review (i.e., Objective 1.38 in California's Wildfire and Forest Resilience Action Plan [Forest Management Task Force 2021] and Goal 4 in California's Strategic Plan for Expanding the Use of Beneficial Fire [California Wildfire and Forest Resilience Task Force 2022]), the Board is supporting the preparation of PSA documents to create a library of example projects that help guide state and local agencies in preparing their own PSAs under the CalVTP Program EIR, as well as to achieve CEQA compliance for the proposed project. The Board selected the Lockhart-Zayante Vegetation Treatment Project to be one of the PSAs that provides CEQA compliance for project approval and implementation and serves as an example PSA for other agencies seeking to use the CalVTP Program EIR to accelerate approval of their own vegetation treatment projects.

1.1.1 Proposed Project

The Resource Conservation District of Santa Cruz County (RCDSCC) proposes to implement the Lockhart-Zayante Vegetation Treatment Project (proposed project or project) on up to 1,619 acres of land in central Santa Cruz County (Figure 1-1). The proposed treatment types (i.e., fuel breaks, ecological restoration) and the treatment activities (i.e., prescribed burning, mechanical vegetation treatments, manual vegetation treatments, herbicide application, prescribed herbivory) are consistent with those evaluated in the CalVTP Program EIR. Maintenance treatments would involve the same vegetation treatment types and activities used in the initial treatments. Refer to Chapter 2, "Project Description" for additional information on the proposed project.

1.1.2 Agency Roles

For the purposes of the CalVTP Program EIR and this PSA/Addendum, a project proponent is a public agency that provides funding for vegetation treatment or has land ownership, land management, or other regulatory responsibility in the treatable landscape and is seeking to fund, authorize, or implement vegetation treatments consistent with the CalVTP. This document is being prepared for RCDSCC to comply with CEQA for the implementation of vegetation treatments that require a discretionary action by a state or local agency. RCDSCC will be approving contracts to implement the proposed project and providing other support (e.g., grants, staffing, technical input); therefore, RCDSCC is the project proponent and CEQA lead agency. This PSA/Addendum may also be used by other agencies in their role as a responsible agency under CEQA for their discretionary approvals or authorizations.



Source: RCDSCC 2024.

Figure 1-1 Regional Location

1.1.3 Purpose of This PSA/Addendum

This document serves as a PSA to evaluate whether the proposed treatments would be within the scope of the CalVTP Program EIR. As stated above, the treatment types and treatment activities are consistent with the CalVTP. If a proposed vegetation treatment project is covered by the evaluation of environmental effects in the Program EIR, it may be approved using a finding that the project is within the scope of the Program EIR for its CEQA compliance, consistent with CEQA Guidelines Section 15168(c)(2).

An Addendum to an EIR is appropriate where a previously certified EIR has been prepared and some changes or revisions to the project are proposed, or the circumstances surrounding the project have changed, but none of the changes or revisions would result in new or substantially more severe significant environmental impacts, consistent with CEQA Section 21166 and CEQA Guidelines Sections 15162, 15163, 15164, and 15168. In this case, there are no changed circumstances, but the proposed revision or change in the project, compared to the Program EIR, is the inclusion of areas outside of and adjacent to the CalVTP treatable landscape and revisions to three CalVTP Standard Project Requirements (SPRs) and a mitigation measure.

The PSA checklist (refer to Chapter 4, "Project-Specific Analysis/Addendum") includes the criteria to support an Addendum to the CalVTP Program EIR for the inclusion of treatment areas outside the CalVTP treatable landscape and SPR and mitigation measure revisions. The checklist evaluates each resource in terms of whether the later treatment project, including the "changed condition" of additional geographic area and SPR and mitigation measure revisions, would result in significant impacts that would be substantially more severe than those covered in the Program EIR or would result in any new impacts that were not covered in the Program EIR. If a new impact arises, the checklist analysis would provide substantial evidence about whether it would be a significant or potentially significant impact. If the new impact would not be significant, it could be addressed in the Addendum to the Program EIR.

This document serves as both a PSA and an Addendum to the CalVTP Program EIR for RCDSCC review and analysis under CEQA regarding the proposed Lockhart-Zayante Vegetation Treatment Project within and outside the treatable landscape covered by the Program EIR, including the proposed SPR and mitigation measure revisions. It provides environmental information supported by substantial evidence to RCDSCC in its consideration of approving any grant funding allocations and implementation of the work by RCDSCC or its contractor(s). The project-specific mitigation monitoring and reporting program (MMRP), which identifies the CalVTP SPRs and mitigation measures applicable to the proposed project, is presented in Attachment A. The SPRs identified in the MMRP have been incorporated into the proposed vegetation treatments as a standard part of treatment design and implementation.

PROPOSED PROJECT REVISIONS

Project Area Outside the CalVTP Treatable Landscape

Among the other criteria for determining whether a treatment project is within the scope of the CalVTP Program EIR is whether it is within the CalVTP treatable landscape (i.e., the geographic extent of analysis covered in the Program EIR). While most of the project area would be inside the treatable landscape, portions of the project area extend outside of the treatable landscape described in the CalVTP Program EIR. In total, these areas outside the treatable landscape encompass approximately 32 acres of the 1,619-acre project area; they are small sections directly adjacent to other portions of the project area (refer to Chapter 2, "Project Description"). The acres outside of the mapped CalVTP treatable landscape are due to the method by which the CalVTP treatable landscape was digitally developed and the resultant degree of mapping resolution. Using desktop applications to apply buffers around geographic and topographic features and demarcate jurisdictional boundaries (i.e., SRA and LRA), the method resulted in some treatable landscape areas that are shown on maps to be disjoined and scattered and some that are inheld areas surrounded by the mapped treatable landscape. If the areas of the proposed project outside of the CalVTP treatable landscape have essentially the same, or at least substantially similar, landscape conditions as the adjacent areas within the treatable landscape, the environmental analysis in the Program EIR would be applicable to the adjacent areas.

Proposed Revisions to CalVTP SPRs and Mitigation Measures

While the proposed treatment types and treatment activities would be consistent with the CalVTP, the RCDSCC has deemed that certain requirements of CalVTP SPRs would be infeasible, are not warranted to maintain the impact significance conclusions in the Program EIR, and, if implemented as presented in the Program EIR, would prevent the RCDSCC from meeting treatment objectives. Because SPRs are part of the CalVTP and are incorporated into the proposed vegetation treatments as a standard part of treatment design and implementation, revisions (beyond clarifying edits) would constitute a change to the Program EIR's description of later project activities.

Revisions to mitigation measures would also constitute a change to the Program EIR. CEQA Guidelines Section 15168(c)(3) requires incorporation of feasible mitigation when approving later activities. If the mitigation measure is simply "incorporated" as presented in the Program EIR (i.e., without revision), it would contribute to a within the scope finding. If revisions to a mitigation measure are proposed, it could be evaluated within an Addendum pursuant to CEQA Guidelines Section 15164. This can occur either because the change is simply a clarification or other revision that does not meet the requirements for supplemental or subsequent review in CEQA Guidelines Section 15162; or it is a case, as explained in CEQA Guidelines Section 15162(a)(3)(D), where a mitigation measure is "considerably different" from those in the Program EIR, would substantially reduce significant effect(s), and the proponent will adopt it as part of the project.

The RCDSCC is proposing revisions to SPR CUL-4, SPR GEO-1, SPR HYD-5, and Mitigation Measure BIO-2f; these are described below. These proposed revisions would not result in any new or substantially more severe significant impacts on any of the resources evaluated in the Program EIR and described in this PSA/Addendum. Evidence to explain this conclusion is presented under each applicable resource, as summarized below and presented throughout Chapter 4.

SPR CUL-4: Archaeological Surveys

SPR CUL-4, as presented in the Program EIR, requires an archaeological and historical survey to be conducted prior to implementation of any treatment activity, including treatments that do not result in ground disturbance or other risk of impact to archaeological or historical resources (e.g., manual treatments and herbicide application). The application of SPR CUL-4 to all treatment activities, particularly those that do not result in any ground disturbance is unnecessary to avoid impacts. The treatment of vegetation around communities using hand tools and non-ground disturbing equipment could not impact cultural resources, provided that woody material is chipped and removed, or chipped and scattered. Therefore, RCDSCC proposes to require site-specific surveys of treatment areas for mechanical treatments, prescribed burning treatments, and manual treatments when woody material is not chipped or lopped and removed or scattered. The proposed revisions to SPR CUL-4 would not result in any additional adverse effects to cultural resources beyond what was analyzed in the CalVTP Program EIR, because the revisions would only allow treatment activities that could not result in damage to cultural resources to occur without a survey for archaeological or historical resources. Those activities that may result in damage to cultural resources (e.g., mechanical treatments and prescribed burning) would require pre-treatment surveys. Potential impacts resulting from revisions to SPR CUL-4 are discussed below under Section 4.4, "Archaeological, Historical, and Tribal Cultural Resources." As explained in that section, the proposed revisions to SPR CUL-4 would not result in any new or substantially more severe significant impacts than were analyzed in the Program EIR. Impacts on other resources would not occur as a result of these revisions, because SPR CUL-4 is not required to reduce environmental effects on any other resources from implementation of the project. The proposed revisions to SPR CUL-4 are shown in underline and strikethrough in the MMRP (Attachment A).

SPR GEO-1: Suspend Disturbance during Heavy Precipitation

SPR GEO-1, as presented in the Program EIR, requires suspension of certain treatment activities, including mechanical treatments, herbicide application, and prescribed herbivory, during heavy precipitation (i.e., if the National Weather Service forecast is a chance [30 percent or more] of rain within the next 24 hours). As described in the CalVTP Program EIR, mechanical treatments, herbicide application, and prescribed herbivory conducted during precipitation events can result in soil disturbance, erosion, increased runoff, soil destabilization, and water quality impacts.

The RCDSCC proposes to suspend mechanical treatments that cause soil disturbance, herbicide, and prescribed herbivory treatments if it is raining, soils are saturated, or soils are wet enough to be compacted by mechanical treatment activities or prescribed herbivory. In the coastal region of the project area, forecasts often include a chance of rain; however, precipitation sometimes does not materialize. Therefore, suspension of treatment activities in these cases could result in unnecessary loss of work time. Without this revision to SPR GEO-1, the project objectives may not be achieved.

Potential impacts resulting from revisions to SPR GEO-1 are discussed below under sections 4.5, "Biological Resources," 4.6, "Geology, Soils, Paleontology, and Mineral Resources," and 4.10, "Hydrology and Water Quality." As explained in these sections, the proposed revisions to SPR GEO-1 would not result in any new or substantially more severe significant impacts than were analyzed in the Program EIR. Impacts on other resources would not occur as a result of these revisions, because SPR GEO-1 is not required to reduce environmental effects on any other resources from implementation of the project. The proposed revisions to SPR GEO-1 are shown in underline and strikethrough in the MMRP (Attachment A).

SPR HYD-5: Protect Non-Target Vegetation and Special-Status Species from Herbicides

SPR HYD-5, as presented in the Program EIR, prohibits all herbicide use within a 50-foot buffer of plants listed under the federal Endangered Species Act (ESA) or California Endangered Species Act (CESA). The intent of the SPR is to avoid potential impacts to special-status species by requiring protective buffers for herbicide use near ESA- and CESA-listed plants and other measures to prevent drift and protect other non-target vegetation. The RCDSCC proposes to revise SPR HYD-5 to allow for limited herbicide treatment within the 50-foot buffer of the ESA-listed Ben Lomond spineflower, and ESA- and CESA-listed Santa Cruz (Ben Lomond) wallflower. This limited treatment within 50-feet of Ben Lomond spineflower and Santa Cruz (Ben Lomond) wallflower plants would include only direct application methods (e.g., cut-stump treatments) where herbicide is applied directly to target invasive species (e.g., eucalyptus, silver-wattle acacia, pampas grass, jubata grass, locust, and French broom), which have the potential to adversely affect the listed plants. Foliar spray treatments will not be permitted within the 50-foot buffer of these species.

Potential impacts resulting from revisions to SPR HYD-5 are discussed below under Section 4.5, "Biological Resources," under Impact BIO-1. As explained in that section, the proposed revisions to SPR HYD-5 would not result in any new or substantially more severe significant impacts than were analyzed in the Program EIR. Impacts on other resources would not occur as a result of these revisions, because the other requirements of HYD-5 that are required to reduce environmental effects on other special-status species and non-target vegetation from implementation of the project would be maintained. The proposed revisions to SPR HYD-5 are shown in underline and strikethrough in the MMRP (Attachment A).

Mitigation Measure BIO-2f: Avoid Habitat for Special-Status Beetles, Flies, Grasshoppers, and Snails

Mitigation Measure BIO-2f, as presented in the Program EIR, mitigates significant impacts on beetles, flies, grasshoppers, and snails listed under ESA or CESA. The objective of the mitigation measure is to avoid injury, disturbance, or mortality, and maintain habitat function for these species. To avoid and minimize impacts on Mount Hermon June beetle and Zayante band-winged grasshopper, Mitigation Measure BIO-2f prohibits treatments within the Santa Cruz sandhills ecosystem (sandhills), which is habitat suitable for Mount Hermon June beetle and Zayante band-winged grasshopper.

The RCDSCC proposes to revise Mitigation Measure BIO-2f to allow for limited treatment in sandhills habitat with the implementation of additional measures designed to avoid injury, mortality, disturbance, and significant habitat modification or degradation on Mount Hermon June beetle and Zayante band-winged grasshopper (e.g., seasonal restriction, avoidance of soil disturbance, consultation with USFWS). The additional measures are based on avoidance and minimization measures recommended by USFWS and local species experts to avoid adverse effects on these species for similar vegetation treatment projects (McGraw 2024a; USFWS 2016). Mitigation Measure BIO-2f has also been revised to require the RCDSCC to implement Mitigation Measure BIO-2c if treatment activities beyond those allowed under the revised Mitigation Measure BIO-2f are necessary to meet project objectives, in which case significant impacts on Mount Hermon June beetle and/or Zayante band-winged grasshopper would remain.

Mitigation Measure BIO-2c would be implemented to compensate for such impacts through habitat enhancement or restoration or other compensatory mitigation (e.g., compliance with permit conditions or authorizations obtained by the RCDSCC such as incidental take authorization).

Potential impacts resulting from revisions to Mitigation Measure BIO-2f are discussed below under Section 4.5, "Biological Resources." As explained in that section, the proposed revisions to Mitigation Measure BIO-2f would not result in any new or substantially more severe significant impacts than were analyzed in the Program EIR. Impacts on other resources would not occur as a result of these revisions, because Mitigation Measure BIO-2f is not required to reduce environmental effects on any other resources from implementation of the project. The proposed revisions to Mitigation Measure BIO-2f are shown in underline and strikethrough in the MMRP (Attachment A).

2 PROJECT DESCRIPTION

Proposed CalVTP treatment types are shaded fuel breaks and ecological restoration. Proposed CalVTP treatment activities are prescribed burning, mechanical vegetation treatment, manual vegetation treatment, herbicide application, and prescribed herbivory.

2.1 PROPOSED TREATMENTS IN THE PROJECT AREA

2.1.1 Existing Conditions and Project Objectives

The approximately 1,619-acre project area is in central Santa Cruz County and supports a mix of coast redwood (*Sequoia sempervirens*) and Douglas-fir (*Psuedotsuga menziesii*) forest, oak woodland, and chaparral. The project area also encompasses portions of the Santa Cruz sandhills ecosystem. The project area runs from Graham Hill Road north to Weston Road in a mainly contiguous manner with some scattered parcels. Landowners are San Lorenzo Valley Water District, City of Santa Cruz Water Department, Land Trust of Santa Cruz County, and other private landowners. Many rare and special-status species inhabit the project area including California red-legged frog (*Rana draytonii*), foothill yellow-legged frog (*Rana boylii*), mountain lion (*Puma concolor*), Santa Cruz kangaroo rat (*Dipodomys venustus venustus*), and white-tailed kite (*Elanus leucurus*). Special-status species endemic to the Santa Cruz sandhills and found occurring in the project area include Mount Hermon June beetle (*Polyphylla barbata*), Zayante band-winged grasshopper (*Trimerotropis infantilis*), Ben Lomond spineflower (*Chorizanthe pungens var. hartwegiana*), Ben Lomond buckwheat (*Eriogonum nudum var. decurrens*), Santa Cruz (Ben Lomond) wallflower (*Erysimum teretifolium*), and silverleaf manzanita (*Arctostaphylos silvicola*).

SANDHILLS ECOSYSTEM TYPES

The project area notably includes treatments within the Santa Cruz sandhills ecosystem, which is a unique ecosystem found only on outcrops of Zayante soils, a low-nutrient, sandy soil found in central Santa Cruz County (McGraw 2004). As described in Section 4.6 below and shown in Attachment C, Zayante soils make up approximately 13 percent of the project area (NRCS 2023). This percentage is based on the mapped area of Zayante soils mapping units (NRCS 2023). Not all areas within Zayante soil mapping units feature Zayante soil and there are areas of Zayante soil located outside of the mapping units. The unique combination of Zayante soils and moist maritime climate in the sandhills supports a variety of endemic plants and animals, many of which are threatened, endangered, or special status due to habitat loss from development, quarrying, and disturbance regime changes (McGraw 2004) and their limited distribution on the Santa Cruz sandhills, which occur in only 4,000 acres (McGraw 2004). The sandhills feature a mosaic of plant communities, including sensitive natural communities, that create varying habitats for native species.

Sandhills communities are adapted to complex disturbance regimes that include fire. Though the precise natural or historic fire regime is unknown, fire in the sandhills removes established plants and creates bare ground required by many of the special-status species. Many sandhills ecosystems have been negatively affected by excessive fuel loading from fire exclusion, nonnative plant invasions, and encroachment of more dominant species. Excessive fuel loads and duff increase soil nutrients which allows species not adapted to Zayante soils, which are nutrient poor, to establish and outcompete sandhills plants (McGraw 2004). Stands of invasive plants such as French broom (*Genista monspessulana*) also outcompete endemic plants and increase nitrogen in soil (McGraw 2004). The proposed restoration treatments in sandhills would restore the historic landscape characteristics by removing excessive fuels, removing encroaching species and invasive plants, and reintroducing fire disturbance.

Sandhills ecosystems can be categorized into sand parkland, sandhills chaparral, sandhills oak woodland, and sandhills ponderosa pine (McGraw 2019), and treatment descriptions are based on the different characteristics of these habitats. Sand parkland is characterized by low cover (less than 50 percent) of tree species such as ponderosa

pine (*Pinus ponderosa*) and coast live oak (*Quercus agrifolia*), and less than 25 percent cover of shrubs such as silverleaf manzanita and silver bush lupine (*Lupinus albifrons* var. *albifrons*) (McGraw 2019). Sand parkland understory is dominated by Ben Lomond spineflower, Ben Lomond buckwheat, and Santa Cruz (Ben Lomond) wallflower and other native annual forbs. Scattered shrubs may be present, but this ecosystem type generally lacks a shrub layer. This type of sandhills supports the endemic Mount Hermon June beetle and perhaps Santa Cruz kangaroo rat at low abundance, and it is the primary habitat type for the Zayante band winged grasshopper. This is the rarer type of sandhills, with the total remaining area likely less than 400 acres (McGraw 2019).

Sandhills chaparral is characterized by greater than 25 percent cover of sclerophyllous shrubs, less than 20 percent tree cover, and herbaceous understory plants in vegetation gaps (McGraw 2019). Dominant shrubs include silverleaf manzanita, chamise (*Adenostoma fasciculatum*), sticky monkeyflower (*Diplacus aurantiacus*), and buckbrush (*Ceanothus cuneatus).* Tree cover may include ponderosa pine and knobcone pine (*Pinus attenuata*). This habitat type is more common than sand parkland; it is the primary habitat type for Santa Cruz kangaroo rat (Bean 2003), and it supports Mount Hermon June beetle (McGraw and Amesquita 2017). Although not the primary habitat type, sandhills chaparral is generally suitable habitat for the Zayante band winged grasshopper (McGraw 2019). Sandhills chaparral habitats generally low frequency of Santa Cruz (Ben Lomond) wallflower and Ben Lomond buckwheat, with Ben Lomond spineflower oftentimes found in shrub canopy gaps (McGraw 2004).

Sandhills oak woodland and sandhills ponderosa pine also occur in the project area with over 50 percent tree cover of coast live oak or greater than 40 percent cover ponderosa pine species respectively. These tree-dominated ecosystems are more likely to occur in areas where fire has been excluded for over a century and in areas of soils are transitional between Zayante soil and adjacent loam soils, as well as in other areas with greater soil moisture including north-facing slopes (McGraw 2024). Historic suppression has promoted succession of these ecosystems to mixed evergreen forest by facilitating Douglas-fir establishment and has also increased threats of catastrophic fire (McGraw 2024). Both oak woodland sandhills and ponderosa pine forest sandhills support Mount Hermon June beetle. Other hardwoods may be intermixed with these dominant tree species along with emergent Douglas-fir. Understory comprised of sparse to dense shrub cover with variable herbaceous species adapted to low-light conditions (McGraw 2024). Sandhills oak woodland and sandhills ponderosa pine communities occur as a mosaic with others and transitional vegetation types may occur in between sand chapparal, sand parkland, or non-sandhill communities.

Other Ecosystem Types

Mixed-conifer forest types in the project area are comprised of overly dense second-growth redwood and redwood-Douglas fir stands with excessive fuel loading due to nearly a century of fire suppression and lack of other vegetation thinning. Current conditions include high stand densities, high fuel loads, low size and age class diversity, reduced individual tree vigor, and reduced understory diversity. These conditions increase susceptibility to pests, pathogens, drought, mortality, and wildfire and also decrease habitat value for wildlife. Treatments would focus on reintroduction of disturbance using fire or fire surrogates (e.g., mechanical and manual treatments which would thin out some smaller diameter trees, reduce fuel loads, and promote a diverse forest with mixed age and size trees. Treatments would promote the development of larger, healthier, individual trees, mixed size class development, and increase diversity of understory species by creating a habitat mosaic.

In oak woodland forest types, treatment activities would focus on promoting oak and other hardwood dominance, controlling pathogens, reducing invasive plant populations, and promoting wildfire resiliency and understory diversity. Oak woodlands are fire-adapted systems that require disturbances to outcompete encroaching species and regenerate oak saplings (van Mantgem et al. 2021). The oak woodlands in the project area are displaying excessive fuel loading and encroachment of Douglas-fir, which makes them susceptible to high mortalities in the event of a wildfire. Reducing fuel loads and encroachment would make it more likely that mature, healthy oaks survive low to moderate severity fires.

In chaparral vegetation types, fire suppression and a lack of other disturbance has created high fuel loading, reduced vegetation diversity and encroachment by tree species that would otherwise be absent from these vegetation types,

or present in lower densities. The few grasslands present within the project area have been similarly affected by fire suppression and encroachment of shrubs, trees, and non-native species.

2.1.2 Treatment Types

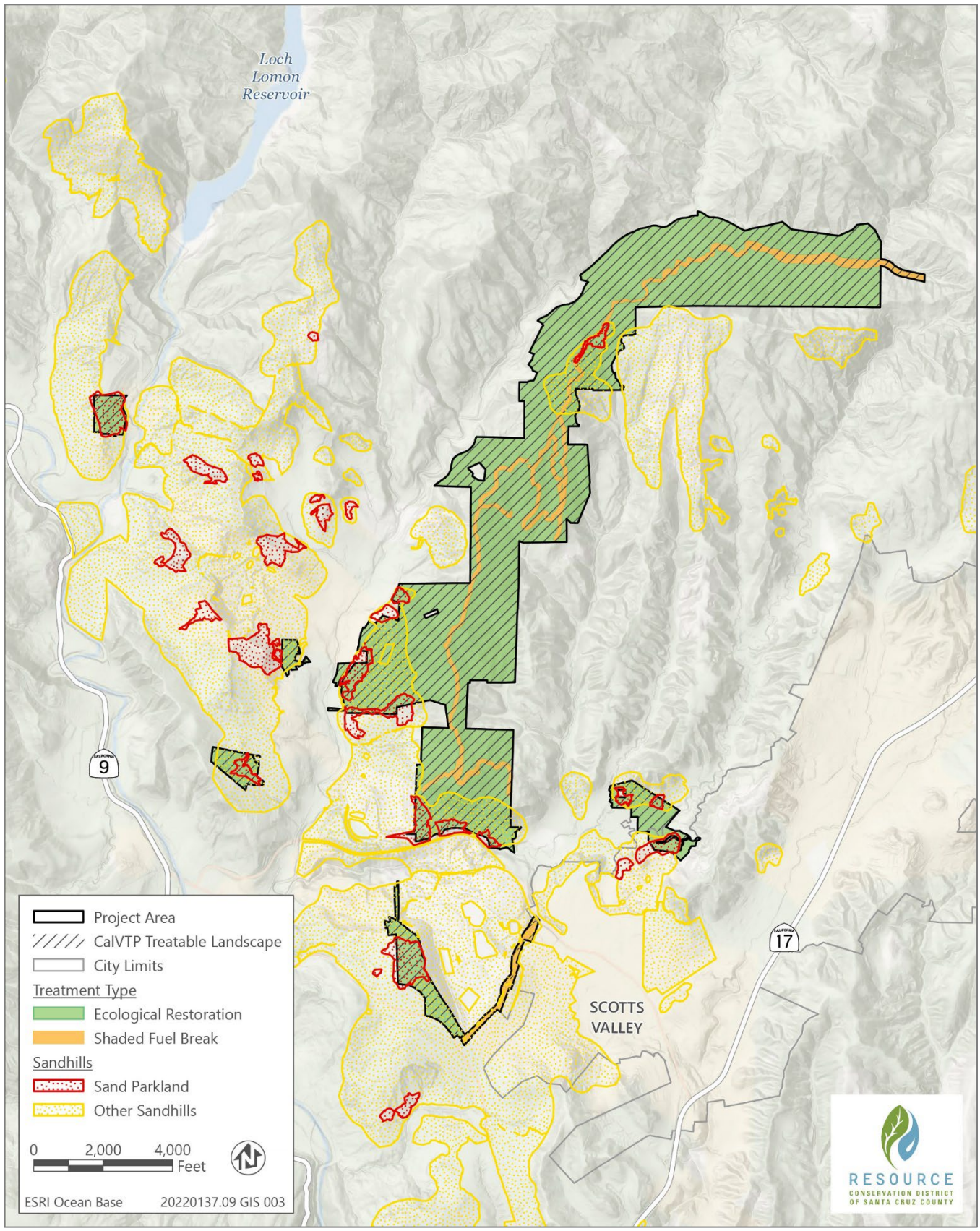
Proposed treatment types are shaded fuel breaks and ecological restoration. Each treatment type is described in more detail below and is consistent with the treatment types described in the CalVTP. Refer to Figure 2-1 for the approximate location of each treatment type within the project area. Table 2-1 provides a summary of treatments.

FUEL BREAKS

In strategic locations, shaded fuel breaks create zones of vegetation removal or reduction, often in a linear layout, that reduce wildfire risk and support fire suppression activities by providing emergency responders with a staging area or access to a remote landscape for fire control activities. The type of fuel break proposed for the project area is shaded fuel break. In forested areas, smaller trees and ladder fuels would be removed to reduce the potential for a crown fire to cross the fuel break, or for a ground fire to move into the canopy. Large, healthy trees would be retained to retain canopy shading, which would help reduce the potential for rapid regrowth of shrubs and sprouting hardwoods while reducing erosion. The shaded fuel breaks may also provide important control lines for prescribed burning treatments.

Shaded fuel breaks would be established in the project area along strategic topographic locations such as ridge tops, along roads, skid trails, or adjacent to residential areas, as shown in Figure 2-1. All shaded fuel breaks would occur within 300 feet of existing roads, skid trails, or residential areas. To create shaded fuel breaks, shrubs and understory trees would be greatly reduced to lessen surface and ladder fuels and create a safer area for firefighting activities. Live trees up to 12 inches diameter at breast height (dbh) may be felled; live trees greater than 12 inches dbh would be limbed up to 10 feet or no greater than one-third of their canopy. Trees over roadways would be limbed up to heights of 15 feet. The remaining trees would be spaced 10–20 feet apart. In areas with no overstory vegetation, vegetation islands of 10–20 feet in diameter would be retained with 10–20 foot spacing between islands to create a mosaic of shrubs and other vegetation. Dead, dying, or hazardous trees of any size may be felled; snags that are not threatening roadways or not a high fire hazard as determined by a Registered Professional Forester (RPF) or supervised designee may be retained for wildlife. Invasive trees (e.g., *Eucalyptus, Acacia* species) of any size and all invasive shrubs including Portuguese broom and French broom would be removed. Highly flammable invasive species such as eucalyptus, acacia, and broom species should be targeted for removal in shaded fuel breaks during initial and maintenance treatments.

In sandhills, shaded fuel break treatments may include limbing up overstory trees to 10 feet or no greater than one-third of their canopy height and removal of invasive plant species and dead biomass. To achieve desired spacing, ladder fuels, including common species such as chamise, poison oak (*Toxicodendron diversilobum),* coyote bush (*Baccharis pilularis*), buckbrush, and Douglas-fir saplings may be removed. Small true oaks (*Quercus* spp.), California coffeeberry (*Frangula californica*), and toyon (*Heteromeles arbutifolia*) would be retained where feasible to meet project goals. Removal of silverleaf manzanita (*Arctostaphylos silvicola*), mock heather, and Anderson's manzanita (*Arctostaphylos andersonii)* would be avoided where feasible; dead and dying limbs may be removed from *Arctostaphylos* species. Islands of herb and shrub vegetation would be retained outside the driplines of trees, and duff and organic material would be removed to leave up to 80 percent exposed bare sand within the treatment areas.



Source: RCDSCC 2024, adapted by Ascent 2024.

Figure 2-1 Map of Project Area and Treatment Types

ECOLOGICAL RESTORATION

Ecological restoration treatments would be implemented outside of the shaded fuel break treatment areas in the project area (Figure 2-1). Treatments would seek to restore biodiversity, promote a mosaic of vegetation types, and restore ecological functioning, including using fire or fire surrogates to reintroduce the historic disturbance regimes. The proposed treatments seek to improve overall forest, woodland, chaparral, and sandhills structure; native species composition; and ecosystem functions to provide watershed benefits and promote resilience to future natural disturbances and climate change. A properly functioning landscape would help mitigate climate change impacts by increasing carbon sequestration, protecting aquatic resources, protecting water supplies, and providing wildlife habitat while also reducing risks of catastrophic wildfire to the surrounding community. Ecological restoration treatments would be implemented in smaller treatment units (treatment areas) within the project area, and treatments would vary based on vegetation type and the successional stage of the landscape, as described below.

Mixed Conifer Treatments

The mixed conifer-redwood forests of the Santa Cruz Mountains historically experienced a median fire return interval (FRI) of 12 years, which recycled nutrients, controlled fuels, promoted size- and age-class diversity, and increased understory diversity (Stephens and Fry 2005). Most of the region was clear-cut logged from the 1800s to early 1900s, followed by an era of fire suppression since 1926 (Jones 2014), which have led to novel forest conditions characterized by high stand densities and fuel loads, low size- and age-class diversity, and reduced individual tree vigor. These conditions increase susceptibility to pests, pathogens, and high mortality in the event of a wildfire (Stephens et al. 2023). In this forest type, thinning of small diameter trees and woody vegetation up to 12 inches dbh in overstocked forest units would be implemented to promote complex forest structure with different size classes of trees as well as promote understory diversity by increasing light to the forest floor. Invasive trees (e.g., *Eucalyptus, Acacia* species) of any size and invasive shrubs including Portuguese broom and French broom would be removed. For thinning projects, a number of small diameter trees would be retained to promote age- and size-class diversity and species diversity and to maintain forest resilience. The appropriate number or percentage of small trees to retain in treated stands would be determined by a qualified RPF or biologist based on the type and condition of the stand being treated and the specific goals for the treatment. Treatment in mixed conifer forest would include removing excessive standing dead wood while leaving approximately 2-4 snags per acre, favoring snags with complex features (such as cavities that are used by wildlife), controlling nonnative vegetation, and restoring disturbance to the landscape in the form of fire or fire surrogates. Residual trees experience increased health and vigor after thinning treatments (Soland et al. 2021), which would improve stand carbon sequestration and promote resiliency to wildfire impacts.

Oak Woodland Treatments

In oak woodland forest types, treatment activities would focus on promoting hardwood dominance, controlling pathogens, reducing invasive plant populations, and promoting wildfire resiliency. Oak woodlands are fire-adapted systems that require disturbances to prevent encroachment of fire-sensitive species and to regenerate oak saplings (van Mantgem et al. 2021). Restoration of oak woodlands would also benefit the diverse plant and wildlife assemblages that are associated with the habitat. Excessive standing dead wood would be removed to promote wildfire resiliency while retaining 2-4 snags per acre for wildlife. Thinning of small diameter trees and woody vegetation up to 12 inches dbh in overstocked forest units would be implemented to promote complex forest structure with different size classes of trees as well as promote understory diversity by increasing light to the forest floor. Removal of ladder fuels including some Douglas-fir saplings would occur along with pruning of branches up to 10 to 15-foot heights or no greater than one-third total canopy height.

In addition, select mid-canopy and overstory Douglas-fir would be removed in areas where mixed conifer forests transition to mixed hardwood, shrubland, and grassland habitats to prevent conversion of those non-conifer dominated habitats to Douglas-fir dominated habitat. Select mid-canopy and overstory Douglas-fir would be removed within approximately 300 feet (Nuñez and Paritsis 2018) of mixed hardwood, chaparral, and grassland habitats to reduce seed sources that facilitate Douglas-fir encroachment into non-conifer dominated habitat types without lowering the tree cover within these portions of mixed conifer stands below 20 percent to meet the definition of tree dominated habitats in the *Manual of California Vegetation* (Sawyer et al. 2009). Encroaching Douglas-fir of any

size would be felled or killed by other methods (e.g., girdling). Some of these treatments would also provide preparation for the safe use of prescribed burning.

Grassland Treatments

In grasslands, ecological restoration treatments would focus on removing encroaching successional vegetation like shrubs and conifers that without fire or other disturbances are known to overtake and convert grasslands. Ecological restoration treatments would also focus on invasive species management and fuel load management. Mechanized treatments may include utilizing timed mowing to address seed production of invasive species and mowing or discing to prepare control lines for broadcast fire. Prescribed grazing may also be used in grasslands to control fuels and promote nutrient cycling. Manual treatments may include removal of invasive plants and encroaching vegetation types. Herbicide may be used to aid in control of invasive plant species. Pile burning or broadcast burning may be used to process biomass and reduce encroaching vegetation and promote grassland habitat in general. In addition, as described above under "Oak Woodland Treatments," select mid-canopy and overstory Douglas-fir would be removed in areas where mixed conifer forests transition to mixed hardwood, shrubland, and grassland habitats to prevent conversion of those non-conifer dominated habitats to Douglas-fir dominated habitat.

Chaparral Treatments

In chaparral habitats that are not located within Santa Cruz sandhills, ecological restoration treatments would focus on restoring historic disturbance regimes to promote species diversity and prevent type conversion to more dominant species. Tree treatments include limbing up live overstory trees greater than 12 inches dbh would be limbed up to 10 feet or no greater than one-third of their canopy, removing invasive species if present, and/or removing excessive dead and downed biomass. Dead or dying trees of any size may be removed. Trees up to 24 inches dbh may be removed to achieve a tree cover of less than 10 percent, to maintain classification as a shrub dominated community following *Manual of California Vegetation* (MCV) membership rules (Sawyer et al. 2009). Shrubs would either be removed using mechanical or manual methods (e.g., masticated, crushed, or lopped and scattered). Where trees are not present, and prescribed burning is not feasible, 10 to 20-foot diameter islands of vegetation would be maintained, selecting target species for retention based on MCV membership rules. Where prescribed burning would occur as a follow-up treatment, vegetation in burn units may be entirely modified to make broadcast burning safe and feasible. In addition, select mid-canopy and overstory Douglas-fir would be removed in areas where mixed conifer forests transition to mixed hardwood, shrubland, and grassland habitats to prevent conversion of those non-conifer dominated habitats to Douglas-fir dominated habitat.

Santa Cruz Sandhills Treatments

Many sandhills ecosystems have been negatively impacted by excessive fuel loading from fire exclusion, nonnative plant invasions, and encroachment of more dominant species. Excessive fuel loads and duff increase soil nutrients which allows more common species to establish and outcompete sandhills forbs. Ecological restoration treatments would aim to reset succession by selectively removing litter, duff, dead trees, and dead and downed wood. Treatments would also focus on reducing live trees and shrubs to achieve target canopy cover densities and target percentage of bare soil by using fire or fire surrogates. Biomass in sandhills ecosystems would either be processed (e.g., masticated, crushed, or lopped and scattered) for subsequent broadcast burning, burned in burn piles, chipped and relocated to a suitable area (e.g., mixed conifer, oak woodlands), hauled off-site, or consumed on-site with a biomass processing apparatus (e.g., curtain burner). If wood chips are relocated to a different site in the project area, roads, staging areas and pullouts would be prioritized before natural areas. Invasive plants would be addressed within sandhills ecosystems following the planning and fuel management best management practices (BMPs) found in *Preventing the Spread of Invasive Plants: Best Management Practices for Land Mangers* (Cal-IPC 2012, or current version). In addition to following these BMPs, the RCDSCC would monitor and eradicate any new infestations of invasive plants for between 1 and 3 years, depending on individual treatment area conditions.

Sandhills Chaparral

In sandhills chaparral (Figure 2-2), ecological restoration treatments would include limbing up trees to 10 to 15-foot heights, removing invasive species if present, and/or removing dead and downed biomass. Dead or dying trees of

any size may be removed. Shrubs including common species such as chamise, poison oak, coyote bush, buckbrush, and encroaching tree saplings may be removed. Treatment goals would be to achieve end state cover characteristic of the species composition and stand structure based on MCV membership rules, or other best available information if the type is not described in the MCV (Sawyer et al. 2009). Trees up to 24 inches dbh may be removed to achieve desired percent tree cover. Islands of vegetation would be retained outside the driplines of trees, but duff and organic material would be removed to create up to 80 percent total cover of exposed bare sand within the treatment unit. Manual methods for clearing litter and duff would be used, such as raking or use of other hand operated equipment. Where trees are not present and prescribed burning is not feasible, encroaching and senescent vegetation would be targeted for removal, while selecting target species for retention. Shrub-type fuels may be entirely modified as preparation for a prescribed, broadcast burn. The trees that would remain would aim to promote local plant species diversity, sandhills-specialized species and would be determined by a qualified biologist (McGraw 2019). Where prescribed burning would occur as a follow-up treatment, vegetation in burn units may be entirely modified (e.g. masticated, crushed, etc.) to make broadcast burning safe and feasible. In addition, as described below under "Sandhills Oak Woodland Treatments," any size Douglas-fir would be removed to prevent conversion of those non-conifer dominated habitats to Douglas-fir dominated habitat.

Source: RCDSCC 2024.

Figure 2-2 Representative Photo of Sandhills Chaparral

Sand Parkland

In sand parkland ecosystems, treatments would aim to reduce tree and shrub cover to meet end goals of less than 50 percent of tree species cover such as ponderosa pine and coast live oak and less than 25 percent cover of shrubs such as silverleaf manzanita. Figure 2-3 shows a sand parkland ecosystem where shrubs have encroached. To achieve desired cover, vegetation including trees, saplings, vines, and shrubs may be removed. Trees up to 24 inches dbh would be removed to achieve desired canopy cover. Dead or dying trees of any size may be removed. Residual trees would be limbed up to 10 feet height or no greater than one-third total canopy. Vegetation would be retained outside the driplines of trees to achieve percent shrub cover targets, but duff and organic material would be removed to create up to 80 percent exposed bare sand. Manual methods for vegetation removal and the clearing litter and duff and prescribed burning would be the primary treatment activities within sand parkland. In sand parkland settings, mechanized methods such as the scraping of duff and small shrubs with a dozer or other mechanical

implements may be used if needed to promote open habitat for Zayante band winged grasshopper. However, mastication of existing vegetation would be avoided unless required to meet treatment objectives, and chipped or masticated material would not be placed in sand parkland habitat. In addition, as described below under "Sandhills Oak Woodland Treatments," any size Douglas-fir would be removed to prevent conversion of those non-conifer dominated habitats to Douglas-fir dominated habitat.

Source: RCDSCC 2024.

Figure 2-3 Representative Photo of Sand Parkland

Sandhills Oak Woodland

In sandhills oak woodland ecosystems (Figure 2-4), ecological restoration treatments would include limbing up overstory trees to 10 to 15-foot heights, removing invasive species if present, and removing excessive dead and downed biomass. On mature oak trees, only dead or damaged branches, or small branches would be pruned to reduce potential for pathogen spread. Dead or dying trees of any size may be removed, retaining 2-4 standing snags per acre and downed logs as habitat. Selective thinning of small diameter trees, shrubs, and woody vegetation up to 12 inches dbh would be implemented to promote complex forest structure with different size classes of trees as well as promote understory diversity by increasing light to the forest floor. Vegetation selected for removals would be focused on encroaching vegetation, senescent vegetation and excessive dead and downed fuels. Douglas-fir of any size may be removed to prevent unnatural succession of sandhills oak woodlands to Douglas-fir or mixed evergreen forest (McGraw 2024). Where prescribed burning would occur as a follow-up treatment, vegetation in burn units may be entirely modified (e.g. masticated, lopped and scattered) to make broadcast burning safe and feasible. Where broadcast burning is not planned as a follow-up, 10 to 20-foot diameter islands of vegetation would be maintained in the understory.

Source: RCDSCC 2024.

Figure 2-4 Representative Photo of Sandhills Oak Woodland

Sandhills Ponderosa Pine Forest

In ponderosa pine-dominated sandhills ecosystems (Figure 2-5), ecological restoration treatments would include limbing up overstory trees to 10 to 15-foot heights, removing invasive species if present, and removing excessive dead and downed biomass. Dead or dying trees of any size may be removed, retaining 2-4 standing snags and downed logs as habitat. Douglas-fir of any size may be removed to prevent unnatural succession of sandhills ponderosa pine forest to Douglas-fir or mixed evergreen forest (McGraw 2024). Thinning of small diameter trees, shrubs, and woody vegetation up to 12 inches dbh focusing on removal of encroaching vegetation types, senescent vegetation and excessive dead and downed fuels would be implemented to promote complex forest structure with different size classes of trees as well as promote understory diversity by increasing light to the forest floor. Where prescribed burning would occur as a follow-up treatment, vegetation in burn units may be entirely modified (e.g. masticated, lopped and scattered) to make broadcast burning safe and feasible. Manual methods for clearing litter and duff would be used, such as raking, or use of other hand operated equipment to enable regeneration of ponderosa pine. In addition, as described above under "Sandhills Oak Woodland Treatments," any size Douglas-fir would be removed to prevent conversion of those non-conifer dominated habitats to Douglas-fir dominated habitat.

Source: RCDSCC 2024.

Figure 2-5 Representative Photo of Sandhills Ponderosa Pine Forest

2.1.3 Treatment Activities

The proposed treatment activities are prescribed burning, mechanical treatments, manual treatments, herbicide, and prescribed herbivory. Each of the treatment activities is described in more detail below and consistent with the treatment activities described in the CalVTP. Table 2-1 provides a summary of treatments and the maximum acreage of each treatment activity in the project area. Treatment activities could occur during any time of the year. Prescribed burning and prescribed herbivory may occur any day of the week or time of day. Mechanical treatments, manual treatments, and herbicide application could occur on any day of the week but would be limited to daylight hours.

PRESCRIBED BURNING

Prescribed burning consists of pile burning and broadcast burning. Unless otherwise noted below, the average number of workers on-site for a prescribed burn is 45.

Pile burning: Biomass from mechanical treatment and manual treatment would be piled using heavy equipment or hand crews and burned appropriately. Pile burning would occur in areas with little to no live overstory, or areas where flame lengths and heat would not negatively impact overstory trees. Pile burning would occur at least 20 feet from Class III watercourses, and outside of watercourse and lake protection zones (WLPZs) for Class I and Class II watercourses.

When feasible, biomass from mechanical and manual treatments would be disposed of using **air curtain burning**. An air curtain burner, which could include the "BurnBoss" and/or "FireBox," would be used to dispose of biomass. These units range in size. The BurnBoss is a small, highly mobile self-contained kiln that can be towed with a standard heavy-duty pickup truck. The FireBox is a larger unit that can be transported using a trailer. A small Environmental Protection Agency (EPA) Tier 4 diesel engine powers these systems, which consumes one-third of a gallon of diesel fuel per hour at full power. Air curtain burners would be set up on existing roadways and/or landings that meet the qualifications for their use, which comprise level, previously disturbed areas that are devoid of vegetation. Biomass

would be carried from the work sites to the burner and hand fed into the air curtain burner. The need to carry materials to nearby landings or roads where the air curtain burner is located limits the area where use of a burner is feasible. Once the burning is complete, and the produced wood ash has cooled, the ash and biochar would be distributed throughout the treatment area where the biomass originated to approximate the mosaic of conditions that would occur after broadcast burning. At no location in the treatment area will the depth of biochar and ash exceed 4 inches and biochar will not be spread within sand parkland unless required to meet treatment objectives. If it is not feasible to distribute biochar and ash within the treatment area in this way, biochar may also be hauled off-site for beneficial use at agricultural or other facilities in the area. Multiple air curtain burners could be operated simultaneously as part of the proposed project. A burner requires a crew of two to three people per burner and operating multiple burners next to each other would not necessarily require additional people. Air curtain burners have been designed to consume biomass quickly and efficiently with a substantial reduction in smoke compared to pile burning (refer to additional information in Section 4.3, "Air Quality," and Section 4.7, "Greenhouse Gas Emissions"). Mitigation Measure GHG-2 in the CalVTP Program EIR requires implementation of feasible methods, including the use of air curtain burners, to reduce the greenhouse gas emissions from pile burning.

Broadcast burning: Broadcast burning would be used to reset succession and promote nutrient cycling, diversity of successional phases, habitat mosaics, and understory diversity while reducing biomass and fuel loading in any specified vegetation type. Broadcast burning may be used to control fuels, invasive species, as well as encroachment of successional vegetation. Broadcast burning also promotes species diversity and a more wildfire-resilient landscape. Additionally, broadcast burning creates the bare soil conditions, openings in canopy cover, and biochar or smoke stimuli required for successful regeneration of fire-adapted species such as silverleaf manzanita. Pretreatment of vegetation using mechanical or manual treatment would occur in areas proposed for broadcast burning. For example, mastication, mowing, or crushing may be used as a pretreatment in areas of favorable slope, or manual removal of vegetation may be used in steeper terrain.

Broadcast burning would be implemented during periods when weather and fuel conditions allow the desired fire intensity to meet objectives and not create fire behavior that would jeopardize the control of the burn. The goal is to conduct a low-to-moderate-intensity burn that sufficiently consumes the target fuels, which would vary based on the vegetation type. Broadcast burning may require the construction of new control lines or enhancement of existing control lines using mechanical treatments or manual treatments, primarily through mowing or using hand tools. Use of heavy equipment including tractors, skidders, or dozers may be required in certain areas. In addition to these ground-based techniques, a helicopter with a helitorch may be used when an area has terrain with limited accessibility. Helicopters would be used only during broadcast burns for aerial ignitions where access is limited or where higher fire intensity is needed to achieve burn objectives.

If needed to extinguish a prescribed burn, a minimal amount of water would be supplied from the municipal water supply via a water apparatus (e.g., water donkey) or fire engine. Other equipment used on prescribed burns may include chainsaws, firing devices, and hand tools. All burning would occur in accordance with regulations regarding prescribed burning.

MECHANICAL VEGETATION TREATMENT

Mechanical treatments include primarily masticating target vegetation and chipping biomass created as a byproduct of mechanical treatment and manual treatment activities. In addition, mechanical treatments in sandhills habitat would consist only of crushing or mastication of vegetation in preparation for broadcast burning, as well as chipping (chips would be removed from sandhills habitat). Up to three crews with two to 10 members each may operate in the same project area at the same time. Equipment would include tractors, skidders, chippers, and masticators. Equipment may be operated on existing roads and skids trails as well as flat to moderate slopes. Small-diameter trees up to 12 inches dbh, downed woody debris, and woody shrubs would be masticated (scattered as non-uniform sized pieces around treated areas) or chipped to increase tree spacing, reduce fuel loads, and promote health of residual trees in targeted areas. In shrub dominated areas, vegetation may be crushed to facilitate broadcast burning. If chipping is used, woodchips would be broadcast to average depths of approximately 4 inches or less. Mechanical

treatments would not occur within specified distances of waterways (Class I, II, III streams) as identified in SPR HYD-4 and defined in the 2013 California Forest Practice Rules, California Code of Regulations, title 14, section 916.5.

Generally, mechanical treatments would:

- Masticate target live woody shrubs and trees up to 12 inches dbh;
- Remove trees up to 24 inches dbh from chaparral, sand chaparral, and sand parkland habitats under conditions explained above (under Section 2.1.2);
- Remove mid-canopy and overstory Douglas-fir within approximately 300 feet of mixed hardwood, chaparral, and grassland habitats under conditions explained above (under Section 2.1.2);
- Remove limbs of large retention trees up to 10 feet high (or no more than one-third total tree canopy height);
- Remove any size standing dead trees and shrubs, while retaining 2-4 snags per acre for wildlife habitat (with a preference for the largest snags that exhibit the form and decay characteristics favored by wildlife) in forest settings;
- In forest settings, retain downed logs greater than 12 inches dbh (Strong and Bevis 2016) with preference for the larger, complex logs, totaling approximately 10 tons per acre;
- Maintain at least 35 percent relative final density of chaparral vegetation when not done in preparation for prescribed burning;
- To the extent feasible, retain buckeye (*Aesculus californicus*), true oaks, big-leaf maple (*Acer macrophyllum*), and native shrubs such as hazelnut and Ribes species in forests;
- In woodland settings, maintain herbaceous understory components as much as feasible, with a minimum of 5 to 10 percent herbaceous cover retained;
- If early disturbance species are already present, retain as much cover of these species as feasible;
- In chaparral or sandhills, conduct pre-treatments for broadcast burning; and
- Target successional tree and shrub species for removal.

MANUAL VEGETATION TREATMENT

To implement manual treatments, one or two crews of approximately three to 20 members would use hand tools and hand-operated power tools, including chainsaws, hand saws, brush cutters, pole saws, and loppers, to cut, clear, and/or prune trees, herbaceous vegetation, trees, and woody shrubs and increase space between trees. Typically, treatments would require several days to several months to complete, depending on the treatment size, steepness of terrain, and type and density of vegetation. Trees would be removed, thinned, and pruned and woody shrubs would be cut and/or cleared. The same general guidelines for tree and vegetation removal and retention would be followed as described above for mechanical treatments. Where feasible, treatments would focus on removing nonnative and invasive species. Manual treatment activities may occur within 100 feet of streams (i.e., Class I, II, III) to reduce undesirable wildfire hazards such as large-scale tree mortalities.

HERBICIDE

Herbicides would primarily be used to prevent the spread and the resprouting of invasive species in the project area. During initial treatments, herbicide may be used to control invasive vegetation and prevent regrowth of tree species such as Tasmanian blue gum eucalyptus (*Eucalyptus globulus*) and silver-wattle acacia (*Acacia dealbata*) after they are removed; other target plants include French broom (*Genista monspessulana*), pampas grass (*Cortaderia selloana*), jubata grass (*Cortaderia jubata*), and other persistent invasive species. Herbicide application may also occur in targeted locations in previously treated areas during maintenance to control regenerating invasive vegetation if it is determined to be the most environmentally sensitive treatment method to promote desired restoration conditions.

Consistent with the CalVTP, herbicides proposed for use are glyphosate, triclopyr, and hexazinone. Herbicides would only be applied by hand (e.g., cut stump method), spot, or foliar spray. Typically, herbicide application would be carried out by one to five workers and would comply with the US EPA label directions, as well as California EPA and Department of Pesticide Regulation (DPR) label standards. The use of herbicides would be excluded from areas with open water bodies. In addition, both glyphosate and triclopyr are subject to the California Red-Legged Frog Injunction (Center for Biological Diversity v. US EPA [2006] Case No. 02-1580-JSW), and therefore, specific application requirements apply. For localized spot treatments using handheld devices, the application of glyphosate and triclopyr are prohibited within 60 feet of California red-legged frog aquatic breeding critical habitat or nonbreeding aquatic critical habitat within critical habitat areas or within 60 feet of aquatic features within the noncritical habitat sections subject to the injunction. RCDSCC would comply with all laws and regulations governing the use of herbicides.

PRESCRIBED HERBIVORY

Prescribed herbivory for hazardous fuel reduction is the intentional use of domestic livestock to remove, rearrange, or convert vegetation in wildlands to reduce the costs and losses associated with wildfires and to enhance the condition of forests, rangelands, and watersheds. Prescribed herbivory can offer a variety of benefits in comparison to other types of vegetation treatments. Herbivores are essentially a "biological masticator" and turn unwanted biomass into a consumable product that can sustain the animal. In addition to fire prevention benefits, carefully managed grazing can provide important environmental benefits such as increased soil organic matter, control of invasive species, and improved plant and wildlife habitat. One to five workers would be required on average to implement this treatment activity. This treatment type would not be used in sandhills habitat.

Within the project area, the RCDSCC (potentially in discussions with their partners, technical advisors, or cooperating landowners) would consider the following in designing treatments that use prescribed herbivory instead of other treatment activities:

- Air quality, when compared to the use of prescribed burning.
- Noise, when compared to mechanical treatment and some manual treatments.
- Proximity to structures, when compared to risks of using prescribed burning or mechanical treatment.
- Steep slopes, when compared to prescribed burning, manual, or mechanical treatments.
- Soil compaction and surface disturbance, when compared to mechanical treatments.
- Noxious weed control, when compared to manual or mechanical treatments.

BIOMASS DISPOSAL

Biomass created during the proposed vegetation treatments described above would be disposed of primarily by the following methods:

- Masticating (approximately 50 percent of biomass): masticating or mulching vegetative debris and placing it on the ground concurrently with vegetation removal. The residual masticated material would be broadcast over at least 75 percent of treatment areas and would not exceed a depth of approximately 8 inches in depth on average to allow growth of herbaceous vegetation.
- Chipping (approximately 10 percent of biomass): chipped biomass would be spread non-uniformly over treatment areas to the extent feasible and would not exceed average depth of approximately 4 inches or less to allow growth of herbaceous vegetation. Chipping would be prioritized at previously disturbed sites, such as roads and staging areas. Woodchips would not be broadcast in sandhills habitat to protect soil characteristics promote establishment of native plants inhibited by litter on the soil surface (McGraw 2004).
- Lopping and scattering (approximately 5 percent of biomass): cut vegetation would be scattered within the treatment area and would be left within 18 inches of the ground to promote decomposition. Areas where lopping

and scattering would occur may also be subject to broadcast burning. Lop and scatter methods may be used on steeper slopes, in areas where equipment access is not feasible, and as part of any manual or mechanical treatments.

- Pile burning or air curtain burning (approximately 15 percent of biomass): in some areas, pile burning or air curtain burning, or other method such as a carbonator or biomass processing facility, may be used to dispose of slash, thinned trees, and other residual material.
- Broadcast burning (approximately 15 percent of biomass): broadcast burning would be conducted in areas where mastication, crushing, lopping and scattering, or other vegetation pretreatments have been conducted, as appropriate.

In sandhills, biomass would either be processed into piles and burned, hauled off-site, or broadcast burned on-site. In any treatment area where on-site biomass disposal is not feasible to meet treatment goals, approximately 5 percent of biomass may be removed from treatment areas and disposed of at an off-site facility. Invasive plant and noxious weed biomass would be treated on-site to eliminate seeds and propagules or would be disposed of off-site at an appropriate waste collection facility to prevent reestablishment or spread of invasive plants and noxious weeds. Invasive plants and noxious weeds would not be chipped and spread, scattered, or mulched on-site. Invasive plants may be processed into burn piles or in air curtain burners or lopped and scattered for future broadcast burning.

Table 2-1 Proposed CalVTP Treatments

CalVTP Treatment Type	CalVTP Treatment Activity	Treatment Description	Treatment Size (acres)	Equipment used for Treatments	Timing of Treatments
Ecological Restoration	Prescribed Burning	Broadcast burning, pile burning, air curtain burning	Up to 1,493	Chainsaws, firing devices, water apparatus, fire engines, tractors, skidders, dozers, mowers, air curtain burners, helitorch	1 day to 2 weeks
	Mechanical Treatment	Mastication, thinning, chipping, crushing, scraping, piling	Up to 1,250	Tractors, skidders, masticators, chippers, skid steer, tree harvester	1 to 12 months
	Manual Treatment	Tree pruning, hand-felling, lop and scatter, piling, invasive plant removal	Up to 1,493	Chainsaws, pole saws, handsaws, brush cutters, loppers, blowers, hand tools	1 to 12 months
	Prescribed Herbivory	Livestock	Up to 600	Truck, electric netting, fencing, livestock watering system	1 to 12 months
	Herbicide Application	Cut stump, foliar spray	Up to 650	Spray unit, herbicide	1 day to 2 weeks
Shaded Fuel Break	Prescribed Burning	Broadcast burning, pile burning, air curtain burning	Up to 126	Chainsaws, firing devices, water apparatus, fire engines, tractors, skidders, dozers, mowers, air curtain burners, helitorch	1 day to 2 weeks
	Mechanical Treatment	Mastication, thinning, chipping, piling	Up to 126	Tractors, skidders, masticators, chippers, skid steer, tree harvester	1 to 12 months
	Manual Treatment	Tree pruning, hand-felling, lop and scatter, piling, invasive plant removal	Up to 126	Chainsaws, pole saws, handsaws, brush cutters, loppers, blowers, hand tools	1 to 12 months
	Herbicide Application	Cut stump, foliar spray	Up to 30	Spray unit, herbicide	1 day to 2 weeks
Total Acres			1,619		

Notes: Acreage amounts are rounded, field values may vary slightly.

Source: Data provided by RCDSCC in 2023.

2.2 TREATMENT MAINTENANCE

Maintenance treatment or re-treatment would be dependent on regrowth conditions and would differ by location. Re-treatment in ecological restoration areas would be implemented within a given vegetation type only if that vegetation type is outside of its natural fire return interval (i.e., time since last burn is within the historic fire return interval for the habitat type). These intervals vary by vegetation type. For example, chaparral vegetation types generally require a minimum of 10 years to recover after fire or fire-replicating treatments, with maritime chaparral communities featuring return intervals that are much longer and may exceed 100 years (Greenlee and Langenheim 1990, van Dyke et al. 2001). Chaparral vegetation types dominated by obligate seeders generally require a minimum of 15 years to recover (Syphard et al. 2018) and may take over 40 years to replenish seed banks to pre-fire conditions (Odion and Tyler 2002). Northern California mixed evergreen forest vegetation types require a minimum of five years to recover after a surface or low severity fire, 15 years minimum after a mixed severity fire, and 100 years minimum following a stand-replacing event (Tollefson 2008). Activities that do not use fire (e.g., manual treatments, mechanical treatments) are considered "fire surrogates." In the absence of additional data regarding mechanical and manual treatment activities, fire return interval is used as a proxy for disturbance (e.g., manual treatment to selectively remove plants may be analogous to a low-severity fire, while mechanical treatment to remove all vegetation may be analogous to a mixed severity fire). Pursuant to SPR BIO-5, all treatments and the maintenance treatment interval will be designed to maintain habitat function of the specific chaparral vegetation alliance being treated and to avoid type conversion of chaparral. As a result, retreatment is generally anticipated to occur between 2 and 10 years following initial treatments in common and forested vegetation types that are not sensitive habitats (e.g., wetland, riparian, chaparral). Follow up maintenance treatments to target invasive species or windthrow may occur at any time. Maintenance treatments would generally be at lower intensity and scale than initial treatments. Prior to implementing maintenance treatments, the project proponent will determine the natural fire return interval of the habitat(s) to be retreated.

Prior to implementing a maintenance treatment, RCDSCC would verify that the expected site conditions as described in the PSA/Addendum are present in the treatment area. As time passes, the continued relevance of the PSA/Addendum would be evaluated in consideration of potentially changed conditions or circumstances. If environmental conditions evolve or project approaches change to the degree that new or substantially more severe impacts may occur, a new PSA/Addendum or other environmental analysis may be warranted. In addition to verifying that the PSA/Addendum continues to provide relevant CEQA coverage for treatment maintenance, the PSA/Addendum would be updated at the time a maintenance treatment is needed when more than 10 years have passed since the approval of the PSA/Addendum or the latest PSA/Addendum update. For example, RCDSCC may conduct a reconnaissance survey to verify conditions are substantially similar to those anticipated in the PSA/Addendum. Updated information would be documented pursuant to SPR AD-7.

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3 ENVIRONMENTAL CHECKLIST

VEGETATION TREATMENT PROJECT INFORMATION

1. **Project Title:** Lockhart-Zayante Vegetation Treatment Project

2. **Project Proponent's Name and Address:** RCD of Santa Cruz County
802 Bay Avenue, Suite 136
Capitola, CA 95010

3. **Contact Person Information and Phone Number:** Angie Richman
831.205.3581
arichman@rcdsantacruz.org

4. **Project Location:** Project area is in central Santa Cruz County, primarily around a prominent ridgeline between Zayante Creek and Lockhart Gulch in the census-designated place Felton and the City of Scotts Valley. Outlying parcels west of the main contiguous project area are included for ecological restoration and are near the towns of Ben Lomond and Felton. Outlying parcels to the east are in unincorporated Santa Cruz County or within the City of Scotts Valley limits.

5. **Total Area to Be Treated (acres)** 1,619 acres

6. **Description of Project**: Initial treatments would be shaded fuel break and ecological restoration. Shaded fuel break treatment areas have been identified as a high priority by local fire agencies and project partners. Ecological restoration areas encompass many different habitat types including mixed conifer, oak woodland, chaparral, grassland, and Santa Cruz sandhills. Initial treatments for fuel break areas may include mechanical and manual treatments and herbicide application. Initial treatments for ecological restoration may include manual treatment, mechanical treatment, prescribed burning, prescribed herbivory, and herbicide application.

   a. Initial Treatment

   Refer to Chapter 2, "Project Description," for additional details.

   Treatment Types *[see description in CalVTP Program EIR Section 2.5.1, check every applicable category; provide detail in description of Initial Treatment]*

   ☐ Wildland-Urban Interface Fuel Reduction

   ☒ Fuel Break

   ☒ Ecological Restoration

   Treatment Activities *[see description in CalVTP Program EIR Section 2.5.2, check every applicable category; include number of acres subject to each treatment activity, provide detail in description of Initial Treatment]*

   ☒ Prescribed Burning (Broadcast), 1,619 acres

   ☒ Prescribed Burning (Pile Burning), 1,619 acres

   ☒ Mechanical Treatment, 1,376 acres

   ☒ Manual Treatment, 1,619 acres

   ☒ Prescribed Herbivory, 600 acres

   ☒ Herbicide Application, 680 acres

Fuel Type *[see description in CalVTP Program EIR Section 2.5.2, check every applicable category; include number of acres subject to each treatment activity, provide detail in description of Initial Treatment]*

☒ Grass Fuel Type

☒ Shrub Fuel Type

☒ Tree Fuel Type

b. Treatment Maintenance

Refer to Section 2.2, "Treatment Maintenance," for additional details.

Treatment Types *[see description in CalVTP Program EIR Section 2.5.1, check every applicable category; provide detail in description of Initial Treatment]*

☐ Wildland-Urban Interface Fuel Reduction

☒ Fuel Break

☒ Ecological Restoration

Treatment Activities *[see description in CalVTP Program EIR Section 2.5.2, check every applicable category; include number of acres subject to each treatment activity, provide detail in description of Initial Treatment]*

☒ Prescribed Burning (Broadcast), 1,619 acres

☒ Prescribed Burning (Pile Burning)

☒ Mechanical Treatment, 1,376 acres

☒ Manual Treatment, 1,619 acres

☒ Prescribed Herbivory, 600 acres

☒ Herbicide Application, 680 acres

Fuel Type *[see description in CalVTP Program EIR Section 2.5.2, check every applicable category; include number of acres subject to each treatment activity, provide detail in description of Initial Treatment]*

☒ Grass Fuel Type

☒ Shrub Fuel Type

☒ Tree Fuel Type

Use of the PSA for Treatment Maintenance

Prior to implementing a maintenance treatment, RCDSCC will verify that the expected site conditions as described in the PSA/Addendum are present in the treatment area. As time passes, the continued relevance of the PSA/Addendum will be considered by RCDSCC in light of potentially changed conditions or circumstances. Where RCDSCC determines the PSA/Addendum is no longer sufficiently relevant, RCDSCC will determine whether a new PSA or other environmental analysis is warranted.

In addition to verifying that the PSA/Addendum continues to provide relevant CEQA coverage for treatment maintenance, RCDSCC will update the PSA/Addendum at the time a maintenance treatment is needed when more than 10 years have passed since the approval of the PSA/Addendum or the latest PSA/Addendum update. For example, RCDSCC may conduct a reconnaissance survey to verify conditions are substantially similar to those anticipated in the PSA/Addendum. Updated information should be documented.

7. Regional Setting and Surrounding Land Uses:

The project area spans multiple communities including Felton, Ben Lomond, and Scotts Valley. The project area is primarily in unincorporated Santa Cruz County with a small portion inside the Scotts Valley city limits. Treatment would occur primarily in the subwatersheds of Lockhart Gulch and Zayante Creek which are a part of the San

Lorenzo River watershed. The surrounding land use is varied and includes protected lands, private timberlands, private residences, private conference centers, and public/private recreation areas.

8. Other Public Agencies Whose Approval Is Required: (e.g., permits)

   Smoke management plans would be prepared for the Monterey Bay Air Quality Management District, as required.

   Burn permits would be obtained from CAL FIRE and the Monterey Bay Air Quality Management District, as required.

   Burn permits would be obtained from Scotts Valley Fire Department as required inside the Scotts Valley City Limit.

   USFWS take authorization in sandhills for certain activities, if required.

   Coastal Act Compliance

   ☒ The proposed project is NOT within the Coastal Zone

   ☐ The proposed project is within the Coastal Zone (*check one of the following boxes*)

   ☐ A coastal development permit been applied for or obtained from the local Coastal Commission district office or local government with a certified Local Coastal Plan, as applicable

   ☐ The local Coastal Commission district office or local government with a certified Local Coastal Plan (in consultation with the local Coastal Commission district office) has determined that a coastal development permit is not required

9. Native American Consultation. *For treatment projects that are within the scope of the CalVTP Program EIR, Assembly Bill (AB) 52 consultation for AB 52 compliance has been completed. The Board of Forestry and Fire Protection conducted consultation pursuant to Public Resources Code Section 21080.3.1 during preparation of the Program EIR. For treatment projects with impacts not within the scope of the Program EIR, pursuant to Public Resources Code Sections 21080.3.1, 21080.3.2, and 21082.3, project partners preparing a new negative declaration, mitigated negative declaration, or EIR must notify any California Native American tribe who has submitted written request for notification of a project in the area of the treatment site. Upon written request for consultation by a tribe, the project partners must begin consultation before the release of the environmental document and must follow the requirements of the cited Public Resources Code sections.*

Pursuant to SPR CUL-2, Native American contacts in Santa Cruz County were contacted on January 2, 2024. Outreach letters were sent to Ed Ketchum, Vice-Chairperson, Amah Mutsun Tribal Band; Valentin Lopez, Chairperson, Amah Mutsun Tribal Band; Irene Zwierlein, Chairperson, Amah Mutsun Tribal Band of Mission San Juan Bautista; Patrick Orozco, Chairman, Costanoan Ohlone Rumsen-Mutsen Tribe; Ann Marie Sayers, Chairperson, Indian Canyon Mutsun Band of Costanoan; Kanyon Sayers-Roods, MLD Contact, Indian Canyon Mutsun Band of Costanoan; Monica Arellano, Vice Chairwoman, Muwekma Ohlone Indian Tribe of the SF Bay Area; and Kenneth Woodrow, Chairperson, Wuksachi Indian Tribe/Eshom Valley Band. As of March 8, 2024, one response was received from Kanyon Sayers-Roods, MLD Contact, Indian Canyon Mutsun Band of Costanoan.

On the basis of this PSA and the substantial evidence supporting it:

☒ I find that the effects of the proposed project (a) have been covered in the CalVTP Program EIR, and (b) all applicable Standard Project Requirements and mitigation measures identified in the CalVTP Program EIR will be implemented. The proposed project is, therefore, WITHIN THE SCOPE of the CalVTP Program EIR. NO ADDITIONAL CEQA DOCUMENTATION is required.

☒ I find that the presence of proposed project areas outside the CalVTP treatable landscape and proposed SPR and mitigation measure revisions will not result in substantial changes in the project, no substantial changes in circumstances have occurred, and no new information of substantial importance has been identified. The inclusion of project areas outside the CalVTP treatable landscape and SPR and mitigation measure revisions will not result in any new or substantially more severe significant impacts. None of the conditions described in State CEQA Guidelines Section 15162 calling for preparation of a subsequent EIR have occurred; therefore, an ADDENDUM is adopted to address the project areas outside the geographic extent presented in the Program EIR and SPR and mitigation measure revisions.

☐ I find that the proposed project will have effects that were not covered in the CalVTP Program EIR. These effects are less than significant without any mitigation beyond what is already required pursuant to the CalVTP Program EIR. A **NEGATIVE DECLARATION** will be prepared.

☐ I find that the proposed project will have effects that were not covered in the CalVTP Program EIR or will have effects that are substantially more severe than those covered in the CalVTP Program EIR. Although these effects may be significant in the absence of additional mitigation beyond the CalVTP Program EIR's measures, revisions to the proposed project or additional mitigation measures have been agreed to by the project partners that would avoid or reduce the effects so that clearly no significant effects would occur. A **MITIGATED NEGATIVE DECLARATION** will be prepared.

☐ I find that the proposed project will have significant environmental effects that are (a) new and were not covered in the CalVTP Program EIR and/or (b) substantially more severe than those covered in the CalVTP Program EIR. Because one or more effects may be significant and cannot be clearly mitigated to less than significant, an **ENVIRONMENTAL IMPACT REPORT** will be prepared.

DocuSigned by:
Jim McKenna
F717EA7346C400...
Signature

8/26/2024
Date

Jim McKenna
Printed Name

President, Board of
Title

Resource Conservation District of Santa Cruz County
Agency

4 PROJECT-SPECIFIC ANALYSIS/ADDENDUM

4.1 AESTHETICS AND VISUAL RESOURCES

Impact in the Program EIR			Project-Specific Checklist					
Environmental Impact Covered in the Program EIR	Identify Impact Significance in the Program EIR	Identify Location of Impact Analysis in the Program EIR	Does the Impact Apply to the Treatment Project?	List SPRs Applicable to the Treatment Project	List MMs Applicable to the Treatment Project	Identify Impact Significance for Treatment Project	Would This Be a Substantially More Severe Significant Impact than Identified in the Program EIR?	Is This Impact within the Scope of the Program EIR?
Would the project:								
Impact AES-1: Result in Short-Term, Substantial Degradation of a Scenic Vista or Visual Character or Quality of Public Views, or Damage to Scenic Resources in a State Scenic Highway from Treatment Activities	LTS	Impact AES-1, pp. 3.2-16 – 3.2-19	Yes	AD-3 AD-4 AES-2 AQ-2 AQ-3 REC-1	NA	LTS	No	Yes
Impact AES-2: Result in Long-Term, Substantial Degradation of a Scenic Vista or Visual Character or Quality of Public Views, or Damage to Scenic Resources in a State Scenic Highway from Wildland-Urban Interface Fuel Reduction, Ecological Restoration, or Shaded Fuel Break Treatment Types	LTS	Impact AES-2, pp. 3.2-20 – 3.2-25	Yes	AD-3 AES-1 AES-3	NA	LTS	No	Yes
Impact AES-3: Result in Long-Term Substantial Degradation of a Scenic Vista or Visual Character or Quality of Public Views, or Damage to Scenic Resources in a State Scenic Highway from the Nonshaded Fuel Break Treatment Type	SU	Impact AES-3, pp. 3.2-25 – 3.2-27	No	--	--	--	--	--

Notes: LTS = less than significant; SU = significant and unavoidable; NA = not applicable because there are no SPRs and/or MMs identified in the Program EIR for this impact.

New Aesthetic and Visual Resource Impacts: Would the treatment result in other impacts to aesthetics and visual resources that are not evaluated in the CalVTP Program EIR?	☐ Yes	☒ No	If yes, complete row(s) below and discussion

	Potentially Significant	Less Than Significant with Mitigation Incorporated	Less than Significant
	☐	☐	☐

Discussion

IMPACT AES-1

Initial and maintenance treatments would include mechanical treatment, manual treatment, prescribed burning, prescribed herbivory, and targeted ground application of herbicides. The potential for these treatment activities to result in short-term degradation of the visual character of the project area was examined in the Program EIR. The nearest eligible state scenic highways are State Route (SR) 9, located approximately 0.5 mile west of the project area, and SR 17, located approximately 1.2 miles east of the project area. The nearest officially designated state scenic highway is SR 1, located approximately 13 miles west of the project area (Caltrans 2023). Given the distance between the project area and SR 1 and intervening topography, SR 1 would not provide direct views of the project area.

The proposed treatments would occur on public and private lands. Public viewpoints within and near the project area from which treatments would be visible include public trails (e.g., Redwood Grove Loop Trail, Ox Trail, Pipeline Trail Overlook, Olympia Watershed Trail) and recreation areas (e.g., Glenwood Open Space Preserve, Quail Hollow Ranch County Park, Bear Mountain, Loch Lomond Recreation Area, Highlands County Park, and Henry Cowell Redwoods State Park), SR 9, SR 17, and other public roadways. Although portions of the project area are visible from public viewpoints and from two eligible designated state scenic highways, the project area is densely vegetated with mature trees, and contains varied topography, which would substantially reduce the visibility of treatments from public viewpoints. In addition, treatments would remove shrubs and trees primarily smaller than 12 inches dbh, leaving overstory vegetation. Trees up to 24 inches dbh in some areas within the Santa Cruz sandhills and in chaparral habitats that are not located within Santa Cruz sandhills, may be removed to achieve desired percent tree cover. Although in the short-term after treatment, the absence of treated vegetation could be noticeable, mature vegetation would remain to provide partial screening of treatment areas. However, equipment, crews and smoke from prescribed burning could be visible from public viewpoints and eligible (SR 17 and SR 9) state scenic highways in the short term. It is also possible that smoke from prescribed burning could be temporarily visible from officially designated state scenic highway SR 1. Per SPR AD-4, public notification prior to prescribed burning would occur to provide awareness of potential smoke exposure. In addition, a smoke management plan (SPR AQ-2) and burn plan (SPR AQ-3) would be prepared, which would help to reduce excess smoke and smoke exposure by requiring certain conditions be met prior to burning.

The potential for the project to result in short-term substantial degradation of the visual character of the project area is within the scope of the Program EIR because the proposed treatment activities are consistent with those analyzed in the Program EIR. The inclusion of land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the existing scenic resources are essentially the same within and outside of the treatable landscape; therefore, the short-term aesthetic impact is also the same, as described above. SPRs applicable to the proposed treatments are AD-3, AD-4, AES-2, AQ-2, AQ-3, and REC-1. This determination is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

IMPACT AES-2

Initial and maintenance treatments would consist of ecological restoration and shaded fuel break treatment types. The potential for these treatment types to result in long-term degradation of the visual character of an area was examined in the Program EIR. Public viewpoints of the project area include public trails and recreation areas as described under Impact AES-1, as well as portions of SR 9, SR 17, and other public roadways. Treatments would remove shrubs and trees primarily smaller than 12 inches dbh, leaving overstory vegetation. Trees up to 24 inches dbh in sandhills chaparral, sand parkland, and in chaparral habitats that are not located within Santa Cruz sandhills, may be removed to achieve desired percent tree cover. The area where trees up to 24 inches dbh may be removed encompasses a maximum of approximately 240 acres of the project area (see Table 4.5-1 in Section 4.5, "Biological Resources"), which would be a small portion of the 1,619-acre project area. In the short-term after treatment, the absence of treated vegetation could be noticeable. However, by thinning and edge feathering adjacent vegetation

(SPR AES-1) and preserving sufficient vegetation to provide partial screening of treatment areas (SPR AES-3), the changes would be partially screened from public views. The long-term visual character of the treatment areas after implementation of the proposed ecological restoration and shaded fuel break treatments would remain consistent with the current natural, vegetated landscape and would not constitute a substantial adverse change or degrade the currently visual character of the landscape.

The potential for the project to result in long-term substantial degradation of the visual character of the project area is within the scope of the Program EIR because the proposed treatment types and activities are consistent with those analyzed in the Program EIR. The inclusion of land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the existing visual character is essentially the same within and outside of the treatable landscape; therefore, the long-term aesthetic impact is also the same, as described above. SPRs applicable to the proposed treatments are AD-3, AES-1, and AES-3. This determination is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

IMPACT AES-3

This impact does not apply to the proposed project because no nonshaded fuel breaks are proposed.

NEW AESTHETIC AND VISUAL RESOURCE IMPACTS

The proposed treatments are consistent with the treatment types and activities covered in the CalVTP Program EIR. The project proponent has considered the site-specific characteristics of the proposed treatments and determined they are consistent with the applicable environmental and regulatory conditions presented in the CalVTP Program EIR (refer to Section 3.2.1, "Environmental Setting," and Section 3.2.2, "Regulatory Setting," in Volume II of the Final Program EIR). Including land from outside the CalVTP treatable landscape in the proposed project area constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the existing environmental conditions pertinent to aesthetics and visual resources that are present in the areas outside the treatable landscape are essentially the same as those within the treatable landscape; therefore, the impacts are the same and, for the reasons described above, impacts of the proposed treatment project are consistent with those covered in the Program EIR. No changed circumstances are present, and the inclusion of areas outside of the CalVTP treatable landscape would not give rise to any new significant impact. Therefore, no new impact related to aesthetics and visual resources would occur.

4.2 AGRICULTURE AND FORESTRY RESOURCES

Impact in the Program EIR			Project-Specific Checklist					
Environmental Impact Covered in the Program EIR	Identify Impact Significance in the Program EIR	Identify Location of Impact Analysis in the Program EIR	Does the Impact Apply to the Treatment Project?	List SPRs Applicable to the Treatment Project	List MMs Applicable to the Treatment Project	Identify Impact Significance for Treatment Project	Would This Be a Substantially More Severe Significant Impact than Identified in the Program EIR?	Is This Impact within the Scope of the Program EIR?
Would the project:								
Impact AG-1: Directly Result in the Loss of Forest Land or Conversion of Forest Land to a Non-Forest Use or Involve Other Changes in the Existing Environment Which, Due to Their Location or Nature, Could Result in Conversion of Forest Land to Non-Forest Use	LTS	Impact AG-1, pp. 3.3-7 – 3.3-8	Yes	AD-3	NA	LTS	No	Yes

Notes: LTS = less than significant; NA = not applicable because there are no SPRs and/or MMs identified in the Program EIR for this impact.

New Agriculture and Forestry Resource Impacts: Would the treatment result in other impacts to agriculture and forestry resources that are not evaluated in the CalVTP Program EIR?	☐ Yes	☒ No	If yes, complete row(s) below and discussion

	Potentially Significant	Less Than Significant with Mitigation Incorporated	Less than Significant
	☐	☐	☐

Discussion

IMPACT AG-1

Vegetation treatment activities implemented within the project area would include manual, mechanical, prescribed burning, prescribed herbivory, and targeted ground application of herbicide treatments to implement ecological restoration and fuel break treatment types. The creation of shaded fuel breaks in forested habitat would involve the thinning of the tree canopies in forested areas to reduce understory vegetation. Small live trees and trees over roadways may also be removed or trimmed to create the desired shaded fuel breaks. Ecological restoration treatments would thin out small trees and woody vegetation in forested areas. The treatment activities described above would occur in "forest lands", which are defined in PRC Section 12220(g) as land that can support 10 percent native tree cover of any species under natural conditions. The proposed treatments in forest lands would promote the development of larger, healthier, individual trees, mixed size class development, and increase diversity of understory species by creating a habitat mosaic and reducing fuel loads and encroachment. Consistent with the Program EIR, the vegetation remaining after treatments would continue to meet the definition of forestland as defined in PRC Section 12220(g). Therefore, these treatments would not result in the loss of forest land or conversion of forestland into non-forest use. Forestland would be maintained consistent with the definition above because the proposed treatments are aimed at improving forest conditions. The potential for these treatment types and treatment activities to result in the loss of forest land or conversion of forest land to non-forest use is within the scope of the

Program EIR because the proposed treatment types and activities are consistent with those analyzed in the Program EIR and these treatments would occur in forested lands.

The potential for these treatment types and treatment activities to result in the loss of forestland or conversion of forestland to non-forest use was examined in the Program EIR. The inclusion of land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the composition of forested land as defined in PRC Section 12220(g) is essentially the same within and outside the treatable landscape; therefore, the impact to forest land is also the same, as described above. SPR AD-3 would be applicable to comply with local regulations. Therefore, the potential for the project to result in the loss or conversion of forestland is within the scope of the Program EIR. This impact of the proposed project is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

NEW AGRICULTURE AND FORESTRY RESOURCE IMPACTS

The proposed treatments are consistent with the treatment types and activities considered in the CalVTP Program EIR. The site-specific characteristics of the proposed treatment project are consistent with the applicable environmental and regulatory conditions presented in the CalVTP Program EIR (refer to Section 3.3.1, "Environmental Setting," and Section 3.3.2, "Regulatory Setting," in Volume II of the Final Program EIR). Including land from outside the CalVTP treatable landscape in the proposed project area constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the existing environmental and regulatory conditions present in the areas outside the treatable landscape are essentially the same as those within the treatable landscape; therefore, the impacts of the proposed treatment project are also consistent with those covered in the Program EIR. No changed circumstances are present, and the inclusion of areas outside of the CalVTP treatable landscape would not give rise to new significant impacts not addressed in the Program EIR. Therefore, no new impact related to agriculture and forestry resources would occur that is not covered in the Program EIR.

4.3 AIR QUALITY

Impact in the Program EIR			Project-Specific Checklist					
Environmental Impact Covered in the Program EIR	Identify Impact Significance in the Program EIR	Identify Location of Impact Analysis in the Program EIR	Does the Impact Apply to the Treatment Project?	List SPRs Applicable to the Treatment Project	List MMs Applicable to the Treatment Project	Identify Impact Significance for Treatment Project	Would This Be a Substantially More Severe Significant Impact than Identified in the Program EIR?	Is This Impact within the Scope of the Program EIR?
Would the project:								
Impact AQ-1: Generate Emissions of Criteria Air Pollutants and Precursors During Treatment Activities that would exceed CAAQS or NAAQS	PSU	Impact AQ-1, pp. 3.4-26 – 3.4-32; Appendix AQ-1	Yes	AD-4 AQ-1 AQ-2 AQ-3 AQ-4 AQ-5 AQ-6	AQ-1	PSU	No	Yes
Impact AQ-2: Expose People to Diesel Particulate Matter Emissions and Related Health Risk	LTS	Impact AQ-2, pp. 3.4-33 – 3.4-34; Appendix AQ-1	Yes	AQ-1 HAZ-1 NOI-4 NOI-5	NA	LTS	No	Yes
Impact AQ-3: Expose People to Fugitive Dust Emissions Containing Naturally Occurring Asbestos and Related Health Risk	LTS	Impact AQ-3, pp. 3.4-34 – 3.4-35	No	--	--	--	--	--
Impact AQ-4: Expose People to Toxic Air Contaminants Emitted by Prescribed Burns and Related Health Risk	PSU	Impact AQ-4, pp. 3.4-35 – 3.4-37	Yes	AD-4 AQ-1 AQ-2 AQ-6	NA	PSU	No	Yes
Impact AQ-5: Expose People to Objectionable Odors from Diesel Exhaust	LTS	Impact AQ-5, pp. 3.4-37 – 3.4-38	Yes	AQ-1 HAZ-1 NOI-4 NOI-5	NA	LTS	No	Yes
Impact AQ-6: Expose People to Objectionable Odors from Smoke During Prescribed Burning	PSU	Impact AQ-6; pp. 3.4-38	Yes	AD-4 AQ-1 AQ-2 AQ-6	NA	PSU	No	Yes

Notes: LTS = less than significant; PSU = potentially significant and unavoidable; NA = not applicable because there are no SPRs and/or MMs identified in the Program EIR for this impact.

New Air Quality Impacts: Would the treatment result in other impacts to air quality that are not evaluated in the CalVTP Program EIR?	☐ Yes	☒ No	If yes, complete row(s) below and discussion

	Potentially Significant	Less Than Significant with Mitigation Incorporated	Less than Significant
	☐	☐	☐

Discussion

The project area is within Santa Cruz County, which is in the jurisdiction of the Monterey Bay Air Resources District (MBARD). Pursuant to SPR AQ-1, RCDSCC would comply with the applicable air quality requirements of the MBARD. Pursuant to SPR AQ-2, RCDSCC would prepare a smoke management plan and submit it to MBARD prior to implementing any prescribed burning treatment. In addition, RCDSCC would prepare a burn plan as required by SPR AQ-3, which would include fire behavior modeling. Also, SPR AQ-6 requires the implementation of an Incident Action Plan, which identifies burn dates, burn hours, weather limitations, specific burn prescription, communication plan, medical plan, traffic plan, and other special instructions required by MBARD for all prescribed burning treatments. The Incident Action Plan would also identify the contact personnel with MBARD to coordinate on-site briefings, posting notifications, and weather monitoring during burning.

IMPACT AQ-1

Use of vehicles, mechanical equipment, prescribed (broadcast) burning, prescribed (pile) burning, and the use of air curtain burning to process biomass during initial and maintenance treatments would result in emissions of criteria pollutants that could exceed California ambient air quality standard (CAAQS) or national ambient air quality standard (NAAQS) thresholds. The potential for emissions of criteria pollutants to exceed CAAQS or NAAQS thresholds was examined in the Program EIR.

Emissions of criteria air pollutants related to the proposed treatment are within the scope of the Program EIR because the associated equipment and duration of use are consistent with those analyzed in the Program EIR. The emission reduction techniques proposed in Mitigation Measure AQ-1 would be implemented to the extent feasible. However, because the treatments would be implemented by a public agency with limited funding, procuring or paying additional amounts for contractors that use equipment meeting the latest efficiency standards, including meeting the US EPA's Tier 4 emission standards, using renewable diesel fuel, using electric- and gasoline-powered equipment, and using equipment with Best Available Control Technology may be cost prohibitive. Carpooling would be encouraged by the project proponent, but because crews may not all be employed with the same company and due to the project's location in a rural area it may not be feasible for most workers.

When feasible, the use of an air curtain burner to process biomass is proposed pursuant to Mitigation Measure GHG-2. Evaluation of criteria air pollutant emissions from this biomass processing technology conducted by Ascent (2022) indicates that smoke and criteria air pollutant emissions can be substantially reduced, compared to open pile burning. Relative to pile burning, use of an air curtain burner would substantially reduce reactive organic gas (ROG) and particulate matter (PM) emissions by approximately 96 percent. For nitrous oxide (NO_X), air curtains are estimated to reduce NO_X emissions by at least 73 percent (Ascent 2022).

The SPRs applicable to this impact are AD-4, and AQ-1 through AQ-6. Mitigation Measure AQ-1 is also applicable to this impact. All measures under Mitigation Measure AQ-1 would be implemented to the extent feasible, and emissions would be reduced when an air curtain burner is used pursuant to Mitigation Measure GHG-2. Despite the substantial reduction in criteria air pollutant emissions afforded by use of air curtain burners, Impact AQ-1 must be recognized as potentially significant and unavoidable because it may not be used for every treatment and treatments that do not use an air curtain burner could still result in exceedance of CAAQS or NAAQS thresholds. The inclusion of land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the air quality conditions present and air basin in the areas outside the treatable landscape are essentially the same as those within the treatable landscape; therefore, the air quality impact is also the same, as described above. This determination is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

IMPACT AQ-2

Use of mechanical equipment during initial and maintenance treatments could expose people, such as hikers and recreationists around the Glenwood Open Space Preserve and Quail Hollow Ranch County Park, to diesel particulate matter emissions. However, treatment activities would not take place near the same people for an extended period such that prolonged exposure would occur. The potential to expose people to diesel particulate matter emissions was examined in the Program EIR. Diesel particulate matter emissions from the proposed treatments are within the scope of the Program EIR because the exposure potential is the same as analyzed in the Program EIR, and the types and amount of equipment that would be used, as well as the duration of use during proposed treatments are consistent with those analyzed in the Program EIR.

The inclusion of land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the air quality conditions and sensitive receptors (i.e., exposure potential) present in the areas outside the treatable landscape are essentially the same as those within the treatable landscape; therefore, the air quality impact is also the same, as described above. SPRs applicable to this treatment are AQ-1, HAZ-1, NOI-4, and NOI-5. This determination is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

IMPACT AQ-3

This impact does not apply to the project because no naturally occurring asbestos is mapped in the project area (CalOSHA 2023; DOC 2000).

IMPACT AQ-4

Prescribed burning during initial and ongoing maintenance treatments could expose people to toxic air contaminants (TACs), which was examined in the Program EIR. SPRs applicable to prescribed burning are designed to minimize the risk of exposing people to smoke, which includes TACs; however, exposure could still occur. The use of air curtain burners is proposed to reduce smoke emissions and associated toxic air contaminants in comparison to pile burning. TACs resulting from the combustion of biomass are generally organic in nature and are, therefore, a subset of reactive organic gas (ROG) emissions. Based on evaluation conducted by Ascent (2022), the proposed use of air curtain burners would reduce ROG emissions by at least 96 percent when compared to pile burning of equivalent areas. Therefore, the exposure of persons to TACs and related health risks would likely be substantially lower with the use of air curtain burners as compared with pile burning.

This potential exposure risk was examined in the Program EIR and found to be potentially significant and unavoidable after the application of the SPRs and all feasible mitigation measures because if unpredictable changes in weather occur during prescribed burns, people could experience short-term exposure to smoke containing concentrations of TACs and associated levels of acute health risk with a Hazard Index greater than 1.0. The duration and parameters of the prescribed burns are within the scope of the activities addressed in the Program EIR, and within the MBARD, air quality conditions are consistent with those analyzed in the Program EIR for Santa Cruz County. Therefore, the potential for exposure to TACs is also within the scope the Program EIR.

The inclusion of land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the existing environmental conditions present in the areas outside the treatable landscape are essentially the same as those within the treatable landscape; therefore, the air quality impact is also the same, as described above. SPRs applicable to these treatment activities are AD-4, AQ-1, AQ-2, and AQ-6. All feasible measures to prevent and minimize smoke emissions as well as exposure to smoke are included in SPRs. No additional mitigation measures are feasible, and this impact would remain potentially significant and unavoidable, as explained in the Program EIR. This determination is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

IMPACT AQ-5

Use of diesel-powered equipment during vegetation treatments could expose people to objectionable odors from diesel exhaust. The potential to expose people to objectionable odors from diesel exhaust was examined in the Program EIR. Consistent with the Program EIR, diesel exhaust emissions would be temporary, would not be generated at any one location for an extended period of time, and would dissipate rapidly from the source with an increase in distance. This impact is within the scope of the Program EIR because the equipment that would be used and the duration of use under the proposed project are consistent with what was analyzed in the Program EIR.

The inclusion of land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the air quality conditions and sensitive receptors present in the areas outside the treatable landscape are essentially the same as those within the treatable landscape; therefore, the air quality impact is also the same, as described above. SPRs applicable to this impact are AQ-1, HAZ-1, NOI-4, and NOI-5. This impact of the proposed project is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

IMPACT AQ-6

Prescribed burning during initial and ongoing maintenance treatments could expose people to objectionable odors. SPRs applicable to prescribed burning are designed to minimize the risk of exposing people to smoke, which includes objectionable odors; however, prescribed burning during initial and maintenance treatments could still expose people to objectionable odors. Use of diesel-powered equipment during vegetation treatments could expose people to objectionable odors from diesel exhaust. Consistent with the Program EIR, diesel exhaust emissions would be temporary, would not be generated at any one location for an extended period of time, and would dissipate rapidly from the source with an increase in distance. The use of air curtain burning is proposed to reduce smoke emissions and associated odors in comparison to pile burning. When compared to pile burning, air curtain burning would substantially reduce smoke through filtering (i.e., air curtains). The potential to expose people to objectionable odors was examined in the Program EIR and was found to be potentially significant and unavoidable after the application of all feasible mitigation measures because short-term exposure to odorous smoke emissions from unpredictable weather changes could occur.

The duration and parameters of prescribed burning and the exposure potential are consistent with the activities addressed in the Program EIR, and smoke would be reduced with the use of air curtain burning. Therefore, the resultant potential for exposure to objectionable odors from smoke is within the scope of impacts covered in the Program EIR. The inclusion of land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the air quality conditions present and sensitive receptors in the areas outside the treatable landscape are essentially the same as those within the treatable landscape; therefore, the air quality impact is also the same, as described above. SPRs that are applicable to this treatment project are AD-4, AQ-1, AQ-2, and AQ-6. All feasible measures to prevent and minimize smoke odors, as well as exposure to smoke odors, are included in SPRs. No additional mitigation measures are feasible, and this impact would remain potentially significant and unavoidable, as explained in the Program EIR. This determination is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

NEW AIR QUALITY IMPACTS

The proposed treatments are consistent with the treatment types and activities covered in the CalVTP Program EIR. The site-specific characteristics of the proposed treatments are consistent with the applicable regulatory and environmental conditions presented in the CalVTP Program EIR (refer to Section 3.4.1, "Regulatory Setting," and Section 3.4.2, "Environmental Setting," in Volume II of the Final Program EIR). Including land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the

Program EIR. However, within the boundary of the project area, the existing environmental and regulatory conditions pertinent to air quality that are present in the areas outside the treatable landscape are essentially the same as those within the treatable landscape; therefore, the impacts are the same and, for the reasons described above, impacts of the proposed treatment project are consistent with those covered in the Program EIR. No changed circumstances are present, and the inclusion of areas outside of the CalVTP treatable landscape would not give rise to any new significant impact. Therefore, no new impact related to air quality would occur.

4.4 ARCHAEOLOGICAL, HISTORICAL, AND TRIBAL CULTURAL RESOURCES

Impact in the Program EIR			Project-Specific Checklist					
Environmental Impact Covered in the Program EIR	Identify Impact Significance in the Program EIR	Identify Location of Impact Analysis in the Program EIR	Does the Impact Apply to the Treatment Project?	List SPRs Applicable to the Treatment Project	List MMs Applicable to the Treatment Project	Identify Impact Significance for Treatment Project	Would This Be a Substantially More Severe Significant Impact than Identified in the Program EIR?	Is This Impact within the Scope of the Program EIR?
Would the project:								
Impact CUL-1: Cause a Substantial Adverse Change in the Significance of Built Historical Resources	LTS	Impact CUL-1, pp. 3.5-14 – 3.5-15	Yes	AD-3 CUL-1 CUL-7 CUL-8	NA	LTS	No	Yes
Impact CUL-2: Cause a Substantial Adverse Change in the Significance of Unique Archaeological Resources or Subsurface Historical Resources	SU	Impact CUL-2, pp. 3.5-15 – 3.5-16	Yes	AD-3 CUL-1 CUL-2 CUL-3 CUL-4 CUL-5 CUL-8	CUL-2	SU	No	Yes
Impact CUL-3: Cause a Substantial Adverse Change in the Significance of a Tribal Cultural Resource	LTS	Impact CUL-3, p. 3.5-17	Yes	AD-3 CUL-1 CUL-2 CUL-3 CUL-4 CUL-5 CUL-6 CUL-8	NA	LTS	No	Yes
Impact CUL-4: Disturb Human Remains	LTS	Impact CUL-4, p. 3.5-18	Yes	AD-3 CUL-4 CUL-5	NA	LTS	No	Yes

Notes: LTS = less than significant; SU = significant and unavoidable; NA = not applicable because there are no SPRs and/or MMs identified in the Program EIR for this impact.

New Archaeological, Historical, and Tribal Cultural Resource Impacts: Would the treatment result in other impacts to archaeological, historical, and tribal cultural resources that are not evaluated in the CalVTP Program EIR?	☐ Yes	☒ No	If yes, complete row(s) below and discussion

	Potentially Significant	Less Than Significant with Mitigation Incorporated	Less than Significant
	☐	☐	☐

Discussion

Consistent with SPR CUL-1, a records search of the approximately 1,619-acre project area was conducted at the Northwest Information Center (NWIC) in November 2023. The records search revealed four previously recorded sites including both precontact archaeological (shell mound and burial site) and built environment (a railroad grade, a monument, and a wall/trash scatter) historic sites.

Consistent with SPR CUL-2, an updated Native American contact list was obtained from the Native American Heritage Commission (NAHC). On January 2, 2024, outreach letters were sent to Ed Ketchum, Vice-Chairperson, Amah Mutsun Tribal Band; Valentin Lopez, Chairperson, Amah Mutsun Tribal Band; Irene Zwierlein, Chairperson, Amah Mutsun Tribal Band of Mission San Juan Bautista; Patrick Orozco, Chairman, Costanoan Ohlone Rumsen-Mutsen Tribe; Ann Marie Sayers, Chairperson, Indian Canyon Mutsun Band of Costanoan; Kanyon Sayers-Roods, MLD Contact, Indian Canyon Mutsun Band of Costanoan; Monica Arellano, Vice Chairwoman, Muwekma Ohlone Indian Tribe of the SF Bay Area; and Kenneth Woodrow, Chairperson, Wuksachi Indian Tribe/Eshom Valley Band. As of March 8, 2024, one response was received from Kanyon Sayers-Roods, MLD Contact, Indian Canyon Mutsun Band of Costanoan. A November 15, 2023, search of NAHC's sacred lands database returned negative results.

IMPACT CUL-1

Proposed treatment activities include mechanical treatments and prescribed burning, which could damage historical resources. The NWIC records search revealed that three historic built-environment features are known within the project area; a railroad grade, a monument, and a wall/trash scatter. Additionally, structures (i.e., buildings, bridges, roadways) over 50 years old that have not been recorded or evaluated for historical significance may be present in the project area. These structures would be identified and avoided pursuant to SPR CUL-7.

The potential for these treatment activities to result in disturbance, damage, or destruction of built-environment structures that have not yet been evaluated for historical significance was examined in the Program EIR. This impact is within the scope of the Program EIR, because treatment activities and the intensity of ground disturbance of the treatment project are consistent with those analyzed in the Program EIR. The inclusion of land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the potential to encounter built-environment structures that have not yet been evaluated for historical significance in areas outside the treatable landscape are essentially the same as those within the treatable landscape; therefore, the potential impact to historical resources is also the same, as described above. SPRs applicable to this impact are AD-3, CUL-1, CUL-7, and CUL-8. This determination is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

IMPACT CUL-2

The proposed project would include mechanical treatments using heavy equipment that could churn up the surface of the ground as vegetation is removed; these activities may result in damage to known or previously unknown archaeological resources. The NWIC records search revealed one precontact archaeological site (shell mound and burial); however, this has not been evaluated for eligibility for listing in the CRHR. Therefore, it is not known whether this site is considered a resource under CEQA. For the purposes of this analysis, it is considered a resource. A survey of the project area would be conducted before treatment pursuant to SPR CUL-4 to identify any previously unrecorded archaeological resources. Identified resources would be avoided according to the provisions of SPR CUL-5.

As described under Section 1.1.3, "Purpose of This PSA/Addendum," RCDSCC proposes to revise requirements under SPR CUL-4 to exempt manual treatments, when woody material is lopped or chipped and removed or scattered, from needing an archaeological and historical resource survey. This constitutes a revision to the program description analyzed in the Program EIR. Requirements under SPR CUL-4 are intended to prevent damage to archaeological and historical resources. The proposed revisions to SPR CUL-4 would not result in any adverse effects to cultural resources, because the revision would only allow treatment activities that are unlikely to result in damage to cultural

resources to occur without a survey for archaeological or historical resources. Those activities that may result in damage to cultural resources (e.g., mechanical treatments and prescribed burning) would require pre-treatment surveys. Therefore, proposed revisions to SPR CUL-4 would not result in a substantially more severe significant effect related to disturbance of cultural resources than what was covered in the Program EIR. The text revisions to SPR CUL-4 are shown in underline and strikethrough in the MMRP (Attachment A).

The potential for these treatment activities to result in inadvertent discovery and subsequent damage of unique archaeological resources or subsurface historical resources during vegetation treatment was examined in the Program EIR. This impact was identified as significant and unavoidable in the Program EIR because of the large geographic extent of the treatable landscape and the possibility that there could be some rare instances where inadvertent damage of unknown resources may be extensive. SPRs and Mitigation Measure CUL-2 would require identification and protection of resources, and it is reasonably expected that implementation of these measures would avoid a substantial adverse change in the significance of any unique archaeological resources or subsurface historical resources. However, because the project could result in inadvertent discovery and subsequent damage of unique archaeological resources or subsurface historical resources, it would contribute to the environmental significance conclusion in the Program EIR; therefore, for purposes of CEQA compliance, this PSA/Addendum notes the impact as significant and unavoidable, as explained in the Program EIR.

This impact is within the scope of the Program EIR, because treatment activities and intensity of ground disturbance of the treatment project are consistent with those analyzed in the Program EIR. The inclusion of land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the potential for discovery of archaeological resources is essentially the same within and outside the treatable landscape; therefore, the potential impact to unique archaeological resources or subsurface historical resources is also the same, as described above. SPRs applicable to this treatment are AD-3, CUL-1 through CUL-5, and CUL-8. Mitigation Measure CUL-2 would also apply to this treatment to protect any inadvertent discovery. This determination is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

IMPACT CUL-3

As explained above, an email was received from Kanyon Sayers-Roods, MLD Contact, Indian Canyon Mutsun Band of Costanoan. This coordination resulted in RCDSCC agreeing to reach out to the tribe as individual portions of the project are implemented. For portions of the project currently funded, Kanyon Sayers-Roods indicated that she would be available to review material related to cultural resources, and would be on call for project managers in case of a discovery of a new resource. No other responses were received from any other Native American tribes as of March 8, 2024.

The potential for the proposed treatment activities (i.e., manual and mechanical treatments, prescribed burning, prescribed herbivory, and application of herbicide) to cause a substantial adverse change in the significance of a tribal cultural resource during implementation of vegetation treatment was examined in the Program EIR. This impact is within the scope of the Program EIR, because the treatment types and intensity of ground disturbance of the treatments are consistent with that analyzed in the Program EIR. As explained in the Program EIR, while tribal cultural resources may be identified within the treatable landscape during development of later treatment projects, implementation of SPRs would avoid any substantial adverse change to any tribal cultural resource. The inclusion of land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the tribal cultural affiliations present in the areas outside the treatable landscape are essentially the same as those within the treatable landscape; therefore, the potential impact to tribal cultural resources is also the same, as described above. SPRs applicable to this treatment include AD-3, CUL-1 through CUL-6 and CUL-8. This determination is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

IMPACT CUL-4

Vegetation treatment activities would include mechanical treatments using heavy equipment, which could uncover human remains. The NWIC records search revealed one burial site. Consistent with SPRs CUL-4 and CUL-5, areas with human remains would be avoided. The potential for treatment activities to uncover human remains was examined in the Program EIR. This impact is within the scope of the Program EIR, because the treatment activities and intensity of ground disturbance are consistent with those analyzed in the Program EIR. Additionally, consistent with the Program EIR, the project would comply with California Health and Safety Code Section 7050.5 and PRC Section 5097 in the event of a discovery. The inclusion of land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the potential for uncovering human remains during implementation of the treatment project is essentially the same within and outside the treatable landscape and treatment activities; therefore, the impact related to disturbance of human remains is also the same, as described above. This determination is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

NEW ARCHAEOLOGICAL, HISTORICAL, AND TRIBAL CULTURAL RESOURCE IMPACTS

The proposed treatment is consistent with the treatment types and activities considered in the CalVTP Program EIR. The site-specific characteristics of the proposed treatment project are consistent with the applicable environmental and regulatory conditions presented in the CalVTP Program EIR (refer to Section 3.5.1, "Environmental Setting," and Section 3.5.2, "Regulatory Setting," in Volume II of the Final Program EIR). Including land from outside the CalVTP treatable landscape in the proposed project area constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the existing environmental and regulatory conditions pertinent to archaeological, historical, or tribal cultural resources that are present in the areas outside the treatable landscape are essentially the same as those within the treatable landscape. Revisions to SPR CUL-4 as described in Section 1.1.3, "Purpose of This PSA/Addendum," and shown in underline and strikethrough in Attachment A, would constitute a change to the project analyzed in the Program EIR. Revisions to SPR CUL-4 exempt manual treatments, when woody material is lopped or chipped and removed or scattered, from needing an archaeological and historical resource survey. Requirements under SPR CUL-4 are intended to prevent damage to archaeological and historical resources. Those activities that may result in damage to cultural resources (e.g., mechanical treatments and prescribed burning) would still require pre-treatment surveys; therefore, revisions to SPR CUL-4 would not result in a new impact that was not analyzed in the Program EIR. Therefore, the impacts of the proposed treatment project are consistent with those covered in the Program EIR. No changed circumstances are present, and the inclusion of areas outside of the CalVTP treatable landscape and revisions to SPR CUL-4 would not give rise to any new significant impacts. Therefore, no new impact related to archaeological, historical, or tribal cultural resources would occur.

4.5 BIOLOGICAL RESOURCES

Impact in the Program EIR			Project-Specific Checklist					
Environmental Impact Covered in the Program EIR	Identify Impact Significance in the Program EIR	Identify Location of Impact Analysis in the Program EIR	Does the Impact Apply to the Treatment Project?	List SPRs Applicable to the Treatment Project	List MMs Applicable to the Treatment Project	Identify Impact Significance for Treatment Project	Would This Be a Substantially More Severe Significant Impact than Identified in the Program EIR?	Is This Impact within the Scope of the Program EIR?
Would the project:								
Impact BIO-1: Substantially Affect Special-Status Plant Species Either Directly or Through Habitat Modifications	LTSM	Impact BIO-1, pp 3.6-131 – 3.6-138	Yes	AD-1 AQ-3 AQ-4 BIO-1 BIO-2 BIO-7 BIO-9 GEO-1 GEO-3 GEO-4 GEO-5 GEO-7 HYD-5	BIO-1a BIO-1b BIO-1c	LTSM	No	Yes
Impact BIO-2: Substantially Affect Special-Status Wildlife Species Either Directly or Through Habitat Modifications	LTSM (all wildlife species except bumble bees) PSU (bumble bees)	Impact BIO-2, pp 3.6-138 – 3.6-184	Yes	AD-1 BIO-1 BIO-2 BIO-3 BIO-4 BIO-5 BIO-8 BIO-10 BIO-11 HAZ-5 HAZ-6 HYD-1 HYD-3 HYD-4 HYD-5	BIO-2a BIO-2b BIO-2c BIO-2e BIO-2f BIO-3a BIO-3b BIO-3c BIO-4	LTSM	No	Yes
Impact BIO-3: Substantially Affect Riparian Habitat or Other Sensitive Natural Community Through Direct Loss or Degradation That Leads to Loss of Habitat Function	LTSM	Impact BIO-3, pp 3.6-186 – 3.6-191	Yes	AD-1 BIO-1 BIO-2 BIO-3 BIO-4 BIO-5 BIO-6 BIO-9 HYD-4 HYD-5	BIO-3a BIO-3b BIO-3c	LTSM	No	Yes
Impact BIO-4: Substantially Affect State or Federally Protected Wetlands	LTSM	Impact BIO-4, pp 3.6-191 – 3.6-192	Yes	AD-1 BIO-1 HYD-1 HYD-3 HYD-4	BIO-4	LTSM	No	Yes

Environmental Impact Covered in the Program EIR	Identify Impact Significance in the Program EIR	Identify Location of Impact Analysis in the Program EIR	Does the Impact Apply to the Treatment Project?	List SPRs Applicable to the Treatment Project	List MMs Applicable to the Treatment Project	Identify Impact Significance for Treatment Project	Would This Be a Substantially More Severe Significant Impact than Identified in the Program EIR?	Is This Impact within the Scope of the Program EIR?
Impact BIO-5: Interfere Substantially with Wildlife Movement Corridors or Impede Use of Nurseries	LTSM	Impact BIO-5, pp 3.6-192 – 3.6-196	Yes	AD-1 BIO-1 BIO-4 BIO-5 BIO-10 BIO-11 HYD-1 HYD-4	BIO-5	LTSM	No	Yes
Impact BIO-6: Substantially Reduce Habitat or Abundance of Common Wildlife, Including Nesting Birds	LTS	Impact BIO-6, pp 3.6-197 – 3.6-198	Yes	AD-1 BIO-1 BIO-2 BIO-3 BIO-4 BIO-5 BIO-12	NA	LTS	No	Yes
Impact BIO-7: Conflict with Local Policies or Ordinances Protecting Biological Resources	NI	Impact BIO-7, pp 3.6-198 – 3.6-199	Yes	AD-1 AD-3	NA	NI	No	Yes
Impact BIO-8: Conflict with the Provisions of an Adopted Natural Community Conservation Plan, Habitat Conservation Plan, or Other Approved Habitat Plan	NI	Impact BIO-8, pp 3.6-199 – 3.6-200	Yes	AD-1	NA	NI	No	Yes

Notes: LTS = less than significant; LTSM = less than significant with mitigation; NI = no impact; PSU = potentially significant and unavoidable; NA = not applicable because there are no SPRs and/or MMs identified in the Program EIR for this impact.

New Biological Resources Impacts: Would the treatment result in other impacts to biological resources that are not evaluated in the CalVTP Program EIR?	☐ Yes	☒ No	If yes, complete row(s) below and discussion

	Potentially Significant	Less Than Significant with Mitigation Incorporated	Less than Significant
	☐	☐	☐

Discussion

Pursuant to SPR BIO-1, Ascent biologists conducted a data review of project-specific biological resources, including habitat and vegetation types, special-status plants, special-status wildlife, and sensitive habitats (e.g., sensitive natural communities, wetlands) with potential to occur in the treatment areas. Habitat and vegetation types in the treatment areas were identified using the 2020 Santa Cruz and Santa Clara Fine Scale Vegetation Map (Tukman Geospatial and Aerial Information Systems 2023). The fine scale vegetation data follows the same standards, framework, and hierarchy used by both the Manual of California Vegetation (Sawyer et al. 2009) and the National Vegetation Classification System. The total acreage of each habitat type in the project area is presented in Table 4.5-1. The

vegetation classification crosswalk for each habitat type is presented in Table 4.5-2, where habitats that are mapped in the project area are provided in bold text. The vegetation types were verified or corrected in the field during reconnaissance surveys to the degree feasible. As described above in Section 2.1.1, the sandhills are a sensitive ecosystem that occurs in the project area, which is not reflected in the fine scale vegetation dataset. Various habitat types may occur in the sandhills ecosystem, including but not limited to ponderosa pine - (coast live oak-pacific madrone), ponderosa pine / Monterey spineflower, brittle leaf - woolly leaf manzanita chaparral, wedge leaf ceanothus chaparral, buck brush chaparral, silverleaf manzanita chaparral, deerweed - silver lupine - yerba santa scrub, and silver dune lupine - mock heather scrub.

Table 4.5-1 Mapped Habitat Types in the Project Area

Habitat Type	Ecological Restoration (Acres)	Shaded Fuel Break (Acres)	Total (Acres)
Forest/Woodland			
Bigleaf maple Mapping Unit*	0.8	--	0.8
California bay Mapping Unit*	35.7	1.4	37.1
Canyon live oak forest and woodland	1.7	--	1.7
Coast live oak woodland and forest	171.4	32.7	204.1
Douglas-fir – tanoak / California huckleberry	26.3	3.4	29.7
Interior live oak - shreve oak woodland and forest	69.6	10.2	79.8
Knobcone pine forest and woodland	10.5	--	10.5
Madrone forest	78.9	8.0	86.9
Ponderosa pine - (Coast live oak-Pacific madrone)	107.3	3.6	110.9
Ponderosa pine / Monterey spineflower	53.9	4.2	58.1
Redwood forest and woodland	788.3	54.2	842.5
Tanoak forest	21.5	--	21.5
Valley oak Mapping Unit*	2.7	--	2.7
Herbaceous			
Californian Annual and Perennial Grassland	24.4	--	24.4
Other			
Barren and sparsely vegetated	5.0	--	5.0
Developed	6.3	0.8	7.1
Major road	--	0.2	0.2
Nonnative forest	0.1	--	0.1
Shrub fragment	4.2	0.3	4.5
Shrub/Scrub			
Blue blossom chaparral	0.3	--	0.3
Brittle leaf - woolly leaf manzanita chaparral	18.9	3.8	22.7
California sagebrush - black sage scrub	2.1	0.4	2.5
Chamise chaparral	4.0	1.1	5.1
Coyote brush scrub	2.9	1.0	3.9
Deerweed - silver lupine - yerba santa scrub	5.0	--	5.0
Silver dune lupine - mock heather scrub	2.3	--	2.3
Silverleaf manzanita	21.2	5.6	26.8

Habitat Type	Ecological Restoration (Acres)	Shaded Fuel Break (Acres)	Total (Acres)
Wedge leaf ceanothus chaparral, Buck brush chaparral	1.6	0.5	2.1
Wetland/Riparian			
Arroyo willow thickets	3.0	--	3.0
Basket bush - river hawthorn - desert olive patches	2.4	--	2.4
Black cottonwood forest and woodland	11.8	--	11.8
Box-elder / (Himalayan blackberry)	2.5	--	2.5
Fremont cottonwood forest and woodland	0.7	--	0.7
All habitat types total	**1,487.1**	**131.7**	**1,618.8**

* The "mapping unit" classification is unique to this dataset and most closely resembles MCV alliances. See Impact BIO-3 for further discussion.

Source: Tukman Geospatial and Aerial Information Systems data, compiled by Ascent in 2024.

Table 4.5-2 Vegetation Classification Crosswalk for Habitat Types in the Project Area[1]

CWHR Type	MCV Macrogroup	MCV Group	MCV Alliance	MCV Association
Forest/Woodland				
Blue oak woodland; Montane hardwood	California Forest and Woodland	Californian broadleaf forest and woodland	**Interior live oak - shreve oak woodland and forest**	--
Closed-cone pine-cypress	California Forest and Woodland	Californian evergreen coniferous forest and woodland	**Knobcone pine forest and woodland**	--
Coastal oak woodland	California Forest and Woodland	Californian broadleaf forest and woodland	**Coast live oak woodland and forest**	--
Coastal oak woodland	Californian-Vancouverian Montane and Foothill Forest	Vancouverian evergreen broadleaf and mixed forest	**Madrone forest**	--
Coastal oak woodland; Montane hardwood	California Forest and Woodland	Californian broadleaf forest and woodland	**California bay Mapping Unit***	--
Douglas-fir	Californian-Vancouverian Montane and Foothill Forest	Vancouverian evergreen broadleaf and mixed forest	Douglas-fir - tanoak forest - madrone forest and woodland	**Douglas-fir – tanoak / California huckleberry**
Douglas-fir; Montane hardwood conifer	Californian-Vancouverian Montane and Foothill Forest	Upland Vancouverian mixed woodland and forest	**Bigleaf maple Mapping Unit***	--
Eastside pine; Ponderosa pine	Californian-Vancouverian Montane and Foothill Forest	Californian montane conifer forest	Ponderosa pine forest and woodland	**Ponderosa pine - (coast live oak-pacific madrone)**
Eastside pine; Ponderosa pine	Californian-Vancouverian Montane and Foothill Forest	Californian montane conifer forest	Ponderosa pine forest and woodland	**Ponderosa pine / Ben Lomond spineflower**
Montane hardwood	California Forest and Woodland	Californian broadleaf forest and woodland	**Canyon live oak forest and woodland**	--
Montane hardwood	Californian-Vancouverian Montane and Foothill Forest	Vancouverian evergreen broadleaf and mixed forest	**Tanoak forest**	--

CWHR Type	MCV Macrogroup	MCV Group	MCV Alliance	MCV Association
Redwood	Vancouverian Rainforest	Vancouverian hypermaritime lowland rainforest	Redwood forest and woodland	--
Valley oak woodland	California Forest and Woodland	Californian broadleaf forest and woodland	Valley oak Mapping Unit*	--
Herbaceous				
Annual grassland; Perennial grassland	Californian Annual & Perennial Grassland	--	--	--
Shrub/Scrub				
Chamise-redshank chaparral	California Chaparral	Californian xeric chaparral	Chamise chaparral	--
Chamise-redshank chaparral; Mixed chaparral	California Chaparral	Californian xeric chaparral	Wedge leaf ceanothus chaparral, Buck brush chaparral	--
Coastal scrub	California Coastal Scrub	Central and South Coastal Californian coastal sage scrub	California sagebrush - black sage scrub	--
Coastal scrub	Vancouverian Coastal Dune and Bluff	California Coastal evergreen bluff and dune scrub	Blue blossom chaparral	--
Coastal scrub	Vancouverian Coastal Dune and Bluff	California Coastal evergreen bluff and dune scrub	Coyote brush scrub	--
Coastal scrub	Vancouverian Coastal Dune and Bluff	California Coastal evergreen bluff and dune scrub	Silver dune lupine - mock heather scrub	--
Coastal scrub; Mixed chaparral	California Coastal Scrub	Central and south coastal California seral scrub	Deerweed - silver lupine - yerba santa scrub	--
Mixed chaparral	California Chaparral	Californian maritime chaparral	Brittle leaf - woolly leaf manzanita chaparral	Silverleaf manzanita
Wetland/Riparian				
Desert riparian; Desert wash	Southwestern North American Riparian, Flooded and Swamp Forest	Southwestern North American riparian/wash scrub	Basket bush - river hawthorn - desert olive patches	--
Desert riparian; Montane riparian; Valley foothill riparian	Southwestern North American Riparian, Flooded and Swamp Forest	Southwestern North American riparian evergreen and deciduous woodland	Fremont cottonwood forest and woodland	--
Fresh emergent wetland	Southwestern North American Riparian, Flooded and Swamp Forest	Southwestern North American riparian/wash scrub	Arroyo willow thickets	--

CWHR Type	MCV Macrogroup	MCV Group	MCV Alliance	MCV Association
Fresh emergent wetland; Valley foothill riparian	Southwestern North American Riparian, Flooded and Swamp Forest	Southwestern North American riparian evergreen and deciduous woodland	Box-elder forest and woodland	**Box-elder / (Himalayan blackberry)**
Montane riparian; Valley foothill riparian	Western Cordilleran montane-boreal riparian scrub	Vancouverian riparian deciduous forest	**Black cottonwood forest and woodland**	--

[1] Habitat types that are mapped in the project area are presented in bold text.

* The "mapping unit" classification is unique to this dataset and most closely resembles MCV alliances. See Impact BIO-3 for further discussion.

Source: Tukman Geospatial and Aerial Information Systems data, compiled by Ascent in 2024.

The project area encompasses approximately 1,619 acres (Table 4.5-1) and ranges from about 329 to 1,420 feet above sea level. The project is in the Central California Coast ecoregion. Streams and creeks are present and are described under Impact BIO-4.

A list of special-status plant and wildlife species with potential to occur in the treatment area was compiled by completing a review of the California Natural Diversity Database (CNDDB) and California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California database records for the 22 U.S. Geological Survey (USGS) quadrangles containing and surrounding the treatment areas (CNDDB 2023; CNPS 2024), as well as occurrence data from Calflora (2023), iNaturalist (2023), Santa Cruz Puma Project (2023), Western Monarch and Milkweed Mapper (2023), and the Fish Bulletin from the California Department Fish and Game (Titus et al. 2010). A list of sensitive natural communities documented or with potential to occur in the treatment areas was compiled by reviewing the fine scale vegetation data and determining alliances that may occur for the vegetation that was not classified to the alliance level, using the Manual of California Vegetation (online version) (Sawyer et al. 2009) and NatureServe Explorer (NatureServe Explorer 2024).

Ascent biologists conducted reconnaissance surveys on September 13 and 14, 2023, to identify and document sensitive resources (e.g., aquatic habitat, riparian habitat, sensitive natural communities) and to assess the suitability of habitat in the treatment areas for special-status plant and wildlife species. Vegetation and soil characteristics were evaluated, and incidental wildlife observations were recorded.

Based on implementation of SPR BIO-1, including review of occurrence data, species ranges, habitat requirements for each species, results of surveys conducted, and habitat present within the treatment areas, a full list of special-status species with potential to occur in the vicinity of the proposed project was assembled (Attachment B). Attachment B also provides the scientific names, legal status, and habitat for each special-status species. Species known or with potential to occur in the treatment areas are discussed in detail under Impact BIO-1 (special-status plants) and Impact BIO-2 (special-status wildlife).

IMPACT BIO-1

Initial and maintenance treatments could result in direct or indirect adverse effects on special-status plant species known or with potential to occur in the project area. Potential impacts resulting from maintenance activities would be generally the same as those resulting from initial vegetation treatments, because the same treatment activities would occur. However, treatment frequency and intensity can determine whether effects on certain plant species are beneficial or adverse. Initial treatment that reduces competing vegetation, opens the tree canopy to allow more light penetration, or removes invasive competitors can be beneficial for some special-status plant populations; however, repeated treatments at too-frequent intervals can have adverse effects on those same special-status plants. If retreatment occurs in chaparral and coastal sage scrub communities at frequencies outside the natural fire return interval, special-status plants associated with these community types could be adversely affected through habitat alteration that makes the habitat unsuitable for their growth and reproduction.

SPR BIO-7 would apply to all treatment activities, including maintenance treatments, and protocol-level surveys for special-status plants would be conducted pursuant to *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (CDFW 2018a, or current version) prior to implementing prescribed burning, mechanical treatments, manual treatments, herbicide application, or prescribed herbivory in any habitat potentially suitable for special-status plants. Pursuant to SPR BIO-7, surveys would not be required for special-status plants not listed under CESA or ESA if all the following conditions apply:

- the target special-status plant species is an herbaceous annual species, stump-sprouting species, or geophyte species (e.g., perennial rhizomatous herbs);
- the treatment is carried out during the dormant season for that species or when the species has completed its annual life cycle;
- the treatment would not alter habitat in a way that would make it unsuitable for the special-status plants to reestablish following treatment, and;
- treatments are limited to those that do not disturb below the soil surface (i.e., manual treatments, herbicide application, and broadcast burning) as not to destroy seeds, stumps, or roots, rhizomes, bulbs and other underground parts of special-status plants.

These conditions may unnecessarily or infeasibly constrain treatment implementation if it is unknown whether special-status plants are present. In this case, surveys could be conducted to determine presence or absence and, depending on the results, may provide greater flexibility with timing and types of treatments that may be implemented. If treatment activities would not be limited to those that do not kill or remove vegetation or disturb the soil below the surface, or treatments cannot be completed in the dormant season and would be implemented during the growing period of annual and geophyte species, protocol surveys (per SPR BIO-7) and avoidance of any identified special-status plants (per Mitigation Measures BIO-1a and BIO-1b) must be implemented, as described below.

Multiple special-status plant species that have potential to occur within the project area are perennial, moss species, or are annual or geophytic species that are protected under ESA or CESA. Perennials and moss species could not be avoided seasonally in the same manner as herbaceous annual species, stump sprouters, or geophytes. Pursuant to SPR BIO-7, any species protected under ESA or CESA cannot be seasonally avoided regardless of their life form (see discussion below for limited exceptions), Therefore, protocol-level surveys under SPR BIO-7 would be necessary to identify these species prior to implementing treatment activities in habitat that may support these species, regardless of the timing of treatments.

Where protocol-level surveys are required and special-status plants are identified during these surveys, Mitigation Measures BIO-1a or BIO-1b, depending on species status, would be implemented to avoid loss of identified special-status plants. Pursuant to Mitigation Measures BIO-1a and BIO-1b, if special-status plants are identified during protocol-level surveys, a no-disturbance buffer of at least 50 feet would be established around the area occupied by the species within which prescribed burning, mechanical treatment, manual treatment, herbicide application (see limited exceptions below), and prescribed herbivory would not occur unless a qualified RPF or biologist determines that a smaller buffer will be sufficient to avoid killing or damaging plants. If a no-disturbance buffer is reduced below 50 feet from an ESA or CESA listed plant, a qualified RPF or botanist will provide the project proponent with a site- and/or treatment activity-specific explanation for the buffer reduction, which will be included in the PSA or post-project implementation report. Treatments may not occur in areas occupied by special-status species unless a qualified RPF or biologist determines, based on substantial evidence, that the species would benefit from the proposed treatment in the occupied habitat area. In the case of plants listed pursuant to ESA or CESA, the determination of beneficial effects would need to be made in consultation with CDFW and/or USFWS, depending on species status. If treatments are determined to be beneficial and would be implemented in areas occupied by special-status plants, under the specific conditions described under Mitigation Measures BIO-1a and BIO-1b, additional impact minimization and avoidance measures or design alternatives to reduce impacts would be identified. An evaluation of the appropriate treatment design and frequency to maintain habitat function for special-status plants would be carried out by a qualified RPF or botanist. Treatment activities and maintenance treatments would be

designed so that treatments, including follow-up maintenance treatments, maintain habitat function for the special-status plant species present.

In addition, pursuant to SPR HYD-5, non-target vegetation and special-status species would be protected from herbicides. No herbicides will be applied within a 50-foot buffer of ESA or CESA listed plant species, with the exception of the 50-foot buffer for Ben Lomond spineflower and Santa Cruz (Ben Lomond) wallflower, where direct application methods (e.g., cut-stump treatments) will be permitted where herbicide is applied directly to the target invasive vegetation (refer to "Special-Status Plants in the Sandhills Ecosystem," below). Foliar spray treatments will not be permitted within the 50-foot buffer to avoid non-target and special-status species. For spray applications in and adjacent to habitats suitable for special-status species, herbicides containing dye will be used to prevent overspray. Only herbicides labeled for use in aquatic environments would be used when working in areas where there is a possibility the herbicide could come into direct contact with water. In riparian habitats, herbicides would be applied by hand and only during low-flow periods or when seasonal streams are dry. To avoid non-target vegetation via runoff or aerial drift, herbicide application will not occur during precipitation events, sustained winds, or when weather parameters exceed label specifications.

Special-Status Plants in the Sandhills Ecosystem

As described above, the sandhills ecosystem is present in the project area and supports endemic plants that occur within different sandhills habitats within that ecosystem. Plants endemic to the sandhills ecosystem that are known to occur or may occur in the project area are summarized in Table 4.5-3 along with their legal status, life form, and plant community types in which they are found (McGraw 2004, 2019).

Table 4.5-3 Special-Status Plants Endemic to the Sandhills Ecosystem

Species	Legal Status[1] Federal/State/CRPR	Life form	Sandhills Plant Community Type
Ben Lomond buckwheat	-/-/1B.1	perennial	sand parkland; sometimes sandhills chaparral and Ponderosa pine forest
Ben Lomond spineflower	FE/-/1B.1	annual	sand parkland; sometimes sandhills chaparral and Ponderosa pine forest
Santa Cruz (Ben Lomond) wallflower	FE/SE/1B.1	biennial/ short lived perennial	sand parkland; sometimes sandhills chaparral and Ponderosa pine forest
Silverleaf manzanita	-/-/1B.2	perennial	sandhills chaparral and ponderosa pine forest; sometimes sand parkland

[1] Legal Status Definitions

Federal:

FE Federally Listed as Endangered (legally protected by the Endangered Species Act)

State:

SE State Listed as Endangered (legally protected by the California Endangered Species Act)

California Rare Plant Ranks (CRPR):

1B Plant species considered rare or endangered in California and elsewhere

CRPR Threat Ranks:

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

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

Most available information on sandhills ecology and special-status species comes from the work of scientist Jodi McGraw. She has performed a variety of scientific experiments and species-specific studies in the sandhills and created management plans for local agencies who own land there. Her research, work, and biological monitoring in the Santa Cruz sandhills make her the local expert for this rare ecosystem. All further information presented under Impact BIO-1 primarily comes from *The Sandhills Conservation and Management Plan: A Strategy for Preserving Native Biodiversity in the Santa Cruz Sandhills* (McGraw 2004) unless stated otherwise.

The sandhills is a fire adapted ecosystem. Analysis of historic aerial photographs and fire history in the region of the sandhills show recurring fire disturbance to the area prior to human-induced fire suppression (Langenheim and Greenlee 1983). Sandhills plant communities have adapted to a natural fire regime that provides essential disturbance

mechanisms for these species to persist. Fire creates open habitat and promotes the establishment of endemic sandhills species by removing live and dead biomass and removing invasive and encroaching species that compete for space and resources. Excessive fuel loads and duff increase soil nutrients, which allows invasive and nonnative species, including species native to California but from non-sandhills habitats, to establish and outcompete endemic sandhills species. Stands of nitrogen fixing invasive plants such as French broom increase nitrogen in soil creating favorable conditions for non-sandhills species to establish. Sandhills plants are adapted to dry soils that contain low levels of nutrients and organic matter. Fire can help reset soil succession in the sandhills by removing organic matter and soil biota that promote nutrient availability and water-holding capacity that create favorable conditions for competitive non-sandhills plant species. Where prescribed burning cannot feasibly or safely be utilized, manual or mechanical treatments followed by leaf litter and duff removal can be used as a successful fire surrogate for many sandhills species (McGraw 2024a).

Zayante soils supporting sandhills plant communities and special-status plants occur in the project area. Prescribed burning, manual, mechanical, and herbicide treatments would occur in sandhills plant communities that are known to or may support special-status sandhills endemic species as well as additional special-status plant species that grow on sandy soils but are not endemic to the sandhills (Attachment B). Santa Cruz mountains pussypaws, Northern curly-leaved monardella, and woodland woollythreads are annual species not listed under CESA or the federal ESA that may be found in sandy habitat such as the sandhills. Pursuant to SPR BIO-7 and described above, surveys for these three species would not be required if treatments are carried out during the dormant season for these species or when these species have completed their annual life cycle. Protocol surveys (per SPR BIO-7) must be implemented to determine presence or absence of these species if treatment cannot be performed during their dormant season, as well as for any other special-status species that may occur in the sandhills that are perennial or listed under CESA or ESA, and avoidance per Mitigation Measures BIO-1a and BIO-1b would be required. If significant impacts on these special-status plants cannot feasibly be avoided, then Mitigation Measure BIO-1c will apply and compensatory mitigation will be required.

The four sandhills endemic special-status species listed in Table 4.5-3 are known to occur in the project area and treatments are proposed within areas occupied by these species. Due to the natural fire and disturbance ecology of these species, Santa Cruz (Ben Lomond) wallflower, Ben Lomond spineflower, Ben Lomond buckwheat, and silverleaf manzanita would benefit from certain treatment types (see below for further discussion). Pursuant to Mitigation Measure BIO-1a and Mitigation Measure BIO-1b, impacts on special-status plants must be avoided unless it is determined that the plants would benefit from treatment and that habitat function would improve with implementation of the treatment. These species and the substantial evidence demonstrating that they would benefit from treatment are described in detail below.

Santa Cruz (Ben Lomond) Wallflower, Ben Lomond Spineflower, and Ben Lomond Buckwheat

Santa Cruz (Ben Lomond) wallflower and Ben Lomond spineflower occur in multiple locations in the project area (McGraw, pers. comm., 2024b; CNDDB 2023). Santa Cruz (Ben Lomond) wallflower and Ben Lomond spineflower generally grow in the same habitat: openings in sand parkland and occasionally in openings between shrubs and trees in sandhills chaparral and Ponderosa pine forest. Both species are preferentially found in open areas disturbed by slides, animal trails, and gopher mounds that are free of leaf litter. Collective experiments and observational studies (summarized in McGraw 2004) have shown that the establishment, growth, density, and fecundity of both species are greatly reduced by the presence of invasive plant species that compete for water and sunlight and increase leaf litter. The exclusion of fire in the sandhills has led to an accumulation of leaf litter, nonnative plant invasions, and encroachment of non-sandhills species. In the absence of normal fire regimes, woody vegetation normally found in low densities in sand parkland (e.g., coast live oak and Ponderosa pine), as well as species commonly found in neighboring mixed evergreen forests and oak woodlands (Pacific madrone, tanoak [*Notholithocarpus densiflorus*], bay laurel [*Umbellularia californica*], and Douglas-fir) start to encroach into sand parkland plant communities, degrading habitat for Santa Cruz (Ben Lomond) wallflower and Ben Lomond spineflower. Experiments and observations by Jodi McGraw on the effects of fire on sandhills plants found that fire improved the survivorship of the Santa Cruz (Ben Lomond) wallflower and Ben Lomond spineflower and improved the germination of Santa Cruz (Ben Lomond) wallflower by removing species that are not native to sandhills habitats,

which compete for resources, and increase leaf litter that suppresses germination of these special-status species endemic to the sandhills. After a 2018 prescribed burn performed under the Zayante Sandhills Conservation Bank Vegetation Treatment Plan, Ben Lomond spineflower increased from one patch pre-burn to nine patches post burn (McGraw 2024a).

There are four CNDDB occurrences of Ben Lomond buckwheat in the southern half of the project area near Olympia (CNDDB 2023) and the project area contains other sandhills habitat suitable for this species. Less is known about Ben Lomond buckwheat and factors affecting population performance of this species are not well understood. However, observations made by Jodi McGraw have provided some basic information on habitat requirements and fire tolerance. Ben Lomond buckwheat grows in openings between shrubs in sand parkland and sandhills chaparral habitat and often near the canopy edge of trees such as Ponderosa pine. It is thought that the shade provided by Ponderosa pine helps protect the plant from desiccation during the hot, dry summers. Ben Lomond buckwheat in the Santa Cruz sandhills have shown an adaptation to fire by resprouting after aboveground plant parts have been removed by fire (McGraw 2004). In the absence of fire, oaks and shrub species encroach into sand parkland and restrict the distribution of Ben Lomond buckwheat. Removal of leaf litter and competing vegetation through fire and manual treatment methods has been shown to increase the cover of Ben Lomond buckwheat (McGraw 2024a). Ben Lomond buckwheat seedlings can establish in moderately thick leaf litter as compared to Santa Cruz (Ben Lomond) wallflower and Ben Lomond spineflower; however, seedling establishment is facilitated by removal of leaf litter. Therefore, fire and other disturbances are expected to play an important role in the creation and maintenance of habitat for this species.

Ben Lomond spineflower and Ben Lomond buckwheat

Pursuant to SPR BIO-7, Mitigation Measure BIO-1a, and Mitigation Measure BIO-1b, any occurrences of Ben Lomond spineflower and Ben Lomond buckwheat in the treatment area will be identified and flagged prior to implementation and avoided to the extent feasible, as described below.

Broadcast burning is proposed in areas occupied by Ben Lomond spineflower and Ben Lomond buckwheat. Prescribed burning, including the creation of control lines, may kill Ben Lomond spineflower and Ben Lomond buckwheat plants, creating a temporary decline in numbers in the burned area. However, as described above, these species are fire adapted and benefit from fire through habitat creation and improvement and have been shown to increase in numbers post fire. Additionally, fire can help reset soil succession by removing organic matter and soil biota, which limits colonization by non-sandhills species post fire. Prescribed burning will reintroduce a disturbance that these species have evolved with and depend on for survival. Prescribed burning in areas occupied by these species would benefit the overall populations of these species by improving and creating habitat. Where prescribed burning would occur, vegetation in burn units may be modified (e.g. masticated, crushed, etc.) to make broadcast burning safer and more feasible. Pursuant to Mitigation Measure BIO-1a and Mitigation Measure BIO-1b, fire management in the sandhills communities will occur during the dry season (July to November) if feasible (e.g., as weather and safe burning conditions allow), to mimic the natural fire season to which many special-status species in the sandhills are adapted.

In areas occupied by Ben Lomond spineflower, prescribed burning will be conducted during the dormant season (August to November, or before the onset of germination after the first hard rains) (McGraw 2024a). If burning during the dormant season is not feasible and prescribed burns are conducted during the wet season, then fire may incinerate Ben Lomond spineflower seedlings, which may negatively alter the effects of fire for the species. Therefore, Mitigation Measure BIO-1c will be implemented if burns are conducted outside of the dormant season of Ben Lomond spineflower. In addition, any remaining leaf litter, duff, or biomass left on the ground not consumed by prescribed burning will be removed manually by raking (McGraw 2024a). Removal of leaf litter and duff will be avoided under the canopy of retained ponderosa pines, as this has been linked to tree mortality (McGraw 2024a).

The seeds of Ben Lomond spineflower and Ben Lomond buckwheat could potentially be damaged by pile burning. The seed bank beneath a pile burn would be exposed to high temperatures for relatively long durations during burning, compared to a broadcast burn. Seeds in the seed bank under burn piles may reach temperatures that exceed the lethal threshold of 140 degrees (Abrahamson 2014). Therefore, burn piles will be placed a minimum of 50 feet away from Ben Lomond spineflower and Ben Lomond buckwheat occupied habitat and consistent with Mitigation Measures

BIO-1a and BIO-1b, no fire ignition (and associated use of accelerants) will occur within the special-status plant buffer. Locations for burn piles will prioritize previously disturbed areas to the extent feasible, such as roads, trails, and areas previously used for burn piles.

Pursuant to Mitigation Measure BIO-1a (for Ben Lomond spineflower) and Mitigation Measure BIO-1b (for Ben Lomond buckwheat), manual and mechanical treatments, followed by the manual removal of leaf litter and duff using raking, may occur within the 50-foot buffer of Ben Lomond spineflower and Ben Lomond buckwheat. However, in cases where these species are widespread and abundant throughout the treatment area and treatments cannot be implemented while avoiding these species, only manual treatments will be allowed in these areas, and access routes for workers will be delineated in advance of the work to avoid excessive trampling of special-status plants. Access routes will be prioritized in areas with the least suitable habitat for the special-status species and/or areas with the lowest density of special-status species and will retain mature occurrences of Ben Lomond spineflower and Ben Lomond buckwheat that can serve as seed plants to support future establishment in the remainder of the treated area. Crews will receive training to identify these species prior to implementation, and any occurrences of Ben Lomond spineflower and Ben Lomond buckwheat within the manual treatment area but outside the access route will be identified and flagged for avoidance prior to implementation when feasible.

Due to the habitat requirements and disturbance ecology of these species, treatment activities that remove vegetation, leaf litter, and duff are anticipated to improve habitat conditions overall and create additional suitable habitat for these species. Mechanical and manual treatments, including access to treatment areas, would create temporary soil disturbance in areas adjacent to or occupied by Ben Lomond spineflower and Ben Lomond buckwheat that could cause minor soil erosion. However, these species are known to be more abundant in areas of minor soil disturbance (e.g., slides, trails, and gopher mounds) as compared to undisturbed areas and many current populations of Santa Cruz (Ben Lomond) wallflower are found primarily in areas with ongoing soil disturbance (McGraw 2004). In addition, low-intensity and low-to moderate-frequency disturbance, such as on animal trails or infrequently used walking/hiking trails, have been shown to promote native and rare plant species in the sandhills by creating canopy gaps for these species to establish (McGraw 2004). Therefore, temporary soil disturbance caused by manual or mechanical treatments within and adjacent to areas occupied by these species would create open habitat suitable for establishment of these "gap specialist" species. In areas where treatments cannot be implemented while avoiding Ben Lomond spineflower and Ben Lomond buckwheat, damage to individual plants may occur, including being broken, crushed, or buried. Damaged plants may experience altered growth and development, or reduced or eliminated seed-set and reproduction, and mortality of individuals could eventually result. However, damage would be limited to a small portion of the existing population and the remaining population would be left intact. Direct disturbance from accessing the treatment area would be temporary, and plants would be able to recover or reestablish post-treatment that creates bare mineral soil and open canopy conditions. Such treatment activities would improve the habitat quality for these species and create gap habitat suitable for their establishment. Ponderosa pines will be retained where Ben Lomond buckwheat grow under or near their canopy edge (Mitigation Measure BIO-1b).

Herbicide application within the 50-foot buffer of Ben Lomond spineflower and Ben Lomond buckwheat will be permitted for removal of target invasive species (e.g., eucalyptus, silver-wattle acacia, pampas grass, jubata grass, locust, and French broom) using direct application methods (e.g., cut-stump treatments), where herbicide is applied directly to the target vegetation. Foliar spray treatments will not be permitted within the 50-foot buffer to avoid non-target and special-status species, and all other measures of SPR HYD-5 will apply. Prescribed herbivory is not proposed in the habitat for these species.

Disturbance and open habitat created by manual, mechanical, and prescribed burning treatments may promote the introduction and spread of invasive plants, particularly in areas where invasive grasses, forbs, trees, and shrubs (e.g., brooms and silver wattle) are already present. As described above, competition from invasive plants is a primary threat to Ben Lomond spineflower and Ben Lomond buckwheat. However, SPR BIO-9 would substantially reduce the risk of spreading or introducing invasive plants in the project area by removing seeds, soil, vegetative matter, or other seed-bearing material from clothing, footwear, and equipment before entering the treatment area or when leaving an area with infestations of invasive plants. It also requires targeting invasive species during treatments and treating invasive plant biomass on-site or disposing of invasive plant biomass off-site at an appropriate waste collection

facility to eliminate seeds and propagules and prevent reestablishment. Furthermore, Fire and Fuel Management BMPs outlined in the *Preventing the Spread of Invasive Plants: Best Management Practices for Land Mangers* (Cal-IPC 2012, or current version) would be implemented pursuant to SPR BIO-9, which includes post-treatment monitoring and follow-up removal of invasive species.

Ben Lomond spineflower is listed under ESA. Therefore, pursuant to Mitigation Measure BIO-1a, RCDSCC must determine, in consultation with USFWS, that the listed species would benefit from treatment in the occupied habitat area even though some of the listed plants may be lost during treatment activities. For the reasons summarized above, RCDSCC determined that prescribed burning, limited herbicide use, and temporary disturbance associated with manual and mechanical treatments would overall benefit Ben Lomond spineflower and contacted USFWS to seek technical input on this determination, as required. On June 7, 2024, RCDSCC contacted Leilani Takano and Chad Mitcham at USFWS, describing the determination of beneficial effects to the species from the proposed treatments. No recommendations for additional measures to address Ben Lomond spineflower were received during this agency consultation.

Santa Cruz (Ben Lomond) wallflower

Pursuant to SPR BIO-7 and Mitigation Measure BIO-1a any occurrences of Santa Cruz (Ben Lomond) wallflowers in the treatment area will be identified and flagged prior to implementation.

Broadcast burning is proposed in areas occupied by Santa Cruz (Ben Lomond) wallflower; however, pursuant to Mitigation Measure BIO-1a, broadcast burning will be conducted outside of a 50-foot buffer from live above ground plants when present, or if it is not feasible to buffer live Santa Cruz (Ben Lomond) wallflowers by 50 feet, then fire may incinerate Santa Cruz (Ben Lomond) wallflowers and Mitigation Measure BIO-1c will be implemented.

The seeds of Santa Cruz (Ben Lomond) wallflower could potentially be damaged by pile burning. The seed bank beneath a pile burn would be exposed to high temperatures for relatively long durations during burning, compared to a broadcast burn. Seeds in the seed bank under burn piles may reach temperatures that exceed the lethal threshold of 140 degrees (Abrahamson 2014). Therefore, burn piles will be placed a minimum of 50 feet away from Santa Cruz (Ben Lomond) wallflower, occupied habitat and, consistent with Mitigation Measures BIO-1a, no fire ignition (and associated use of accelerants) will occur within the special-status plant buffer. Locations for burn piles will prioritize previously disturbed areas to the extent feasible, such as roads, trails, and areas previously used for burn piles.

Pursuant to Mitigation Measure BIO-1a, manual treatments and mechanical treatments where equipment does not disturb the ground (e.g., masticator head on an excavator where the vehicle is located outside the buffer) followed by the manual removal of masticated material, leaf litter, and duff are permitted within the 50-foot buffer of Santa Cruz (Ben Lomond) wallflower occurrences. These activities are permitted within the buffer only when focused surveys by a qualified biologist have confirmed that no live Santa Cruz (Ben Lomond) wallflower plants that have not completed their life cycle are present. Due to the habitat requirements and disturbance ecology of Santa Cruz (Ben Lomond) wallflower, treatment activities that remove vegetation, leaf litter, and duff are anticipated to improve habitat conditions overall and create additional suitable habitat for the species. Mechanical and manual treatments, including access to treatment areas, when live plants are not present, would create temporary soil disturbance in areas adjacent to or occupied by Santa Cruz (Ben Lomond) wallflower that could cause minor soil erosion. However, this species is known to be more abundant in areas of minor soil disturbance (e.g., slides, trails, and gopher mounds) as compared to undisturbed areas and many current populations of Santa Cruz (Ben Lomond) wallflower are found primarily in areas with ongoing soil disturbance (McGraw 2004). In addition, low-intensity and low-to moderate-frequency disturbance, such as on animal trails or infrequently used walking/hiking trails, have been shown to promote native and rare plant species in the sandhills by creating canopy gaps for species to establish (McGraw 2004). Therefore, temporary soil disturbance caused by manual or mechanical treatments within and adjacent to areas occupied by this species when live plants are not present would create open habitat suitable for establishment of this "gap specialist" species, which would improve the habitat quality for this species.

Pursuant to Mitigation Measure BIO-1a herbicide application within the 50-foot buffer of Santa Cruz (Ben Lomond) wallflower will be permitted for removal of invasive species (e.g., eucalyptus, silver-wattle acacia, pampas grass, jubata grass, locust, and French broom) using direct application methods (e.g., cut-stump treatments) where herbicide is

applied directly to the target vegetation. Foliar spray treatments will not be permitted within the 50-foot buffer to avoid non-target and special status species, and all other measures of SPR HYD-5 will apply. No prescribed herbivory is proposed within habitat for Santa Cruz (Ben Lomond) wallflower.

Disturbance and open habitat created by manual, mechanical, and prescribed burning treatments may promote the introduction and spread of invasive plants, particularly in areas where invasive grasses, forbs, trees, and shrubs (e.g., brooms and silver wattle) are already present. As described above, competition from invasive plants is a primary threat to Santa Cruz (Ben Lomond) wallflower. However, SPR BIO-9 would substantially reduce the risk of spreading or introducing invasive plants in the project area by removing seeds, soil, vegetative matter, or other seed-bearing material from clothing, footwear, and equipment before entering the treatment area or when leaving an area with infestations of invasive plants. It also requires targeting invasive species during treatments and treating invasive plant biomass on-site or disposing of invasive plant biomass off-site at an appropriate waste collection facility to eliminate seeds and propagules and prevent reestablishment. Furthermore, Fire and Fuel Management BMPs outlined in the *Preventing the Spread of Invasive Plants: Best Management Practices for Land Mangers* (Cal-IPC 2012, or current version) would be implemented pursuant to SPR BIO-9, which includes post-treatment monitoring and follow-up removal of invasive species.

Santa Cruz (Ben Lomond) wallflower is listed under ESA and CESA. Therefore, pursuant to Mitigation Measure BIO-1a, RCDSCC must determine, in consultation with USFWS and CDFW, that the species would benefit from treatment in the occupied habitat. For the reasons summarized above, RCDSCC determined that prescribed burning, targeted herbicide use, and temporary disturbance associated with manual and mechanical treatments would overall benefit Santa Cruz (Ben Lomond) wallflower and contacted USFWS and CDFW to seek technical input on this determination, as required. On June 7, 2024, RCDSCC contacted Leilani Takano and Chad Mitcham at USFWS, and Julie Coombes and Carlee Cockrum at CDFW describing the determination of beneficial effects to the species from the proposed treatments. Recommendations for additional measures to address Santa Cruz (Ben Lomond) wallflower received during this agency consultation by CDFW were incorporated into the PSA/Addendum.

Silverleaf manzanita

Silverleaf manzanita is a dominant species in sandhills chaparral plant communities and is occasionally found in small patches or as isolated individuals on ridges of sand parkland plant communities, and in the understory of ponderosa pine forest. There are seven CNDDB occurrences of silverleaf manzanita throughout the project area: one is off Worth Lane, another is near Weston Road, and the remaining five occur near Newell Creek, Olympia and off Mount Hermon Road (CNDDB 2023); however the species is widespread within the sandhills portion of the Project Area In addition, the species was observed during the SPR BIO-1 survey by Ascent biologists. Silverleaf manzanita is an obligate seeder, meaning it does not have the ability to resprout from the base of a dead stem and thus is entirely dependent on seed germination (Anacker et al. 2011; Keeley 2008). Typically, in obligate seeding manzanita species, dormant seeds stored deep in a persistent seed bank are stimulated to sprout by chemical compounds in smoke caused by fire (Parker 2007). Seedlings of obligate seeding manzanita species are generally not shade tolerant and rely on fire to create openings and bare mineral soil to reestablish. Post-fire monitoring at Bonny Doon Ecological Preserve has shown fire encourages regeneration of silverleaf manzanita (McGraw 2024a). Broadcast burning is proposed in areas occupied by silverleaf manzanita. Initial manual and mechanical treatment may be necessary prior to prescribed burn treatments to safely initiate broadcast burning and may consist of creating control lines or reducing fuel loads in proximity to silverleaf manzanita plants.

Because obligate seeding manzanita species like silverleaf manzanita are fire-adapted and rely on the bare mineral soil conditions, openings in tree canopy cover, and charate (i.e., charred wood containing leachable chemicals) or smoke stimulus provided by fire for successful regeneration, this species would benefit from fire that creates openings, reduces competition, and creates smoke and charate that stimulates seed germination. Fire suppression in the sandhills has led to many stands of silverleaf manzanita that are of similar age, which could lead to large-scale senescence or disease in the absence of fire-induced population renewal. Broadcast burning within the species' fire return interval, which is unknown but estimated to be between every 30 and 100 years (Sawyer et al, 2009), is expected to benefit these populations because burns would facilitate the natural reproductive strategy of these obligate seeders and help sustain populations in the future (McGraw 2024a). Pursuant to Mitigation Measure BIO-1b,

prescribed burning will only occur in areas occupied by silverleaf manzanita that are outside their natural fire return interval (30-100years) (McGraw 2024a; Sawyer et al. 2009). Observations of silverleaf manzanita regeneration in the fuel breaks and burn scar for the 2008 North Ridge fire showed that both the fuel break and the fire promoted establishment of silverleaf manzanita seedlings; however, only plants that established in areas exposed to fire persisted and those in the fuel break did not survive (McGraw 2024a). This suggests that manual or mechanical vegetation removal may not be a successful substitution for fire in regeneration of silverleaf manzanita. In addition, fuel breaks need to be maintained to reduce wildfire risk and support fire suppression activities in these areas. Any regeneration of plant species in the fuel break, such as silverleaf manzanita, would not be conducive to the goals of the fuel break and would be removed during maintenance treatments. This would cause a net reduction in silverleaf manzanita species and would not promote habitat quality for any shrubs left behind.

While research on the effects of pile burning on seed banks in chaparral ecosystems is limited, in pine forest ecosystems, seeds have been documented to lose viability within areas of pile burning (Korb et. al., 2004). The seed bank beneath a pile burn would be exposed to high temperatures for relatively long durations during burning, compared to a broadcast burn. Silverleaf manzanita seeds in the seed bank under burn piles may reach temperatures that exceed the lethal threshold of 140 degrees (Abrahamson 2014). Therefore, pursuant to Mitigation Measure BIO-1b, burn piles will be placed a minimum of 50 feet away from silverleaf manzanita individuals. Locations for burn piles will prioritize previously disturbed areas, such as roads, trails, and areas previously used for burn piles.

Any occurrences of silverleaf manzanita in the treatment area will be identified and flagged prior to implementation and avoided to the extent feasible. The recommended 50-foot buffer may be reduced or eliminated for silverleaf manzanita (following the measures required under Mitigation Measure BIO-1b) because a qualified biologist reviewed and provided substantial evidence that these species would benefit from manual and mechanical treatments conducted up to or within the areas occupied by these species when followed by prescribed burning, or when being physically encroached upon by other species. Manual treatments are proposed within the 50-foot buffer of silverleaf manzanita to remove other shrubs, trees, and other plant species that are growing adjacent to, over, or through silverleaf manzanita plants. Pursuant to Mitigation Measure BIO-1b, manual or mechanical removal of silverleaf manzanita will be avoided except where subsequent prescribed burning to promote regeneration would occur. When subsequent prescribed burning occurs, this would allow for regeneration of silverleaf manzanita, which would be a benefit to the species, even though some silverleaf manzanita may be killed during treatment activities.

If removal of silverleaf manzanita cannot be avoided to meet treatment objectives in fuel breaks or in ecological restoration areas where subsequent prescribed burning will not occur, then Mitigation Measure BIO-1c would apply and compensatory mitigation would be required, and the RCDSCC would create a Compensatory Mitigation Plan describing how the loss of silverleaf manzanita plants in the fuel break treatments will be fully offset elsewhere in the project area. Because silverleaf manzanita is not listed under ESA or CESA, compensatory mitigation may include restoring or enhancing degraded habitats so that they are made suitable to support silverleaf manzanita in the future, which could include ecological restoration treatments elsewhere in the project area.

Herbicide application within the 50-foot buffer of silverleaf manzanita will be permitted for removal of invasive species (e.g., eucalyptus, silver-wattle acacia, pampas grass, jubata grass, locust, and French broom) using direct application methods (e.g., cut-stump treatments) where herbicide is applied directly to the target vegetation. Foliar spray treatments will not be permitted within the 50-foot buffer to avoid non-target and special status species, and all other measures of SPR HYD-5 will apply.

As described above for the other special-status species in the sandhills ecosystem, disturbance and open habitat created by treatments may promote the invasion and spread of invasive plants, particularly in areas where invasive grasses, forbs, trees, and shrubs (e.g., brooms and silver wattle) are already present (McGraw 2024a). However, implementation of SPR BIO-9 would substantially reduce the risk of spreading or introducing invasive plants in the project area.

Conclusion

The potential for treatment activities to result in adverse effects on special-status plants was examined in the Program EIR. This impact on special-status plants is within the scope of the Program EIR because habitat characteristics and

the treatment activities and intensity of disturbance as a result of implementing treatment activities are consistent with those analyzed in the Program EIR. The inclusion of land in the proposed project area that is outside the treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the existing habitat conditions present in the areas outside the treatable landscape are essentially the same as those within the treatable landscape; therefore, the potential impact on special-status plants is also the same, as described above.

As described above and under Section 1.1.3, "Purpose of This PSA/Addendum," the RCDSCC proposes to revise requirements under SPR HYD-5 to allow for herbicide application within the 50-foot buffer of the ESA-listed Ben Lomond spineflower, and ESA- and CESA-listed Santa Cruz (Ben Lomond) wallflower. Herbicide application will be permitted within the 50-foot buffer of these species only for removal of invasive species (e.g., eucalyptus, silver-wattle acacia, pampas grass, jubata grass, locust, and French broom) using direct application methods (e.g., cut-stump treatments) where herbicide is applied directly to the target vegetation. Foliar spray treatments will not be permitted within the 50-foot buffer to avoid non-target and special-status species. The application of herbicides to these specific target species would increase the likelihood that these species including broom and acacia, which can have profound negative effects on sand parkland habitat (McGraw 2019), can be effectively treated. The use of direct methods (e.g., cut-stump application) will limit the application of herbicide to the individual target plants, and avoid herbicide contact with the soil, non-target vegetation, and any adjacent Ben Lomond spineflower or Santa Cruz (Ben Lomond) wallflower individuals or seeds. Furthermore, the remaining conditions for herbicide use in SPR HYD-5 would apply to direct application methods such as avoiding herbicide use during or prior to precipitation events and locating herbicide mixing sites in areas devoid of vegetation, which would further reduce the likelihood of exposure of Ben Lomond spineflower or Santa Cruz (Ben Lomond) wallflower individuals or seeds to herbicides. Without this revision to SPR HYD-5, the objectives of the project could not be achieved. This constitutes a revision to the program description analyzed in the Program EIR. Therefore, proposed revisions to SPR HYD-5 would not result in a substantially more severe significant effect on special-status plants than what was covered in the Program EIR.

As described under Section 1.1.3, "Purpose of This PSA/Addendum," the RCDSCC proposes to revise requirements under SPR GEO-1 to allow for suspension of mechanical treatments that cause soil disturbance, prescribed herbivory, or herbicide treatments if it is raining; soils are saturated; or soils are wet enough to be compacted by mechanical or prescribed herbivory activities, rather than the current requirement that the RCDSCC suspend mechanical, prescribed herbivory, and herbicide treatments prior to the initiation of the rain event if the chance of rain is a minimum of 30 percent. In the coastal region of the project area, forecasts often include a chance of rain; however, precipitation sometimes does not materialize. Therefore, suspension of treatment activities in these cases could result in unnecessary loss of work time. Without this revision to SPR GEO-1, the objectives of the project could not be achieved. This constitutes a revision to the program description analyzed in the Program EIR. Requirements under SPR GEO-1 are intended to prevent soil destabilization during precipitation events that could result in soil compaction and disturbance that could have adverse effects on special-status plants if present. Suspension of mechanical treatments that cause soil disturbance, prescribed herbivory, and herbicide treatments in the above-mentioned conditions (e.g., rain, saturated soils, or soils wet enough for compaction to occur) would provide the same level of protection for indirect effects on special-status plants resulting from soil destabilization as the original SPR GEO-1, because these activities would not continue during conditions where soil destabilization could occur. Suspension of these activities would not be based on weather forecasts alone, but rather if weather predictions materialize and lead to precipitation events. Therefore, proposed revisions to SPR GEO-1 would not result in a substantially more severe significant effect on special-status plants than what was covered in the Program EIR.

Biological resource SPRs that apply to the project are SPR AD-1, AQ-3, AQ-4, BIO-1, BIO-2, BIO-7, BIO-9, GEO-1, GEO-3, GEO-4, GEO-5, GEO-7, HAZ-5, HAZ-6, and HYD-5. Biological resource mitigation measures that apply to project impacts include Mitigation Measure BIO-1a, BIO-1b, and BIO-1c. As explained above, impacts on special-status plants resulting from the proposed project, including proposed revisions to SPR GEO-1, would not constitute a new or substantially more severe significant impact than what was covered in the Program EIR.

IMPACT BIO-2

Initial and maintenance treatments could result in direct or indirect adverse effects on special-status wildlife species and habitat suitable for these species within the project area, as described in the following sections.

California red-legged frog

California red-legged frog is endemic to California and Baja California, Mexico. Adult and juvenile California red-legged frogs are known to travel through upland habitat (e.g., riparian, woodland, grassland) to move between breeding and nonbreeding sites (e.g., other ponds, deep pools in streams, moist and cool riparian understory, burrows) for access to refugia and foraging habitat, or to disperse to new breeding locations. Movements through upland habitat are known to occur up to approximately 1 mile over the course of a wet season (Bulger et al. 2003). During migration, California red-legged frog may travel longer distances from aquatic habitat and typically travel in straight lines irrespective of vegetation types; individuals have been documented to move more than 1.7 mile between aquatic habitat sites (Bulger et al. 2003). However, studies have demonstrated that California red-legged frogs generally remain very close to breeding ponds during the nonbreeding season and typically do not move more than a few hundred feet into upland habitats (Bulger et al. 2003; Fellers and Kleeman 2007). California red-legged frogs generally make overland movements (i.e., dispersal, migration, foraging) during the wet season (i.e., October to May) and these movements are typically made at night (Bulger et al. 2003). California red-legged frog is known to occur in the project area (CNDDB 2023) and breeding and nonbreeding aquatic habitat for California red-legged frog may be found in the perennial streams within the project area and nearby perennial wetlands.

Pursuant to SPR BIO-1, if it is determined that adverse effects can be clearly avoided by physically avoiding the habitat suitable for the species or the season of sensitivity, then no surveys or mitigation would be required. WLPZs of 50 to 100 feet from any Class II stream and 75 to 150 feet from a Class I stream would be implemented within the project area per SPR HYD-4, which prohibits heavy equipment operation, equipment fueling, placement of burn piles, and fire ignition within these buffers. In addition, treatment activities would be implemented in compliance with state water quality regulations pursuant to SPR HYD-1, which would further protect potential aquatic habitat. Additionally, prescribed herbivory treatments would be excluded within 50 feet of environmentally sensitive areas such as waterbodies, wetlands, or riparian areas that provide habitat for the species, using temporary fencing or active herding, pursuant to SPR HYD-3. Prescribed herbivory would not result in injury or mortality to California red-legged frog, because the species would be expected to move to avoid grazing animals, and grazing is not likely to remove or collapse cover for California red-legged frog in upland habitat. These SPRs would reduce impacts on California red-legged frog; however, injury or death of California red-legged frog from mechanical treatment, manual treatment, herbicide application, and prescribed burning would not be completely avoided because the species is known to occur farther than 150 feet from aquatic habitat year-round. In addition, manual activities implemented within the WLPZ may result in adverse effects on California red-legged frogs. Therefore, per SPR BIO-1, all adverse effects cannot be clearly avoided, and SPR BIO-10 would apply. The potential for treatment activities and maintenance treatments to result in adverse effects on California red-legged frog was examined in the Program EIR.

Pursuant to SPR BIO-10, protocol surveys following the guidelines provided by USFWS (2005) would be conducted, or presence of California red-legged frog would be assumed within the project area. If California red-legged frogs are detected during SPR BIO-10 surveys, or presence is assumed within the project area, Mitigation Measure BIO-2a will be required.

Within the project area and because of the proximity to nonbreeding and potential breeding habitat, under Mitigation Measure BIO-2a, pre-treatment visual surveys will be performed daily by a qualified RPF, biologist, or biological technician, prior to implementation of any treatment activities (i.e., mechanical, manual, prescribed burning, and herbicide) within 300 feet of Class I or Class II streams and within or adjacent to other sensitive habitat areas (e.g., wet intermittent streams, wet seeps), during the dispersal season (October 1 through April 1) or within 24 hours following a rain event greater than one quarter inch. Surveys and monitoring will be performed year-round prior to any activities within 30 feet of Class I or Class II streams and within or adjacent to other sensitive habitat areas (e.g., wet Class III streams, wet seeps). If the qualified biologist, RPF, or biological technician detects a California red-legged frog during treatments, treatment activities will cease until the individual has left the area.

In addition, mechanical treatments will be prohibited within 30 feet of Class III wetlands; and all mechanized equipment, including track chippers, and herbicide treatments will shut down for 24 hours following any precipitation event of 0.20 inch to less than 1 inch, 48 hours following any precipitation event 1 inch to less than 2 inches, and 72 hours following any precipitation event greater or equal to 2 inches; and herbicide use during project implementation will comply with the herbicide use restrictions in the stipulated injunction issued by the Federal District Court for the Northern District of California (Mitigation Measure BIO-2a).

Habitat function for California red-legged frog will be maintained, because impacts on riparian and upland habitat for California red-legged frog will be avoided or minimized through implementation of Mitigation Measure BIO-3a (see Impact BIO-3). Mitigation Measure BIO-4 will further reduce potential impacts by requiring protection of state and federally protected wetlands, which include aquatic habitat for California red-legged frog (see Impact BIO-4). Furthermore, impacts on California red-legged frog habitat from herbicide treatments would be avoided and minimized by implementation of SPR HAZ-5, HAZ-6, and HYD-5. Furthermore, habitat function for California red-legged frogs would be maintained because treatment activities and maintenance treatments would not occur within aquatic habitat, and treatments within WLPZs would be limited pursuant to SPR HYD-4 (e.g., no mechanical treatment, retention of at least 75 percent surface cover within the WLPZ). Furthermore, pursuant to SPR BIO-4, while mechanical treatment may occur within riparian habitat that is located outside of a WLPZ, at least 75 percent of the overstory and 50 percent of the understory canopy of native riparian vegetation within riparian corridors on the reserve would be maintained. In areas with no overstory vegetation, vegetation islands of 10–20 feet in diameter would be retained with 10–20 foot spacing between islands to create a mosaic of shrubs and other vegetation where broadcast burning is not applied. In addition, downed logs greater than 12 inches dbh would be retained in forest settings with preference for the larger, complex logs, totaling approximately 10 tons per acre, and herbaceous understory components would be maintained as much as feasible, with a minimum retention of 5 to 10 percent herbaceous cover, with additional retention for early disturbance species. These retention standards would maintain habitat for California red-legged frogs.

Pursuant to Mitigation Measure BIO-2a, and because this species is listed under ESA, RCDSCC must notify USFWS about its proposed measures to avoid mortality, injury, or disturbance of the species and its determination that habitat function would be maintained after treatments. For the reasons summarized above, RCDSCC determined that implementation of treatments would maintain habitat function for California red-legged frog and contacted USFWS to seek technical input on this determination, as required. On June 7, 2024, RCDSCC contacted Chad Mitcham at USFWS describing the measures that would be taken to avoid mortality, injury, and disturbance to California red-legged frogs and to maintain habitat function in compliance with Mitigation Measure BIO-2a. No refinements to the project description or measures resulted from this notification. This impact of the proposed project is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

Foothill yellow-legged frog

Foothill yellow-legged frog is typically found in perennial streams and directly adjacent moist upland habitat, depending on the time of year. During the fall and winter, the species may be found in and near small perennial streams. In the spring, individuals move to wider sunlit channels to breed. The species is highly aquatic and is rarely found farther than 36 to 150 feet from perennial water (CDFW 2018b). However, a longer dispersal distance has been noted (over 4.3 miles), although primarily wetted channels were used in this observation (CDFW 2018b). The species was documented to occur recently within Newell Creek near the project area (CNDDB 2023) and historically within the project area near Zayante Creek and Glenwood within the project area. These creeks may provide habitat for the species where proper stream conditions and sunny banks are found.

The potential for treatment activities including maintenance treatments to result in adverse effects on foothill yellow-legged frog was examined in the Program EIR. Per SPR BIO-1, if it is determined that adverse effects on foothill yellow-legged frog can be clearly avoided by physically avoiding habitat for the species, or by conducting treatments outside of the season when foothill yellow-legged frogs are present, then no further action is required. SPR HYD-4 would require implementation of WLPZs adjacent to any potential Class I, Class II, or Class III streams within the treatment area, which prohibits heavy equipment operation, equipment fueling, placement of burn piles, and fire

ignition within these buffers. In addition, treatment activities would be implemented in compliance with state water quality regulations pursuant to SPR HYD-1, which would further protect potential aquatic habitat. Prescribed herbivory would not result in injury or mortality to foothill yellow-legged frog, because the species would be expected to move to avoid grazing animals, and grazing is not likely to remove or collapse cover for foothill yellow-legged frog in upland habitat. However, treatment activities, including prescribed burning, mechanical treatments, manual tree and snag removal, and herbicide application conducted within upland foothill yellow-legged frog habitat could result in injury or mortality of individuals, because there is not a season when foothill yellow-legged frogs are absent from upland habitat. Implementation of SPR HYD-1 and SPR HYD-4 would reduce the likelihood of injury or death of foothill yellow-legged frog; however, effects would not be completely avoided because these species are known to occur farther than 150 feet from aquatic habitat. Therefore, pursuant to SPR BIO-1, SPR BIO-10 would apply.

Pursuant to SPR BIO-10, focused surveys for foothill yellow-legged frog would be conducted within habitat for this species prior to implementation of treatment activities (i.e., prescribed burning, mechanical treatments, manual tree and snag removal, and herbicide application), or presence would be assumed. If no foothill yellow-legged frogs are observed during focused surveys, then additional mitigation would not be required. If foothill yellow-legged frogs are observed during focused surveys, or presence of the species is assumed, then Mitigation Measure BIO-2a will be implemented. Under Mitigation Measure BIO-2a, biological monitoring by a qualified biologist, RPF, or biological technician during treatment activities will be implemented to avoid injury to or mortality of individual foothill yellow-legged frogs. If the qualified biologist, RPF, or biological technician detects a foothill yellow-legged frog during treatments, treatment activities will cease until the individual has left the area.

Habitat function for foothill yellow-legged frog would be maintained because treatment activities and maintenance treatments would not occur within aquatic habitat, and treatments within WLPZs would be limited pursuant to SPR HYD-4. Furthermore, pursuant to SPR BIO-4, at least 75 percent of the overstory and 50 percent of the understory canopy of native riparian vegetation within riparian corridors in the would be maintained. In areas with no overstory vegetation, vegetation islands of 10–20 feet in diameter would be retained with 10–20 foot spacing between islands to create a mosaic of shrubs and other vegetation where broadcast burning is not applied. In addition, downed logs greater than 12 inches dbh would be retained in forest settings with preference for the larger, complex logs, totaling approximately 10 tons per acre, and herbaceous understory components would be maintained as much as feasible, with a minimum retention of 5 to 10 percent herbaceous cover, with additional retention for early disturbance species. These retention standards would maintain habitat for foothill yellow-legged frogs.

Additionally, impacts on riparian and upland forested habitat for foothill yellow-legged frog would be avoided or minimized through implementation of Mitigation Measure BIO-3a (see Impact BIO-3). Mitigation Measure BIO-4 will further reduce potential impacts by requiring protection of state and federally protected wetlands, which could provide aquatic habitat for foothill yellow-legged frog (see Impact BIO-4). Furthermore, potential adverse effects on habitat for foothill yellow-legged frog from herbicide treatments would be minimized by implementation of SPR HAZ-5, HAZ-6, and HYD-5.

Pursuant to Mitigation Measure BIO-2a, and because this species is listed under CESA and ESA, RCDSCC must notify CDFW and USFWS about its proposed measures to avoid mortality, injury, or disturbance of the species and its determination that habitat function would be maintained after treatments. For the reasons summarized above, RCDSCC determined that implementation of treatments would maintain habitat function for foothill yellow-legged frog and contacted CDFW and USFWS to seek technical input on this determination, as required. On June 7, 2024, RCDSCC contacted Julie Coombes and Carlee Cockrum at CDFW and Chad Mitcham at USFWS describing the measures that would be taken to avoid mortality, injury, and disturbance to foothill yellow-legged frogs and to maintain habitat function in compliance with Mitigation Measure BIO-2a. No refinements to the project description or measures resulted from this notification. This impact of the proposed project is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

Special-status salamanders

California giant salamander and Santa Cruz black salamander have potential to occur within the project area. California giant salamander has been documented to occur historically within the project area and more recently

within other portions of the San Lorenzo River watershed (CNDDB 2023). Zayante Creek is a perennial stream in the project area that may provide habitat for California giant salamander, and several Class II intermittent streams and Class III ephemeral streams in the project area may also provide habitat. Santa Cruz black salamander has been documented to occur within the San Lorenzo River Watershed in the vicinity of the project area (CNDDB 2023). The project area contains upland habitat for California giant salamander and Santa Cruz black salamander where understory vegetation and logs are present for cover.

The proposed prescribed burning, mechanical treatments, manual tree and snag removal, and herbicide application, could result in injury or mortality of special-status salamanders. Prescribed herbivory would not result in injury or mortality to special-status salamanders, because grazing is not likely to remove or collapse cover (e.g., logs and other down wood) for special-status salamanders in upland habitat and these species may also move to avoid grazing animals, and. The potential for treatment activities to result in adverse effects on special-status salamanders was examined in the Program EIR.

Per SPR BIO-1, if it is determined that adverse effects on special-status salamanders can be clearly avoided by physically avoiding the suitable habitat, then no mitigation would be required. However, because California giant salamander and Santa Cruz black salamander may be present year-round in upland habitat, at relatively large distances from aquatic habitat, where cover is present within the treatment area, it is unlikely that all potential habitat for these species can be avoided by initial and maintenance treatments. WLPZs adjacent to all aquatic habitat within the treatment area would be implemented per SPR HYD-4 and would reduce adverse effects; however, these measures would not result in full avoidance of adverse effects on special-status salamanders because they may occur beyond the WLPZ, and some treatments are allowed to occur within the WLPZ that may have adverse effects. As a result, SPR BIO-10 would apply, and focused surveys for special-status salamanders would be conducted within habitat for these species prior to implementation of treatments, or presence of the species would be assumed. If special-status salamanders are not detected within the treatment area during focused surveys, then no mitigation for the species would be required. If special-status salamanders are detected during focused surveys, or presence is assumed, then Mitigation Measure BIO-2b would be implemented. Under Mitigation Measure BIO-2b, RCDSCC would require biological monitoring for treatment activities within or adjacent to sensitive habitat areas (e.g., perennial streams, intermittent streams, ephemeral streams), flagging areas for avoidance, relocation of individual animals by a qualified RPF or biologist, and/or other measures recommended by a qualified biologist or RPF to avoid injury or mortality of these species.

Habitat function for special-status salamanders would be maintained because treatments within WLPZs would be limited pursuant to SPR HYD-4. Furthermore, pursuant to SPR BIO-4, at least 75 percent of the overstory and 50 percent of the understory canopy of native riparian vegetation within riparian corridors would be maintained. In areas with no overstory vegetation, vegetation islands of 10–20 feet in diameter would be retained with 10–20 foot spacing between islands to create a mosaic of shrubs and other vegetation where broadcast burning is not applied. In addition, downed logs greater than 12 inches dbh would be retained in forest settings with preference for the larger, complex logs, totaling approximately 10 tons per acre, and herbaceous understory components would be maintained as much as feasible, with a minimum retention of 5 to 10 percent herbaceous cover, with additional retention for early disturbance species.

In addition, to avoid and minimize impacts on habitat of special-status salamanders from herbicides, SPR HAZ-5, HAZ-6, and HYD-5 would be implemented. SPR HAZ-5 and HAZ-6 require safe handling of herbicides (e.g., according to a spill prevention and spill response plan) and compliance with current regulations for the transport, handling, application, and disposal of herbicides. SPR HYD-5 requires herbicide mixing sites be located away from non-target vegetation and waterways, use of dye in herbicides to avoid inadvertent overspray, measures to minimize herbicide drift and runoff to non-target areas, and restrictions on application during precipitation events. This impact of the proposed project is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

Western pond turtle

Aquatic habitat for western pond turtle may be present within ponds and streams in and adjacent to the project area, and this species could use upland habitat in the vicinity of these features (Reese and Welsh 1997). Western pond turtles spend most of their time in the aquatic environment and may be present within upland terrestrial habitat up to approximately 1,500 feet from aquatic habitat (Holland 1994). These turtles lay eggs in the terrestrial environment and young typically overwinter in the nest on land. Adults may overwinter in aquatic resources or buried in leaf litter on land, and western pond turtles may be found on land during all times of the year (Reese and Welsh 1997).

If present, western pond turtle could be inadvertently injured or killed by pile burning, mechanical treatments, and manual tree and snag removal. Prescribed herbivory would not result in injury or mortality to western pond turtles, because grazing is not likely to remove or collapse burrows in upland habitat and the species may also move to avoid grazing animals. Workers conducting other manual treatment activities (e.g., limbing of trees, hand pulling of invasive plants) and herbicide application on foot are also unlikely to cause injury, mortality, or substantial disturbance to individual western pond turtles because they move relatively slowly throughout the project area. However, vehicles associated with these treatment activities have the potential to crush individuals that are moving through upland habitat or taking refuge under vehicles, and if vehicles are driven over areas containing, nests, which may result in injury or mortality of any eggs or young in the nest. Also, if pile burning occurs on or near a nest, injury or mortality of eggs and young, due to crushing or elevated temperatures. The potential for initial treatment activities and maintenance treatments to result in adverse effects on western pond turtle was examined in the Program EIR.

Per SPR BIO-1, if it is determined that adverse effects on western pond turtles would be clearly avoided by physically avoiding the habitat suitable for these species, then no mitigation would be required. Pursuant to SPR HYD-4, a WLPZ of 50 to 150 feet adjacent to all Class I and Class II streams and lakes would be implemented and WLPZs of sufficient size to avoid degradation of downstream beneficial uses of water would be established adjacent to all Class III and Class IV streams (e.g., stock ponds, drainage canals), which would function to protect western pond turtle aquatic habitat. Additionally, SPR HYD-5 requires that herbicides are mixed in areas where there is no potential of a spill reaching a waterway, and no terrestrial or aquatic herbicides would be applied within the WLPZ, and SPR HYD-1 requires that project activities comply with local water quality regulations. However, these measures may not avoid impacts on western pond turtle when they are present outside of established WLPZs or buffers, or if non-mechanical treatment activities implemented within the WLPZ resulted in injury or mortality of western pond turtle. Western pond turtle may be present up to approximately 1,500 feet from aquatic habitat in the project area; therefore, it is unlikely that all habitat for the species can be fully avoided while meeting project objectives. As a result, SPR BIO-10 would apply, and focused surveys for western pond turtle would be required prior to pile burning, mechanical treatments, and manual tree and snag removal. Focused surveys would be conducted by a qualified RPF, biologist, or biological technician within aquatic habitat for the species, or presence within aquatic habitat may be assumed. If western pond turtles are detected during surveys of aquatic habitat or assumed present, upland nesting habitat would be surveyed for nest sites. If western pond turtle or nests are identified during focused surveys, Mitigation Measure BIO-2b for this species would be implemented. Pursuant to Mitigation Measure BIO-2b, a 50-foot buffer would be applied around western pond turtle nests, where manual tree and snag removal, driving of mechanical equipment, and placing of burn piles would be prohibited.

Habitat function for western pond turtle would be maintained because treatment activities and maintenance treatments would not occur within aquatic habitat, and pursuant to SPR HYD-4 treatments within stream WLPZs adjacent to the project area would be limited (e.g., no mechanical treatment, retention of at least 75 percent surface cover). Additionally, habitat function would be maintained in western pond turtle upland habitat because SPRs HYD-4 and HYD-5 prevent direct adverse impacts to upland habitat within the WLPZ. Additional project-specific refinements to Mitigation Measure BIO-2b restrict use of mechanical equipment and burn piles in areas identified by a qualified RPF or biological technician as upland habitat for western pond turtle, which would maintain function for these potential overwintering, nesting, or upland dispersing habitat areas. Additionally, pursuant to Mitigation Measure BIO-3a, treatments would be designed to avoid the loss of oak woodlands and sensitive natural communities. This impact of the proposed project is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR. This impact of the proposed project is consistent

with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

Marbled murrelet

Marbled murrelets forage at sea and nest in old growth and older second growth forests, although nesting also may occur in younger forests where remnant old-growth trees provide platforms suitable for nesting (Mack et al. 2003). The species has been documented to occur within Henry Cowell Redwoods State Park on the western side of the San Lorenzo Watershed (CNDDB 2023). Some of the habitat in this portion of the watershed was temporarily degraded due to the CZU Lightning Complex wildfire in 2020. While the project area may not contain old-growth stands typically used for murrelet nesting, murrelets may use marginal habitat within the project area due to the loss of other habitat in the vicinity. Individual trees within the project area may provide suitable nesting structure.

Treatment activities are not likely to result in the removal of marbled murrelet nesting habitat or direct removal of active nests because marbled murrelets nest on platforms in large diameter trees (i.e., greater than 30 inches dbh) (USFS 1995), and treatments within forested areas would not remove live trees over 12 inches dbh; although larger Douglas firs may be removed where mixed conifer transitions into more open habitat types and oak woodland. However, these transition zones are not likely to be suitable for marbled murrelet nesting. Treatment activities that include the use of heavy equipment, multiple vehicles, or loud hand tools (e.g., chainsaws) could result in disturbance of nesting marbled murrelets, if these activities occur near a nesting tree, or disruption of feeding flights to and from the nest during the sensitive nesting season (March 24 to September 15) (USFWS 2020). Prescribed herbivory would not result in adverse effects on nesting marbled murrelets because these activities would not use loud equipment or tools or introduce visual stimuli close enough to marbled murrelet nesting habitat to result in disturbance of the nest. The disturbance of nests and the disruption of feeding due to prescribed burning, mechanical treatments, manual tree and snag removal, or herbicide application may result in the loss of eggs and chicks. The potential for treatment activities to result in adverse effects on marbled murrelets was examined in the Program EIR.

Per SPR BIO-1, if it is determined that adverse effects on marbled murrelet can be clearly avoided by conducting prescribed burning, mechanical treatments, manual tree and snag removal, or herbicide application treatments within nesting habitat outside of the season of sensitivity (i.e., nesting season; March 24 to September 15), then further avoidance measures would not be required. If it is not feasible to conduct prescribed burning, mechanical treatments, manual tree and snag removal, or herbicide application outside of the season of sensitivity, a qualified RPF or biologist would assess the treatment area and adjacent habitat within the project area for suitable nesting trees following the guidelines described in *Methods for Surveying Marbled Murrelets in Forests; A revised Protocol for Land Management and Research* (Mack et al. 2003). If habitat suitable for the species (i.e., nesting trees) are located within the treatment area, or adjacent habitat within 0.25 mile, then surveys pursuant to SPR BIO-10 for marbled murrelets would be conducted following Mack et al. (2003), or presence of nests may be assumed at the suitable nesting trees. If surveys detect active nests within the treatment area or adjacent habitat within the project area, or nests are assumed at suitable nesting trees, Mitigation Measure BIO-2a would be implemented and potential disturbance to nests would be avoided by implementing buffer distances of up to 0.25 mile; the buffer distance would be dependent on the noise generated by the activity (USFWS 2020). A reduced buffer size may be implemented by a qualified RPF or biologist in coordination with CDFW and USFWS.

Habitat function for marbled murrelet would be maintained because treatments within the interior of mixed conifer forest, which is the habitat type within the project area that may be suitable for nesting, would not remove live trees greater than 12 inches dbh, which would result in retention of any large trees suitable for nesting marbled murrelets. Additionally, if marbled murrelet nests are detected or assumed to be present, the nest tree, or assumed nest tree, and any adjacent trees that provide screening or canopy cover to the nest will be retained regardless of the diameter of the tree. Pursuant to Mitigation Measure BIO-2a, and because this species is listed under CESA and ESA, the RCD must consult with CDFW and USFWS about its determination that mortality, injury, or disturbance would not occur and that habitat function for the species would be maintained. For the reasons summarized above, RCDSCC determined that implementation of treatments would maintain habitat function for marbled murrelet and consulted with CDFW and USFWS to seek technical input on this determination, as required. On June 7, 2024 RCDSCC sent a memo to Julie Coombes and Carlee Cockrum at CDFW and contacted Chad Mitcham at USFWS describing the

measures that would be taken to avoid mortality, injury, and disturbance to marbled murrelet and to maintain habitat function in compliance with Mitigation Measure BIO-2a. Refinements to measures that resulted from this notification based on recommendations by CDFW have been incorporated into the PSA/Addendum and MMRP. This impact of the proposed project is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

Other special-status birds

Several special-status bird species may or are known to occur within the project area: golden eagle, olive-sided flycatcher, purple martin, and white-tailed kite. Golden eagle, purple martin, and white-tailed kite have been documented to occur in Santa Cruz County (CNDDB 2023; iNaturalist 2024; Suddjian and Gerow 2011) and the project area contains habitat for these species.

Treatment activities, including prescribed burning, mechanical treatments, and manual tree and snag removal, conducted during the nesting bird season (February 1–August 31) could result in direct loss of active nests if trees containing nests are removed or burned. For nests within vegetation that would not be removed, treatment activities including prescribed burning, mechanical treatments, manual treatments, herbicide application, and prescribed herbivory, could result in disturbance to active nests from auditory and visual stimulus (e.g., heavy equipment, chain saws, vehicles, personnel) potentially causing abandonment and loss of eggs or chicks. The potential for treatment activities to result in adverse effects on special-status birds was examined in the Program EIR.

Per SPR BIO-1, if it is determined that adverse effects on nesting habitat for nesting special-status birds will be clearly avoided by physically avoiding nesting habitat for the species or conducting treatments outside of the season of sensitivity (i.e., nesting bird season), then no additional survey would be required. Adverse effects on nesting special-status birds would be clearly avoided for treatments that would occur outside of the nesting bird season (February 1–August 31). If conducting some treatments outside of the nesting bird season is determined to be infeasible for certain treatment areas, then SPR BIO-10 would apply, and focused nesting bird surveys for golden eagle, olive sided flycatcher, purple martin, and white-tailed kite would be conducted prior to implementation of all treatment activities.

If no active bird nests are observed during focused surveys, then additional avoidance measures for these species would not be required. If active special-status bird nests are observed during focused surveys, then Mitigation Measures BIO-2a (for golden eagle and white-tailed kite) and BIO-2b (for olive-sided flycatcher and purple martin) would be implemented. Under Mitigation Measures BIO-2a and BIO-2b, a no-disturbance buffer of at least 1.0 mile would be established around active golden eagle nests, 0.25 mile for white-tailed kite nests, and 100 feet for olive-sided flycatcher and purple martin nests. Buffer distances may be adjusted by a qualified RPF or biologist based on vegetative and topographical screening, existing disturbance, and other factors in coordination with CDFW. No treatment activities would occur within these buffers until chicks have fledged, or the nest is otherwise no longer active, as determined by a qualified RPF or biologist. Additionally, trees containing golden eagle nests would not be removed pursuant to the Bald and Golden Eagle Protection Act.

Habitat function for special-status birds would be maintained because treatment activities would maintain a diverse forest with mixed age and size trees and trees greater than 12 dbh would be retained within mixed conifer habitat; although larger Douglas firs may be removed where mixed conifer transitions into more open habitat types and oak woodland, and trees up to 24 inches dbh may be removed from chaparral, sand chaparral, and sand parkland habitats Implementation of SPR BIO-3 requires that sensitive communities (including sensitive bird nesting habitat such as redwoods and oak woodlands) are surveyed for and mapped prior to implementation, and pursuant to Mitigation Measure BIO-3a, treatments would be designed to avoid loss of these sensitive habitats. In addition, SPR BIO-4 requires that riparian areas are designed to maintain habitat function. Treatment of oak woodlands would focus on promoting oak and other hardwood dominance and understory diversity. Treatment activities would retain approximately 2-4 snags per acre, favoring snags with complex features, such as cavities that are used by wildlife including purple martin.

Pursuant to Mitigation Measure BIO-2a, RCDSCC must consult with CDFW about its determination that mortality, injury, or disturbance would not occur and that habitat function for golden eagle and white-tailed kite (i.e., fully protected species) would be maintained. For the reasons summarized above, RCDSCC determined that

implementation of treatments would maintain habitat function for golden eagle and white-tailed kite and consulted with CDFW to seek technical input on this determination, as required. On June 7, 2024, RCDSCC sent a memo to Julie Coombes and Carlee Cockrum at CDFW describing the measures that would be taken to avoid mortality, injury, and disturbance to golden eagle and white-tailed kite and to maintain habitat function in compliance with Mitigation Measure BIO-2a. No refinements to the project description or measures resulted from this notification. This impact of the proposed project is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

Special-status fish

Coho salmon – Central California coast Evolutionarily Significant Unit and steelhead – Central California coast Distinct Population Segment may occur or are known to occur within the project area. Zayante Creek and Bean Creek have been documented to contain steelhead (Titus et al. 2010). Coho salmon has been documented to occur within the San Lorenzo River Watershed and is thought to occur within Zayante Creek (CDFG 2004). The potential for treatment activities and maintenance treatments to result in adverse effects on special-status fish was examined in the Program EIR.

Per SPR BIO-1, if it is determined that adverse effects on special-status fish can be clearly avoided by physically avoiding habitat for these species, then mitigation would not be required. Treatments would not occur within aquatic habitat for these species. WLPZs ranging from 50 to 150 feet adjacent to all Class I and Class II streams within the treatment areas would be implemented per SPR HYD-4, which prohibits operating heavy equipment, crossing watercourses unless dry, equipment fueling, placement of burn piles, and fire ignition within the WLPZ. In addition, prescribed herbivory treatments would be excluded within 50 feet of environmentally sensitive areas such as waterbodies, wetlands, or riparian areas using temporary fencing or active herding, pursuant to SPR HYD-3. Furthermore, SPRs HAZ-5, HAZ-6, and HYD-5, would apply to herbicide application treatments and would require a spill response plan, compliance with all herbicide application regulations, locating mixing sites away from waterways, restricting application during precipitation events, and other measures. These measures would reduce the likelihood of contaminated runoff from treatment activities reaching the streams that are habitat for special-status fish. Therefore, adverse effects on special-status fish would be clearly avoided through implementation of these SPRs and further measures would not be required.

Habitat function for special-status fish would be maintained because treatment activities and maintenance treatments would not occur within aquatic habitat. Furthermore, treatments within WLPZs adjacent to aquatic habitat would be limited pursuant to SPR HYD-4, which requires retention of at least 75 percent of the overstory and 50 percent of the understory canopy of native riparian vegetation. This riparian vegetation standard would maintain stream shading and avoid increases in water temperature. In addition, SPR HYD-3 would require that prescribed herbivory treatments are excluded from habitat for these species, and HYD-1 requires compliance with water quality regulations. This impact of the proposed project is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

Mount Hermon June beetle and Zayante band-winged grasshopper

Mount Hermon June beetle is a fossorial insect that only occurs in the sandhills of Santa Cruz County (McGraw 2004). This species occurs in all areas of Zayante soil and adjacent sandy loam soils, including sandhills chaparral, sand parkland, sandhills ponderosa pine, and sandhills oak woodland habitats. The species spends the majority of the year underground as larvae, with adults emerging as early as May and continuing through September 15. Adults are active in the evening with males flying in search of females which do not fly but remain on the ground surface. Adults do not eat, emerging only to breed; however, the larvae feed on the roots of a variety of plant species the remainder of the year (Hill and O'Malley 2009).

Similarly to Mount Hermon June beetle, the range of Zayante band-winged grasshopper is restricted to the sandhills of Santa Cruz County. Habitat for this species is mostly limited to open sand parkland. Zayante band-winged grasshoppers are herbivorous, preferring native over nonnative plants (Chu 2002). Eggs of the species are laid in the soil and develop into flightless nymphs as early as April, while adults are present often by June and remain active until

late October or November (McGraw 2004; McGraw 2019) after which they die, and only the eggs in the soil remain until April.

Per SPR BIO-1, if it is determined that adverse effects on Mount Hermon June beetle and Zayante band-winged grasshopper can be clearly avoided by conducting treatments outside of the sensitive season or physically avoiding habitat for the species, then further measures would not be required; however, because Mount Hermon June beetle and Zayante band-winged grasshopper may be present or are known to be present within large portions of the project area, and the species may be affected by treatment activities throughout the year, adverse effects cannot be clearly avoided and SPR BIO-10 would be required before treatment activities. The potential for treatment activities to result in adverse effects on Mount Hermon June beetle and Zayante band-winged grasshopper was examined in the Program EIR.

Pursuant to SPR BIO-10, a habitat assessment of the treatment area for Mount Hermon June beetle and Zayante band-winged grasshopper will be conducted prior to initiating treatment activities. If habitat for these species is present within the treatment area, a focused survey will be conducted by a qualified biologist with the appropriate permits during the flight season prior to implementing treatment activities, or presence of the species may be assumed. If Mount Hermon June beetles or Zayante band-winged grasshoppers are detected or presence of the species is assumed, then Mitigation Measure BIO-2f will be implemented.

As written in the Program EIR, Mitigation Measure BIO-2f requires complete avoidance of treatment in sandhills habitat in order to protect Mount Hermon June beetle and Zayante band-winged grasshopper. RCDSCC proposes revisions to Mitigation Measure BIO-2f to add requirements that will avoid injury, mortality, disturbance, and maintain habitat function for these species while allowing treatment in sandhills habitat. At the time the Program EIR was prepared, the Board of Forestry and Fire Protection was not aware of other measures that would avoid injury, mortality, disturbance, and maintain habitat function for Mount Hermon June beetle and Zayante band-winged grasshopper while also allowing vegetation treatments within habitat for these two species. The implementation of the limited operating periods, avoidance measures, and habitat retention measures discussed below have been adapted from the recommendations of local experts and similar vegetation treatment projects (McGraw 2024a; USFWS 2016), and are designed to avoid injury, mortality, disturbance, and significant habitat modification or degradation. The additional measures proposed in the revised Mitigation Measure BIO-2f (described below), designed in consultation with USFWS, allow limited treatment to be implemented within sandhills habitat, which is needed for ecological restoration and wildfire resilience objectives, while avoiding injury, mortality, and disturbance and maintaining habitat.

Under the revised Mitigation Measure BIO-2f, within Mount Hermon June beetle habitat, only manual treatments that do not remove plant roots, herbicide application, and mechanical treatments where equipment is operated from paved and compacted dirt surfaces that prevents soil disturbance deeper than 6 inches, or as determined by a qualified biologist to be unsuitable for Mount Hermon June beetle emergence will be allowed to occur during the flight season (May 1 to September 15) in order to avoid injury or mortality to larvae under the surface and emerging adults. Treatments would occur during daylight hours and therefore would not affect breeding interactions of adults, which take place in the evening. Broadcast burning, along with mechanical treatments using other methods to avoid soil disturbance greater than 6 inches deep (e.g., use of trench plates, low pressure vehicles) will be limited to outside of the flight season in order to avoid crushing individuals with heavy equipment, interfering with emergence of adults, or resulting in mortality due to fire. In addition, masticator heads will not be permitted to contact the soil surface, and cut, masticated, or chipped material will not be left on the soils surface within 200 feet of mapped Zayante soils during flight season (May 1 to September 15), other than on compacted surfaces or other habitats determined to be unsuitable for the species by a qualified biologist to avoid mortality of individuals in the soil and interfering with adult emergence. In suitable habitat for the Mount Hermon June beetle and Zayante band-winged grasshopper, all chipped or masticated material will be removed through either burning or manual removal. Furthermore, work will stop and USFWS will be contacted if Mount Hermon June beetles are found during treatment activities.

Within Zayante band-winged grasshopper habitat, pursuant to the proposed revisions to Mitigation Measure BIO-2f, only manual removal of nonnative vegetation and herbicide application on nonnative species (on which the species is

not likely to feed) will be allowed to occur within the nymph and flight season (April 1 – November 30) to avoid crushing nymphs and injury or mortality of adults. Outside of the nymph and flight season, only the following treatment activities will occur to avoid crushing eggs in the soil: mechanical treatments that avoid soil disturbance (e.g., where heavy equipment is operated on paved and compacted surfaces determined by a qualified biologist to be unsuitable for Zayante band winged grasshopper emergence), manual treatments that do not create soil disturbance, broadcast burning, and herbicide application. In addition, cut, masticated, or chipped material will not remain within habitat for Zayante band winged grasshopper and will be removed through either burning or manual removal. Furthermore, work will stop and USFWS will be contacted if Zayante band-winged grasshoppers are found during treatment activities.

Mitigation Measure BIO-2f has also been revised to require the RCDSCC to implement Mitigation Measure BIO-2c if treatment activities beyond those allowed under the revised Mitigation Measure BIO-2f are necessary to meet project objectives, in which case significant impacts on Mount Hermon June beetle and/or Zayante band-winged grasshopper would remain. If needed, RCDSCC will implement Mitigation Measure BIO-2c to compensate for such impacts. Pursuant to Mitigation Measure BIO-2c, RCDSCC would prepare a Compensatory Mitigation Plan that identifies the residual significant effects that require compensatory mitigation and describes the compensatory mitigation strategy being implemented to reduce residual effects, such as through restoring or enhancing existing habitat within the treatment area. Alternatively, RCDSCC may meet this compensatory mitigation requirement through compliance with permit conditions, or other authorizations obtained by RCDSCC (e.g., incidental take permit), if these requirements are equally or more effective than the mitigation identified in Mitigation Measure BIO-2c.

Habitat function for Mount Hermon June beetle and Zayante band winged grasshopper will be maintained because treatment activities are designed to maintain and improve the sandhills chaparral, sand parkland, sandhills ponderosa pine, and sandhills oak woodlands that are the habitat for these species (McGraw 2004; USFWS 2021). Furthermore, altered fire regimes and forest and chaparral succession have been specifically identified as threats to these species (USFWS 2021). Habitat restoration will include achieving less than 50 percent shrub and 20 percent tree cover in sandhills chaparral, less than 50 percent tree cover and 25 percent shrub cover in sand parkland and removing invasive species on sandhills oak woodland. These post treatment conditions will restore and maintain sandhills habitats which are the only habitats where Mount Herman June beetle and Zayante band-winged grasshopper occur, thereby maintaining habitat function for these species. Furthermore, Mitigation Measure BIO-3a would require that prescribed burning would only occur for sandhills communities that are outside their natural fire return interval or within Condition Class 1 (see Impact BIO-3).

Pursuant to Mitigation Measure BIO-2f, and because these species are listed under ESA, RCDSCC must consult with USFWS about its determination that mortality, injury, or disturbance would not occur and that habitat function for the species would be maintained. For the reasons summarized above, RCDSCC determined that implementation of treatments would maintain habitat function for Mount Hermon June beetle and Zayante band-winged grasshopper and consulted with USFWS to seek technical input on this determination, as required. On June 7, 2024, RCDSCC sent a memo to Chad Mitcham at USFWS describing the measures that would be taken to avoid mortality, injury, and disturbance to Mount Hermon June beetle and Zayante band-winged grasshopper and to maintain habitat function in compliance with Mitigation Measure BIO-2f. Refinements to the project description and Mitigation Measure BIO-2f resulted from this notification. These refinements have been incorporated into the PSA/Addendum and MMRP.

Because the avoidance and minimization measures in the revised Mitigation Measure BIO-2f are designed to avoid injury, mortality, and disturbance and maintain habitat for the Mount Hermon June beetle and Zayante band-winged grasshopper, are adopted from the recommendations of local experts and similar vegetation treatment projects (McGraw 2024a; USFWS 2016), and RCDSCC consulted with USFWS during their development, the proposed revisions to Mitigation Measure BIO-2f would not result in a new or substantially more severe significant effect on Mount Hermon June beetle and Zayante band-winged grasshopper than what was covered in the Program EIR. The text revisions to Mitigation Measure BIO-2f are shown in underline and strikethrough in the MMRP (Attachment A). This impact of the proposed project is consistent with the Program EIR and would not constitute a new or substantially more severe significant impact than what was covered in the Program EIR.

Monarch

The forest stands within the project area are more than 5.5 miles from the coast and at elevations from 500 to over 1,000 feet, and therefore are not likely to provide overwintering habitat for monarch butterflies (CBD et al. 2014). While overwintering by monarch butterflies is unlikely within the project area, milkweed (*Asclepias* spp.) host plants for monarch butterflies occur within the project area, and monarch breeding has been documented to occur in the vicinity of Felton (Western Monarch and Milkweed Mapper 2023).

Per SPR BIO-1, if it is determined that adverse effects on monarch butterflies can be clearly avoided by conducting treatments outside of a season of sensitivity or physically avoiding habitat for these species, then further measures would not be required. Prescribed herbivory is not anticipated to result in removal of milkweed host plants, because members of the genus *Asclepias* are toxic to livestock and likely to be avoided by grazing animals (Forero et al. 2011). To avoid impacts on monarch butterfly, broadcast burning, mechanical treatments, manual tree and snag removal, and herbicide application may be conducted in grassland, shrub, and oak woodland habitat outside of the season when monarch eggs, larvae, and pupae are likely to be present on milkweed host plants (i.e., treatment would not occur from March 15 through October 31) (Xerces Society 2019). This period may be adjusted by a qualified biologist or RPF to reflect local timing of monarch breeding, as recommended by Xerces Society (2019). If conducting broadcast burning, mechanical treatments, manual tree and snag removal, and herbicide application within oak woodlands, shrub habitats, and grasslands outside of this season of sensitivity is not feasible, treatments may result in the loss of host plants and monarch butterflies if present, and implementation of SPR BIO-10 would be required before these treatment activities to avoid adverse effects. The potential for treatment activities to result in adverse effects on monarch butterflies was examined in the Program EIR.

If focused surveys pursuant to SPR BIO-10 are conducted and host plants (i.e., native milkweed) are not detected, then further mitigation for the species would not be required. If host plants and monarch butterflies are detected during focused surveys, or if host plants are detected and monarch butterflies are assumed to be present, then Mitigation Measure BIO-2e would be implemented. Under Mitigation Measure BIO-2e, measures will be implemented to reduce the likelihood of mortality, injury, or disturbance to monarchs and to maintain habitat function. These measures include establishing a 10-foot buffer around host plants (i.e., native milkweed), if treatments are conducted during March 15 through October 31, when eggs, larvae, and pupae of monarch butterflies may be present (Xerces Society 2019) and require conducting treatments in a patchy pattern to retain floral resources and provide refuge for butterflies if they are detected or assumed to be present.

Habitat function for monarch would be maintained because treatment activities and maintenance treatments would avoid the sensitive season for the species or would avoid host plants for the species during the sensitive season and would be conducted to retain floral resources if monarch butterflies are present or assumed to be present. Therefore, any temporary impacts resulting from project implementation in the project area would not result in significant loss of natural habitat in the vicinity of the project area. If monarchs are listed under ESA during the life of the project, then the final determination for habitat function maintenance must be made by the RCDSCC in contact with USFWS. Therefore, if monarchs are listed and Mitigation Measure BIO-2e is required for treatment activities, the RCDSCC would contact USFWS to seek technical input on the determination that habitat function would be maintained for monarch butterflies, and input on their proposed measures to avoid injury to or mortality of the species. This impact of the proposed project is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

American badger

Habitat for American badger is present within grassland and open woodland in the project area. Treatment activities, including prescribed burning, mechanical treatments, manual treatments, and prescribed herbivory, could result in direct loss of active dens and potential loss or interruption of feeding of young if these activities are conducted during the maternity season (February 15 through July 1). While the likelihood of a badger den being crushed by livestock would be low due to the size and depth of the burrows, the density of goats and sheep used for prescribed herbivory and the presence of humans and protection dogs could result in interruption of feeding and potential loss of young during the American badger maternity season (February 15 through July 1). Herbicide application treatments are not expected to result in adverse effects on American badger dens because personnel would conduct these activities on

foot, the likelihood of a den being inadvertently crushed or otherwise destroyed would be very low, and herbicide application is not likely to occur continuously in the vicinity of a den resulting in a substantial interruption of feeding. In addition, injury or mortality from the potential exposure to herbicides would be avoided or minimized by the implementation of SPR HAZ-5, HAZ-6, and HYD-5, which require spill response plans, compliance with regulations related to herbicide application, and limitations on herbicide application under certain environmental conditions (e.g., winds over 7 miles per hour). The potential for treatment activities to result in adverse effects on American badger was examined in the Program EIR.

Per SPR BIO-1, if it is determined that adverse effects on American badger can be clearly avoided by conducting treatments outside of the season of sensitivity or physically avoiding habitat for these species, then additional measures would not be required. However, if prescribed burning, mechanical treatments, manual treatments, or prescribed herbivory treatments are conducted during the maternity season (February 15 through July 1), SPR BIO-10 would be applied prior to implementing these treatment activities. Under SPR BIO-10, focused surveys would be conducted for American badger dens within habitat for the species (i.e., grasslands, scrub, open woodland) by a qualified RPF or biologist. If American badger dens are not detected during focused surveys, then further mitigation for the species would not be required. If American badger dens are detected during focused surveys, Mitigation Measure BIO-2b would be implemented. Under Mitigation Measure BIO-2b, a no-disturbance buffer would be established around the den, the size of which would be determined by the qualified RPF or biologist, and no treatment activities would occur within this buffer.

Habitat function for American badger would be maintained because habitat for the species (i.e., grasslands, scrub, open woodlands) would be maintained and additional open woodland habitat would likely be restored through burning, thinning, and removal of ladder fuels. This impact of the proposed project is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

Mountain lion

Mountain lions have been documented to occur throughout the Santa Cruz Mountains (Santa Cruz Puma Project 2023). Most of the project area is within and in close proximity to human development, and areas within 2,000 feet of human development are not likely to be used as nursery habitat (Yovovich pers. comm. 2021). However, some treatment areas further removed from human development, particularly redwood forest in the northern section of the project area, may provide habitat for denning. In addition, mountain lions may use the project area as foraging habitat year-round.

Mountain lion could occur within the project area, but treatment activities, including maintenance treatments, would not occur at the time of day when mountain lions would be active. In addition, foraging mountain lions are also likely to avoid the area while treatments are actively being performed due to increased noise from equipment and human presence. Furthermore, SPR BIO-2 would require biological resources training for workers and would instruct workers to stop work and allow wildlife, including mountain lion, to leave the area unharmed. Therefore, it is unlikely that vegetation treatments would substantially disturb mountain lions. However, although unlikely due to the proximity to roads and trails, there is a possibility that a mountain lion could use rocky areas or areas with thick vegetation in the northern part of the project area for denning. If a mountain lion den is present within the project area, mountain lions and kittens could be disturbed by prescribed burning, mechanical treatments, manual treatments, or prescribed herbivory using protection dogs. This disturbance of denning lions, if present, could result in interrupted kitten feeding or the movement of kittens to another location, which could have adverse effects on the kittens. The potential for treatment activities, including maintenance treatments, to result in adverse effects on denning special-status wildlife, which includes mountain lion, was examined in the Program EIR.

Per SPR BIO-1, if it is determined that adverse effects on mountain lions can be clearly avoided by conducting treatments outside of the season of sensitivity or physically avoiding habitat for these species, then additional measures would not be required. Because mountain lions use dens year-round, may have kittens year-round, and could be present within the project area year-round, there is no reliable season during which impacts on this species could be avoided if the species is present. As a result, SPR BIO-10 would apply, and a desktop habitat assessment would be performed to determine the extent of denning and nursery habitat within the project area. Prior to

implementation of prescribed burning, mechanical treatments, manual treatments, and prescribed herbivory using protection dogs, focused surveys for mountain lion dens would be conducted within any habitat for denning to determine whether occupied mountain lion dens are present within the project area. If no occupied dens or signs of occupied dens are observed during focused surveys, then no additional mitigation would be required. If occupied mountain lion dens are identified during focused surveys or assumed present, Mitigation Measure BIO-2a would be implemented. Under Mitigation Measure BIO-2a, RCDSCC would be required to avoid the occupied area by a distance of 2,000 feet, for a minimum of 10 weeks following the most current and commonly accepted science (Wilmers et al. 2013).

Habitat function for mountain lion would be maintained through SPRs and protective measures that would result in retention of habitat features important to this species. Mountain lion habitat function would be retained because rocky outcrops would be avoided, which would be the most likely features to be used by this species for denning and cover. There would not be a significant change in the function of existing mixed conifer forest habitat within the project area because trees greater than 12 inches dbh would be retained; although larger Douglas firs may be removed if adjacent to other habitat types, and treatment activities would maintain a diverse forest with mixed age and size trees. Implementation of SPR BIO-3 requires that oak woodlands and sensitive natural communities (including redwoods, where mountain lions are most likely to den if present in the project area) are mapped prior to implementation. Additionally, pursuant to Mitigation Measure BIO-3a, treatments would be designed to avoid the loss of oak woodlands and sensitive natural communities, and pursuant to Mitigation Measure BIO-3b, the project would compensate for any loss of oak woodland or sensitive natural community habitat. It is unlikely that mountain lions would den in chaparral or coastal scrub habitat within the project area due to the proximity (less than 2,000 feet) of these habitats to human development. Treatments would not result in landscape-scale or home-range-scale modifications; rather, treatments would restore the natural processes of the ecosystem and promote wildfire resiliency, which may benefit mountain lion. Furthermore, the potential for adverse effects due to accidental exposure to herbicides or contamination of water sources, would be avoided and minimized by implementation of SPR HAZ-5, HAZ-6, and HYD-5.

Pursuant to Mitigation Measure BIO-2a, and because this species is a candidate for listing under CESA, RCDSCC must consult with CDFW about its determination that mortality, injury, or disturbance would not occur, and that habitat function would be maintained. For the reasons summarized in the previous paragraphs, RCDSCC determined that implementation of initial and maintenance treatments would maintain habitat function for mountain lion. On June 7, 2024, RCDSCC sent a memo to Julie Coombs and Carlee Cockrum at CDFW describing the measures that would be taken to avoid mortality, injury, and disturbance to mountain lion and to maintain habitat function in compliance with Mitigation Measure BIO-2a. No refinements to the Project description or measures resulted from this notification. This impact of the proposed Project is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR. This impact of the proposed project is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

Ringtail

Ringtail (*Bassariscus astutus*) are primarily nocturnal and typically occur in riparian areas, forests (including stands of various ages), and shrub habitats. Potential denning locations include rock outcrops, crevices, snags, large hardwoods, large conifers, and areas of dense shrubs within and adjacent to forested areas. While rock outcrops would not be targeted for treatment activities, and 2-4 snags per acre likely suitable for denning would be retained, the removal of any snags, large trees (up to 24 dbh in chaparral habitat, and large Douglas-fir trees), or the mastication of areas of dense shrubs may result in disturbance of ringtail dens. The potential for treatment activities, including maintenance treatments, to result in adverse effects on ringtail was examined in the Program EIR.

Per SPR BIO-1, if it is determined that adverse effects on ringtail can be clearly avoided by conducting treatments outside of the season of sensitivity (i.e., maternity season: April 15 through June 30), then mitigation would not be required. Outside of the breeding season, resting ringtails would likely flee due to the presence of equipment, vehicles, or personnel, and injury or mortality would not be expected. Prescribed herbivory and herbicide application would not result in adverse effects on ringtail dens because these activities would not be expected to result in

disturbance or removal of den sites. Manual treatments, except for snag and large tree removal, would not result in adverse effects because personnel would conduct these activities on foot, and the likelihood of a den being inadvertently crushed or otherwise destroyed would be very low. Adverse effects on ringtail would be clearly avoided for mechanical treatments, manual treatments, and prescribed burning that would occur outside of the ringtail maternity season (April 15 through June 30).

If conducting prescribed burning, mechanical treatments, or manual snag or large tree (i.e., greater than 12 inches dbh) removal outside of the ringtail maternity season is not feasible, then SPR BIO-10 would apply, and presence of ringtail would be assumed or focused surveys for ringtail would be conducted within the treatment areas prior to implementation of treatment activities. Surveys for ringtail would include the use of trail cameras, track plates, and other non-invasive survey methods to determine whether ringtail is present within the treatment area and would be conducted by a qualified RPF, biologist, or biological technician. If ringtails are not detected during focused surveys, then further mitigation for the species would not be required.

If ringtail is detected during focused surveys, then Mitigation Measure BIO-2a would be implemented and additional surveys would be required to determine whether an active ringtail den is present within the treatment area. If an active den is identified by a qualified RPF or biologist, a no-disturbance buffer of at least 0.25 mile would be established around the den in consultation with CDFW. Manual snag or large tree (i.e., greater than 12 inches dbh) removal, mechanical, and prescribed burning treatment activities would not occur within this buffer until at least the end of the ringtail maternity season. If the presence of ringtail within the treatment areas is assumed, then implementation of avoidance and minimization measures would be required pursuant to Mitigation Measure BIO-2a prior to and during implementation of prescribed burning, mechanical treatments, and manual snag removal or large tree (i.e., greater than 12 inches dbh) between April 15 and June 30. Avoidance and minimization measures would include but not be limited to den surveys, daily sweeps of treatment areas, and biological monitoring.

Habitat function for ringtail would be maintained because rock outcrops would be avoided and down logs greater than 12 inches would be retained, with preference for the larger, complex logs suitable for denning by this species, totaling approximately 10 tons per acre. Treatment activities would also retain at least 2-4 snags per acre, favoring snags with complex features (such as cavities that are used by wildlife). Furthermore, SPR BIO-4 would require retention of at least 75 percent of the overstory and 50 percent of the understory canopy of native riparian vegetation suitable for the species. In areas with no overstory vegetation, vegetation islands of 10–20 feet in diameter would be retained with 10–20 foot spacing between islands to create a mosaic of shrubs and other vegetation where broadcast burning is not applied. In addition, ringtail often select rest and den sites near habitat edges and are tolerant to disturbance (Myers 2010; Wyatt, pers. Comm., 2021). Treatment activities would likely create additional edge habitat, which may be preferred by ringtail.

Pursuant to Mitigation Measure BIO-2a, and because ringtail is a fully protected species under California Fish and Game Code, RCDSCC has notified CDFW regarding its determination that mortality, injury, or disturbance would not occur, and habitat function would be maintained. For the reasons summarized above, RCDSCC determined that implementation of treatments would maintain habitat function for ringtail. On June 7, 2024, RCDSCC sent a memo to Julie Coombes and Carlee Cockrum at CDFW describing the measures that would be taken to avoid mortality, injury, and disturbance to ringtail and to maintain habitat function in compliance with Mitigation Measure BIO-2a. No refinements to the Project description or measures resulted from this notification. This impact of the proposed Project is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

San Francisco dusky-footed woodrat

Habitat for San Francisco dusky-footed woodrat is present within the treatment area and two woodrat nest complexes were observed in the project area during SPR BIO-1 reconnaissance surveys in the proposed shaded fuel break parallel to Lockhart Gulch Road. Woodrats construct nests, which are also known as houses or middens, with sticks, shredded grass, leaves, and other material. Woodrats use these nests during the breeding season and outside of the breeding season.

Mechanical treatments and manual snag and tree removal treatments can unintentionally injure, or cause mortality to individual woodrats. Pile burning may result in the disturbance of woodrat nests and could result in loss of young if burn piles are placed close to occupied woodrat nests during the season when the majority of young are in the nest (April through mid-July). Furthermore, mortality could also occur if broadcast burning is conducted during the that same season; however, relative abundance has been shown to be unaffected by prescribed burns of low to moderate intensity (Vreeland and Tieje 1998). Herbicide treatments and prescribed herbivory treatments are not anticipated to result in the destruction of woodrat nests, and therefore are not likely to cause injury or mortality. The potential for treatment activities, including maintenance treatments, to result in adverse effects on San Francisco dusky-footed woodrat was examined in the Program EIR.

Per SPR BIO-1, if it is determined that adverse effects on special-status species can be clearly avoided by physically avoiding the suitable habitat or by conducting mechanical treatments or manual treatments that use mechanical tools (e.g., chainsaws) outside of the season when the species is present, then no additional action would be required. However, habitat for woodrats is present within the treatment area and because the species uses nests year-round, there is no reliable season during which impacts on this species could be avoided. As a result, SPR BIO-10 would apply, and focused surveys for San Francisco dusky-footed woodrats would be conducted within habitat for the species prior to implementation of mechanical treatments or manual treatments that use mechanical tools (e.g., chainsaws). If woodrat nests are not detected within the treatment area during focused surveys, then mitigation for the species would not be required. If woodrat nests are detected during focused surveys, then Mitigation Measure BIO-2b would be implemented. Under Mitigation Measure BIO-2b, a no-disturbance buffer of 5 to 10 feet would be established around active woodrat nests when feasible to prevent accidental damage by vehicles and equipment, and to provide vegetative cover immediately around the nest. If woodrat nests within the treatment area cannot be avoided, a qualified biologist will implement nest relocation procedures outside of the woodrat breeding season. If woodrat nests are located within prescribed burning treatment areas, broadcast burning will not occur during the season when the majority of woodrat young are present in the nest (April through mid-July) to avoid loss of young woodrats, unless control lines can be established around the nest, and pile burning will take place as soon as feasible after piling to reduce the risk of woodrats occupying the debris piles.

Habitat function for San Francisco dusky-footed woodrat would be maintained after treatment implementation because nests and vegetation within the 5-to-10-foot buffer will be retained. Treatments would retain approximately 10 tons per acre of down logs greater than 12 inches in diameter. In areas with no overstory vegetation where broadcast burning will not occur, vegetation islands of 10–20 feet in diameter would be retained with 10–20 foot spacing between islands to create a mosaic of shrubs and other vegetation. Implementation of SPR BIO-5 would prevent type conversion within chaparral and coastal sage scrub, and implementation of Mitigation Measure Bio-3a would avoid loss of sensitive natural communities and oak woodlands. Treatments would promote a diverse forest with mixed age and size trees and increase diversity of understory species by creating a habitat mosaic. This impact of the proposed project is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

Special-status bats

Habitat for pallid bat and Townsend's big-eared bat may be present within forest types in the cavities of larger trees. While live trees larger than 12 inches dbh would not be removed, other than larger diameter Douglas fir in habitat transitions from mixed conifer to shrubland, and grassland, and up to 24 inch dbh trees from chaparral, sand chaparral, and sand parkland habitats. The limbing of trees and the removal of limited larger diameter trees and snags may result in disturbance of roosting special-status bats. Per SPR BIO-1, if it is determined that adverse effects on special-status bats can be clearly avoided by conducting treatments outside of the season of sensitivity (i.e., maternity season), then mitigation would not be required. Adverse effects on special-status bat maternity roosts would be clearly avoided by conducting initial and maintenance treatments outside of the bat maternity season which is between April 1 through August 31 (Caltrans 2004).

Prescribed burning, mechanical treatments, and manual snag and tree removal conducted within habitat for roosting bats during the bat maternity season (April 1 through August 31) could disturb active bat roosts from auditory and visual stimuli (e.g., heavy equipment, chainsaws, vehicles, personnel) or smoke (e.g., prescribed burning) potentially

resulting in abandonment of the roost and loss of young. Prescribed herbivory treatments and herbicide application would not remove foliage from trees, tree cavities, snags, or other potential roosting locations for bats, so these treatments would not result in substantial disturbance to special-status bat roosts. The potential for treatment activities to result in adverse effects on special-status bats was examined in the Program EIR.

If prescribed burning, mechanical treatments, or manual tree and snag removal would occur during the bat maternity season, then SPR BIO-10 would apply, and focused surveys for these species would be conducted within habitat for these species prior to initiation of these treatment activities. If special-status bat roosts are identified during focused surveys, Mitigation Measure BIO-2b for special-status bats would be implemented.

Under Mitigation Measure BIO-2b, a no-disturbance buffer of 250 feet would be established around active pallid bat or Townsend's big-eared bat roosts and mechanical treatments and manual tree and snag removal would not occur within this buffer while the roost is active as determined by a qualified RPF or biologist. A no-disturbance buffer of 250 feet is necessary to protect sensitive roosts. If special-status bat roosts are identified in a treatment area where prescribed burning is planned, prescribed burning activities would be implemented outside of the bat breeding season, which is April 1 through August 31 (Caltrans 2004).

Habitat function for special-status bats would be maintained because most treatment activities and maintenance treatments would retain most trees greater than 12 inches dbh and 2-4 snags per acre, which would be the most likely features to be used by these species. However, some trees up to 24 inches may be removed in chaparral, sand chaparral, and sand parkland habitats, and larger diameter Douglas firs may be removed under some conditions. This impact of the proposed project is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

Conclusion

The potential for treatment activities to result in adverse effects on special-status wildlife was examined in the Program EIR. This project's impact is within the scope of the Program EIR, because the proposed treatment activities are consistent with those analyzed in the Program EIR. The inclusion of land in the proposed treatment area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the Project area, the existing environmental conditions present in the areas outside the treatable landscape are essentially the same as those within the treatable landscape; therefore, the potential impact on special-status wildlife species is also the same, as described above.

Mitigation Measure BIO-2f as written in the Program EIR avoided and minimized impacts to Mount Hermon June beetle and Zayante band-winged grasshopper by avoiding treatments within sandhills habitat that provides habitat for these species. RCDSCC proposes to revise Mitigation Measure BIO-2f to allow for treatment activities within sandhills habitat with the implementation of project-specific avoidance and minimization measures for Mount Hermon June beetle and Zayante band-winged grasshopper, which would be a change to the project analyzed in the Program EIR. Because the species-specific avoidance measures in revised Mitigation Measure BIO-2f have been adapted from the recommendations of local experts and similar vegetation treatment projects (McGraw 2024a; USFWS 2016), are designed to avoid injury, mortality, disturbance, and significant habitat modification or degradation, and Mitigation Measure BIO-2f requires RCDSCC to consult with USFWS about its determination that mortality, injury, or disturbance would not occur and that habitat function for the species would be maintained, the proposed revisions to Mitigation Measure BIO-2f would not result in a new or substantially more severe significant effect on Mount Hermon June beetle and Zayante band-winged grasshopper than what was covered in the Program EIR.

Biological resource SPRs that apply to project impacts under Impact BIO-2 are SPRs AD-1, BIO-1, BIO-2, BIO-3, BIO-4, BIO-5, BIO-8, BIO-10, BIO-11, HAZ-5, HAZ-6, HYD-1, HYD-3, HYD-4, and HYD-5. Mitigation Measures BIO-2a, BIO-2b, BIO-2c, BIO-2e, BIO-2f, BIO-3a, BIO-3b, BIO-3c, and BIO-4 also apply to this impact. This determination is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

IMPACT BIO-3

Initial vegetation treatments and maintenance treatments could result in direct or indirect adverse effects on sensitive habitats, including designated sensitive natural communities, oak woodland, chaparral, coastal sage scrub, riparian, and sandhills habitat. Potential impacts resulting from maintenance activities would be similar to those resulting from initial vegetation treatments because the same treatment activities are proposed; however, retreatment at too great a frequency could result in additional adverse effects. The potential for treatment activities, including maintenance treatments, to adversely affect sensitive habitats was examined in the Program EIR.

Based on the fine scale vegetation mapping available for the project area, sensitive natural communities (i.e., alliances with a rarity rank of S1, S2, or S3) are present in the project area (Attachment C). There are 4.5 acres mapped as "shrub fragment" in the project area that were not mapped to the alliance or association level because their size is below the minimum mapping unit used for the fine scale mapping. Based on their small size and fragmented nature, they are not expected to support functional sensitive natural communities. Approximately 24 acres are classified as California annual and perennial grassland macrogroup that were not mapped to a more refined vegetation classification level. This macrogroup may contain the needle grass – melic grass grassland sensitive natural community. In addition, three areas are classified as Acer macrophyllum Mapping Unit, Quercus lobata Mapping Unit, and Umbellularia californica Mapping Unit. The Acer macrophyllum Mapping Unit may contain the bigleaf maple forest and woodland alliance and bigleaf maple – red alder pending alliance. The Quercus lobata Mapping unit may contain the valley oak woodland and forest and the valley oak riparian forest and woodland alliances. The Umbellularia californica Mapping Unit may contain the California bay forest and woodland alliance or the bigleaf maple – red alder pending alliance. The sensitive natural communities that are known or have potential to occur in the project area, their associated rarity rank, and the habitat type within which the communities may occur are presented in Table 4.5-4. Rarity ranks are established at the alliance level, but associations within an alliance may be sensitive (i.e., rare or limited) even if the alliance within which they occur is not. Sensitive associations that have been mapped in the project area are listed below the alliances within which they are grouped in Table 4.5-4. In addition, several oak woodland and forest types (e.g., valley oak woodland, coast live oak woodland and interior live oak – shreve oak woodland), which are sensitive habitats pursuant to the Oak Woodlands Conservation Act and PRC Section 21083.4, are known to occur in the project area.

Table 4.5-4 Sensitive Natural Communities Documented in the Project Area

Sensitive Natural Community[1]	Rarity Rank[2]	CWHR Type
Forest/Woodland		
Bigleaf maple forest and woodland	S3	Douglas-fir, Montane hardwood-conifer
California bay forest and woodland	S3	Californian broadleaf forest and woodland
Douglas-fir – tanoak forest – madrone forest and woodland Pseudotsuga menziesii – Notholithocarpus densiflorus / Vaccinium ovatum association	S4 Sensitive	Douglas-fir
Ponderosa pine forest and woodland Pinus ponderosa / Chorizanthe pungens association Pinus ponderosa – (Quercus agrifolia – Arbutus menziesii) association	S4 Sensitive Sensitive	Eastside pine, Ponderosa pine
Redwood forest and woodland	S3	Redwood
Tanoak forest	S3.2	Montane hardwood
Valley oak woodland and forest	S3	Valley oak woodland
Shrub/scrub		
Brittle leaf – woolly leaf manzanita chaparral Silverleaf manzanita association*	S3 Sensitive	Mixed chaparral
Silver dune lupine – mock heather scrub	S3	Coastal scrub

Sensitive Natural Community[1]	Rarity Rank[2]	CWHR Type
Herbaceous		
Needle grass – melic grass grassland	**S3S4**	Perennial grassland
Riparian		
Basket bush – river hawthorn – desert olive patches	**S3.2?**	Desert riparian, Desert wash
Black cottonwood forest and woodland	**S3**	Montane riparian, Valley foothill riparian
Box-elder forest and woodland Box-elder / (California blackberry) association	**S3** Sensitive	Fresh emergent wetland, Valley foothill riparian
Fremont cottonwood forest and woodland	**S3.2**	Desert riparian, Montane riparian, Valley foothill riparian
Valley oak riparian forest and woodland	**S3**	Valley oak woodland

[1] These are designated sensitive natural communities. Items in bold are alliances with a state rarity rank of S3 (vulnerable). Items not in bold are plant associations that are considered sensitive (i.e., rare or limited).

[2] Rarity ranks for alliances are presented in bold text, and rarity rank for associations are presented in regular text. Older ranks for alliances, which need to be updated by CDFW, may still contain a decimal "threat" rank of .1, .2, or .3, where .1 indicates very threatened status, .2 indicates moderate threat, and .3 indicates few or no current known threats. A question mark (?) denotes an inexact numeric rank because there are insufficient samples over the full expected range of the type, but existing information points to this rank.

Source: CNPS 2023, compiled by Ascent in 2023.

During the reconnaissance-level survey, several species associated with these sensitive natural communities were observed, including coast live oak, tanoak, redwood (*Sequoia sempervirens*), ponderosa pine, Pacific madrone, Douglas-fir, bigleaf maple (*Acer macrophyllum*), California bay, silverleaf manzanita, silver bush lupine (*Lupinus albifrons*), sticky monkeyflower, and silverleaf manzanita. Not all dominant or characteristic species associated with sensitive natural communities included in Table 4.5-4 were observed during the reconnaissance-level survey, but not all areas of the project area could be visited. Fine scale vegetation mapping has been completed in most of the project area and sensitive natural communities have been identified in the treatment area to the alliance level pursuant to *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (CDFW 2018a) and using the Manual of California Vegetation (including updated natural communities data at http://vegetation.cnps.org/). However, the few areas classified as California Annual and Perennial Grassland macrogroup, Acer macrophyllum Mapping Unit, Quercus lobata Mapping Unit, and Umbellularia californica Mapping Unit in the project area have not been identified to the alliance or association level, and SPR BIO-3 would be implemented in these areas to determine if vegetation meets the definition of sensitive natural communities.

RCDSCC would avoid impacts on sensitive natural communities and oak woodlands by avoiding treatments in these communities. However, if avoiding treatment activities within identified sensitive natural communities or oak woodlands would preclude achieving treatment objectives, then Mitigation Measure BIO-3a would apply in these areas so that the characteristics that qualify the communities as sensitive (e.g., characteristic species, relative percent cover of dominant species, species composition) are retained post-treatment to the extent feasible. Under Mitigation Measure BIO-3a, a qualified RPF or biologist would determine the natural fire regime, condition class, and fire return interval for each sensitive natural community and oak woodland type. Initial and maintenance treatment activities in sensitive natural communities and oak woodlands would be designed to restore the natural fire regime and return vegetation composition and structure to their natural condition to maintain or improve habitat function. To the extent feasible, fuel breaks will not remove more than 20 percent of the native plant relative cover from a stand of sensitive natural community vegetation in sensitive natural communities with a rarity rank of S3 (vulnerable) or in oak woodlands. If habitat function of sensitive natural communities or oak woodlands would not be maintained through implementation of Mitigation Measure BIO-3a, then Mitigation Measure BIO-3b and Mitigation Measure BIO-3c would apply, and unavoidable losses of these resources would be compensated through restoration or preservation of these vegetation types within or outside of the project areas.

Riparian habitat is present within the project area, including approximately 2.5 acres of box-elder forest and woodland, 11.8 acres of black cottonwood forest and woodland, and 0.65 acre of Fremont cottonwood forest and woodland (Table 4.5-4). Under SPR HYD-4, a WLPZ of 50 to 150 feet adjacent to all Class I and Class II streams and lakes would be implemented, which would limit the extent of treatment activities within riparian habitat. Live native riparian trees over 12 inches dbh would be retained (see Section 2.1.3, "Treatment Activities"). The average dbh of these trees when mature is 12-24 inches for box-elder (*Acer negundo*) (Rosario 1988), 42 to 60 inches for black cottonwood (*Populus balsamifera* spp. *trichocarpa*) (Steinberg 2001), and 20 to 154 inches for Fremont cottonwood (*Populus fremontii*) (Taylor 2000). Therefore, the 12-inch retention standard would prevent removal of the larger, more mature trees within the riparian communities dominated by these species that provide wildlife habitat and a seed source for natural regeneration. Furthermore, diameter is only one of many requirements that may affect retention of native riparian trees. As required under SPR BIO-4, treatments in riparian habitats would retain at least 75 percent of the overstory and 50 percent of the understory canopy of native riparian vegetation, would not reduce stream shading and increase stream temperatures, and would be limited to removal of uncharacteristic or undesired fuel loads (e.g., dead or dying vegetation, invasive plants). Additionally, before conducting any treatments in riparian habitat, the project proponent would notify CDFW pursuant to California Fish and Game Code 1602, when required.

As described above, mixed chaparral (i.e., Brittle leaf – woolly leaf manzanita chaparral, glossy leaf manzanita – golden chinquapin chaparral, hairy leaf – woolly leaf ceanothus chaparral, hoary, common, and Stanford manzanita chaparral, and wart leaf ceanothus chaparral) communities are present within the project area. In addition, California sagebrush – black sage scrub alliance, a coastal sage scrub vegetation type, has been documented in the project area. As required by SPR BIO-5, treatments implemented in chaparral and coastal sage scrub would be designed to avoid type conversion of chaparral and coastal sage scrub vegetation and to maintain habitat function. This would include determining appropriate treatment prescriptions based on current fire return interval departure and condition class of the chaparral and coastal sage scrub vegetation alliances on-site, retaining at least 35 percent relative final density of mature shrub vegetation, and retaining a mix of middle to older aged shrubs to maintain heterogeneity and provide a seed source. The project proponent would demonstrate with substantial evidence that the habitat function of the specific chaparral and coastal sage scrub vegetation types (i.e., alliances) present would be maintained or enhanced by the treatments applied. Ecological restoration treatments would not be implemented in stands of chaparral or coastal sage scrub vegetation that are within their natural fire return interval unless the project proponent demonstrates with substantial evidence that the habitat function of the chaparral and coastal sage scrub vegetation alliances would be improved by treatments.

Pursuant to SPR HYD-5, non-target vegetation would be protected from herbicides. For spray applications in and adjacent to habitats suitable for special-status species, herbicides containing dye will be used to prevent overspray. Only herbicides labeled for use in aquatic environments would be used when working in areas where there is a possibility the herbicide could come into direct contact with water. In riparian habitats, herbicides would be applied by hand and only during low-flow periods or when seasonal streams are dry. To avoid non-target vegetation via run-off or aerial drift, herbicide application will not occur during precipitation events, sustained winds, or when weather parameters exceed label specifications.

Sandhills

The Santa Cruz sandhills is a specialized ecosystem found only on outcrops of Zayante soils, a low-nutrient, sandy soil found in central Santa Cruz County (McGraw 2004). The unique combination of Zayante soils and moist maritime climate in the sandhills supports a variety of endemic plants and animals, many of which are special-status species due to habitat loss and degradation, as well as their natural rarity (McGraw 2004). Two sensitive natural communities, designated by CDFW, can be found in the sandhills: brittle leaf – woolly leaf manzanita chaparral (including the silverleaf manzanita association) and silver dune lupine – mock heather scrub. Other sensitive sandhills plant communities may occur in the project area that are not officially recognized by CDFW. However, the sandhills are a sensitive ecosystem protected under Santa Cruz County ordinance 16.32; this affords protection to the entirety of the sandhills ecosystem, including areas within sandhills where sensitive natural community alliances officially designated by CDFW have not been identified due to rough mapping from remote sensing, or where sensitive sandhills plant communities occur that are not officially recognized by CDFW. The CalVTP Program EIR describes that sensitive

habitats include those that are of special concern to resource agencies or are afforded specific consideration through CEQA and other regulations (refer to Section 3.5.1, "Environmental Setting," in Volume II of the Final Program EIR). Sensitive natural habitat may be of special concern to agencies and conservation organizations for a variety of reasons, including their locally or regionally declining status, or because they provide important habitat to common and special-status species. In addition, SPR AD-3 requires compliance with local plans, policies, and ordinances. Therefore, the sandhills as a whole will be treated as a sensitive habitat under this PSA/Addendum, and treatments would be designed to avoid loss of sandhills habitat by implementing Mitigation Measure BIO-3a for sandhills, described below. Furthermore, SPR BIO-3 will apply and sandhills will be surveyed for, mapped, and digitally recorded in the treatment area using a Global Positioning System (GPS). Sandhills will be identified according to the proposed plant community classification outlined in the *Sandhills Conservation and Management Plan* (McGraw 2004) and will consider other factors such as the presence of Zayante soils and animals that are associated with the sandhills.

The sandhills are a fire adapted ecosystem. Analysis of historic aerial photographs and fire history in the region of the sandhills shows recurring fire disturbance to the area prior to human-induced fire suppression (Langenheim and Greenlee 1983). Sandhills plant communities and their associated vegetation have adapted to a natural fire regime that provides essential disturbance mechanisms for these species to persist. Fire creates open habitat and promotes the establishment of endemic sandhills plant species by removing live and dead biomass and invasive and encroaching species that compete for space, light, water, and other resources. Excessive fuel loads and duff increase soil nutrients which allows invasive and nonnative species, including species native to California but from non-sandhills habitat, to establish and outcompete endemic sandhills species. Stands of nitrogen fixing invasive plants such as French broom increase nitrogen in soil creating favorable conditions for non-sandhills species to establish. Sandhills plants are adapted to dry soils that contain low levels of nutrients and organic matter. Fire helps reset soil succession in the sandhills by removing organic matter and soil biota that promote nutrient availability and water-holding capacity that create favorable conditions for competitive non-sandhills plant species. Where fire cannot feasibly or safely be utilized, manual or mechanical treatments followed by manual leaf litter and duff removal (by raking) can be used as a successful fire surrogate for many sandhills species (McGraw 2024a).

Prescribed burning and manual and mechanical treatments followed by leaf litter and duff removal are proposed within sandhills habitats. Per Mitigation Measure BIO-3a, prescribed burning will be the primary treatment activity in the sandhills, followed by manual and mechanical treatments with leaf litter and duff removal, which has shown to be a successful fire surrogate in sandhills habitats. Removal of leaf litter and duff will be avoided under the canopy of ponderosa pines, as this has been linked to tree mortality (McGraw 2024a). The natural fire regime of different sandhills habitats will be determined along with the fire return interval departure. Treatments will not be implemented in sandhills habitats that are within their natural fire return interval (i.e., time since last burn is less than the average time required for that vegetation type to recover from fire). Treatments will be designed to restore the natural fire regime and return vegetation composition and structure to their natural condition to maintain or improve habitat function of that specific sandhills plant community. Prescribed fire treatments will be designed to replicate the natural fire regime attributes including seasonality (if feasible), fire return interval, fire size, spatial complexity, fireline intensity, severity, and fire type as described in *Fire Management in the Sandhills: A Synthesis and Recommendations for the Land Trust of Santa Cruz County Sandhills Properties Forest Health Project* (McGraw 2024a). The creation of fuel breaks in sandhills habitat will be limited to the extent feasible, and vegetation removal within these fuel breaks will be limited to no more than 20 percent relative cover. Herbicide application within the sandhills will also be limited to the extent feasible, however, where herbicide application is necessary, direct application methods (e.g., cut-stump treatments) will be used rather than foliar spray, to avoid contact with non-target organisms.

Three chaparral alliances that are present in the project area are known to occur in the sandhills ecosystem: Brittle leaf – woolly leaf manzanita chaparral (including the silverleaf manzanita association), deerweed – silver lupine – yerba santa scrub, and wedge leaf ceanothus chaparral, buck brush chaparral alliance. Prescribed burning is proposed in these chaparral alliances where they are outside their natural fire return interval. Pursuant to SPR BIO-5 and Mitigation Measure BIO-3a, prescribed burning will not be implemented in chaparral or sensitive natural communities that are within their natural fire return interval (i.e., time since last burn is less than the average time listed as the fire return interval range). SPR BIO-5 requires retaining at least 35 percent relative cover of mature shrub

vegetation and retaining a mix of middle to older aged shrubs to maintain heterogeneity and provide seed plants. However, brittle leaf – woolly leaf manzanita chaparral and wedge leaf ceanothus chaparral, buck brush chaparral require periodic high to very high severity fire to maintain current species composition (CNPS 2023). As described in Impact BIO-1, silverleaf manzanita, a sensitive association within brittle leaf – woolly leaf manzanita chaparral, is an obligate seeder that is fire adapted and will overall benefit from the effects of prescribed burning. Deerweed – silver lupine – yerba santa scrub is a disturbance stimulated alliance (CNPS 2023). Deerweed, silver lupine, and yerba santa are obligate seeders that readily germinate after low to high severity fires (CNPS 2023). Bush poppy (*Dendromecon rigida*) is another dominant species that defines this alliance and is a well-known fire-follower and has been shown to require smoke to stimulate seed germination (Keeley and Fotheringham 1998). Therefore, retaining at least 35 percent relative final density of mature shrub vegetation and retaining a mix of middle to older aged shrubs is not necessary for the successful reestablishment of these fire-adapted chaparral alliances. Because these species have evolved mechanisms to successfully reestablish post-fire, and some even depend on fire to maintain their composition, type conversion would not occur because the habitat function of these alliances will be maintained or improved with fire, and follow-up monitoring and treatments will be conducted to ensure that exotic annual grasses and forbs, shrubs, and trees to do not invade the treatment areas and lead to type conversion. Prescribed burning treatments will be designed to mimic the stand-replacing fires that these alliances are adapted to and will allow fire to burn throughout these alliances.

Conclusion

The potential for treatment activities to result in adverse effects on sensitive habitats and sensitive natural communities, as described above, was examined in the Program EIR. This impact on sensitive habitats is within the scope of the Program EIR because, these habitat types, the treatment activities, and intensity of disturbance as a result of implementing treatment activities would be consistent with those analyzed in the Program EIR. The inclusion of land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, the existing environmental conditions outside the treatable landscape in the project area are essentially the same as those within the treatable landscape; therefore, the potential impact on sensitive habitats is also the same. SPRs that apply to project impacts under Impact BIO-3 are AD-1, BIO-1 through BIO-6, BIO-9, HYD-4, and HYD-5. Biological resource mitigation measures that apply to project impacts under Impact BIO-3 are Mitigation Measures BIO-3a through BIO-3c. This determination is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

IMPACT BIO-4

Initial vegetation treatments and maintenance treatments could result in direct or indirect adverse effects on state or federally protected wetlands. Potential impacts resulting from maintenance activities would be similar to those resulting from initial vegetation treatments because the same treatment activities are proposed. The potential for treatment activities to result in adverse effects on state or federally protected wetlands was examined in the Program EIR.

During the reconnaissance-level survey, intermittent streams and potential wetlands were observed. There are various unnamed intermittent streams in the project area that are tributaries to perennial streams such as Zayante Creek, Bean Creek, and other unnamed perennial streams. There is a small fragment of a freshwater forested/shrub wetland in the project area near McEnery Road. There are no other documented wetland features in the project area, however, there are multiple areas of riparian vegetation documented in the project area. One of these areas, near Olympia on the western side of the project area, was observed during the reconnaissance-level survey to be dominated by hydrophytic vegetation. The National Wetlands Inventory identifies the project area as having 0.003 acres of freshwater forested/shrub wetland and 9.9 acres of riverine habitat (USFWS 2023).

Pursuant to SPR HYD-4, a WLPZ of 50 to 150 feet adjacent to all Class I and Class II streams and lakes would be implemented, and WLPZs of sufficient size to avoid degradation of downstream beneficial uses of water would be established adjacent to all Class III and Class IV streams. Establishment of WLPZs would result in avoidance of all stream and pond habitat for manual, mechanical, prescribed burning, herbicide, and prescribed herbivory application treatments.

Additional wetlands may be present throughout the project area that have not been identified or mapped such as seasonal wetlands, springs, and seeps. Mitigation Measure BIO-4 would apply to all treatment activities, and a qualified RPF or biologist would delineate the boundaries of all wetlands and other aquatic habitats; establish an appropriate buffer (with a minimum of 25 feet) around seasonal wetlands, springs and seeps; and mark the buffer boundary with high-visibility flagging, fencing, stakes, or clear, existing landscape demarcations (e.g., edge of a roadway). A larger buffer may be required if wetlands or other aquatic habitats contain habitat potentially suitable for special-status plants or special-status wildlife (e.g., California red-legged frog; see Impact BIO-2).

Proposed broadcast burning in wetlands would only occur in areas where surveys pursuant to SPR BIO-7, SPR BIO-10, and Mitigation Measure BIO-2a have been conducted and no special-status wildlife or plant species have been identified in these areas. The project proponent would demonstrate with substantial evidence that the habitat function of the specific wetland types identified pursuant to Mitigation Measure BIO-4 would be maintained and that the prescribed burn would be within the natural fire return interval of the wetland vegetation type. Furthermore, no fire ignition (nor use of associated accelerants) would occur within the wetland, and all containment lines would be installed or created outside of the wetland.

The potential for treatment activities to adversely affect state or federally protected wetlands was examined in the Program EIR. This impact on wetlands is within the scope of the Program EIR because, the types of wetland habitat, the treatment activities, and intensity of disturbance as a result of implementing treatment activities would be consistent with those analyzed in the Program EIR. The inclusion of land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, because the existing environmental conditions outside the treatable landscape in the project area are essentially the same as those within the treatable landscape, the potential impact on wetlands is also the same. SPRs that apply to project impacts under Impact BIO-4 are AD-1, BIO-1, HYD-1, HYD-3, and HYD-4. The biological resource mitigation measure that applies to project impacts under Impact BIO-4 is Mitigation Measure BIO-4. This determination is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

IMPACT BIO-5

The project area is located within an essential connectivity area that connects large habitat blocks within other portions of the Sant Cruz Mountains (e.g., Henry Cowell Redwoods State Park) (CNDDB 2024). The shaded fuel break treatments would remove understory vegetation and create a linear feature across the landscape; however, these fuel breaks would not substantially reduce overstory vegetation and would be within 300 feet of existing roads. Therefore, they would not substantially affect wildlife movement across the landscape. The ecological restoration treatments within the project area would promote a mosaic of vegetation types and would retain 2-4 snags per acre for wildlife habitat, retain downed logs greater than 12 inches dbh with preference for the larger, complex logs, totaling approximately 10 tons per acre, and maintain at least 35 percent final density of chaparral vegetation (except for preparation of prescribed burning).

Pursuant to SPR HYD-4, a WLPZ of 50 to 150 feet adjacent to all Class I and Class II streams would be implemented, which would limit the extent of treatment activities within riparian habitat (e.g., no mechanical treatment, no burn piles, retention of at least 75 percent surface cover) that would likely function as a wildlife movement corridor. Pursuant to SPR BIO-4, treatments in riparian habitat would be designed to maintain habitat function of these communities. In addition, SPR BIO-11 would apply to prescribed herbivory treatments, which requires that fencing be installed to allow wildlife to jump over easily without injury, as well as other requirements that reduce impacts to wildlife. With implementation of SPRs, habitat function within the project area would be maintained and there would not be a substantial change in the existing conditions that facilitate wildlife movement or provide nursery habitat in the project area. If wildlife nursery sites (e.g., deer fawning areas, common bat roosts) are detected during surveys conducted pursuant to SPR BIO-10, Mitigation Measure BIO-5 would apply to all treatment activities and a no-disturbance buffer would be established around these features, the size of which would be determined by a qualified biologist or RPF.

This impact is within the scope of the Program EIR because the types of wildlife movement corridors and nurseries that could be affected, the treatment activities, and extent of expected disturbance as a result of implementing treatment activities are consistent with those analyzed in the Program EIR. The inclusion of land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, because the existing environmental conditions outside the treatable landscape in the project area are essentially the same as those within the treatable landscape, as described above, the potential impact on wildlife movement corridors is also the same. Biological resource SPRs that apply to project impacts under Impact BIO-5 are SPR AD-1, SPR BIO-1, SPR BIO-4, SPR BIO-5, SPR BIO-10, SPR BIO-11, SPR HYD-1, and SPR HYD-4. The biological resource mitigation measure that applies to project impacts is Mitigation Measure BIO-5. This determination is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

IMPACT BIO-6

Initial treatment and maintenance treatments could result in direct or indirect adverse effects resulting in reduction of habitat or abundance of common wildlife, including nesting birds, because nesting habitat for birds is present throughout the project area. Treatment activities, including prescribed burning, mechanical treatments, manual treatments, prescribed herbivory, and herbicide application, conducted during the nesting bird season (February 1 through August 31) could result in direct loss of active nests or disturbance to active nests from auditory and visual stimulus (e.g., masticators, chippers, chainsaws, vehicles, personnel) potentially resulting in abandonment and loss of eggs or chicks.

SPR BIO-12 would apply to the project, and for treatments implemented during the nesting bird season, a survey for common nesting birds would be conducted within each individual treatment area by a qualified RPF or biologist prior to treatment activities in that area. If no active bird nests are observed during focused surveys, then additional avoidance measures would not be required. If active nests of common birds or raptors are observed during focused surveys, disturbance to the nests would be avoided by establishing an appropriate buffer around the nests, modifying treatments to avoid disturbance to the nests, or deferring treatment until the nests are no longer active as determined by a qualified RPF or biologist.

The potential for treatment activities to result in adverse effects on these resources was examined in the Program EIR. The potential for adverse effects on common wildlife, including nesting birds, is within the scope of the Program EIR because the treatment activities and extent of expected disturbance as a result of implementing treatment activities would be consistent with those analyzed in the Program EIR. The inclusion of land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, because the existing environmental conditions outside the treatable landscape in the project area are essentially the same as those within the treatable landscape, as described above, the potential impact on common wildlife, including nesting birds is also the same. SPRs that apply to project impacts under Impact BIO-6 are AD-1, BIO-1, BIO-2, BIO-3, BIO-4, BIO-5, and BIO-12. This determination is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

IMPACT BIO-7

The potential for treatment activities to result in conflicts with local policies or ordinances was examined in the Program EIR. Santa Cruz County Code (Section 16.32, "Sensitive Habitat Protection") contains several goals and policies related to biological resources applicable to the project, including protection of sandhills as described under Impact BIO-3. This code identifies areas of biotic concern and requires a biotic assessment of any activities proposed within these areas. Impacts BIO-1 through BIO-6 of Section 4.5 of this PSA/Addendum provides this biotic assessment and outlines SPRs and mitigation measures to maintain habitat function of sensitive habitats and prevent loss of sensitive species. Therefore, there would be no conflict with local ordinances as a result of implementation of treatment activities.

The impact of the proposed project is within the scope of the Program EIR because vegetation treatment projects implemented under the CalVTP that are subject to local policies or ordinances would be required to comply with any applicable county, city, or other local policies, ordinances, and permitting procedures related to protection of biological resources, per SPR AD-3. The inclusion of land in the proposed project area that is outside the treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, within the project area boundary, the existing regulatory conditions present in the areas outside the treatable landscape are essentially the same as those within the treatable landscape; therefore, the potential for conflicts with local policies or ordinances is also the same, as described above. This determination is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

IMPACT BIO-8

The potential for treatment activities to conflict with the provisions of an adopted Natural Community Conservation Plan (NCCP), Habitat Conservation Plan (HCP), or other approved habitat plan was examined in the Program EIR. A portion of the project area is within the Kaiser Sand and Gravel Company's Felton Plant HCP (FPHCP). Kaiser Sand and Gravel sold the quarry to Hanson Aggregates Mid-Pacific, and all future documentation refers to the quarry as "Hanson's Felton Plant." The project area overlaps land that was set aside as part of the HCP for restoration and conservation, known as the West Perimeter Set Aside Area (WPSAA) and Revegetation Set Aside Area (RSAA). The FPHCP was created in 1998 and mining activities ceased at the end of 2003. The take authorization for Zayante band-winged grasshopper and Mount Hermon June beetle associated with the FPHCP is no longer valid, because the permit term expired 8 years from HCP approval in 1998. Subsequently, the habitat restoration required for take authorization under the HCP was verified to be complete in 2022 (ELMT Consulting 2022). Although the permit term has expired and restoration is complete, the project area is within the restored and conserved land associated with the HCP and therefore consistency with the HCP for restored and conserved lands are considered below.

The WPSAA is 16.2 acres of undisturbed ponderosa pine forest adjacent to the Felton Plant that abuts approximately 200 acres of undisturbed sandhills habitat. The WPSAA was placed in a conservation easement and recorded as such by Santa Cruz County. Both the WPSAA and the adjacent lands contain habitat for Zayante band-winged grasshopper and Mount Hermon June beetle. The RSAA consists of previously mined areas that have been revegetated to create habitat for Zayante band-winged grasshopper and Mount Hermon June beetle. The overall goal of the WPSAA and RSAA restoration is to create and maintain habitat for the two species covered under the FPHCP, Zayante band-winged grasshopper and Mount Hermon June beetle.

Proposed ecological restoration treatment activities that overlap the WPSAA and RSAA are not in conflict with the FPHCP because treatments will be designed to create or maintain habitat suitable for special-status sandhills species, including Zayante band-winged grasshopper and Mount Hermon June beetle, as described in Impact BIO-1, BIO-2, and BIO-3. Therefore, the goals of ecological restoration activities proposed under this PSA/Addendum in the WPSAA and RSAA are consistent with the goals of the FPFCP.

The impact of the proposed project is within the scope of the Program EIR because the proposed vegetation treatment activities would not result in a conflict with an adopted HCP, NCCP, or other approved habitat plan. SPR AD-3 is applicable to this impact and would ensure that projects implemented under the CalVTP would be required to comply with any applicable county, city, or other local policies, ordinances, and permitting procedures related to protection of biological resources, including the protection of sandhills as described under Impact BIO-7. The inclusion of land in the proposed project area that is outside the treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, within the project area boundary, the existing regulatory conditions present in the areas outside the treatable landscape are essentially the same as those within the treatable landscape; therefore, the potential for conflicts with an adopted HCP, NCCP, or other approved habitat plan is also the same, as described above. This determination is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

NEW BIOLOGICAL RESOURCE IMPACTS

The proposed treatment is consistent with the treatment types and activities considered in the CalVTP Program EIR. The project proponent has considered the site-specific characteristics of the proposed treatment project and determined that they are consistent with the applicable environmental and regulatory conditions presented in the CalVTP Program EIR (refer to Section 3.5.1, "Environmental Setting," and Section 3.5.2, "Regulatory Setting," in Volume II of the Final Program EIR). Including land from outside the CalVTP treatable landscape in the proposed project area constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the existing environmental and regulatory conditions pertinent to biological resources that are present in the areas outside the treatable landscape are essentially the same as those within the treatable landscape. The proposed revision to SPR GEO-1 would constitute a change to the Program EIR. Revisions to SPR GEO-1 would replace the work stoppage of mechanical operations that cause soil disturbance, herbicide, and prescribed herbivory based on forecasted rain with a stoppage based on rain and soil saturation and compaction. The proposed revisions to SPR GEO-1 would be equally protective and would therefore not result in a new impact that was not covered in the Program EIR. The proposed revision to SPR HYD-5 would constitute a change to the Program EIR. Revisions to SPR HYD-5 would allow direct application of herbicides within 50-feet of Ben Lomond spineflower or Santa Cruz (Ben Lomond) wallflower to treat invasive species that would otherwise degrade habitat for these species. The use of foliar spray techniques would continue to be prohibited within this buffer and all other conditions for herbicide use in HYD-5 would still apply, including limits on herbicide application during or prior to precipitation events. With the remaining requirements in SPR HYD-5 and herbicide application limited to direct application to invasive species, the proposed revision to SPR HYD-5 would be equally protective and would therefore not result in a new impact that was not covered in the Program EIR. Revisions to Mitigation Measure BIO-2f regarding treatments within habitat for Mount Hermon June beetle and Zayante band-winged grasshopper habitat would be a change to the project analyzed in the Program EIR. The measures included in the revisions to Mitigation Measure BIO-2f, including limited operational periods and limits on activities, and the application of Mitigation Measure BIO-2c if those measures are not feasible, would ensure that the project does not have a substantial adverse effect, either directly or through habitat modifications, on Mount Hermon June beetle and Zayante band-winged grasshopper, thereby meeting the intent of Mitigation Measure BIO-2f in the Program EIR to mitigate impacts to these species. The proposed revisions to Mitigation Measure BIO-2f would not result in a new or more severe impact that was not covered in the Program EIR, because impacts to special-status insects and other terrestrial invertebrates were analyzed in the Program EIR.

Therefore, the impacts of the proposed treatment project are also consistent with those considered in the Program EIR. No changed circumstances are present, and the inclusion of areas outside of the CalVTP treatable landscape, and changes to SPR GEO-1, SPR HYD-5, and Mitigation Measure BIO-2f would not give rise to any new significant impacts not addressed in the Program EIR as described above. Therefore, no new impact related to biological resources would occur that is not covered in the Program EIR.

4.6 GEOLOGY, SOILS, PALEONTOLOGY, AND MINERAL RESOURCES

Impact in the Program EIR			Project-Specific Checklist					
Environmental Impact Covered in the Program EIR	Identify Impact Significance in the Program EIR	Identify Location of Impact Analysis in the Program EIR	Does the Impact Apply to the Treatment Project?	List SPRs Applicable to the Treatment Project	List MMs Applicable to the Treatment Project	Identify Impact Significance for Treatment Project	Would This Be a Substantially More Severe Significant Impact than Identified in the Program EIR?	Is This Impact within the Scope of the Program EIR?
Would the project:								
Impact GEO-1: Result in Substantial Erosion or Loss of Topsoil	LTS	Impact GEO-1, pp. 3.7-26 – 3.7-29	Yes	AD-3 AQ-3 AQ-4 GEO-1 GEO-2 GEO-3 GEO-4 GEO-5 GEO-6 GEO-7 GEO-8 HYD-3 HYD-4	NA	LTS	No	Yes
Impact GEO-2: Increase Risk of Landslide	LTS	Impact GEO-2, pp. 3.7-29 – 3.7-30	Yes	AD-3 AQ-3 GEO-3 GEO-4 GEO-7 GEO-8	NA	LTS	No	Yes

Notes: LTS = less than significant; NA = not applicable because there are no SPRs and/or MMs identified in the Program EIR for this impact

New Geology, Soils, Paleontology, and Mineral Resource Impacts: Would the treatment result in other impacts to geology, soils, paleontology, and mineral resources that are not evaluated in the CalVTP Program EIR?	☐ Yes	☒ No	If yes, complete row(s) below and discussion

	Potentially Significant	Less Than Significant with Mitigation Incorporated	Less than Significant
	☐	☐	☐

Discussion

The project area is within the Santa Cruz Mountains, which extend from the southern point of the San Francisco Bay south to Watsonville and the Pajaro River. The Santa Cruz Mountains are comprised of a northwest-trending mountain range and associated valleys which have eroded, faulted, and folded over many geologic eras (Badaracco n.d.). Along with other faults, the San Andreas Fault runs along the middle of the Santa Cruz Mountains and has been the source of much erosion and valley creation in the mountain range. The highest elevation in the Santa Cruz Mountains is 3,486 feet and the base of the mountains lies at the Pacific Ocean (Badaracco n.d.).

The dominant soil types in the project area are: Nisene-Aptos complex, 50 to 70 percent slopes (53.5 percent of the project area); Lompico-Felton complex, 30 to 50 percent slopes and 50 to 70 percent slopes, MLRA 4B (13.9 percent of the project area); and Zayante coarse sand, 5 to 30 percent slopes and 30 to 50 percent slopes (9.8 percent of the

project area) (NRCS 2023). Together, Zayante coarse sandy soils and Zayante-Rock outcrop complex, make up 13.3 percent of the project area and are also the basis of the sandhills habitat in the project area which hosts a variety of endemic plants due to the sandy soils and low water retention in the soil type (NRCS 2023). The erosion hazard for these soil types ranges from low to moderate (NRCS 2023). Steep slopes (i.e., slopes greater than 50 percent) are present throughout the project area.

IMPACT GEO-1

Vegetation treatment types would include fuel breaks and ecological restoration, which would be implemented using manual treatments, mechanical treatments, prescribed burning, targeted ground application of herbicides, and prescribed herbivory. These activities could result in varying levels of soil disturbance and have the potential to increase the rates of erosion and loss of topsoil. The potential for these treatment activities to cause substantial erosion or loss of topsoil was examined in the Program EIR.

Mechanical treatments using heavy machinery are the most likely to cause soil disturbance that could lead to substantial erosion or loss of topsoil, especially in areas that contain steep slopes, or in areas that previously experienced fire. Although most mechanical treatments would occur from existing roads or skid trails or on flat to moderate slopes, SPR GEO-8 will apply if mechanical treatments occur within the portions of the project area containing steep slopes. In addition, RCDSCC would suspend ground disturbance during heavy precipitation (GEO-1); limit treatment with heavy machinery that cause soil disturbance when soils are saturated (GEO-2); and prohibit heavy machinery on slopes steeper than 65 percent, or on slopes that are steeper than 50 percent where erosion rating is high (GEO-7). The project proponent would also monitor erosion in the treatment areas and stabilize soil after treatment that has exposed 50 percent or more of bare soil (GEO-3 and GEO-4). Prescribed herbivory could also result in erosion and loss of topsoil. However, because herds would be moved often, the likelihood of substantial erosion would be minimized. This impact is within the scope of the Program EIR because the use and type of equipment, extent of vegetation removal, and intensity of proposed treatment activities are consistent with those analyzed in the Program EIR.

As described under Section 1.1.3, "Purpose of This PSA/Addendum," RCDSCC proposes to revise requirements under SPR GEO-1 to allow for suspension of mechanical treatments that cause soil disturbance, prescribed herbivory, or herbicide treatments if it is raining; soils are saturated; or soils are wet enough to be compacted by mechanical or prescribed herbivory activities, rather than the current requirement that RCDSCC suspend mechanical, prescribed herbivory, and herbicide treatments prior to the initiation of the rain event if the chance of rain is a minimum of 30 percent. In the coastal region of the project area, forecasts often include a chance of rain; however, precipitation sometimes does not materialize. Therefore, suspension of treatment activities in these cases could result in unnecessary loss of work time. Without this revision to SPR GEO-1, the objectives of the project could not be achieved. This constitutes a revision to the program description analyzed in the Program EIR. Requirements under SPR GEO-1 are intended to prevent soil disturbance during precipitation events that could result in soil erosion. Suspension of mechanical treatments that cause soil disturbance, prescribed herbivory, and herbicide treatments in the above-mentioned conditions (e.g., rain, saturated soils) would provide the same level of protection for erosion avoidance as the original SPR GEO-1, because these activities would not continue during conditions where erosion could occur. Therefore, proposed revisions to SPR GEO-1 would not result in a substantially more severe significant effect related to erosion than what was covered in the Program EIR. The text revisions to SPR GEO-1 are shown in underline and strikethrough in the MMRP (Attachment A).

The inclusion of land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the soil characteristics of the project site are essentially the same within and outside the CalVTP treatable landscape; therefore, the potential impact related to soil erosion is also the same, as described above. SPRs applicable to this treatment project are AD-3, AQ-3, AQ-4, GEO-1 through GEO-8, HYD-3, and HYD-4. As explained above, impacts related to soil erosion resulting from the proposed project, including proposed revisions to SPR GEO-1, would not constitute new or substantially more severe significant impact than what was covered in the Program EIR.

IMPACT GEO-2

Treatment activities would include manual treatments, mechanical treatments, prescribed burning, targeted ground application of herbicides, and prescribed herbivory. The project is not within an earthquake-induced landslide zone as mapped by the California Geological Survey; however, the project area has had landslides documented in and around the perimeter of treatment areas by the US Geological Survey (CGS 2023, USGS 2023a). As such, landslides have potential to occur within the project area. Accordingly, RCDSCC would stabilize disturbed soil immediately after treatment that has exposed 50 percent or more of bare soil (SPR GEO-3), inspect treatment areas for proper implementation of erosion control (SPR GEO-4), and minimize erosion and landslide risk by limiting treatment on steep slopes (SPR GEO-7). RCDSCC would also be required to create a burn plan, which would limit burn severity in the treatment areas and minimize the potential for soil instability post-fire (SPR AQ-3). The potential for treatment activities to increase landslide risk was examined in the Program EIR. This impact is within the scope of the Program EIR because the extent of vegetation removal, intensity of prescribed burning, and characteristics of the geographical terrain are consistent with those analyzed in the Program EIR. The inclusion of land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the range of slopes and landslide conditions present in the areas outside the treatable landscape are essentially the same as those within the treatable landscape. Therefore, the potential impact related to landslide risk is also the same, as described above. SPRs applicable to the proposed project are AD-3, AQ-3, GEO-3, GEO-4, GEO-7, and GEO-8. This determination is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

NEW GEOLOGY, SOILS, PALEONTOLOGY, AND MINERAL RESOURCE IMPACTS

The proposed treatments are consistent with the treatment types and activities considered in the CalVTP Program EIR. The site-specific characteristics of the proposed treatment project are consistent with the applicable environmental and regulatory conditions presented in the CalVTP Program EIR (refer to Section 3.7.1, "Environmental Setting," and Section 3.7.2, "Regulatory Setting," in Volume II of the Final Program EIR). Including land from outside the CalVTP treatable landscape in the proposed project area constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the existing environmental and regulatory conditions pertinent to geology and soils that are present in the areas outside the treatable landscape are essentially the same as those within the treatable landscape. The proposed revision to SPR GEO-1 would constitute a change to the Program EIR. Revisions to SPR GEO-1 would replace the work stoppage of mechanical operations that cause soil disturbance, herbicide, and prescribed herbivory based on forecasted rain with a stoppage based on rain and soil saturation and compaction. The proposed revisions to SPR GEO-1 would be equally protective and would therefore not result in a new impact that was not covered in the Program EIR. Therefore, the impacts of the proposed treatment project are consistent with those covered in the Program EIR. No changed circumstances are present, and the inclusion of areas outside of the CalVTP treatable landscape and revisions to SPR GEO-1 would not give rise to any new significant impacts. Therefore, no new impact related to geology, soils, paleontology, or mineral resources would occur that is not covered in the Program EIR.

4.7 GREENHOUSE GAS EMISSIONS

Impact in the Program EIR			Project-Specific Checklist					
Environmental Impact Covered in the Program EIR	Identify Impact Significance in the Program EIR	Identify Location of Impact Analysis in the Program EIR	Does the Impact Apply to the Treatment Project?	List SPRs Applicable to the Treatment Project	List MMs Applicable to the Treatment Project	Identify Impact Significance for Treatment Project	Would This Be a Substantially More Severe Significant Impact than Identified in the Program EIR?	Is This Impact within the Scope of the Program EIR?
Would the project:								
Impact GHG-1: Conflict with Applicable Plan, Policy, or Regulation of an Agency Adopted for the Purpose of Reducing the Emissions of GHGs	LTS	Impact GHG-1, pp. 3.8-10 – 3.8-11	Yes	AD-3	NA	LTS	No	Yes
Impact GHG-2: Generate GHG Emissions through Treatment Activities	PSU	Impact GHG-2, pp. 3.8-11 – 3.8-17	Yes	AD-3 AQ-3	GHG-2	PSU	No	Yes

Notes: LTS = less than significant; PSU = potentially significant and unavoidable; NA = not applicable because there are no SPRs and/or MMs identified in the Program EIR for this impact.

New GHG Emissions Impacts: Would the treatment result in other impacts to GHG emissions that are not evaluated in the CalVTP Program EIR?	☐ Yes	☒ No	If yes, complete row(s) below and discussion

	Potentially Significant	Less Than Significant with Mitigation Incorporated	Less than Significant
	☐	☐	☐

Discussion

IMPACT GHG-1

Use of vehicles and mechanical equipment and prescribed burning during initial and maintenance treatments would result in greenhouse gas (GHG) emissions. Consistency of treatments under the CalVTP with applicable plans, policies, and regulations aimed at reducing GHG emissions was examined in the Program EIR. Consistent with the Program EIR, although GHG emissions would occur from equipment and vehicles used to implement treatments, the purpose of the proposed project is to reduce wildfire risk, which could reduce GHG emissions related to wildfire and increase carbon sequestration over the long term. This impact is within the scope of the Program EIR because the proposed activities, as well as the associated equipment, duration of use, and resultant GHG emissions, are consistent with those analyzed in the Program EIR. The inclusion of land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the same plans, policies, and regulations adopted to reduce GHG emissions apply in the areas outside the treatable landscape, as well as areas within the treatable landscape; therefore, the GHG impact is also the same, as described above. SPR AD-3 is applicable to the project. However, SPR GHG-1 is not applicable to the proposed project because this project is not a registered offset project and therefore, RCDSCC is not required to provide information to inform reporting under the Board of Forestry and Fire Protection's Assembly Bill 1504 Carbon Inventory Process. This determination is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

IMPACT GHG-2

Use of vehicles and mechanical equipment and prescribed burning during initial and maintenance treatments would result in GHG emissions. The potential for treatments under the CalVTP to generate GHG emissions was examined in the Program EIR. This impact was found to be potentially significant and unavoidable after the application of all feasible mitigation measures because of the potential infeasibility of implementing specific emission reduction techniques for projects and the uncertainties associated with all the parameters and objectives of prescribed burning. Mitigation Measure GHG-2 in the CalVTP Program EIR requires project proponents to implement feasible methods to reduce the GHG emissions from prescribed burning, including pile burning. Accordingly, RCDSCC is proposing the use of air curtain burners when available and feasible. The essential function of air curtain burning is to reduce smoke and resultant GHG emissions compared to pile burning by consuming biomass quickly and efficiently. According to a 2020 study of biomass, air curtain burners emit 54 percent less CO_2 emissions compared to pile burning (Puettmann et al. 2020, as cited in Ascent 2022). In addition, the production of biochar by this biomass processing technology and subsequent application as a soil amendment provides long-term carbon sequestration benefits that are not available from pile burning.

This impact is within the scope of the Program EIR because the proposed activities, as well as the associated equipment and duration of use, and the intent of the treatments to reduce wildfire risk and GHG emissions related to wildfire are consistent with those analyzed in the Program EIR. The inclusion of land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the climate conditions present in the areas outside the treatable landscape are essentially the same as those within the treatable landscape; therefore, the GHG impact is also the same, as described above. Mitigation Measure GHG-2 would be implemented by using air curtain burners when feasible (e.g., material is able to be carried to a burner) to reduce GHG emissions associated with pile burning. Although use of an air curtain burner would substantially reduce project GHG emissions, emissions generated by the treatment activities would still contribute to the annual emissions generated by the CalVTP, and this impact would remain potentially significant and unavoidable, consistent with, and for the same reasons described in, the Program EIR. SPR AD-3 and AQ-3 are also applicable to this impact. SPR AQ-3 contains the description of feasible GHG reduction techniques implemented per Mitigation Measure GHG-2. This determination is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

NEW IMPACTS RELATED TO GHG EMISSIONS

The proposed treatments are consistent with the treatment types and activities considered in the CalVTP Program EIR. The site-specific characteristics of the proposed treatments are consistent with the applicable regulatory and environmental conditions presented in the CalVTP Program EIR (refer to Section 3.8.1, "Regulatory Setting," and Section 3.8.2, "Environmental Setting," in Volume II of the Final Program EIR). Including land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the existing environmental conditions pertinent to the climate conditions that are present in the areas outside the treatable landscape are essentially the same as those within the treatable landscape; therefore, the impacts are the same and, for the reasons described above, impacts of the proposed treatment project are also consistent with those covered in the Program EIR. No changed circumstances are present, and the inclusion of areas outside of the CalVTP treatable landscape would not give rise to any new significant impacts. Therefore, no new impact related to GHG emissions would occur.

4.8 ENERGY RESOURCES

Impact in the Program EIR			Project-Specific Checklist					
Environmental Impact Covered in the Program EIR	Identify Impact Significance in the Program EIR	Identify Location of Impact Analysis in the Program EIR	Does the Impact Apply to the Treatment Project?	List SPRs Applicable to the Treatment Project	List MMs Applicable to the Treatment Project	Identify Impact Significance for Treatment Project	Would This Be a Substantially More Severe Significant Impact than Identified in the Program EIR?	Is This Impact within the Scope of the Program EIR?
Would the project:								
Impact ENG-1: Result in Wasteful, Inefficient, or Unnecessary Consumption of Energy	LTS	Impact ENG-1, pp. 3.9-7 – 3.9-8	Yes	NA	NA	LTS	No	Yes

Notes: LTS = less than significant; NA = not applicable because there are no SPRs and/or MMs identified in the Program EIR for this impact.

New Energy Resource Impacts: Would the treatment result in other impacts to energy resources that are not evaluated in the CalVTP Program EIR?	☐ Yes	☒ No	If yes, complete row(s) below and discussion

	Potentially Significant	Less Than Significant with Mitigation Incorporated	Less than Significant
	☐	☐	☐

Discussion

IMPACT ENG-1

Use of vehicles and mechanical equipment during initial treatment and treatment maintenance activities would result in the consumption of energy through the use of fossil fuels. The use of fossil fuels for equipment and vehicles was examined in the Program EIR. The consumption of energy during implementation of the treatment project is within the scope of the Program EIR because the types of activities, as well as the associated equipment and duration of proposed use, are consistent with those analyzed in the Program EIR. The inclusion of land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, the existing energy consumption is essentially the same within and outside the treatable landscape; therefore, the energy impact is also the same, as described above. No SPRs are applicable to this impact. This determination is consistent with the Program EIR and would not constitute a substantially more severe significant impact than covered in the Program EIR.

NEW ENERGY RESOURCE IMPACTS

The proposed treatments are consistent with the treatment types and activities covered in the CalVTP Program EIR. The site-specific characteristics of the proposed treatment project are consistent with the applicable regulatory and environmental conditions presented in the CalVTP Program EIR (refer to Section 3.9.1, "Regulatory Setting," and Section 3.9.2, "Environmental Setting," in Volume II of the Final Program EIR). Including land outside the treatable landscape in the proposed project area constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the existing environmental and regulatory conditions present in the areas outside the treatable landscape are essentially the same as those within the treatable landscape; therefore, the impacts of the proposed treatment project are also consistent with those considered in the Program EIR. No changed circumstances are present, and the inclusion of areas outside of the CalVTP treatable landscape would not give rise to any new significant impacts. Therefore, no new impact related to energy resources would occur.

4.9 HAZARDOUS MATERIALS, PUBLIC HEALTH AND SAFETY

Impact in the Program EIR			Project-Specific Checklist					
Environmental Impact Covered In the Program EIR	Identify Impact Significance in the Program EIR	Identify Location of Impact Analysis in the Program EIR	Does the Impact Apply to the Treatment Project?	List SPRs Applicable to the Treatment Project	List MMs Applicable to the Treatment Project	Identify Impact Significance for Treatment Project	Would This Be a Substantially More Severe Significant Impact than Identified in the Program EIR?	Is This Impact within the Scope of the Program EIR?
Would the project:								
Impact HAZ-1: Create a Significant Health Hazard from the Use of Hazardous Materials	LTS	Impact HAZ-1, pp. 3.10-14 – 3.10-15	Yes	AD-3 HAZ-1 HAZ-2 HAZ-3 HAZ-4 HYD-4	NA	LTS	No	Yes
Impact HAZ-2: Create a Significant Health Hazard from the Use of Herbicides	LTS	Impact HAZ-2, pp. 3.10-15 – 3.10-18	Yes	AD-3 HAZ-2 HAZ-3 HAZ-4 HAZ-5 HAZ-6 HAZ-7 HAZ-8 HAZ-9	NA	LTS	No	Yes
Impact HAZ-3: Expose the Public or Environment to Significant Hazards from Disturbance to Known Hazardous Material Sites	LTSM	Impact HAZ-3, pp. 3.10-18 – 3.10-19	Yes	AD-3 HAZ-2 HAZ-3 HAZ-4	HAZ-3	LTSM	No	Yes

Notes: LTS = less than significant; LTSM = less than significant with mitigation; NA = not applicable because there are no SPRs and/or MMs identified in the Program EIR for this impact.

New Hazardous Materials, Public Health and Safety Impacts: Would the treatment result in other impacts related to hazardous materials, public health and safety that are not evaluated in the CalVTP Program EIR?	☐ Yes	☒ No	If yes, complete row(s) below and discussion

	Potentially Significant	Less Than Significant with Mitigation Incorporated	Less than Significant
	☐	☐	☐

Discussion

IMPACT HAZ-1

Initial and maintenance treatments would include manual treatments, mechanical treatments, and prescribed burning. These treatment activities would require the use of fuels and related accelerants, which are hazardous materials. The potential for treatment activities to cause a significant health hazard from the use of hazardous materials was examined in the Program EIR. The project proponent would be required to maintain all equipment per

manufacturer's specifications and in compliance with state and federal regulations and inspect equipment daily for leaks (SPR HAZ-1). In addition, watercourses would be identified and appropriate buffers used to prevent hazardous materials from vehicles and equipment from entering watercourses (SPR HYD-4).

This impact is within the scope of the Program EIR because the types of treatments and associated equipment and types of hazardous materials that would be used are consistent with those analyzed in the Program EIR. The inclusion of land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, the exposure potential and regulatory conditions are essentially the same within and outside the treatable landscape; therefore, the hazards impact is also the same, as described above. SPR AD-3, HAZ-1, HAZ-2, HAZ-3, HAZ-4, and HYD-4 are applicable to this impact. This determination is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

IMPACT HAZ-2

Initial and maintenance treatments would include spot application of herbicides using ground-based methods, such as using a backpack sprayer. No aerial spraying of herbicides would occur. The potential for treatment activities to cause a significant health hazard from the use of herbicides was examined in the Program EIR. This impact is within the scope of the Program EIR because the types of herbicides (i.e., glyphosate, triclopyr) and application methods that would be used, which are limited to ground-based applications, are consistent with those analyzed in the Program EIR. In addition, herbicides would be applied by licensed applicators in compliance with all laws, regulations, and herbicide label instructions, consistent with herbicide use described in the Program EIR. The inclusion of land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the exposure potential is essentially the same within and outside the treatable landscape; therefore, the hazardous materials impact is also the same, as described above. SPR AD-3 and HAZ-2 through HAZ-9 are applicable to this treatment. This determination is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

IMPACT HAZ-3

Initial and maintenance treatments would include soil disturbance and prescribed burning, which could expose workers or the environment to hazardous materials if a contaminated site is present within the project area. The potential for workers implementing treatment activities to encounter contamination that could expose them or the environment to hazardous materials was examined in the Program EIR. This impact was identified as potentially significant in the Program EIR because hazardous materials sites could be present within treatment sites, and soil disturbance or burning in those areas could expose people or the environment to hazards. As directed by Mitigation Measure HAZ-3, database searches for hazardous materials sites have been conducted, and no hazardous materials sites were identified within the project area (CalEPA 2016; DTSC 2023; SWRCB 2023). One federal superfund site is within 0.25 mile of the treatment site, located at 440 Kings Village Road, approximately 0.25 mile southwest of the most southern portion of the project area (DTSC 2023). The superfund site is monitored and is in a remediation phase. The project area does not overlap with any portion of the superfund site. Therefore, the project would not result in disturbance to known hazardous materials sites and this impact would be less than significant with mitigation, consistent with the analysis in the Program EIR. This impact is within the scope of the Program EIR because the types of treatments and associated equipment that could potentially expose workers or the environment to hazardous materials are consistent with those analyzed in the Program EIR.

The inclusion of land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the potential to encounter hazardous materials and the regulatory conditions present in the areas outside the treatable landscape are essentially the same as those within the treatable landscape; therefore, the hazardous materials impact is also the same, as described above. SPR AD-3, HAZ-2, HAZ-3, and HAZ-4 are applicable to this impact, and no additional mitigation is

required. This determination is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

NEW HAZARDOUS MATERIALS, PUBLIC HEALTH AND SAFETY IMPACTS

The proposed treatments are consistent with the treatment types and activities considered in the CalVTP Program EIR. The site-specific characteristics of the proposed treatments are consistent with the applicable environmental and regulatory conditions presented in the CalVTP Program EIR (refer to Section 3.10.1, "Environmental Setting," and Section 3.10.2, "Regulatory Setting," in Volume II of the Final Program EIR). Including land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the existing environmental and regulatory conditions pertinent to hazardous materials that are present in the areas outside the treatable landscape are essentially the same as those within the treatable landscape; therefore, the impacts are the same and, for the reasons described above, impacts of the proposed treatment project are also consistent with those covered in the Program EIR. No changed circumstances are present, and the inclusion of areas outside of the CalVTP treatable landscape would not give rise to any new significant impacts. Therefore, no new impact related to hazardous materials, public health, or safety would occur.

4.10 HYDROLOGY AND WATER QUALITY

Impact in the Program EIR			Project-Specific Checklist					
Environmental Impact Covered in the Program EIR	Identify Impact Significance in the Program EIR	Identify Location of Impact Analysis in the Program EIR	Does the Impact Apply to the Treatment Project?	List SPRs Applicable to the Treatment Project	List MMs Applicable to the Treatment Project	Identify Impact Significance for Treatment Project	Would This Be a Substantially More Severe Significant Impact than Identified in the Program EIR?	Is This Impact within the Scope of the Program EIR?
Would the project:								
Impact HYD-1: Violate Water Quality Standards or Waste Discharge Requirements, Substantially Degrade Surface or Ground Water Quality, or Conflict with or Obstruct the Implementation of a Water Quality Control Plan Through the Implementation of Prescribed Burning	LTS	Impact HYD-1, pp. 3.11-25 – 3.11-27	Yes	AD-3 AQ-3 BIO-4 BIO-5 GEO-4 GEO-6 HYD-2 HYD-4	NA	LTS	No	Yes
Impact HYD-2: Violate Water Quality Standards or Waste Discharge Requirements, Substantially Degrade Surface or Ground Water Quality, or Conflict with or Obstruct the Implementation of a Water Quality Control Plan Through the Implementation of Manual or Mechanical Treatment Activities	LTS	Impact HYD-2, pp. 3.11-27 – 3.11-29	Yes	AD-3 BIO-1 GEO-1 GEO-2 GEO-3 GEO-4 GEO-5 GEO-7 GEO-8 HYD-1 HYD-2 HYD-4 HYD-5 HAZ-1 HAZ-5	NA	LTS	No	Yes
Impact HYD-3: Violate Water Quality Standards or Waste Discharge Requirements, Substantially Degrade Surface or Ground Water Quality, or Conflict with or Obstruct the Implementation of a Water Quality Control Plan Through Prescribed Herbivory	LTS	Impact HYD-3, p. 3.11-29	Yes	AD-3 HYD-2 HYD-3	NA	LTS	No	Yes
Impact HYD-4: Violate Water Quality Standards or Waste Discharge Requirements, Substantially Degrade Surface or Ground Water Quality, or Conflict with or Obstruct the Implementation of a Water Quality Control Plan Through	LTS	Impact HYD-4, pp. 3.11-30 – 3.11-31	Yes	AD-3 BIO-4 HAZ-5 HAZ-7 HYD-2 HYD-5	NA	LTS	No	Yes

Environmental Impact Covered in the Program EIR	Identify Impact Significance in the Program EIR	Identify Location of Impact Analysis in the Program EIR	Does the Impact Apply to the Treatment Project?	List SPRs Applicable to the Treatment Project	List MMs Applicable to the Treatment Project	Identify Impact Significance for Treatment Project	Would This Be a Substantially More Severe Significant Impact than Identified in the Program EIR?	Is This Impact within the Scope of the Program EIR?
the Ground Application of Herbicides								
Impact HYD-5: Substantially Alter the Existing Drainage Pattern of a Treatment Site or Area	LTS	Impact HYD-5, p. 3.11-31	Yes	AD-3 GEO-5 HYD-2 HYD-4 HYD-6	NA	LTS	No	Yes

Notes: LTS = less than significant; NA = not applicable because there are no SPRs and/or MMs identified in the Program EIR for this impact.

New Hydrology and Water Quality Impacts: Would the treatment result in other impacts to hydrology and water quality that are not evaluated in the CalVTP Program EIR?	☐ Yes	☒ No	If yes, complete row(s) below and discussion

	Potentially Significant	Less Than Significant with Mitigation Incorporated	Less than Significant
	☐	☐	☐

Discussion

The project area is located in the jurisdiction of the Central Coast Regional Water Control Board (RWQCB), in the central part of Santa Cruz County, within the San Lorenzo River watershed. The San Lorenzo River watershed is 138 square miles and drains from Castle Rock, Ben Lomond Mountain, and Branciforte down through the City of Santa Cruz and into the Pacific Ocean (City of Santa Cruz n.d.). Notable perennial waterways in the project area and in the San Lorenzo River watershed are Zayante Creek, Bean Creek, and Ruins Creek (USGS 2023b). The creeks run alongside or through public and private property. Many smaller waterways that are dependent on seasonal rainfall intermittently run through the project area.

Several of the impacts below (i.e., Impact HYD-1 through HYD-4) evaluate compliance with water quality standards or waste discharge requirements. All include implementation of SPR HYD-1, which requires compliance with such water quality regulations and waste discharge requirements. The State Water Resources Control Board requires all projects using the CalVTP Program EIR to follow the requirements of their Vegetation Treatment General Order, which would meet the requirements of SPR HYD-1. Users of the CalVTP PSA process are automatically enrolled in the General Order and are required to implement all applicable SPRs and mitigation measures from the Program EIR. In addition, the General Order requires compliance with any applicable Basin Plan prohibitions.

IMPACT HYD-1

Initial and maintenance treatments would include prescribed burning. Ash and debris from treatment areas could be washed by runoff into adjacent drainages and streams. Although most treatment areas would avoid streams and watercourses, WLPZs ranging from 50 to 150 feet would be implemented for Class I and Class II streams that are within treatment areas pursuant to SPR HYD-4. The potential for prescribed burning activities to cause runoff and violate water quality regulations or degrade water quality was examined in the Program EIR. This impact is within the scope of the Program EIR because the use of low-intensity prescribed burns and associated impacts to water quality are consistent with those analyzed in the Program EIR. The inclusion of land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR.

However, within the boundary of the project area, the surface water conditions are essentially the same within and outside the treatable landscape; therefore, the water quality impact from prescribed burning is also the same, as described above. SPRs applicable to this treatment are AD-3, AQ-3, HYD-2, HYD-4, BIO-4, BIO-5, GEO-4, and GEO-6. This determination is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

IMPACT HYD-2

Initial treatment would include mechanical and manual treatments. Although most treatment areas would avoid streams and watercourses, WLPZs ranging from 50 to 150 feet would be implemented for any watercourses that are within treatment areas pursuant to SPR HYD-4. The potential for mechanical and manual treatment activities to violate water quality regulations or degrade water quality was examined in the Program EIR. This impact is within the scope of the Program EIR because the use of heavy equipment and hand-held tools to remove vegetation and associated impacts to water quality are consistent with those analyzed in the Program EIR.

The inclusion of land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the surface water conditions are essentially the same within and outside the treatable landscape; therefore, the water quality impact from mechanical and manual, prescribed burning, herbivory, and herbicide treatment activities is also the same, as described above.

In addition, as described under Section 1.1.3, "Purpose of This PSA/Addendum," RCDSCC proposes to revise requirements under SPR GEO-1 to allow for suspension of mechanical treatments that cause soil disturbance, prescribed herbivory, and herbicide treatments if it is raining; soils are saturated; or soils are wet enough to be compacted by mechanical, prescribed herbivory, and herbicide activities, rather than when there is a minimum 30 percent chance of rain. The project proponent would suspend mechanical, prescribed herbivory, and herbicide treatments prior to the initiation of a rain event. In the coastal region of the project area, forecasts often include a chance of rain; however, precipitation sometimes does not materialize. Therefore, suspension of treatment activities in these cases could result in unnecessary loss of work time. Without this revision to SPR GEO-1, the objectives of the project could not be achieved. This constitutes a revision to the program description analyzed in the Program EIR. Suspension of mechanical treatments that cause soil disturbance in the above-mentioned conditions (e.g., rain, saturated soils) would provide the same level of protection as the original SPR GEO-1, because these activities would not continue during rainy conditions or when soils are saturated. Saturated soils are more likely to mobilize sediment and contaminants into surface water due to higher potential for erosion and runoff during wet conditions. The revisions to SPR GEO-1 would ensure that treatments would be suspended when soils are wet in order to reduce the likelihood that runoff and erosion into environmentally sensitive areas (e.g., waterbodies, wetlands, riparian areas) would occur, which would reduce the likelihood of impacts on water quality. Therefore, proposed revisions to SPR GEO-1 would not result in a substantially more severe significant effect related to surface or ground water quality than what was covered in the Program EIR. The text revisions to SPR GEO-1 are shown in underline and strikethrough in the MMRP (Attachment A).

SPRs applicable to this impact are AD-3, BIO-1, GEO-1, GEO-2, GEO-3, GEO-4, GEO-5, GEO-6, GEO-7, GEO-8, HYD-1, HYD-2, HYD-4, HYD-5, HAZ-1, and HAZ-5. As explained above, impacts related to soil erosion resulting from the proposed project, including proposed revisions to SPR GEO-1, would not constitute a new or substantially more severe significant impact than what was covered in the Program EIR.

IMPACT HYD-3

Initial treatment would include prescribed herbivory. Environmentally sensitive areas such as waterbodies, wetlands, or riparian areas would be identified and excluded from prescribed herbivory using temporary fencing or active herding and a buffer of approximately 50 feet would be maintained between sensitive and actively grazed areas as described in Section 2.1.2, "Treatment Activities," and required by SPR HYD-3. Additionally, WLPZs ranging from 50 to 150 feet would be implemented for any watercourses that are within treatment areas pursuant to SPR HYD-4. The potential for prescribed herbivory to violate water quality regulations or degrade water quality was examined in the Program EIR. This impact is within the scope of the Program EIR because the use of grazing animals (e.g., goats,

cattle) and the grazing intensity to manage and remove vegetation are consistent with those analyzed in the Program EIR. The inclusion of land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the surface water conditions are essentially the same within and outside the treatable landscape; therefore, the water quality impact from prescribed herbivory treatments is also the same, as described above. The SPRs applicable to this impact are AD-3, HYD-2, and HYD-3. This determination is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

IMPACT HYD-4

Initial and maintenance treatments would include the use of herbicides to control the spread and the resprouting of invasive species within the treatment area. Herbicides would only be applied by hand (e.g., cut stump method), spot, or foliar spray. All herbicide application would comply with US EPA label directions, and California EPA and DPR label standards. The potential for the use of herbicides to violate water quality regulations or degrade water quality was examined in the Program EIR. This impact is within the scope of the Program EIR because the types of herbicides and use of herbicides to remove vegetation and associated impacts to water quality are consistent with those analyzed in the Program EIR. The inclusion of land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, surface water conditions are essentially the same within and outside the treatable landscape; therefore, the water quality impact from use of herbicides is also the same, as described above. SPRs applicable to this treatment are AD-3, BIO-4, HAZ-5, HAZ-7, HYD-2, and HYD-5. This determination is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

IMPACT HYD-5

Initial and maintenance treatments could cause ground disturbance and erosion, which could directly or indirectly modify existing drainage patterns. The potential for treatment activities to substantially alter the existing drainage pattern of a project site was examined in the Program EIR. However, RCDSCC would not construct any new roads (SPR HYD-2) and would identify WLPZs and limit operations and equipment use within the WLPZs to minimize impacts on natural drainage systems in the treatment area (SPR HYD-4). In addition, if treatments occur near an existing road, existing drainage infrastructure would be marked and repaired if treatment activities alter the infrastructure (SPR HYD-6). This impact to site drainage is within the scope of the Program EIR because the types of treatments and treatment intensity are consistent with those analyzed in the Program EIR. The inclusion of land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, surface water conditions are essentially the same within and outside the treatable landscape; therefore, the impact related to alteration of site drainage patterns is also the same, as described above. SPRs applicable to this treatment are AD-3, GEO-5, HYD-2, HYD-4, and HYD-6. This determination is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

NEW HYDROLOGY AND WATER QUALITY IMPACTS

The proposed treatments are consistent with the treatment types and activities considered in the CalVTP Program EIR. The site-specific characteristics of the proposed treatment project are consistent with the applicable environmental and regulatory conditions presented in the CalVTP Program EIR (refer to Section 3.11.1, "Environmental Setting," and Section 3.11.2, "Regulatory Setting," in Volume II of the Final Program EIR). Including land from outside the CalVTP treatable landscape in the proposed project area constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the existing environmental and regulatory conditions pertinent to hydrology and water quality that are present in the areas outside the treatable landscape are essentially the same as those within the treatable landscape. The proposed revision to SPR GEO-1 would constitute a change to the Program EIR. Revisions to SPR GEO-1 would replace the work stoppage of mechanical operations that cause soil disturbance, herbicide, and prescribed herbivory based on forecasted rain with a stoppage based on rain and soil saturation and

compaction. The proposed revisions to SPR GEO-1 would be equally protective and would therefore not result in a new impact that was not covered in the Program EIR. Therefore, the impacts of the proposed treatment project are consistent with those covered in the Program EIR. No changed circumstances are present, and the inclusion of areas outside of the CalVTP treatable landscape and revisions to SPR GEO-1 would not give rise to any new significant impacts. Therefore, no new impact related to hydrology and water quality would occur.

4.11 LAND USE AND PLANNING, POPULATION AND HOUSING

Impact in the Program EIR			Project-Specific Checklist					
Environmental Impact Covered in the Program EIR	Identify Impact Significance in the Program EIR	Identify Location of Impact Analysis in the Program EIR	Does the Impact Apply to the Treatment Project?	List SPRs Applicable to the Treatment Project	List MMs Applicable to the Treatment Project	Identify Impact Significance for Treatment Project	Would This Be a Substantially More Severe Significant Impact than Identified in the Program EIR?	Is This Impact within the Scope of the Program EIR?
Would the project:								
Impact LU-1: Cause a Significant Environmental Impact Due to a Conflict with a Land Use Plan, Policy, or Regulation	LTS	Impact LU-1, pp. 3.12-13 – 3.12-14	Yes	AD-3	NA	LTS	No	Yes
Impact LU-2: Induce Substantial Unplanned Population Growth	LTS	Impact LU-2, pp. 3.12-14 – 3.12-15	Yes	NA	NA	LTS	No	Yes

Notes: LTS = less than significant; NA = not applicable because there are no SPRs and/or MMs identified in the Program EIR for this impact.

New Land Use and Planning, Population and Housing Impacts: Would the treatment result in other impacts to land use and planning, population and housing that are not evaluated in the CalVTP Program EIR?	☐ Yes	☒ No	If yes, complete row(s) below and discussion

	Potentially Significant	Less Than Significant with Mitigation Incorporated	Less than Significant
	☐	☐	☐

Discussion

IMPACT LU-1

Initial treatment and treatment maintenance activities would occur on property owned by the San Lorenzo Valley Water District, the City of Santa Cruz Water Department, the Land Trust of Santa Cruz County, and other private landowners. As noted in Section 4.12, "Noise," below, treatment activities would take place during daytime hours consistent with the Santa Cruz County Code, Section 8.30.010. While there is the potential for some prescribed burning and prescribed herbivory to occur during nighttime and weekend hours, treatment activities using heavy machinery and noise-generating equipment (e.g., chainsaws and helicopters) would be limited to daytime hours which would avoid the potential to cause sleep disturbance to residents during the more noise-sensitive evening and nighttime hours and conflict with the Santa Cruz County Code. The potential for treatment activities to cause a significant environmental impact due to a conflict with a land use plan, policy, or regulation was examined in the Program EIR. This impact is within the scope of the Program EIR because the treatment types and activities are consistent with those analyzed in the Program EIR. No conflict would occur because the project proponent would adhere to local noise ordinances as required by SPR AD-3. The inclusion of land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent considered in the Program EIR. However, land uses in the project area are essentially the same within and outside the treatable landscape; therefore, the land use impact is also the same, as described above. SPR AD-3 is applicable to this impact. This determination is consistent with the Program EIR and would not constitute a substantially more severe significant impact than covered in the Program EIR.

IMPACT LU-2

Implementation of initial treatments would require one or two crews of between three and 20 crew members for manual treatments, and up to three crews with two to 10 members conducting treatments simultaneously throughout the project area for mechanical treatments. An average of 45 crew members would be used for prescribed burning, although air curtain burners only required a crew of two to three people. One to five workers would be required on average to implement prescribed herbivory, and typically, one to five workers would implement herbicide application. The potential for initial treatments and maintenance treatments to result in substantial unplanned population growth as a result of increases in demand for employees was examined in the Program EIR. Impacts associated with short-term increases in the demand for workers during implementation of the treatment project are within the scope of the Program EIR because the number of workers required for implementation of the treatments is consistent with the crew sizes analyzed in the Program EIR. The inclusion of land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, the population and housing characteristics of the project area are essentially the same within and outside the treatable landscape; therefore, the population and housing impact is also the same, as described above. No SPRs are applicable to this impact. This determination is consistent with the Program EIR and would not constitute a substantially more severe significant impact than covered in the Program EIR.

NEW LAND USE AND PLANNING, POPULATION AND HOUSING IMPACTS

The proposed project is consistent with the treatment types and activities considered in the CalVTP Program EIR. The site-specific characteristics of the proposed treatment project are consistent with the applicable environmental and regulatory conditions presented in the CalVTP Program EIR (refer to Section 3.12.1, "Environmental Setting," and Section 3.12.2, "Regulatory Setting," in Volume II of the Final Program EIR). Including land in the proposed project area that is outside the treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the existing conditions that are pertinent to land use and planning, population and housing that are present in the areas outside the treatable landscape are essentially the same as those within the treatable landscape; therefore, the impacts of the proposed treatment project are also consistent with those covered in the Program EIR. No changed circumstances are present, and the inclusion of areas outside of the CalVTP treatable landscape would not give rise to any new significant impacts. Therefore, no new impact related to land use and planning, population and housing would occur.

4.12 NOISE

Impact in the Program EIR			Project-Specific Checklist					
Environmental Impact Covered in the Program EIR	Identify Impact Significance in the Program EIR	Identify Location of Impact Analysis in the Program EIR	Does the Impact Apply to the Treatment Project?	List SPRs Applicable to the Treatment Project	List MMs Applicable to the Treatment Project	Identify Impact Significance for Treatment Project	Would This Be a Substantially More Severe Significant Impact than Identified in the Program EIR?	Is This Impact within the Scope of the Program EIR?
Would the project:								
Impact NOI-1: Result in a Substantial Short-Term Increase in Exterior Ambient Noise Levels During Treatment Implementation	LTS	Impact NOI-1, pp. 3.13-9 – 3.13-12; Appendix NOI-1	Yes	AD-3 NOI-1 NO1-2 NOI-3 NOI-4 NOI-5 NOI-6	NA	LTS	No	Yes
Impact NOI-2: Result in a Substantial Short-Term Increase in Truck-Generated Single-Event Noise Levels During Treatment Activities	LTS	Impact NOI-2, p. 3.13-12	Yes	NOI-1	NA	LTS	No	Yes

Notes: LTS = less than significant; NA = not applicable because there are no SPRs and/or MMs identified in the Program EIR for this impact.

New Noise Impacts: Would the treatment result in other noise-related impacts that are not evaluated in the CalVTP Program EIR?	☐ Yes	☒ No	If yes, complete row(s) below and discussion

	Potentially Significant	Less Than Significant with Mitigation Incorporated	Less than Significant
	☐	☐	☐

Discussion

IMPACT NOI-1

Mechanical treatments would require heavy, noise-generating equipment and prescribed broadcast burning may require use of helicopters equipped with a helitorch. Sensitive receptors that could be exposed to noise from the project include residences scattered throughout the project area, including some within 1,500 feet of proposed treatments. Manual, mechanical, and prescribed burning treatment activities as well as chipping/mastication occurring adjacent to sensitive land uses could temporarily expose those receptors to noise levels that exceed local standards. Prescribed herbivory and herbicide application would not require the use of noise-intensive equipment; noise generated by these treatment types would be negligible. The potential for a substantial short-term increase in ambient noise levels from use of heavy equipment and helicopters was examined in the Program EIR. This impact is within the scope of the Program EIR because the number and types of equipment proposed, and equipment use being temporary and sporadic, are consistent with the assumptions analyzed in the Program EIR.

The Santa Cruz County Code includes a section on "offensive noise." An "offensive noise" is any noise which is loud, boisterous, irritating, penetrating, or unusual, or that is unreasonably distracting in any other manner such that it is

likely to disturb people of ordinary sensitivities in the vicinity of such noise, and includes, but is not limited to, noise made by an individual alone or by a group of people engaged in any business, activity, meeting, gathering, game, dance, or amusement, or by any appliance, contrivance, device, tool, structure, construction, vehicle, ride, machine, implement, or instrument. Noise is considered offensive during daytime hours (i.e., between 8:00 a.m. and 10:00 p.m.) if it is clearly discernible at a distance of 150 feet from the property line of the property from which it is broadcast. Noise limits under the Code are more stringent during the nighttime and early morning hours, between the hours of 10:00 p.m. and 8:00 a.m. (Santa Cruz County Code Section 8.30.010). All treatment activities using noise-generating equipment (including helicopters) would be limited to daytime hours.

As discussed in the Program EIR, noise levels generated by individual equipment range from 75 to 87.9 dB at 50 feet from the noise source. Though multiple pieces of equipment would be operated simultaneously to implement a treatment, they would typically be spread out (i.e., usually more than 100 feet apart) rather than operating next to each other. This is particularly true of larger, heavy-duty off-road equipment such as masticators and chippers. The equipment noise levels discussed above are reported at 50 feet from the noise source. Therefore, there would be additional attenuation for distance, vegetation, and building materials that would result in interior noise levels being lower than the 75 to 87.9 dB levels estimated for equipment. Also, treatments would be dispersed throughout the 1,619-acre project area, distributed across distinct treatment areas, so that short-term noise increases at any one sensitive receptor would be limited.

A helicopter with a helitorch would only be used to ignite prescribed burns under limited circumstances. Helicopters would be used only during broadcast burns for aerial ignitions where access is limited or where higher fire intensity is needed to achieve burn objectives. Thus, total helicopter usage would be minimal and not exceed one helicopter trip over the span of one day during broadcast burns. In addition, prescribed burning would not occur adjacent or in close proximity to residences. Helicopters would only be used during daytime hours. Therefore, overall exposure of sensitive receptors to noise generated by helicopter activity would be brief, infrequent, and pursuant to SPR NOI-1 would not occur during noise-sensitive evening and nighttime hours.

SPR AD-3 and NOI-1 through NOI-6 are applicable to this treatment. With implementation of SPR AD-3, noise levels associated with vegetation treatment activities under the CalVTP would not exceed local land use/noise compatibility standards and noise exposure attributed to vegetation treatment activities under the CalVTP would not generate a substantial temporary increase in ambient noise levels in the vicinity of the project in excess of local standards. SPR NOI-4 would require vegetation treatment activities and staging areas be located away from sensitive receptors to the extent feasible to minimize noise exposure. Additionally, SPR NOI-6 requires notification be provided to nearby sensitive receptors when heavy equipment would be used for a treatment. SPRs to reduce noise levels during treatment would also be integrated into treatment design. SPR NOI-2 requires all equipment to be maintained appropriately and equipped with the proper intake and exhaust shrouds. SPR NOI-3 requires all equipment engine shrouds to be closed during operation. SPR NOI-5 restricts equipment idling time. Together, these SPRs would reduce temporary increases in noise.

The inclusion of land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the exposure potential to any sensitive receptors present in the areas outside the treatable landscape are essentially the same as those within the treatable landscape; therefore, the noise impact is also the same, as described above. This determination is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

IMPACT NOI-2

Initial and maintenance treatments would involve large trucks hauling heavy equipment to the project area. These haul truck trips would be dispersed on area roadways providing access to the project area including, but not limited to, SR 17, SR 9, Zayante Road, Weston Road, Old Kenville Road, Ryder Road, Olympia Station Road, Geyer Road, Mount Hermon Road, Bean Creek Road, Nelson Road, and Greenwood Street. Vehicle traffic on area highways would not generate a noticeable increase in traffic-related noise. Haul truck trips on the local roadways would pass by

residential receptors and the event of each truck passing by could slightly increase the Single Event Noise Levels. The potential for a substantial short-term increase in Single-Event Noise Levels was examined in the Program EIR. This impact is within the scope of the Program EIR because the number and types of equipment and haul trips proposed are consistent with those analyzed in the Program EIR. The haul trips associated with the treatment would occur during daytime hours, which would avoid the potential to cause sleep disturbance to residents during the more noise-sensitive evening and nighttime hours. The inclusion of land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the exposure potential is essentially the same within and outside the treatable landscape; therefore, the noise impact is also the same, as described above. SPR NOI-1 is applicable to this impact. This determination is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

NEW NOISE IMPACTS

The proposed treatments are consistent with the treatment types and activities considered in the CalVTP Program EIR. The site-specific characteristics of the proposed treatments are consistent with the applicable environmental and regulatory conditions presented in the CalVTP Program EIR (refer to Section 3.13.1, "Environmental Setting," and Section 3.13.2, "Regulatory Setting," in Volume II of the Final Program EIR). Including land from outside the CalVTP treatable landscape in the proposed project area constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the existing environmental and regulatory conditions pertinent to noise that are present in the areas outside the treatable landscape are essentially the same as those within the treatable landscape; therefore, the impacts are the same and, for the reasons described above, impacts of the proposed treatment project are also consistent with those covered in the Program EIR. No changed circumstances are present, and the inclusion of areas outside of the CalVTP treatable landscape would not give rise to any new significant impacts. Therefore, no new impact related to noise would occur.

4.13 RECREATION

Impact in the Program EIR			Project-Specific Checklist					
Environmental Impact Covered in the Program EIR	Identify Impact Significance in the Program EIR	Identify Location of Impact Analysis in the Program EIR	Does the Impact Apply to the Treatment Project?	List SPRs Applicable to the Treatment Project	List MMs Applicable to the Treatment Project	Identify Impact Significance for Treatment Project	Would This Be a Substantially More Severe Significant Impact than Identified in the Program EIR?	Is This Impact within the Scope of the Program EIR?
Would the project:								
Impact REC-1: Directly or Indirectly Disrupt Recreational Activities within Designated Recreation Areas	LTS	Impact REC-1, pp. 3.14-6 – 3.14-7	Yes	REC-1	NA	LTS	No	Yes

Notes: LTS = less than significant; NA = not applicable because there are no SPRs and/or MMs identified in the Program EIR for this impact.

New Recreation Impacts: Would the treatment result in other impacts to recreation that are not evaluated in the CalVTP Program EIR?	☐ Yes	☒ No	If yes, complete row(s) below and discussion

	Potentially Significant	Less Than Significant with Mitigation Incorporated	Less than Significant
	☐	☐	☐

Discussion

Recreation areas present in the project vicinity include the Glenwood Open Space Preserve, Quail Hollow Ranch County Park, Bear Mountain, Mount Hermon, Loch Lomond Recreation Area, Scotts Valley Recreation Area, Highlands County Park, Henry Cowell Redwoods State Park, and Creek Beach. These recreation areas offer visitors a variety of outdoor recreational activities, including areas for picnicking, hiking trails (e.g., Redwood Grove Loop Trail, Ox Trail, Pipeline Trail Overlook) and camping (Henry Cowell Redwoods State Park, Mount Hermon, Mission Springs).

IMPACT REC-1

Vegetation treatment activities have the potential to disrupt recreational activities within the project area through temporary trail closures during active treatments and by degrading the experience of recreationists through the creation of noise, dust, degradation of scenic views, or increased traffic. The potential for vegetation treatment activities to disrupt recreation activities was examined in the Program EIR. Nuisance impacts related to noise, air quality, aesthetics, and transportation would be avoided or minimized as explained in the discussion for those respective resource areas in this PSA/Addendum. Recreational users would be notified of temporary closures of any public recreation areas in advance of treatment activities per SPR REC-1. Where feasible, notice of recreational area closure would be posted 2 weeks prior to commencement of treatment activities consistent with SPR REC-1, which would reduce the risk of disruption of recreational activities within the treatment area. Any closures of recreation areas would be temporary and short-term, lasting only the duration of active treatment and required post-treatment cleanup.

The inclusion of land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, the availability of recreational resources within the project area is essentially the same within and outside the treatable landscape; therefore, the impact to recreation is also the same, as described above. The SPR applicable to this treatment is REC-1. This determination is consistent with the Program EIR and would not constitute a substantially more severe significant impact than covered in the Program EIR.

NEW RECREATION IMPACTS

The proposed project is consistent with the treatment types and activities considered in the CalVTP Program EIR. The site-specific characteristics of the proposed treatment project are consistent with the applicable environmental and regulatory conditions presented in the CalVTP Program EIR (refer to Section 3.14.1, "Environmental Setting," and Section 3.14.2, "Regulatory Setting," in Volume II of the Final Program EIR). Including land in the proposed project area that is outside the treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the existing environmental conditions pertinent to recreation that are present in the areas outside the treatable landscape are essentially the same as those within the treatable landscape; therefore, the impacts of the proposed treatment project are also consistent with those covered in the Program EIR. No changed circumstances are present, and the inclusion of areas outside of the CalVTP treatable landscape would not give rise to any new significant impacts. Therefore, no new impact related to recreation would occur.

4.14 TRANSPORTATION

Impact in the Program EIR			Project-Specific Checklist					
Environmental Impact Covered in the Program EIR	Identify Impact Significance in the Program EIR	Identify Location of Impact Analysis in the Program EIR	Does the Impact Apply to the Treatment Project?	List SPRs Applicable to the Treatment Project	List MMs Applicable to the Treatment Project	Identify Impact Significance for Treatment Project	Would This Be a Substantially More Severe Significant Impact than Identified in the Program EIR?	Is This Impact within the Scope of the Program EIR?
Would the project:								
Impact TRAN-1: Result in Temporary Traffic Operations Impacts by Conflicting with a Program, Plan, Ordinance, or Policy Addressing Roadway Facilities or Prolonged Road Closures	LTS	Impact TRAN-1, pp. 3.15-9 – 3.15-10	Yes	AD-3 TRAN-1	NA	LTS	No	Yes
Impact TRAN-2: Substantially Increase Hazards due to a Design Feature or Incompatible Uses	LTS	Impact TRAN-2, pp. 3.15-10 – 3.15-11	Yes	AD-3 HYD-2 TRAN-1	NA	LTS	No	Yes
Impact TRAN-3: Result in a Net Increase in VMT for the Proposed CalVTP	PSU	Impact TRAN-3, pp. 3.15-11 – 3.15-13	Yes	NA	AQ-1	PSU	No	Yes

Notes: LTS = less than significant; PSU = potentially significant and unavoidable; NA = not applicable because there are no SPRs and/or MMs identified in the Program EIR for this impact.

New Transportation Impacts: Would the treatment result in other impacts to transportation that are not evaluated in the CalVTP Program EIR?	☐ Yes	☒ No	If yes, complete row(s) below and discussion

	Potentially Significant	Less Than Significant with Mitigation Incorporated	Less than Significant
	☐	☐	☐

Discussion

IMPACT TRAN-1

Initial and maintenance treatments would temporarily increase vehicular traffic along public and private roadways throughout the project area, which include: Zayante Road, Weston Road, Old Kenville Road, Ryder Road, Olympia Station Road, Geyer Road, Mount Hermon Road, Bean Creek Road, Nelson Road, Graham Hill Road, Quarry Road, Ridge Way, and Greenwood Street. The potential for a temporary increase in traffic to conflict with a program, plan, ordinance, or policy addressing roadway facilities or prolonged road closures was examined in the Program EIR. The proposed treatments would be short term, and temporary increases in traffic related to treatments are within the scope of the Program EIR because the treatment duration and limited number of vehicles (e.g., heavy equipment transport, crew vehicles for crew members) associated with the proposed treatments are consistent with those analyzed in the Program EIR. In addition, the proposed treatments would not all occur concurrently, and increases in vehicle trips associated with the treatments would be dispersed on multiple roadways.

The inclusion of land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the existing transportation conditions (e.g., roadways and road use) present in the areas outside the treatable landscape are essentially the same as those within the treatable landscape; therefore, the transportation impact is also the same, as described above. The SPRs applicable to this treatment are AD-3 and TRAN-1. This determination is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

IMPACT TRAN-2

Initial and maintenance treatments would not require the construction or alteration of any roadways. However, the proposed treatments would include prescribed burning, which would produce smoke and could potentially affect visibility along nearby roadways such that a transportation hazard could occur. The potential for smoke to affect visibility along roadways during implementation of the treatment project was examined in the Program EIR. This impact is within the scope of the activities and impacts addressed in the Program EIR because the proposed burn duration is consistent with that analyzed in the Program EIR. In addition, several measures described in Section 4.3, "Air Quality," would be implemented to reduce smoke emissions from prescribed burning (e.g., SPR AQ-2 and AQ-3).

The inclusion of land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the existing transportation conditions (e.g., roadways and road use) present in the areas outside the treatable landscape are essentially the same as those within the treatable landscape; therefore, the transportation impact is also the same, as described above. SPRs applicable to this treatment are AD-3, HYD-2, and TRAN-1. This determination is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

IMPACT TRAN-3

Treatments could temporarily increase vehicle miles traveled (VMT) above baseline conditions because the proposed project would require vehicle trips to transport crew members and equipment to the project area. This impact was identified as potentially significant and unavoidable in the Program EIR because implementation of the CalVTP would result in a net increase in VMT. Treatment activities under the proposed project would typically require between one and 45 crew members depending on the treatment, and several crews may be working throughout the project area simultaneously. The increase in vehicle trips would be temporary and dispersed over multiple roadways. The potential for an increase in VMT was examined in the Program EIR. This impact is within the scope of the activities and impacts addressed in the Program EIR because the size and number of crews, and associated number and duration of increased vehicle miles, is consistent with those analyzed in the Program EIR. Carpooling would be encouraged under Mitigation Measure AQ-1, which RCDSCC would implement to the extent feasible, and local crews would be used to the extent feasible to minimize VMT. However, the proposed project would contribute to the cumulative increase in VMT attributable to implementation of the CalVTP. For these reasons, and as explained in the Program EIR, this impact would remain potentially significant and unavoidable. The inclusion of land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the transportation-related conditions in the areas outside the treatable landscape are essentially the same as those within the treatable landscape; therefore, the transportation impact is also the same, as described above. This impact of the proposed project is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

NEW IMPACTS ON TRANSPORTATION

The proposed treatments are consistent with the treatment types and activities considered in the CalVTP Program EIR. The site-specific characteristics of the proposed treatments are consistent with the applicable environmental and

regulatory conditions presented in the CalVTP Program EIR (refer to Section 3.15.1, "Environmental Setting," and Section 3.15.2, "Regulatory Setting," in Volume II of the Final Program EIR). Including land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the existing environmental and regulatory conditions pertinent to transportation that are present in the areas outside the treatable landscape are essentially the same as those within the treatable landscape; therefore, the impacts are the same and, for the reasons described above, impacts of the proposed treatment project are also consistent with those covered in the Program EIR. No changed circumstances are present, and the inclusion of areas outside of the CalVTP treatable landscape would not give rise to any new significant impacts. Therefore, no new impact related to transportation would occur.

4.15 PUBLIC SERVICES, UTILITIES AND SERVICE SYSTEMS

Impact in the Program EIR			Project-Specific Checklist					
Environmental Impact Covered in the Program EIR	Identify Impact Significance in the Program EIR	Identify Location of Impact Analysis in the Program EIR	Does the Impact Apply to the Treatment Project?	List SPRs Applicable to the Treatment Project	List MMs Applicable to the Treatment Project	Identify Impact Significance for Treatment Project	Would This Be a Substantially More Severe Significant Impact than Identified in the Program EIR?	Is this Impact Within the Scope of the Program EIR?
Would the project:								
Impact UTIL-1: Result in Physical Impacts Associated with Provision of Sufficient Water Supplies, Including Related Infrastructure Needs	LTS	Impact UTIL-1, p. 3.16-9	Yes	AD-3	NA	LTS	No	Yes
Impact UTIL-2: Generate Solid Waste in Excess of State Standards or Exceed Local Infrastructure Capacity	PSU	Impact UTIL-2, pp. 3.16-10 – 3.16-12	Yes	AD-3 UTIL-1	NA	PSU	No	Yes
Impact UTIL-3: Comply with Federal, State, and Local Management and Reduction Goals, Statutes, and Regulations Related to Solid Waste	LTS	Impact UTIL-2, p. 3.16-12	Yes	AD-3 UTIL-1	NA	LTS	No	Yes

Notes: LTS = less than significant; PSU = potentially significant and unavoidable; NA = not applicable because there are no SPRs and/or MMs identified in the Program EIR for this impact.

New Public Services, Utilities and Service System Impacts: Would the treatment result in other impacts to public services, utilities and service systems that are not evaluated in the CalVTP Program EIR?	☐ Yes	☒ No	If yes, complete row(s) below and discussion

	Potentially Significant	Less Than Significant with Mitigation Incorporated	Less than Significant
	☐	☐	☐

Discussion

IMPACT UTIL-1

Initial and maintenance treatments would include prescribed burning, which may require a minimum amount of water for suppression which would be supplied from the municipal water supply via a water apparatus or fire engine. The potential increased demand for water was examined in the Program EIR. This impact is within the scope of the activities and impacts addressed in the Program EIR because the size of the area proposed for prescribed burning treatments, amount of water required for prescribed burning, and water source type are consistent with those analyzed in the Program EIR. The inclusion of land in the project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the water supplies present in the areas outside the treatable landscape are essentially the same as those within the treatable landscape; therefore, the water supply impact is also the same, as described above. SPR AD-3 would be applicable to comply with local regulations. This determination is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

IMPACT UTIL-2

Initial and maintenance treatments would generate biomass within the project area. Biomass generated by treatments would be disposed of with pile burning, air curtain burning, broadcast burning, masticating (mulching), chipping, or lopping and scattering. Invasive plant and noxious weed biomass would be treated on-site (e.g., prescribed burning), when possible, to eliminate seed and propagules. If invasive plant biomass cannot be treated on-site, there would be the potential for some to be removed and would be disposed of off-site at an appropriate waste collection facility. The project anticipates hauling approximately five percent of the generated biomass off-site for disposal. This impact was identified as potentially significant and unavoidable in the Program EIR because biomass hauled off-site could exceed the capacity of existing infrastructure for handling biomass. For the proposed treatment project, biomass may be removed and hauled to an off-site facility if other disposal options do not meet treatment goals. While the amount of biomass generated is not expected to exceed the capacity of existing local infrastructure in Santa Cruz County because only a small amount of biomass (5 percent) would be hauled off-site, it would contribute to the environmental significance conclusion in the Program EIR; therefore, for purposes of CEQA compliance, this would remain potentially significant and unavoidable.

This impact is within the scope of the activities and impacts addressed in the Program EIR because the types and amount of biomass that may need to be hauled off-site are consistent with those analyzed in the Program EIR. The inclusion of land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, conditions related to biomass in the areas outside the treatable landscape are essentially the same as those within the treatable landscape; therefore, impacts related to biomass are also the same, as described above. SPR AD-3 is applicable to this impact. SPR UTIL-1 would be applicable to the proposed treatments if biomass is hauled off-site. This determination is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

IMPACT UTIL-3

As discussed above, initial and maintenance treatments would generate biomass within the project area. Biomass generated by treatments would be disposed of with pile burning, air curtain burning, broadcast burning, masticating (mulching), chipping, or lopping and scattering biomass in areas where material cannot safely be burned, and prescribed herbivory. Invasive plant and noxious weed biomass would also be treated on-site (e.g., prescribed burning), when possible, to eliminate seed and propagules; however, invasive plants and noxious weeds would not be chipped and spread, scattered, or mulched on-site. In any treatment area where on-site biomass disposal is not feasible to meet treatment goals, biomass may be removed from treatment area and disposed of at an off-site

facility. If off-site disposal is needed, RCDSCC would comply with all federal, state, and local management and reduction goals, statutes, and regulations related to solid waste. Compliance with reduction goals, statutes, and regulations related to solid waste was examined in the Program EIR. This impact is within the scope of the activities and impacts addressed in the Program EIR because about 5 percent of the generated biomass may need to be hauled off-site. The inclusion of land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the biomass conditions in the areas outside the treatable landscape are essentially the same as those within the treatable landscape; therefore, impacts related to biomass are also the same, as described above. SPR AD-3 is applicable to this impact. SPR UTIL-1 would be applicable to the proposed treatments if biomass is hauled off-site. This determination is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

NEW IMPACTS ON PUBLIC SERVICES, UTILITIES AND SERVICE SYSTEMS

The proposed treatments are consistent with the treatment types and activities considered in the CalVTP Program EIR. The site-specific characteristics of the proposed treatments are consistent with the applicable environmental and regulatory conditions presented in the CalVTP Program EIR (refer to Section 3.16.1, "Environmental Setting," and Section 3.16.2, "Regulatory Setting," in Volume II of the Final Program EIR). Including land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the existing environmental and regulatory conditions pertinent to public services, utilities, and service systems that are present in the areas outside the treatable landscape are essentially the same as those within the treatable landscape; therefore, the impacts are the same and, for the reasons described above, impacts of the proposed treatment project are also consistent with those covered in the Program EIR. No changed circumstances are present, and the inclusion of areas outside of the CalVTP treatable landscape would not give rise to any new significant impacts. Therefore, no new impact related to public services, utilities, or service systems would occur.

4.16 WILDFIRE

Impact in the Program EIR			Project-Specific Checklist					
Environmental Impact Covered in the Program EIR	Identify Impact Significance in the Program EIR	Identify Location of Impact Analysis in the Program EIR	Does the Impact Apply to the Treatment Project?	List SPRs Applicable to the Treatment Project	List MMs Applicable to the Treatment Project	Identify Impact Significance for Treatment Project	Would This Be a Substantially More Severe Significant Impact than Identified in the Program EIR?	Is This Impact within the Scope of the Program EIR?
Would the project:								
Impact WIL-1: Substantially Exacerbate Fire Risk and Expose People to Uncontrolled Spread of a Wildfire	LTS	Impact WIL-1, pp. 3.17-14 – 3.17-15	Yes	AD-3 HAZ-2 HAZ-3 HAZ-4	NA	LTS	No	Yes
Impact WIL-2: Expose People or Structures to Substantial Risks Related to Postfire Flooding or Landslides	LTS	Impact WIL-2, pp. 3.17-15 – 3.17-16	Yes	AD-3 AQ-3 GEO-3 GEO-4 GEO-5 GEO-8	NA	LTS	No	Yes

Notes: LTS = less than significant; NA = not applicable because there are no SPRs and/or MMs identified in the Program EIR for this impact.

New Wildfire Impacts: Would the treatment result in other impacts related to wildfire that are not evaluated in the CalVTP Program EIR?	☐ Yes	☒ No	If yes, complete row(s) below and discussion

	Potentially Significant	Less Than Significant with Mitigation Incorporated	Less than Significant
	☐	☐	☐

Discussion

IMPACT WIL-1

Proposed vegetation treatment activities are manual treatments, mechanical treatments, prescribed burning, herbicide application, and prescribed herbivory. Vegetation treatment involving mechanical equipment could pose a risk of accidental ignition. However, crews would be equipped with fire extinguishers and pulaskis (SPR HAZ-3). Also, mechanized hand tools would have spark arrestors (SPR HAZ-2). These measures would reduce the risk of accidental ignition and fire escape from treatments.

Temporary increases in risk associated with uncontrolled fire from prescribed burns could also occur. As discussed in Section 3.17.1, "Environmental Setting," in Volume II of the Final Program EIR, under "Prescribed Burn Planning and Implementation," implementing a prescribed burn requires extensive planning, including the preparation of prescription burn plans, smoke management plans, site-specific weather forecasting, public notifications, safety considerations, and ultimately favorable weather conditions so a burn can occur on a given day. In addition, prior to implementing a prescribed burn, fire containment lines would be established by clearing vegetation surrounding the designated burn area to help prevent the accidental escape of fire. Furthermore, water containers and safety equipment would be staged on-site to address the rare case of an accidental fire escape.

The potential to substantially exacerbate wildfire risk during implementation of treatments was examined in the Program EIR. Increased wildfire risk associated with the use of heavy equipment in vegetated areas and from prescribed burns is within the scope of the Program EIR because the types of equipment and treatment duration and the types of prescribed burn methods proposed as part of the project are consistent with those analyzed in the Program EIR. The inclusion of land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the wildfire risk is essentially the same within and outside the treatable landscape; therefore, the wildfire impact is also the same, as described above. SPRs applicable to this treatment are AD-3, HAZ-2, HAZ-3, and HAZ-4. This impact of the proposed project is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

IMPACT WIL-2

Vegetation treatment activities would include manual treatments, mechanical treatments, prescribed burning, herbicide application, and prescribed herbivory, which could exacerbate fire risk as described in Impact WIL-1 above. The potential for post-fire landslides and flooding was evaluated in the Program EIR. Although most mechanical treatments would occur from existing roads or skid trails or on flat to moderate slopes, SPR GEO-8 would apply to mechanical treatment activities that are implemented on steep slopes. Furthermore, because the treatments would reduce wildfire risk, they would also decrease post-wildfire landslide and flooding risk in areas that could otherwise burn in a high-severity wildfire without treatment.

The potential exposure of people or structures to post-fire landslides and flooding are within the scope of the activities and impacts covered in the Program EIR because the equipment types, duration of treatments, and methods of prescribed burn implementation are consistent with those analyzed in the Program EIR. The inclusion of land in the proposed project area that is outside the CalVTP treatable landscape constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the wildfire risk of the project area is essentially the same within and outside the treatable landscape; therefore, the wildfire impact is also the same, as described above. SPRs applicable to this impact are AD-3, AQ-3, GEO-3, GEO-4, GEO-5, and GEO-8. This impact of the proposed project is consistent with the Program EIR and would not constitute a substantially more severe significant impact than what was covered in the Program EIR.

NEW IMPACTS ON WILDFIRE

The proposed treatments are consistent with the treatment types and activities considered in the CalVTP Program EIR. The site-specific characteristics of the proposed treatment project are consistent with the applicable environmental and regulatory conditions presented in the CalVTP Program EIR (refer to Section 3.17.1, "Environmental Setting," and Section 3.17.2, "Regulatory Setting," in Volume II of the Final Program EIR). Including land from outside the CalVTP treatable landscape in the proposed project area constitutes a change to the geographic extent presented in the Program EIR. However, within the boundary of the project area, the existing environmental and regulatory conditions pertinent to wildfire that are present in the areas outside the treatable landscape are essentially the same as those within the treatable landscape; therefore, the impacts of the proposed treatment project are also consistent with those covered in the Program EIR. No changed circumstances would give rise to new significant impacts not addressed in the Program EIR. Therefore, no new impact related to wildfire would occur that is not covered in the Program EIR.

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5 LIST OF PREPARERS

Resource Conservation District of Santa Cruz County (Lead CEQA Agency/Project Proponent)

Angie Richman ..... Project Manager

Ascent (CEQA Compliance)

Heather Blair ..... Principal

Lara Rachowicz, PhD ..... Project Manager/Biological Resources (Senior Review)

Ted Thayer ..... Assistant Project Manager/Biological Resources

Reida Khan ..... Aesthetics, Air Quality, GHG, Land Use and Planning, Noise, Recreation

Molly Nagle ..... Agriculture, Geology, Energy, Hazardous Materials, Hydrology, Transportation, Utilities, Wildfire

Lily Bostrom ..... Environmental Planner (Senior Review)

Amber Grady ..... Archeological, Historic, and Tribal Cultural Resources

Alta Cunningham ..... Archeological, Historic, and Tribal Cultural Resources (Senior Review)

Taelor Whittington ..... Biological Resources

Tammie Beyerl ..... Biological Resources (Senior Review)

Alyssa Way ..... GIS Specialist

Michele Mattei ..... Publishing Specialist

Riley Smith ..... Publishing Specialist

Brian Perry ..... Graphic Specialist

Jodi McGraw Consulting (Technical Review)

Jodi McGraw, PhD ..... Biological Resources (Senior Review)

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Attachment A

Mitigation Monitoring and Reporting Program for the Lockhart-Zayante Vegetation Treatment Project

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MITIGATION MONITORING AND REPORTING PROGRAM

INTRODUCTION

The California Environmental Quality Act (CEQA) and the State CEQA Guidelines (PRC Section 21081.6 and State CEQA Guidelines Sections 15091[d] and 15097) require public agencies "to adopt a reporting and monitoring program for changes to the project which it has adopted or made a condition of project approval to mitigate or avoid significant effects on the environment." A Mitigation Monitoring and Reporting Program (MMRP) is required for approval of the proposed project because the Project-Specific Analysis/Addendum to the California Vegetation Treatment Program (CalVTP) Program Environmental Impact Report (Program EIR) (PSA/Addendum) identifies potential significant adverse impacts and all feasible mitigation measures have been adopted. Standard project requirements (SPRs), which are part of the project description, have been incorporated to avoid or minimize adverse effects. Where potentially significant impacts remain after application of SPRs, mitigation measures have been identified to further reduce and/or compensate for those impacts. While only mitigation measures are required to be covered in an MMRP, both SPRs and mitigation are included in this MMRP to assist in implementation of all environmental protection features of later activities consistent with the CalVTP Program EIR.

PURPOSE OF MITIGATION MONITORING AND REPORTING PROGRAM

This MMRP has been prepared to facilitate the implementation of SPRs and mitigation measures. The attached table presents the text of each SPR and mitigation measure from the CalVTP Program EIR that is applicable to the project, the timing of its planned implementation, the implementing entity, and the entity with monitoring responsibility. The numbering of SPRs and mitigation measures follows the numbering used in the Program EIR. SPRs and mitigation measures that are referenced more than once in the PSA are not duplicated in the MMRP. Instructions for project-specific guidance to implement certain SPRs and Mitigation Measures has been added to tailor the specific impact avoidance and minimization actions relevant to the proposed treatments, agency standard practices, and the conditions and resources present within each treatment site. In addition, non-substantive clarifying edits to mitigation measures in the Program EIR are shown in underline and strikethrough. In all cases, the additional project-specific implementation instruction and clarifying edits to mitigation measures maintain the SPRs and mitigation measures as equivalent or more effective than those presented in the Program EIR.

ROLES AND RESPONSIBILITIES

Unless otherwise specified herein, The Resource Conservation District of Santa Cruz County (RCDSCC) is responsible for taking all actions necessary to implement the mitigation measures under its jurisdiction according to the specifications provided for each measure and for demonstrating that the action has been successfully completed. RCDSCC will be responsible for implementation of mitigation measures pursuant to Section 15097 of the State CEQA Guidelines.

As defined in the CalVTP Program EIR and the PSA, the project proponent is a public agency that provides funding for vegetation treatment or has land ownership, land management, or other regulatory responsibility in the treatable landscape and is seeking to fund, authorize, or implement vegetation treatments consistent with the CalVTP. The SPRs and mitigation measures in this MMRP direct the project proponent to implement actions to avoid, minimize and mitigate impacts. As the lead agency and implementing entity, the "project proponent" as identified in the SPRs and mitigation measures refers to RCDSCC.

REPORTING

RCDSCC shall document and describe the compliance of the project treatment work with the required SPRs and mitigation measures either by adapting the project-specific MMRP table or preparing a separate post-project implementation report pursuant to the requirements of SPR AD-7.

MITIGATION MONITORING AND REPORTING PROGRAM TABLE

The categories identified in the attached MMRP table are described below.

- SPRs and Mitigation Measures – This column provides the text of the applicable SPR or adopted mitigation measure.
- Timing – This column identifies the time frame in which the SPR or mitigation measure will be implemented.
- Implementing Entity – This column identifies the party responsible for implementing the SPR or mitigation measure.
- Verifying/Monitoring Entity – This column identifies the party responsible for verifying and monitoring implementation of the SPR or mitigation measure.

QUALIFICATION REQUIREMENTS FOR BIOLOGICAL AND CULTURAL RESOURCE MEASURES

The biological and cultural resource SPRs and mitigation measures in the attached MMRP table require that qualified individuals implement components of the measures. The CalVTP Program EIR requirements listed below will be met to be considered qualified and may be performed by individuals of various titles (including biologist, botanist, ecologist, Registered Professional Forester (RPF), biological technician, or supervised designees working at the direction of a qualified professional) as long as they are qualified for the task at hand.

Archaeologically Trained Resource Professional: To be qualified, an archaeologically-trained resource professional would hold a valid Archaeological Training Certificate issued by CAL FIRE and the Board of Forestry and Fire Protection or equivalent state or local agency training or certification. Work performed by an archaeologically-trained resource professional must be reviewed and approved by a qualified archaeologist.

Qualified Archaeologist: To be qualified, an archaeologist would hold a Prehistoric Archeology, Historic Archeology, Conservation, Cultural Anthropology, or Curation degree from an accredited university and meet the Secretary of Interior's Qualifications Standards (36 CFR Part 61). The project proponent will review the resume and approve the qualifications of the archaeologists.

Qualified RPF or Biological Technician: To be qualified, an RPF or biological technician would 1) be knowledgeable in relevant species life histories and ecology, 2) be able to correctly identify relevant species and habitats, 3) have experience conducting biological monitoring of relevant species or resources, and 4) be knowledgeable about state and federal laws regarding the protection of special-status species. The project proponent will review the resume and approve the qualifications of RPFs or biological technicians.

Qualified RPF or Biologist: To be qualified, an RPF or biologist would hold a wildlife biology, botany, ecology, forestry, or other relevant degree from an accredited university and: 1) be knowledgeable in relevant species life histories and ecology, 2) be able to correctly identify relevant species and habitats, 3) have experience conducting field surveys of relevant species or resources, 4) be knowledgeable about survey protocols, 5) be knowledgeable about state and federal laws regarding the protection of special-status species, and 6) have experience with CDFW's California Natural Diversity Database (CNDDB) and Biogeographic Information and Observation System (BIOS). The project proponent will review the resume and approve the qualifications of RPFs or biologists. If species-specific protocol surveys are performed, surveys would be conducted by qualified RPFs or biologists with the minimum qualifications required by the appropriate protocols, including having CDFW or USFWS approval to conduct such surveys, if required by certain protocols.

Qualified RPF or Botanist: To be qualified, an RPF or botanist would 1) be knowledgeable about plant taxonomy, 2) be familiar with plants of the region, including special-status plants and sensitive natural communities, 3) have experience

conducting floristic botanical field surveys as described in CDFW "Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities" (current version dated March 20, 2018), or experience conducting such botanical field surveys under the direction of an experienced botanical field surveyor, 4) be familiar with the *California Manual of Vegetation* (Sawyer et al. 2009 or current version, including updated natural communities data at http://vegetation.cnps.org/), and 5) be familiar with federal, state, and local statutes and regulations related to plants and plant collecting. The project proponent will review the resume and approve the qualifications of RPFs or botanists.

Standard Project Requirements	Timing	Implementing Entity	Verifying/Monitoring Entity
Administrative Standard Project Requirements			
SPR AD-1: Project Proponent Coordination For treatments coordinated with CAL FIRE, CAL FIRE will meet with the project proponent to discuss all natural and environmental resources that must be protected using SPRs and any applicable mitigation measures; identify any sensitive resources onsite; and discuss resource protection measures. For any prescribed burn treatments, CAL FIRE will also discuss the details of the burn plan in the incident action plan (IAP). This SPR applies to all treatment activities and treatment types, including treatment maintenance.	Prior to treatment	RCDSCC	RCDSCC
SPR AD-2: Delineate Protected Resources: The project proponent will clearly define the boundaries of the treatment area and protected resources on maps for the treatment area and with highly visible flagging or clear, existing landscape demarcations (e.g., edge of a roadway) prior to beginning any treatment to avoid disturbing the resource. "Protected Resources" refers to environmentally sensitive places within or adjacent to the treatment areas that would be avoided or protected to the extent feasible during planned treatment activities to sustain their natural qualities and processes. This work will be performed by a qualified person, as defined for the specific resource (e.g., qualified Registered Professional Forester or biologist). This SPR applies to all treatment activities and treatment types, including treatment maintenance.	Prior to treatment	RCDSCC	RCDSCC
SPR AD-3: Consistency with Local Plans, Policies, and Ordinances: The project proponent will design and implement the treatment in a manner that is consistent with applicable local plans (e.g., general plans, Community Wildfire Protection Plans, CAL FIRE Unit Fire Plans), policies, and ordinances to the extent the project is subject to them. This SPR applies to all treatment activities and treatment types, including treatment maintenance.	Prior to treatment	RCDSCC	RCDSCC
SPR AD-4: Public Notifications for Prescribed Burning: At least three days prior to the commencement of prescribed burning operations, the project proponent will: 1) post signs along the closest public roadway to the treatment area describing the activity and timing, and requesting persons in the area to contact a designated representative of the project proponent (contact information will be provided with the notice) if they have questions or smoke concerns; 2) publish a public interest notification in a local newspapers or other widely distributed media source describing the activity, timing, and contact information; 3) send the local county supervisor and county administrative officer (or equivalent official responsible for distribution of public information) a notification letter describing the activity, its necessity, timing, and measures being taken to protect the environment and prevent prescribed burn escape. This SPR applies only to prescribed burn treatment activities and all treatment types, including treatment maintenance.	At least 3 days prior to prescribed burn treatment activities	RCDSCC	RCDSCC
SPR AD-5: Maintain Site Cleanliness: If trash receptacles are used on-site, the project proponent will use fully covered trash receptacles with secure lids (wildlife proof) to contain all food, food scraps, food wrappers, beverages, and other worker generated miscellaneous trash. Remove all temporary non-biodegradable flagging, trash, debris, and barriers from the project site upon	Prior to, during, and following treatment	RCDSCC	RCDSCC

Standard Project Requirements	Timing	Implementing Entity	Verifying/Monitoring Entity
completion of project activities. This SPR applies to all treatment activities and all treatment types, including treatment maintenance.			
SPR AD-6: Public Notifications for Treatment Projects One to three days prior to the commencement of a treatment activity, the project proponent will post signs in a conspicuous location near the treatment area describing the activity and timing, and requesting persons in the area to contact a designated representative of the project proponent (contact information will be provided with the notice) if they have questions or concerns. This SPR applies to all treatment activities and all treatment types, including treatment maintenance. Prescribed burning is subject to the additional notification requirements of SPR AD-4.	One to three days prior to treatment activities	RCDSCC	RCDSCC
SPR AD-7: Provide Information on Proposed, Approved, and Completed Treatment Projects For any vegetation treatment project using the CalVTP Program EIR for CEQA compliance, the project proponent will provide the information listed below to the Board of Forestry and Fire Protection (Board) or CAL FIRE during the proposed, approved, and completed stages of the project. The Board or CAL FIRE will make this information available to the public via an online database or other mechanism. Information on proposed projects (PSA in progress): ▶ GIS data that include project location (as a point), or project latitude/longitude; ▶ project size (typically acres); ▶ treatment types and activities; and ▶ contact information for a representative of the project proponent. The project proponent will provide information on the proposed project to the Board or CAL FIRE as early as feasible in the planning phase. The project proponent will provide this information to the Board or CAL FIRE with sufficient lead time to allow those agencies to make the information available to the public at least two weeks prior to project approval. The project proponent may also make information available to the public via other mechanisms (e.g., the proponent's own website). Information on approved projects (PSA complete): ▶ A completed PSA Environmental Checklist; ▶ A completed Mitigation Monitoring and Reporting Program (using Attachment A to the Environmental Checklist); ▶ GIS data that include a polygon(s) of the project area, showing the extent of each treatment type included in the project (ecological restoration, fuel break, WUI fuel reduction) Information on completed projects (following initial treatment): ▶ GIS data that include a polygon(s) of the treated area, showing the extent of each treatment type implemented (ecological restoration, fuel break, WUI fuel reduction) ▶ A post-project implementation report (referred to by CAL FIRE as a Completion Report) that includes ▪ Size of treated area (typically acres);	Prior to, during, and following treatment	RCDSCC	RCDSCC

Standard Project Requirements	Timing	Implementing Entity	Verifying/Monitoring Entity
▪ Treatment types and activities; ▪ Dates of work; ▪ A list of the SPRs and mitigation measures that were implemented; and ▪ Any explanations regarding implementation if required by SPRs and mitigation measures (e.g., explanation for feasibility determination required by SPR BIO-12; explanation for reduction of a no-disturbance buffer below the general minimum size described in Mitigation Measures BIO-1a and BIO-2b). This SPR applies to all treatment activities and all treatment types, including treatment maintenance.			
Aesthetic and Visual Resource Standard Project Requirements			
SPR AES-1: Vegetation Thinning and Edge Feathering The project proponent will thin and feather adjacent vegetation to break up or screen linear edges of the clearing and mimic forms of natural clearings as reasonable or appropriate for vegetation conditions. In general, thinning and feathering in irregular patches of varying densities, as well as a gradation of tall to short vegetation at the clearing edge, will achieve a natural transitional appearance. The contrast of a distinct clearing edge will be faded into this transitional band. This SPR only applies to mechanical and manual treatment activities and all treatment types, including treatment maintenance.	During treatment	RCDSCC	RCDSCC
SPR AES-2: Avoid Staging within Viewsheds The project proponent will store all treatment-related materials, including vehicles, vegetation treatment debris, and equipment, outside of the viewshed of public trails, parks, recreation areas, and roadways to the extent feasible. The project proponent will also locate materials staging and storage areas outside of the viewshed of public trails, parks, recreation areas, and roadways to the extent feasible. This SPR applies to all treatment activities and treatment types, including treatment maintenance.	During treatment	RCDSCC	RCDSCC
SPR AES-3: Provide Vegetation Screening The project proponent will preserve sufficient vegetation within, at the edge of, or adjacent to treatment areas to screen views from public trails, parks, recreation areas, and roadways as reasonable or appropriate for vegetation conditions. This SPR applies to all treatment activities and all treatment types, including treatment maintenance.	During treatment	RCDSCC	RCDSCC
Air Quality Standard Project Requirements			
SPR AQ-1: Comply with Air Quality Regulations The project proponent will comply with the applicable air quality requirements of air districts within whose jurisdiction the project is located. This SPR applies to all treatment activities and all treatment types, including treatment maintenance.	During treatment	RCDSCC	RCDSCC
SPR AQ-2: Submit Smoke Management Plan The project proponent will submit a smoke management plan for all prescribed burns to the applicable air district, in accordance with 17 CCR Section 80160. Pursuant to this regulation a smoke management plan will not be required for burns less than 10 acres that also will not be conducted near smoke sensitive areas, unless otherwise directed by the	Prior to prescribed burn treatment activities	RCDSCC	RCDSCC

Standard Project Requirements	Timing	Implementing Entity	Verifying/Monitoring Entity
air district. Burning will only be conducted in compliance with the burn authorization program of the applicable air district(s) having jurisdiction over the treatment area. Example of a smoke management plan is in Appendix PD-2. This SPR applies only to prescribed burning treatment activities and all treatment types, including treatment maintenance.			
SPR AQ-3: Create Burn Plan The project proponent will create a burn plan using the CAL FIRE burn plan template for all prescribed burns. The burn plan will include a fire behavior model output of First Order Fire Effects Model and BEHAVE or other fire behavior modeling simulation and that is performed by a qualified fire behavior technical specialist that predicts fire behavior, calculates consumption of fuels, tree mortality, predicted emissions, greenhouse gas emissions, and soil heating. The project proponent will minimize soil burn severity from broadcast burning to reduce the potential for runoff and soil erosion. The burn plan will be created with input from a qualified technician or certified State burn boss. This SPR applies only to prescribed burning treatment activities and all treatment types, including treatment maintenance.	Prior to prescribed burn treatment activities	RCDSCC	RCDSCC
SPR AQ-4: Minimize Dust To minimize dust during treatment activities, the project proponent will implement the following measures: ▶ Limit the speed of vehicles and equipment traveling on unpaved areas to 15 miles per hour to reduce fugitive dust emissions, in accordance with the California Air Resources Board (CARB) Fugitive Dust protocol. ▶ If road use creates excessive dust, the project proponent will wet appurtenant, unpaved, dirt roads using water trucks or treat roads with a non-toxic chemical dust suppressant (e.g., emulsion polymers, organic material) during dry, dusty conditions. Any dust suppressant product used will be environmentally benign (i.e., non-toxic to plants and will not negatively impact water quality) and its use will not be prohibited by ARB, EPA, or the State Water Resources Control Board (SWRCB). The project proponent will not over-water exposed areas such that the water results in runoff. The type of dust suppression method will be selected by the project proponent based on soil, traffic, site-specific conditions, and air quality regulations. ▶ Remove visible dust, silt, or mud tracked-out on to public paved roadways where sufficient water supplies and access to water is available. The project proponent will remove dust, silt, and mud from vehicles at the conclusion of each workday, or at a minimum of every 24 hours for continuous treatment activities, in accordance with Vehicle Code Section 23113. ▶ Suspend ground-disturbing treatment activities, including land clearing and bulldozer lines, when there is visible dust transport (particulate pollution) outside the treatment boundary, if the particulate emissions may "cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or that endanger the comfort, repose, health, or safety of any of those persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property," per Health and Safety Code Section 41700. This SPR applies to all treatment activities and treatment types, including treatment maintenance.	During treatment	RCDSCC	RCDSCC

Standard Project Requirements	Timing	Implementing Entity	Verifying/Monitoring Entity
SPR AQ-5: Avoid Naturally Occurring Asbestos The project proponent will avoid ground-disturbing treatment activities in areas identified as likely to contain naturally occurring asbestos (NOA) per maps and guidance published by the California Geological Survey, unless an Asbestos Dust Control Plan (17 CCR Section 93105) is prepared and approved by the air district(s) with jurisdiction over the treatment area. Any NOA-related guidance provided by the applicable air district will be followed. This SPR applies to all treatment activities and treatment types, including treatment maintenance.	During treatment	RCDSCC	RCDSCC
SPR AQ-6: Prescribed Burn Safety Procedures Prescribed burns planned and managed by non-CAL FIRE crews will follow all safety procedures required of CAL FIRE crew, including the implementation of an approved Incident Action Plan (IAP). The IAP will include the burn dates; burn hours; weather limitations; the specific burn prescription; a communications plan; a medical plan; a traffic plan; and special instructions such as minimizing smoke impacts to specific local roadways. The IAP will also assign responsibilities for coordination with the appropriate air district, such as conducting onsite briefings, posting notifications, weather monitoring during burning, and other burn related preparations. This SPR applies only to prescribed burning treatment activities and all treatment types, including treatment maintenance.	During prescribed burn treatment activities	RCDSCC	RCDSCC
Archaeological, Historical, and Tribal Cultural Resources Standard Project Requirements			
SPR CUL-1: Conduct Record Search An archaeological and historical resource record search will be conducted per the applicable state or local agency procedures. Instead of conducting a new search, the project proponent may use recent record searches containing the treatment area requested by a landowner or other public agency in accordance applicable agency guidance. This SPR applies to all treatment activities and treatment types, including treatment maintenance.	Prior to treatment **Records for the project area were obtained; see PSA/Addendum for a summary of results.**	RCDSCC	RCDSCC
SPR CUL-2: Contact Geographically Affiliated Native American Tribes The project proponent will obtain the latest Native American Heritage Commission (NAHC) provided Native Americans Contact List. Using the appropriate Native Americans Contact List, the project proponent will notify the California Native American Tribes in the counties where the treatment activity is located. The notification will contain the following: ▶ A written description of the treatment location and boundaries. ▶ Brief narrative of the treatment objectives. ▶ A description of the activities used (e.g., prescribed burning, mastication) and associated acreages. ▶ A map of the treatment area at a sufficient scale to indicate the spatial extent of activities. ▶ A request for information regarding potential impacts to cultural resources from the proposed treatment. ▶ A detailed description of the depth of excavation, if ground disturbance is expected. In addition, the project proponent will contact the NAHC for a review of their Sacred Lands File. This SPR applies to all treatment activities and treatment types, including treatment maintenance.	Prior to treatment **Tribes have been contacted and Sacred Lands File (SLF) query completed; see PSA/Addendum for a summary of consultation and SLF results.**	RCDSCC	RCDSCC

Standard Project Requirements	Timing	Implementing Entity	Verifying/Monitoring Entity
SPR-CUL-3: Pre-field Research The project proponent will conduct research prior to implementing treatments as part of the cultural resource investigation. The purpose of this research is to properly inform survey design, based on the types of resources likely to be encountered within the treatment area, and to be prepared to interpret, record, and evaluate these findings within the context of local history and prehistory. The qualified archaeologist and/or archaeologically-trained resource professional will review records, study maps, read pertinent ethnographic, archaeological, and historical literature specific to the area being studied, and conduct other tasks to maximize the effectiveness of the survey. This SPR applies to all treatment activities and treatment types, including treatment maintenance.	Prior to treatment	RCDSCC	RCDSCC
SPR CUL-4: Archaeological Surveys The project proponent will coordinate with an archaeologically-trained resource professional and/or qualified archaeologist to conduct a site-specific survey of the treatment area. The survey methodology (e.g., pedestrian survey, subsurface investigation) depends on whether the area has a low, moderate, or high sensitivity for resources, which is based on whether the records search, pre-field research, and/or Native American consultation identifies archaeological or historical resources near or within the treatment area. A survey report will be completed for every cultural resource survey completed. The specific requirements will comply with the applicable state or local agency procedures. This SPR applies to mechanical and prescribed burning ~~all~~ treatment activities and manual treatment activities when woody material is not chipped or lopped and removed or scattered ~~treatment types~~, including treatment maintenance.	Prior to treatment	RCDSCC	RCDSCC
SPR CUL-5: Treatment of Archaeological Resources If cultural resources are identified within a treatment area, and cannot be avoided, a qualified archaeologist will notify the culturally affiliated tribe(s) based on information provided by NAHC and assess, whether an archaeological find qualifies as a unique archaeological resource, an historical resource, or in coordination with said tribe(s), as a tribal cultural resource. The project proponent, in consultation with culturally affiliated tribe(s), will develop effective protection measures for important cultural resources located within treatment areas. These measures may include adjusting the treatment location or design to entirely avoid cultural resource locations or changing treatment activities so that damaging effects to cultural resources will not occur. These protection measures will be written in clear, enforceable language, and will be included in the survey report in accordance with applicable state or local agency procedures. This SPR applies to all treatment activities and treatment types, including treatment maintenance.	Prior to and during treatment	RCDSCC	RCDSCC
SPR CUL-6: Treatment of Tribal Cultural Resources The project proponent, in consultation with the culturally affiliated tribe(s), will develop effective protection measures for important tribal cultural resources located within treatment areas. These measures may include adjusting the treatment location or design to entirely avoid cultural resource locations or changing treatment activities so that damaging effects to cultural resources will not occur. The project proponent will provide the tribe(s) the opportunity to submit comments and participate in consultation to resolve issues of concern. The project proponent will defer implementing the treatment until the tribe approves protection measures, or if agreement cannot be reached after a good-faith effort, the proponent determines that any or all feasible measures have been implemented, where	Prior to and during treatment	RCDSCC	RCDSCC

Standard Project Requirements	Timing	Implementing Entity	Verifying/Monitoring Entity
feasible, and the resource is either avoided or protected. This SPR applies to all treatment activities and treatment types, including treatment maintenance.			
SPR CUL-7: Avoid Built Historical Resources If the records search identifies built historical resources, as defined in Section 15064.5 of the State CEQA Guidelines, the project proponent will avoid these resources. Within a buffer of 100 feet of the built historical resource, there will be no prescribed burning or mechanical treatment activities Buffers less than 100 feet for built historical resources will only be used after consultation with and receipt of written approval from a qualified archaeologist. If the records search does not identify known historical resources in the treatment area, but structures (i.e., buildings, bridges, roadways) over 50 years old that have not been evaluated for historic significance are present in the treatment area, they will similarly be avoided. This SPR applies to all treatment activities and treatment types, including treatment maintenance.	Prior to and during treatment	RCDSCC	RCDSCC
SPR CUL-8: Cultural Resource Training The project proponent will train all crew members and contractors implementing treatment activities on the protection of sensitive archaeological, historical, or tribal cultural resources. Workers will be trained to halt work if archaeological resources are encountered on a treatment site and the treatment method consists of physical disturbance of land surfaces (e.g., soil disturbance). This SPR applies to all treatment activities and treatment types, including treatment maintenance.	Prior to and during treatment	RCDSCC	RCDSCC
Biological Resources Standard Project Requirements			
SPR BIO-1: Review and Survey Project-Specific Biological Resources The project proponent will require a qualified RPF or biologist to conduct a data review and reconnaissance-level survey prior to treatment, no more than one year prior to the submittal of the PSA, and no more than one year between completion of the PSA and implementation of the treatment project. The data reviewed will include the biological resources setting, species and sensitive natural communities tables, and habitat information in this Program EIR for the ecoregion(s) where the treatment will occur. It will also include review of the best available, current data for the area, including vegetation mapping data, species distribution/range information, CNDDB, California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California, relevant BIOS queries, and relevant general and regional plans. Reconnaissance-level biological surveys will be general surveys that include visual and auditory inspection for biological resources to help determine the environmental setting of a project site. The qualified surveyor will 1) identify and document sensitive resources, such as riparian or other sensitive habitats, sensitive natural community, wetlands, or wildlife nursery site or habitat (including bird nests), and 2) assess the suitability of habitat for special-status plant and animal species. The surveyor will also record any incidental wildlife observations. For each treatment project, habitat assessments will be completed at a time of year that is appropriate for identifying habitat and no more than one year prior to the submittal of the PSA, unless it can be demonstrated in the PSA that habitat assessments older than one year remain valid (e.g., site conditions are unchanged and no treatment activity has occurred since the assessment). If more than one year passes between completion of the PSA and initiation of the treatment project, the project proponent will verify the continued accuracy of the PSA prior to	Prior to treatment. **Initial data review and reconnaissance-level survey was conducted in September 2023; see PSA/Addendum for results.**	RCDSCC	RCDSCC

Standard Project Requirements	Timing	Implementing Entity	Verifying/Monitoring Entity
beginning the treatment project by reviewing for any data updates and/or visiting the site to verify conditions. Based on the results of the data review and reconnaissance-level survey, the project proponent, in consultation with a qualified RPF or biologist, will determine which one of the following best characterizes the treatment:			
1. **Suitable Habitat Is Present but Adverse Effects Can Be Clearly Avoided**. If, based on the data review and reconnaissance-level survey, the qualified RPF or biologist determines that suitable habitat for sensitive biological resources is present but adverse effects on the suitable habitat can clearly be avoided through one of the following methods, the avoidance mechanism will be implemented prior to initiating treatment and will remain in effect throughout the treatment: a. by physically avoiding the suitable habitat or b. by conducting treatment outside of the season when a sensitive resource could be present within the suitable habitat or outside the season of sensitivity (e.g., outside of special-status bird nesting season, during dormant season of sensitive annual or geophytic plant species, or outside of maternity and rearing season at wildlife nursery sites). Physical avoidance will include flagging, fencing, stakes, or clear, existing landscape demarcations (e.g., edge of a roadway) to delineate the boundary of the avoidance area around the suitable habitat. For physical avoidance, a buffer may be implemented as determined necessary by the qualified RPF or biologist. **Project-Specific Guidance to Implement SPR BIO-1** <u>Special-Status Plants</u> ▶ For special-status plants not listed under CESA or ESA, to avoid impacts on the annual and geophyte species identified in Table 4.5-2 of the PSA/Addendum, only non-ground-disturbing treatment activities (i.e., manual treatments, herbicide application, and prescribed burning) will be implemented and only during the dormant season for these species (i.e., when the plant has no aboveground parts), if feasible, provided the treatment will not alter habitat in a way that would make it unsuitable for the special-status plants to reestablish following treatment, or destroy seedbanks, stumps, or roots, rhizomes, bulbs and other underground parts of these species. If the limited operating period for annual and geophyte species (i.e., only non-ground-disturbing treatment activities conducted during the dormant season) is determined to be infeasible, then protocol-level surveys will be required per SPR BIO-7. Note that ground-disturbing treatment activities (i.e., mechanical treatments) may result in impacts on these plant species even when dormant and will not be conducted without prior implementation of SPR BIO-7. <u>Special-Status Wildlife</u> ▶ To avoid impacts on marbled murrelet, treatments will be conducted outside of the nesting season (March 24 to September 15) (USFWS 2020) within potentially suitable habitat for the species (i.e., redwood/Douglas fir forest), or a qualified RPF or biologist will assess the treatment area, and adjacent habitat within 0.25 mile if access allows, for trees that contains nesting platforms suitable for marbled murrelet following the guidelines described in *Methods for Surveying Marbled Murrelets in Forests; A revised Protocol for Land Management and Research*	Prior to and during treatment	RCDSCC	RCDSCC

Standard Project Requirements	Timing	Implementing Entity	Verifying/Monitoring Entity
(Mack et al. 2003) in contact with the USFWS and CDFW using the CDFW pre-consultation information guidelines. ▪ If it is not feasible to conduct treatments outside of the nesting season, and habitat suitable for marbled murrelet (i.e., nesting trees) are present within the treatment area or within 0.25 mile (as identified in the previous bullet), then SPR BIO-10 will be implemented. ▶ To avoid impacts on other special status birds (i.e., golden eagle, white-tailed kite, olive-sided flycatcher, and purple martin), mechanical treatments, manual treatments, prescribed burning, prescribed herbivory, and herbicide application will be conducted outside of the nesting season (February 1 to August 31). If it is not feasible to conduct certain treatments outside of the nesting season, then SPR BIO-10 will be implemented. ▶ To avoid impacts on monarch butterfly, broadcast burning, mechanical treatments, manual tree and snag removal, and herbicide application will be conducted in grassland, shrub, and oak woodland habitat outside of the season when monarch eggs, larvae, and pupae are likely to be present on milkweed host plants (i.e., treatment will be conducted outside of March 15 through October 31). This period may be adjusted by a qualified biologist or RPF to reflect local timing of monarch breeding. If it is not feasible to avoid treatments during this sensitive season, then SPR BIO-10 will be implemented. ▶ To avoid impacts on American badger, manual treatments, mechanical treatments, prescribed burning, and prescribed herbivory treatments within habitat suitable for denning will be conducted outside of the pupping season (February 15-July 1), if feasible. If conducting these treatments outside the American badger pupping season is determined to be infeasible, then SPR BIO-10 will be implemented. ▶ To avoid impacts on ringtail, a limited operating period for manual snag or large tree (i.e., greater than 12 inches dbh) removal, mechanical treatments, and prescribed burning activities from April 15 to July 31 will be implemented, if feasible. If conducting some manual snag or large tree removal, mechanical, and prescribed burning treatments outside of the ringtail maternity season is determined to be infeasible for certain treatments, then SPR BIO-10 will be implemented. ▶ To avoid impacts on special-status bat maternity colonies, a limited operating period for mechanical treatments, manual snag and tree removal treatments, and prescribed burning from April 1 to August 31 will be implemented, if feasible. If the limited operating period is infeasible, focused surveys will be required per SPR BIO-10. 2. Suitable Habitat is Present and Adverse Effects Cannot Be Clearly Avoided. Further review and surveys will be conducted to determine presence/absence of sensitive biological resources that may be affected, as described in the SPRs below. Further review may include contacting USFWS, NOAA Fisheries, CDFW, CNPS, or local resource agencies as necessary to determine the potential for special-status species or other sensitive biological resources to be affected by the treatment activity. Focused or protocol-level surveys will be conducted as necessary to determine presence/absence. If protocol surveys are conducted, survey procedures will adhere to methodologies approved by resource agencies and the scientific community, such as those that are available on the CDFW webpage at: https://www.wildlife.ca.gov/Conservation/Survey-Protocols. Specific survey requirements			

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are addressed for each resource type in relevant SPRs (e.g., additional survey requirements are presented for special-status plants in SPR BIO-7). This SPR applies to all treatment activities and treatment types, including treatment maintenance. **Project-Specific Guidance to Implement SPR BIO-1** Special-Status Wildlife ▶ Because there is no reliable season during which all impacts on California red-legged frog, foothill yellow-legged frog, California giant salamander, Santa Cruz black salamander, western pond turtle, Mount Hermon June beetle, Zayante band-winged grasshopper, mountain lion, and San Francisco dusky footed woodrat could be avoided and avoidance of habitat is not feasible due to these species' variable habitat preferences, implementation of SPR BIO-10 for these species would be required before all treatment activities.			
SPR BIO-2: Require Biological Resource Training for Workers The project proponent will require crew members and contractors to receive training from a qualified RPF or biologist prior to beginning a treatment project. The training will describe the appropriate work practices necessary to effectively implement the biological SPRs and mitigation measures and to comply with the applicable environmental laws and regulations. The training will include the identification, relevant life history information, and avoidance of pertinent special-status species; identification and avoidance of sensitive natural communities and habitats with the potential to occur in the treatment area; impact minimization procedures; and reporting requirements. The training will instruct workers when it is appropriate to stop work and allow wildlife encountered during treatment activities to leave the area unharmed and when it is necessary to report encounters to a qualified RPF, biologist, or biological technician. The qualified RPF, biologist, or biological technician will immediately contact CDFW or USFWS, as appropriate, if any wildlife protected by the California Endangered Species Act (CESA) or Federal Endangered Species Act (ESA) is encountered and cannot leave the site on its own (without being handled). This SPR applies to all treatment activities and treatment types, including treatment maintenance. **Project-Specific Guidance to Implement SPR BIO-2** ▶ All contractors, their employees, and agency personnel involved in the implementation of the project will be trained to check for the presence of special-status wildlife under or next to stationary vehicles prior to operating their vehicles. If a special-status wildlife species is found, the qualified RPF or biological technician will determine necessary next steps to avoid impact.	Prior to and during treatment	RCDSCC	RCDSCC
Sensitive Natural Communities and Other Sensitive Habitats			
SPR BIO-3: Survey Sensitive Natural Communities and Other Sensitive Habitats If SPR BIO-1 determines that sensitive natural communities or sensitive habitats may be present and adverse effects cannot be avoided, the project proponent will: ▶ require a qualified RPF or biologist to perform a protocol-level survey following the CDFW "Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities" (current version dated March 20, 2018) of the treatment area prior to the start of treatment activities for	Prior to treatment	RCDSCC	RCDSCC

Standard Project Requirements	Timing	Implementing Entity	Verifying/Monitoring Entity
sensitive natural communities and sensitive habitats. Sensitive natural communities will be identified using the best means possible, including keying them out using the most current edition of *A Manual of California Vegetation* (including updated natural communities data at http://vegetation.cnps.org/), or referring to relevant reports (e.g., reports found on the VegCAMP website). ▶ map and digitally record, using a Global Positioning System (GPS), the limits of any potential sensitive habitat and sensitive natural community identified in the treatment area. This SPR applies to all treatment activities and treatment types, including treatment maintenance. **Project-Specific Guidance to Implement SPR BIO-3** ▶ Most of the project area has been mapped pursuant to SPR BIO-3. However, SPR BIO-3 would be implemented in the areas labeled as California annual and perennial grassland macrogroup, *Acer macrophyllum* Mapping Unit, *Quercus lobata* Mapping Unit, and *Umbellularia californica* Mapping Unit where vegetation has not been mapped to the alliance level, pursuant to Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018) and using the Manual of California Vegetation. ▶ Sandhills will be surveyed for, mapped, and digitally recorded in the treatment area using a Global Positioning System (GPS). Sandhills will be identified according to the proposed plant community classification outlined in the *Sandhills Conservation and Management Plan* (McGraw 2004) and will consider other factors such as the presence of Zayante soils and animals that are associated with the sandhills.			
SPR BIO-4: Design Treatment to Avoid Loss or Degradation of Riparian Habitat Function Project proponents, in consultation with a qualified RPF or qualified biologist, will design treatments in riparian habitats to retain or improve habitat functions by implementing the following within riparian habitats: ▶ Retain at least 75 percent of the overstory and 50 percent of the understory canopy of native riparian vegetation within the limits of riparian habitat identified and mapped during surveys conducted pursuant to SPR BIO-3. Native riparian vegetation will be retained in a well distributed multi-storied stand composed of a diversity of species similar to that found before the start of treatment activities. ▶ Treatments will be limited to removal of uncharacteristic fuel loads (e.g., removing dead or dying vegetation), trimming/limbing of woody species as necessary to reduce ladder fuels, and select thinning of vegetation to restore densities that are characteristic of healthy stands of the riparian vegetation types characteristic of the region. This includes hand removal (or mechanized removal where topography allows) of dead or dying riparian trees and shrubs, invasive plant removal, selective thinning, and removal of encroaching upland species. ▶ Removal of large, native riparian hardwood trees (e.g., willow, ash, maple, oak, alder, sycamore, cottonwood) will be minimized to the extent feasible and 75 percent of the pretreatment native riparian hardwood tree canopy will be retained. Because tree size varies depending on vegetation type present and site conditions, the tree size retention parameter will be determined on a site-specific basis depending on vegetation type present and setting; however, live, healthy, native trees that are considered large for that type of tree and large relative to other trees in that location will be retained. A scientifically-based, project-specific explanation substantiating	Prior to and during treatment	RCDSCC	RCDSCC

Standard Project Requirements	Timing	Implementing Entity	Verifying/Monitoring Entity
the retention size parameter for native riparian hardwood tree removal will be provided in the Biological Resources Discussion of the PSA. Consideration of factors such as site hydrology, erosion potential, suitability of wildlife habitat, presence of sufficient seed trees, light availability, and changes in stream shading may inform the tree size retention requirements. ▶ Removed trees will be felled away from adjacent streams or waterbodies and piled outside of the riparian vegetation zone (unless there is an ecological reason to do otherwise that is approved by applicable regulatory agencies, such as adding large woody material to a stream to enhance fish habitat, e.g., see *Accelerated Wood Recruitment and Timber Operations: Process Guidance from the California Timber Harvest Review Team Agencies and National Marine Fisheries Service*). ▶ Vegetation removal that could reduce stream shading and increase stream temperatures will be avoided. ▶ Ground disturbance within riparian habitats will be limited to the minimum necessary to implement effective treatments. This will consist of the minimum disturbance area necessary to reduce hazardous fuels and return the riparian community to a natural fire regime (i.e., Condition Class 1) considering historic fire return intervals, climate change, and land use constraints. ▶ Only hand application of herbicides approved for use in aquatic environments will be allowed and only during low-flow periods or when seasonal streams are dry. ▶ The project proponent will notify CDFW when required by California Fish and Game Code Section 1602 prior to implementing any treatment activities in riparian habitats. Notification will identify the treatment activities, map the vegetation to be removed, identify the impact avoidance identification methods to be used (e.g., flagging), and appropriate protections for the retention of shaded riverine habitat, including buffers and other applicable measures to prevent erosion into the waterway. ▶ In consideration of spatial variability of riparian vegetation types and condition and consistent with California Forest Practice Rules Section 916.9(v) (February 2019 version), a different set of vegetation retention standards and protection measures from those specified in the above bullets may be implemented on a site-specific basis if the qualified RPF and the project proponent demonstrate through substantial evidence that alternative design measures provide a more effective means of achieving the treatment objectives and would result in effects to the Beneficial Functions of Riparian Zones equal or more favorable than those expected to result from application of the above measures. Deviation from the above design specifications, different protection measures and design standards will only be approved when the treatment plan incorporates an evaluation of beneficial functions of the riparian habitat and with written concurrence from CDFW. This SPR applies to all treatment activities and treatment types, including treatment maintenance.			
SPR BIO-5: Avoid Environmental Effects of Type Conversion and Maintain Habitat Function in Chaparral and Coastal Sage Scrub The project proponent will design treatment activities to avoid type conversion where native coastal sage scrub and chaparral are present. An ecological definition of type conversion is used in the CalVTP Program EIR for assessment of environmental effects: a change from a vegetation type dominated by native shrub species that are characteristic	Prior to and during treatment	RCDSCC	RCDSCC

Standard Project Requirements	Timing	Implementing Entity	Verifying/Monitoring Entity
of chaparral and coastal sage scrub vegetation alliances to a vegetation type characterized predominantly by weedy herbaceous cover or annual grasslands. For the Program EIR, type conversion is considered in terms of habitat function, which is defined here as the arrangement and capability of habitat features to provide refuge, food source, and reproduction habitat to plants and animals, and thereby contribute to the conservation of biological and genetic diversity and evolutionary processes (de Groot et al. 2002). Some modification of habitat characteristics may occur provided habitat function is maintained (i.e., the location, essential habitat features, and species supported are not substantially changed). During the reconnaissance-level survey required in SPR BIO-1, a qualified RPF or biologist will identify chaparral and coastal sage scrub vegetation to the alliance level and determine the condition class and fire return interval departure of the chaparral and/or coastal sage scrub present in each treatment area. For all treatment types in chaparral and coastal sage scrub, the project proponent, in consultation with a qualified RPF or qualified biologist will: ▶ Develop a treatment design that avoids environmental effects of type conversion in chaparral and coastal sage scrub vegetation alliances, which will include evaluating and determining the appropriate spatial scale at which the proponent would consider type conversion, and substantiating its appropriateness. The project proponent will demonstrate with substantial evidence that the habitat function of chaparral and coastal sage scrub would be at least maintained within the identified spatial scale at which type conversion is evaluated for the specific treatment project. Consideration of factors such as site hydrology, erosion potential, suitability of wildlife habitat, spatial needs of sensitive species, presence of sufficient seed plants and nurse plants, light availability, and edge effects may inform the determination of an appropriate spatial scale. ▶ The treatment design will maintain a minimum percent cover of mature native shrubs within the treatment area to maintain habitat function; the appropriate percent cover will be identified by the project proponent in the development of treatment design and be specific to the vegetation alliances that are present in the identified spatial scale used to evaluate type conversion. Mature native shrubs that are retained will be distributed contiguously or in patches within the stand. If the stand consists of multiple age classes, patches representing a range of middle to old age classes will be retained to maintain and improve heterogeneity, to the extent needed to avoid type conversion. These SPR requirements apply to all treatment activities and all treatment types, including treatment maintenance. Additional measures will be applied to ecological restoration treatment types: ▶ For ecological restoration treatment types, complete removal of the mature shrub layer will not occur in native chaparral and coastal sage scrub vegetation types. ▶ Ecological restoration treatments will not be implemented in vegetation types that are within their natural fire return interval (i.e., time since last burn is less than the average time listed as the fire return interval range in Table 3.6-1 of the Program EIR) unless the project proponent demonstrates with substantial evidence that the habitat function of chaparral and coastal sage scrub would be improved.			

Standard Project Requirements	Timing	Implementing Entity	Verifying/Monitoring Entity
▶ A minimum of 35 percent relative cover of existing shrubs and associated native vegetation will be retained at existing densities in patches distributed in a mosaic pattern within the treated area or the shrub canopy will be thinned by no more than 20 percent from baseline density (i.e., if baseline shrub canopy density is 60 percent, post treatment shrub canopy density will be no less than 40 percent). A different percent relative cover can be retained if the project proponent demonstrates with substantial evidence that alternative treatment design measures would result in effects on the habitat function of chaparral and coastal sage scrub that are equal or more favorable than those expected to result from application of the above measures. Biological considerations that may inform a deviation from the minimum 35 percent relative cover retention include but are not limited to soil moisture requirements, increased soil temperatures, changes in light/shading, presence of sufficient seed plants and nurse plants, erosion potential, and site hydrology. ▶ If the stand within the treatment area consists of multiple age classes, patches representing a range of middle to old age classes will be retained to maintain and improve heterogeneity. These SPR requirements apply to all treatment activities and only the ecosystem restoration treatment type, including treatment maintenance. A determination of compliance with the SB 1260 prohibition of type conversion in chaparral and coastal sage scrub is a statutory issue separate from CEQA compliance that may involve factors additional to the ecological definition and habitat functions presented in the Program EIR, such as geographic context. It is beyond the legal scope of the Program EIR to define SB 1260 type conversion and statutory compliance. The project proponent, acting as lead agency for the proposed later treatment project, will be responsible for defining type conversion in the context of the project and making the finding that type conversion would not occur, as required by SB 1260. The project proponent will determine its criteria for defining and avoiding type conversion and, in making its findings, may draw upon information presented in this Program EIR. **Project-Specific Guidance to Implement SPR BIO-5** <u>Sandhill Chaparral</u> ▶ The recommended retention of at least 35 percent relative final density of mature shrub vegetation and a mix of middle to older aged shrubs may be reduced or eliminated for three chaparral alliances that are present in the project area and are known to occur in the sandhill ecosystem: brittle leaf - woolly leaf manzanita chaparral (including the silverleaf manzanita association), deerweed - silver lupine - yerba santa scrub, and wedge leaf ceanothus chaparral, buck brush chaparral alliance. A qualified biologist reviewed and provided substantial evidence that these chaparral alliances would benefit from prescribed burning treatments conducted within their normal fire return interval that would replicate the stand-replacing fires that these alliances are adapted to (See PSA Section 4.5 Impact BIO-3 for an analysis of benefits of prescribed burning in these three alliances).			

Standard Project Requirements	Timing	Implementing Entity	Verifying/Monitoring Entity
SPR BIO-6: Prevent Spread of Plant Pathogens When working in sensitive natural communities, riparian habitats, or oak woodlands that are at risk from plant pathogens (e.g., Ione chaparral, blue oak woodland), the project proponent will implement the following best management practices to prevent the spread of *Phytopthora* and other plant pathogens (e.g., pitch canker (*Fusarium*), goldspotted oak borer, shot hole borer, bark beetle): ▶ clean and sanitize vehicles, equipment, tools, footwear, and clothes before arriving at a treatment site and when leaving a contaminated site, or a site in a county where contamination is a risk; ▶ include training on *Phytopthora* diseases and other plant pathogens in the worker awareness training; ▶ minimize soil disturbance as much as possible by limiting the number of vehicles, avoiding off-road travel as much as possible, and limiting use of mechanized equipment; ▶ minimize movement of soil and plant material within the site, especially between areas with high and low risk of contamination; ▶ clean soil and debris from equipment and sanitize hand tools, buckets, gloves, and footwear when moving from high risk to low risk areas or between widely separated portions of a treatment area; and ▶ follow the procedures listed in Guidance for plant pathogen prevention when working at contaminated restoration sites or with rare plants and sensitive habitat (Working Group for *Phytoptheras* in Native Habitats 2016). This SPR applies to all treatment activities and treatment types, including treatment maintenance.	Prior to and during treatment	RCDSCC	RCDSCC
SPR BIO-7: Survey for Special-Status Plants If SPR BIO-1 determines that suitable habitat for special-status plant species is present and cannot be avoided, the project proponent will require a qualified RPF or botanist to conduct protocol-level surveys for special-status plant species with the potential to be affected by a treatment prior to initiation of the treatment. The survey will follow the methods in the current version of CDFW's "Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities." Surveys to determine the presence or absence of special-status plant species will be conducted in suitable habitat that could be affected by the treatment and timed to coincide with the blooming or other appropriate phenological period of the target species (as determined by a qualified RPF or botanist), or all species in the same genus as the target species will be assumed to be special-status. If potentially occurring special-status plants are listed under CESA or ESA, protocol-level surveys to determine presence/absence of the listed species will be conducted in all circumstances, unless determined otherwise by CDFW or USFWS. For other special-status plants not listed under CESA or ESA, as defined in Section 3.6.1 of this Program EIR, surveys will not be required under the following circumstances: ▶ If protocol-level surveys, consisting of at least two survey visits (e.g., early blooming season and later blooming season) during a normal weather year, have been completed in the 5 years before implementation of the	Prior to and during treatment	RCDSCC	RCDSCC

Standard Project Requirements	Timing	Implementing Entity	Verifying/Monitoring Entity
treatment project and no special-status plants were found, and no treatment activity has occurred following the protocol-level survey, treatment may proceed without additional plant surveys. ▶ If the target special-status plant species is an herbaceous annual, stump-sprouting, or geophyte species, the treatment may be carried out during the dormant season for that species or when the species has completed its annual lifecycle without conducting presence/absence surveys provided the treatment will not alter habitat or destroy seeds, stumps, or roots, rhizomes, bulbs and other underground parts in a way that would make it unsuitable for the target species to reestablish following treatment. This SPR applies to all treatment activities and treatment types, including treatment maintenance. **Project-Specific Guidance to Implement SPR BIO-7** ▶ For special-status plants not listed under ESA or CESA, if the limited operating period for annual and geophyte species (i.e., non-ground-disturbing treatment activities conducted during the dormant season) is determined to be infeasible, then protocol-level surveys for these species will be conducted prior to implementation of treatments. ▶ Protocol-level surveys will be conducted for all special-status plants listed under ESA or CESA and perennial species not listed under ESA or CESA prior to implementation of treatments.			
Invasive Plants and Wildlife			
SPR BIO-9: Prevent Spread of Invasive Plants, Noxious Weeds, and Invasive Wildlife The project proponent will take the following actions to prevent the spread of invasive plants, noxious weeds, and invasive wildlife (e.g., New Zealand mudsnail): ▶ clean clothing, footwear, and equipment used during treatments of soil, seeds, vegetative matter, other debris or seed-bearing material, or water (e.g., rivers, streams, creeks, lakes) before entering the treatment area or when leaving an area with infestations of invasive plants, noxious weeds, or invasive wildlife; ▶ for all heavy equipment and vehicles traveling off road, pressure wash, if feasible, or otherwise appropriately decontaminate equipment at a designated weed-cleaning station prior to entering the treatment area from an area with infestations of invasive plants, noxious weeds, or invasive wildlife. Anti-fungal wash agents will be specified if the equipment has been exposed to any pathogen that could affect native species; ▶ inspect all heavy equipment, vehicles, tools, or other treatment-related materials for sand, mud, or other signs that weed seeds or propagules could be present prior to use in the treatment area. If the equipment is not clean, the qualified RPF or biological technician will deny entry to the work areas; ▶ stage equipment in areas free of invasive plant infestations unless there are no uninfested areas present within a reasonable proximity to the treatment area; ▶ identify significant infestations of invasive plant species (i.e., those rated as invasive by Cal-IPC or designated as noxious weeds by California Department of Food and Agriculture) during reconnaissance-level surveys and target them for removal during treatment activities. Treatment methods will be selected based on the invasive species present and may include herbicide application, manual or mechanical treatments, prescribed burning, and/or herbivory, and will be designed to maximize success in killing or removing the invasive plants and	Prior to and during treatment	RCDSCC	RCDSCC

Standard Project Requirements	Timing	Implementing Entity	Verifying/Monitoring Entity
preventing reestablishment based on the life history characteristics of the invasive plant species present. Treatments will be focused on removing invasive plant species that cause ecological harm to native vegetation types, especially those that can alter fire cycles; ▶ treat invasive plant biomass onsite to eliminate seeds and propagules and prevent reestablishment or dispose of invasive plant biomass offsite at an appropriate waste collection facility (if not kept on site); transport invasive plant materials in a closed container or bag to prevent the spread of propagules during transport; and ▶ implement Fire and Fuel Management BMPs outlined in the "Preventing the Spread of Invasive Plants: Best Management Practices for Land Mangers" (Cal-IPC 2012, or current version). This SPR applies to all treatment activities and treatment types, including treatment maintenance. **Project-Specific Guidance to Implement SPR BIO-9** The Fire and Fuel Management BMPs outlined in the *Preventing the Spread of Invasive Plants: Best Management Practices for Land Mangers* (Cal-IPC 2012) are summarized as follows (these may be updated with publication of a more current version in the future): ▶ Integrate invasive plant prevention BMPs into design, construction, vegetation management and maintenance planning activities. ▶ Incorporate invasive plant considerations when developing fuel management plans. ▶ Maintain active management of invasive plants on fuel management sites. ▶ Reduce disturbance when implementing fuel management activities. ▶ Incorporate invasive plant considerations when using prescribed fire.			
Wildlife			
SPR BIO-10: Survey for Special-Status Wildlife and Nursery Sites If SPR BIO-1 determines that suitable habitat for special-status wildlife species or nurseries of any wildlife species is present and cannot be avoided, the project proponent will require a qualified RPF or biologist to conduct focused or protocol-level surveys for special-status wildlife species or nursery sites (e.g., bat maternity roosts, deer fawning areas, heron or egret rookeries, monarch overwintering sites) with potential to be directly or indirectly affected by a treatment activity. The survey area will be determined by a qualified RPF or biologist based on the species and habitats and any recommended buffer distances in agency protocols. The qualified RPF or biologist will determine if following an established protocol is required, and the project proponent may consult with CDFW and/or USFWS for technical information regarding appropriate survey protocols. Unless otherwise specified in a protocol, the survey will be conducted no more than 14 days prior to the beginning of treatment activities. Focused or protocol surveys for a special-status species with potential to occur in the treatment area may not be required if presence of the species is assumed. This SPR applies to all treatment activities and treatment types, including treatment maintenance. **Project-Specific Guidance to Implement SPR BIO-10**	No more than 14 days prior to all treatment activities unless otherwise specified in protocol.	RCDSCC	RCDSCC

Standard Project Requirements	Timing	Implementing Entity	Verifying/Monitoring Entity
▶ Prior to implementation of any treatment activities (i.e., mechanical, manual, prescribed burning, and herbicide), a qualified RPF or qualified biologist will conduct protocol-level surveys for California red-legged frog pursuant to the Revised Guidance on Site Assessments and Field Surveys for the California Red-Legged Frog (USFWS 2005) within habitat potentially suitable for the species, or presence of the species will be assumed and Mitigation Measure BIO-2a will be implemented. If protocol-level surveys are conducted and California red-legged frogs are not detected within the treatment areas, then no additional mitigation for the species will be required and Mitigation Measures Bio-2a will not be required. If California red-legged frog is detected or assumed present, Mitigation Measure BIO-2a will be implemented. ▶ To avoid impacts on special-status salamanders (i.e., California giant salamander, Santa Cruz black salamander) and foothill yellow-legged frog, focused surveys (i.e., visual encounter, or walk and turn surveys) would be conducted within habitat suitable for the species prior to implementation of treatment activities (i.e., prescribed burning, mechanical treatments, manual tree and snag removal, and herbicide application). If California giant salamander, Santa Cruz black salamander, or foothill yellow-legged frogs are identified during focused surveys, or if presence of these species is assumed, Mitigation Measure BIO-2b (salamanders) and Mitigation Measure BIO-2a (frogs) will be implemented. ▶ For mechanical treatments, manual tree and snag removal, and pile burning, to avoid impacts on western pond turtle, focused surveys for western pond turtles will be conducted by a qualified RPF, biologist, or biological technician prior to treatment activities that occur in upland nesting habitat for western pond turtle. Surveys will include focused surveys of aquatic habitat for individuals, or presence within aquatic habitat may be assumed. If individuals are found within aquatic habitat or assumed to be present, further surveys of upland habitat within 1,500 feet of aquatic habitat will be conducted. If western pond turtle nests are detected during focused surveys, the nests will be flagged and Mitigation Measure BIO-2b will be implemented. ▶ If it is not feasible to avoid prescribed burning, mechanical treatments, manual tree and snag removal, or herbicide application treatments within nesting habitat during the marbled murrelet nesting season (March 24 to September 15), and nesting trees are observed during habitat assessment pursuant to SPR BIO-1, the following will be implemented to avoid impacts to marbled murrelet from treatment activities conducted during the nesting season: ▪ If nesting trees suitable for marbled murrelet are observed within the project area or adjacent habitat, pursuant to the habitat assessment in SPR BIO-1, then surveys for marbled murrelets will be conducted as described in Mack et al. (2003) in contact with CDFW and USFWS, or presence of nests may be assumed. ▪ If marbled murrelets are detected during focused surveys, or the presence of nests is assumed, Mitigation Measure BIO-2a will be implemented. ▶ If the limited operating period for nesting birds is determined to be infeasible, to avoid impacts on special-status birds (i.e., golden eagle, white-tailed kite, olive-sided flycatcher, and purple martin), focused surveys for nests of these species will be conducted prior to implementing mechanical treatments, manual treatments, prescribed burning, prescribed herbivory, and herbicide applications during the nesting bird season (February			

Standard Project Requirements	Timing	Implementing Entity	Verifying/Monitoring Entity
1–August 31). If active special-status bird nests are observed during focused surveys, then Mitigation Measures BIO-2a (for golden eagle and white-tailed kite) and BIO-2b (purple martin) will be implemented. ▶ To avoid impacts on Mount Hermon June beetle and Zayante band-winged grasshopper, a habitat assessment of the specific treatment area will be conducted for these species, prior to initiating treatment activities. If habitat for these species is present within the treatment area, a focused survey will be conducted by a qualified biologist with the appropriate permits during the flight season prior to implementing treatment activities, or presence of the species may be assumed. If Mount Hermon June beetle and Zayante band-winged grasshopper are not detected during focused surveys then no further measures are needed. If Hermon June beetle or Zayante band-winged grasshopper are detected or presence of the species is assumed, the Mitigation Measure BIO-2f will be implemented. ▶ If the limited operating period for monarch is determined to be infeasible, to avoid impacts on monarch, focused surveys for milkweed host plants (*Asclepias* spp.) will be conducted prior to implementing treatment activities. If milkweed are detected during focused surveys, further survey for monarch butterfly eggs, larvae, and pupae may be conducted or presence of monarch may be assumed. If milkweed host plants are detected during focused surveys and monarch butterfly is detected or assumed present, Mitigation Measure BIO-2e will be implemented. ▶ To avoid impacts on American badgers, a focused survey for the species and for potential dens will be conducted prior to implementing prescribed burning, mechanical treatments, manual treatments, and prescribed herbivory treatments in habitat for the species (i.e., grassland, open woodland). If American badger dens are detected during focused surveys, Mitigation Measure BIO-2b will be implemented. ▶ To avoid impacts on mountain lion, denning and nursery habitat for the species within the project area will be determined through desktop analysis (e.g., land cover, slope, greater than 2,000 feet from development), coordination with local experts studying or tracking the species (if available), and field surveys. Prior to implementing prescribed burning, mechanical treatments, manual treatments (e.g., using chainsaws), and prescribed herbivory using protection dogs a focused survey for potential dens will be conducted by a qualified RPF, biologist, or biological technician within nursery habitat for mountain lions. Potential mountain lion nursery dens will include caves, large natural cavities within rocky areas, or thickets deemed appropriate for use by mountain lions based on size and other characteristics (e.g., proximity to human development, surrounding habitat). The qualified wildlife biologist will survey for signs of mountain lion (e.g., tracks, scat, prey items) in the vicinity of potential nursery habitat to help determine whether an area may contain a mountain lion nursery. If signs of a mountain lion nursery are found during surveys or monitoring, further investigation will be required to determine if a mountain lion nursery is present. No treatment will occur in the area while further investigation is occurring. Survey methods will include the use of trail cameras, track plates, hair snares, and/or other noninvasive methods, as well as coordination with local experts tracking the species (if available). Surveys using these noninvasive methods will be conducted for 3 days and 3 nights to determine whether a nursery may be present. If a mountain lion den is detected or assumed to be present during focused surveys, Mitigation Measure BIO-2a will be implemented.			

Standard Project Requirements	Timing	Implementing Entity	Verifying/Monitoring Entity
▶ If the limited operating period for ringtail is determined to be infeasible, to avoid impacts on the species, focused surveys for ringtail, including non-invasive survey methods (e.g., trail cameras, track plates, hair snares), will be conducted prior to implementing prescribed burning, mechanical treatments, and manual large tree and snag removal during the ringtail maternity season (April 15–July 31). If presence of ringtail is assumed or the species is identified during focused surveys by a qualified biologist, RPF, or biological technician, Mitigation Measure BIO-2a will be implemented. ▶ To avoid impacts on San Francisco dusky-footed woodrats, focused surveys for the species would be conducted within habitat suitable for the species prior to implementation of mechanical treatments, manual treatments using power equipment, and prescribed burning. ▶ If the limited operating period for special-status bats is determined to be infeasible, to avoid impacts on special-status bats (i.e., pallid bat, Townsend's big-eared bat), focused surveys for maternity roosts of these species will be conducted prior to implementing prescribed burning, mechanical treatments, and manual tree and snag removal during the bat maternity season (April 1–August 31). If special-status bat roosts are identified during focused surveys, Mitigation Measure BIO-2b for special-status bats will be implemented.			
SPR BIO-11: Install Wildlife-Friendly Fencing (Prescribed Herbivory) If temporary fencing is required for prescribed herbivory treatment, a wildlife-friendly fencing design will be used. The project proponent will require a qualified RPF or biologist to review and approve the design before installation to minimize the risk of wildlife entanglement. The fencing design will meet the following standards: ▶ Minimize the chance of wildlife entanglement by avoiding barbed wire, loose or broken wires, or any material that could impale or snag a leaping animal; and, if feasible, keeping electric netting-type fencing electrified at all times or laid down while not in use. ▶ Charge temporary electric fencing with intermittent pulse energizers; continuous output fence chargers will not be permitted. ▶ Allow wildlife to jump over easily without injury by installing fencing that can flex as animals pass over it and installing the top wire low enough (no more than approximately 40 inches high on flat ground) to allow adult ungulates to jump over it. The determination of appropriate fence height will consider slope, as steep slopes are more difficult for wildlife to pass. ▶ Be highly visible to birds and mammals by using high-visibility tape or wire, flagging, or other markers. This SPR applies only to prescribed herbivory and all treatment types, including treatment maintenance.	During treatment	RCDSCC	RCDSCC
SPR BIO-12: Protect Common Nesting Birds, Including Raptors The project proponent will schedule treatment activities to avoid the active nesting season of common native bird species, including raptors, that could be present within or adjacent to the treatment site, if feasible. Common native birds are species not otherwise treated as special status in the CalVTP Program EIR. The active nesting season will be defined by the qualified RPF or biologist.	Conduct a survey for common nesting birds (if needed) at a time that balances the effectiveness of detecting nests and the reasonable	RCDSCC	RCDSCC

Standard Project Requirements	Timing	Implementing Entity	Verifying/Monitoring Entity
If active nesting season avoidance is not feasible, a qualified RPF or biologist will conduct a survey for common nesting birds, including raptors. Existing records (e.g., CNDDB, eBird database, State Wildlife Action Plan) should be reviewed in advance of the survey to identify the common nesting birds, including raptors, that are known to occur in the vicinity of the treatment site. The survey area will encompass reasonably accessible areas of the treatment site and the immediately surrounding vicinity viewable from the treatment site. The survey area will be determined by a qualified RPF or biologist, based on the potential species in the area, location of suitable nesting habitat, and type of treatment. For vegetation removal or project activities that would occur during the nesting season, the survey will be conducted at a time that balances the effectiveness of detecting nests and the reasonable consideration of potential avoidance strategies. Typically, this timeframe would be up to 3 weeks before treatment. The survey will occur in a single survey period of sufficient duration to reasonably detect nesting birds, including raptors, typically one day for most treatment projects (depending on the size, configuration, and vegetation density in the treatment site), and conducted during the active time of day for target species, typically close to dawn and/or dusk. The survey may be conducted concurrently with other biological surveys, if they are required by other SPRs. Survey methods will be tailored by the qualified RPF or biologist to site and habitat conditions, typically involving walking throughout the survey area, visually searching for nests and birds exhibiting behavior that is typical of breeding (e.g., delivering food). If an active nest is observed (i.e., presence of eggs and/or chicks) or determined to likely be present based on nesting bird behavior, the project proponent will implement a feasible strategy to avoid disturbance of active nests, which may include, but is not limited to, one or more of the following: ▶ **Establish Buffer.** The project proponent will establish a temporary, species-appropriate buffer around the nest sufficient to reasonably expect that breeding would not be disrupted. Treatment activities will be implemented outside of the buffer. The buffer location will be determined by a qualified RPF or biologist. Factors to be considered for determining buffer location will include: presence of natural buffers provided by vegetation or topography, nest height above ground, baseline levels of noise and human activity, species sensitivity, and expected treatment activities. Nests of common birds within the buffer need not be monitored during treatment. However, buffers will be maintained until young fledge or the nest becomes inactive, as determined by the qualified RPF, biologist, or biological technician. ▶ **Modify Treatment.** The project proponent will modify the treatment in the vicinity of an active nest to avoid disturbance of active nests (e.g., by implementing manual treatment methods, rather than mechanical treatment methods). Treatment modifications will be determined by the project proponent in coordination with the qualified RPF or biologist. ▶ **Defer Treatment.** The project proponent will defer the timing of treatment in the portion(s) of the treatment site that could disturb the active nest. If this avoidance strategy is implemented, treatment activity will not commence until young fledge or the nest becomes inactive, as determined by the qualified RPF, biologist, or biological technician. Feasible actions will be taken by the project proponent to avoid loss of common native bird nests. The feasibility of implementing the avoidance strategies will be determined by the project proponent based on whether implementation of this SPR will preclude completing the treatment project within the reasonable period of time	consideration of potential avoidance strategies no more than 14 days prior to treatment. If an active nest is observed, implement avoidance strategies prior to and during treatment.		

Standard Project Requirements	Timing	Implementing Entity	Verifying/Monitoring Entity
necessary to meet CalVTP program objectives, including, but not limited to, protection of vulnerable communities. Considerations may include limitations on the presence of environmental and atmospheric conditions necessary to execute treatment prescriptions (e.g., the limited seasonal windows during which prescribed burning can occur when vegetation moisture, weather, wind, and other physical conditions are suitable). If it is infeasible to avoid loss of common bird nests (not including raptor nests), the project proponent will document the reasons implementation of the avoidance strategies is infeasible in the PSA. After completion of the PSA and prior to or during treatment implementation, if there is any change in the feasibility of avoidance strategies from those explained in the PSA, this will be documented in the post-project implementation report (referred to by CAL FIRE as a Completion Report). The following avoidance strategies may also be considered together with or in lieu of other actions for implementation by a project proponent to avoid disturbance to raptor nests: ▶ Monitor Active Raptor Nest During Treatment. A qualified RPF, biologist, or biological technician will monitor an active raptor nest during treatment activities to identify signs of agitation, nest defense, or other behaviors that signal disturbance of the active nest is likely (e.g., standing up from a brooding position, flying off the nest). If breeding raptors are showing signs of nest disturbance, one of the other avoidance strategies (establish buffer, modify treatment or defer treatment) will be implemented or a pause in the treatment activity will occur until the disturbance behavior ceases. ▶ Retention of Raptor Nest Trees. Trees with visible raptor nests, whether occupied or not, will be retained. This SPR applies to all treatment activities and treatment types, including treatment maintenance.			
Geology, Soils, Paleontology, and Mineral Resource Standard Project Requirements			
SPR GEO-1: Suspend Disturbance during Heavy Precipitation The project proponent will suspend mechanical treatments that cause soil disturbance, prescribed herbivory, and herbicide treatments if: (1) it is raining, (2) soils are saturated, and/or (3) soils are wet enough to be compacted by mechanical or prescribed herbivory activities ~~the National Weather Service forecast is a "chance" (30 percent or more) of rain within the next 24 hours~~. The project proponent will be prepared to completely suspend mechanical, prescribed herbivory, and herbicide treatment activities prior to the initiation of the rain event. Activities that cause mechanical soil disturbance may resume when precipitation stops and soils are no longer saturated (i.e., when soil and/or surface material pore spaces are filled with water to such an extent that runoff is likely to occur). Indicators of saturated soil conditions may include, but are not limited to: (1) areas of ponded water, (2) pumping of fines from the soil or road surfacing, (3) loss of bearing strength resulting in the deflection of soil or road surfaces under a load, such as the creation of wheel ruts, (4) spinning or churning of wheels or tracks that produces a wet slurry, or (5) inadequate traction without blading wet soil or surfacing materials. This SPR applies only to mechanical, prescribed herbivory, and herbicide treatment activities and all treatment types, including treatment maintenance.	During treatment	RCDSCC	RCDSCC
SPR GEO-2: Limit High Ground Pressure Vehicles The project proponent will limit heavy equipment that could cause soil disturbance or compaction to be driven through treatment areas when soils are wet and saturated to avoid compaction and/or damage to soil structure. Saturated soil means that soil and/or surface material pore spaces are filled with water to such an extent that runoff is	During treatment	RCDSCC	RCDSCC

Standard Project Requirements	Timing	Implementing Entity	Verifying/Monitoring Entity
likely to occur. If use of heavy equipment is required in saturated areas, other measures such as operating on organic debris, using low ground pressure vehicles, or operating on frozen soils/snow covered soils will be implemented to minimize soil compaction. Existing compacted road surfaces are exempted as they are already compacted from use. This SPR applies only to mechanical treatment activities and all treatment types, including treatment maintenance.			
SPR GEO-3: Stabilize Disturbed Soil Areas The project proponent will stabilize soil disturbed during mechanical, prescribed herbivory treatments, and prescribed burns that result in exposure of bare soil over 50 percent or more of the treatment area with mulch or equivalent immediately after treatment activities, to the maximum extent practicable, to minimize the potential for substantial sediment discharge. If mechanical, prescribed herbivory, or prescribed burn treatment activities could result in substantial sediment discharge from soil disturbed by machinery, animal hooves, or being bare, organic material from mastication or mulch will be incorporated onto at least 75 percent of the disturbed soil surface where the soil erosion hazard is moderate or high, and 50 percent of the disturbed soil surface where soil erosion hazard is low to help prevent erosion. Where slash mulch is used, it will be packed into the ground surface with heavy equipment so that it is sufficiently in contact with the soil surface. This SPR only applies to mechanical, prescribed herbivory, and prescribed burns that result in exposure of bare soil over 50 percent of the project area treatment activities and all treatment types, including treatment maintenance.	During mechanical, prescribed herbivory, and prescribed burn treatment activities that result in exposure of bare soil over 50 percent or more of the treatment area	RCDSCC	RCDSCC
SPR GEO-4: Erosion Monitoring The project proponent will inspect treatment areas for the proper implementation of erosion control SPRs and mitigations prior to the rainy season. If erosion control measures are not properly implemented, they will be remediated prior to the first rainfall event per SPR GEO-3 and GEO-8. Additionally, the project proponent will inspect for evidence of erosion after the first large storm or rainfall event (i.e., ≥ 1.5 inches in 24 hours) as soon as is feasible after the event. Any area of erosion that will result in substantial sediment discharge will be remediated within 48 hours per the methods stated in SPRs GEO-3 and GEO-8. This SPR applies only to mechanical, prescribed herbivory, and prescribed burning treatment activities and all treatment types, including treatment maintenance.	Inspect treatment areas for the proper implementation of erosion control SPRs and mitigations prior to the rainy season; inspect for evidence of erosion after the first large storm or rainfall event	RCDSCC	RCDSCC
SPR GEO-5: Drain Stormwater via Water Breaks The project proponent will drain compacted and/or bare linear treatment areas capable of generating storm runoff via water breaks using the spacing and erosion control guidelines contained in Sections 914.6, 934.6, and 954.6(c) of the California Forest Practice Rules (February 2019 version). Where waterbreaks cannot effectively disperse surface runoff, including where waterbreaks cause surface run-off to be concentrated on downslopes, other erosion controls will be installed as needed to maintain site productivity by minimizing soil loss. This SPR applies only to mechanical, manual, and prescribed burn treatment activities and all treatment types, including treatment maintenance.	During mechanical, manual, and prescribed burn treatment activities	RCDSCC	RCDSCC
SPR GEO-6: Minimize Burn Pile Size The project proponent will not create burn piles that exceed 20 feet in length, width, or diameter, except when on landings, road surfaces, or on contour to minimize the spatial extent of soil damage. In addition, burn piles will not occupy more than 15 percent of the total treatment area (Busse et al. 2014). The project proponent will not locate	During mechanical, manual, and prescribed burn treatment activities	RCDSCC	RCDSCC

Standard Project Requirements	Timing	Implementing Entity	Verifying/Monitoring Entity
burn piles in a Watercourse and Lake Protection Zone as defined in SPR HYD-4. This SPR applies to mechanical, manual, and prescribed burning treatment activities and all treatment types, including treatment maintenance.			
SPR GEO-7: Minimize Erosion To minimize erosion, the project proponent will: (1) Prohibit use of heavy equipment where any of the following conditions are present: (i) Slopes steeper than 65 percent. (ii) Slopes steeper than 50 percent where the erosion hazard rating is high or extreme. (iii) Slopes steeper than 50 percent that lead without flattening to sufficiently dissipate water flow and trap sediment before it reaches a watercourse or lake. (2) On slopes between 50 percent and 65 percent where the erosion hazard rating is moderate, and all slope percentages are for average slope steepness based on sample areas that are 20 acres, or less, heavy equipment will be limited to: (i) Existing tractor roads that do not require reconstruction, or (ii) New tractor roads flagged by the project proponent prior to the treatment activity. (3) Prescribed herbivory treatments will not be used in areas with over 50 percent slope. This SPR applies to all treatment activities and all treatment types, including treatment maintenance.	During treatment	RCDSCC	RCDSCC
SPR GEO-8: Steep Slopes The project proponent will require a Registered Professional Forester (RPF) or licensed geologist to evaluate treatment areas with slopes greater than 50 percent for unstable areas (areas with potential for landslide) and unstable soils (soil with moderate to high erosion hazard). If unstable areas or soils are identified within the treatment area, are unavoidable, and will be potentially directly or indirectly affected by the treatment, a licensed geologist (P.G. or C.E.G.) will determine the potential for landslide, erosion, of other issue related to unstable soils and identity measures (e.g., those in SPR GEO-7) that will be implemented by the project proponent such that substantial erosion or loss of topsoil would not occur. This SPR applies only to mechanical treatment activities and WUI fuel reduction, non-shaded fuel breaks, and ecological restoration treatment types, including treatment maintenance.	Prior to and during treatment on slopes greater than 50 percent	RCDSCC	RCDSCC
Hazardous Material and Public Health and Safety Standard Project Requirements			
SPR HAZ-1: Maintain All Equipment The project proponent will maintain all diesel- and gasoline-powered equipment per manufacturer's specifications, and in compliance with all state and federal emissions requirements. Maintenance records will be available for verification. Prior to the start of treatment activities, the project proponent will inspect all equipment for leaks and inspect everyday thereafter until equipment is removed from the site. Any equipment found leaking will be promptly removed. This SPR applies to all treatment activities and treatment types, including treatment maintenance.	Inspect all equipment for leaks prior to treatment; inspect everyday thereafter until equipment is removed from the site	RCDSCC	RCDSCC

Standard Project Requirements	Timing	Implementing Entity	Verifying/Monitoring Entity
SPR HAZ-2: Require Spark Arrestors The project proponent will require mechanized hand tools to have federal- or state-approved spark arrestors. This SPR applies only to manual treatment activities and all treatment types, including treatment maintenance.	During manual treatment activities	RCDSCC	RCDSCC
SPR HAZ-3: Require Fire Extinguishers The project proponent will require tree cutting crews to carry one fire extinguisher per chainsaw. Each vehicle would be equipped with one long-handled shovel and one axe or Pulaski consistent with PRC Section 4428. This SPR applies only to manual treatment activities and all treatment types, including treatment maintenance.	During manual treatment activities	RCDSCC	RCDSCC
SPR HAZ-4 Prohibit Smoking in Vegetated Areas The project proponent will require that smoking is only permitted in designated smoking areas barren or cleared to mineral soil at least 3 feet in diameter (PRC Section 4423.4). This SPR applies to all treatment activities and treatment types, including treatment maintenance.	During treatment	RCDSCC	RCDSCC
SPR HAZ-5: Spill Prevention and Response Plan The project proponent or licensed Pest Control Advisor (PCA) will prepare a Spill Prevention and Response Plan (SPRP) prior to beginning any herbicide treatment activities to provide protection to onsite workers, the public, and the environment from accidental leaks or spills of herbicides, adjuvants, or other potential contaminants. The SPRP will include (but not be limited to): ▶ a map that delineates staging areas, and storage, loading, and mixing areas for herbicides; ▶ a list of items required in an onsite spill kit that will be maintained throughout the life of the activity; ▶ procedures for the proper storage, use, and disposal of any herbicides, adjuvants, or other chemicals used in vegetation treatment. This SPR applies only to herbicide treatment activities and all treatment types, including treatment maintenance.	Prepare SPRP prior to any herbicide treatment activities; implement measures during herbicide treatment activities	RCDSCC	RCDSCC
SPR HAZ-6: Comply with Herbicide Application Regulations The project proponent will coordinate pesticide use with the applicable County Agricultural Commissioner(s), and all required licenses and permits will be obtained prior to herbicide application. The project proponent will prepare all herbicide applications to do the following: ▶ Be implemented consistent with recommendations prepared annually by a licensed PCA. ▶ Comply with all appropriate laws and regulations pertaining to the use of pesticides and safety standards for employees and the public, as governed by the EPA, DPR, and applicable local jurisdictions. ▶ Adhere to label directions for application rates and methods, storage, transportation, mixing, container disposal, and weather limitations to application such as wind speed, humidity, temperature, and precipitation. ▶ Be applied by an applicator appropriately licensed by the State. This SPR applies only to herbicide treatment activities and all treatment types, including treatment maintenance.	Prior to and during herbicide treatment	RCDSCC	RCDSCC

Standard Project Requirements	Timing	Implementing Entity	Verifying/Monitoring Entity
SPR HAZ-7: Triple Rinse Herbicide Containers The project proponent will triple rinse all herbicide and adjuvant containers with clean water at an approved site, and dispose of rinsate by placing it in the batch tank for application per 3 CCR Section 6684. The project proponent will puncture used containers on the top and bottom to render them unusable, unless said containers are part of a manufacturer's container recycling program, in which case the manufacturer's instructions will be followed. Disposal of non-recyclable containers will be at legal dumpsites. Equipment will not be cleaned, and personnel will not be washed in a manner that would allow contaminated water to directly enter any body of water within the treatment area or adjacent watersheds. Disposal of all herbicides will follow label requirements and waste disposal regulations. This SPR applies only to herbicide treatment activities and all treatment types, including treatment maintenance.	During herbicide treatment	RCDSCC	RCDSCC
SPR HAZ-8: Minimize Herbicide Drift to Public Areas The project proponent will employ the following herbicide application parameters during herbicide application to minimize drift into public areas: ▶ application will cease when weather parameters exceed label specifications or when sustained winds at the site of application exceeds 7 miles per hour (whichever is more conservative); ▶ spray nozzles will be configured to produce the largest appropriate droplet size to minimize drift; ▶ low nozzle pressures (30-70 pounds per square inch) will be utilized to minimize drift; and ▶ spray nozzles will be kept within 24 inches of vegetation during spraying. This SPR applies only to herbicide treatment activities and all treatment types, including treatment maintenance.	During herbicide treatment	RCDSCC	RCDSCC
SPR HAZ-9: Notification of Herbicide Use in the Vicinity of Public Areas For herbicide applications occurring within or adjacent to public recreation areas, residential areas, schools, or any other public areas within 500 feet, the project proponent will post signs at each end of herbicide treatment areas and any intersecting trails notifying the public of the use of herbicides. The signs will include the signal word (i.e., Danger, Warning or Caution), product name, and manufacturer; active ingredient; EPA registration number; target pest; treatment location; date and time of application; restricted entry interval, if applicable per the label requirements; date which notification sign may be removed; and a contact person with a telephone number. Signs will be posted prior to the start of treatment and notification will remain in place for at least 72 hours after treatment ceases. This SPR applies only to herbicide treatment activities and all treatment types, including treatment maintenance.	Prior to and during herbicide treatment activities occurring within or adjacent to public recreation areas, residential areas, schools, or any other public areas within 500 feet	RCDSCC	RCDSCC
Hydrology and Water Quality Standard Project Requirements			
SPR HYD-1: Comply with Water Quality Regulations Project proponents must also conduct proposed vegetation treatments in conformance with appropriate RWQCB timber, vegetation and land disturbance related Waste Discharge Requirements (WDRs) and/or related Conditional Waivers of Waste Discharge Requirements (Waivers), and appropriate Basin Plan Prohibitions. Where these regulatory requirements differ, the most restrictive will apply. If applicable, this includes compliance with the conditions of general waste discharge requirements (WDR) and waste discharge requirement waivers for timber or silviculture activities where these waivers are designed to apply to non-commercial fuel reduction and forest health	During treatment	RCDSCC	RCDSCC

Standard Project Requirements	Timing	Implementing Entity	Verifying/Monitoring Entity
projects. In general, WDR and Waivers of waste discharge requirements for fuel reduction and forest health activities require that wastes, including but not limited to petroleum products, soil, silt, sand, clay, rock, felled trees, slash, sawdust, bark, ash, and pesticides must not be discharged to surface waters or placed where it may be carried into surface waters; and that Water Board staff must be allowed reasonable access to the property in order to determine compliance with the waiver conditions. The specifications for each WDR and Waiver vary by region. Regions 2 (San Francisco Bay), 4 (Los Angeles), 8 (Santa Ana), and 7 (Colorado River) are highly urban or minimally forested and do not offer WDRs or Waivers for fuel reduction or vegetation management activities. The current applicable WDRs and Waivers for timber and vegetation management activities are included in Appendix HYD-1. This SPR applies to all treatment activities and treatment types, including treatment maintenance. Project-Specific Guidance to Implement SPR HYD-1 Vegetation treatment activities may result in discharges to waters of the state; therefore, compliance with Water Code sections 13260(a)(1) and 13264 is required. The project proponent will use the State Water Board's Vegetation Treatment General Order, which provides a mechanism for Water Code compliance for projects that prepare a CalVTP PSA or PSA/Addendum. The project will be automatically enrolled (through implementation of SPR AD-7) in the State Water Board's Vegetation Treatment General Order. The project's automatic enrollment satisfies the requirements of SPR HYD-1.			
SPR HYD-2: Avoid Construction of New Roads The project proponent will not construct or reconstruct (i.e., cutting or filling involving less than 50 cubic yards/0.25 linear road miles) any new roads (including temporary roads). This SPR applies to all treatment activities and treatment types, including treatment maintenance.	During treatment	RCDSCC	RCDSCC
SPR HYD-3: Water Quality Protections for Prescribed Herbivory The project proponent will include the following water quality protections for all prescribed herbivory treatments: ▶ Environmentally sensitive areas such as waterbodies, wetlands, or riparian areas will be identified in the treatment prescription and excluded from prescribed herbivory project areas using temporary fencing or active herding. A buffer of approximately 50 feet will be maintained between sensitive and actively grazed areas. ▶ Water will be provided for grazing animals in the form of an on-site stock pond or a portable water source located outside of environmentally sensitive areas. ▶ Treatment prescriptions will be designed to protect soil stability. Grazing animals will be herded out of an area if accelerated soil erosion is observed. This SPR applies to prescribed herbivory treatment activities and all treatment types, including treatment maintenance.	During prescribed herbivory treatment	RCDSCC	RCDSCC
SPR HYD-4: Identify and Protect Watercourse and Lake Protection Zones The project proponent will establish Watercourse and Lake Protection Zones (WLPZs) on either side of watercourses as defined in the table below, which is based on 14 CCR Section 916.5 of the California Forest Practice Rules (February	Establish WLPZs during design of treatment project; implement	RCDSCC	RCDSCC

Standard Project Requirements	Timing	Implementing Entity	Verifying/Monitoring Entity
2019 version). WLPZ's are classified based on the uses of the stream and the presence of aquatic life. Wider WLPZs are required for steep slopes.	WLPZ protections during treatment		

Procedures for Determining Watercourse and Lake Protection Zone (WLPZ) widths

Water Class	Class I	Class II	Class III	Class IV
Water Class Characteristics or Key Indicator Beneficial Use	1) Domestic supplies, including springs, on site and/or within 100 feet downstream of the operations area and/or 2) Fish always or seasonally present onsite, includes habitat to sustain fish migration and spawning.	1) Fish always or seasonally present offsite within 1000 feet downstream and/or 2) Aquatic habitat for nonfish aquatic species. 3) Excludes Class III waters that are tributary to Class I waters.	No aquatic life present, watercourse showing evidence of being capable of sediment transport to Class I and II waters under normal high-water flow conditions after completion of timber operations.	Man-made watercourses, usually downstream, established domestic, agricultural, hydroelectric supply or other beneficial use.
WLPZ Width (ft) – Distance from top of bank to the edge of WLPZ				
< 30 % Slope	75	50	Sufficient to prevent the degradation of downstream beneficial uses of water. Determined on a site-specific basis.	
30-50 % Slope	100	75		

Water Class	Class I	Class II	Class III	Class IV
>50 % Slope	150	100		

Source: 14 CCR Section 916.5 [936.5, 956.5] (February 2019 version)

Standard Project Requirements	Timing	Implementing Entity	Verifying/Monitoring Entity
The following WLPZ protections will be applied for all treatments: ▶ Treatment activities with WLPZs will retain at least 75 percent surface cover and undisturbed area to act as a filter strip for raindrop energy dissipation and for wildlife habitat. If this percentage is reduced a qualified RPF will provide the project proponent with a site- and/or treatment activity-specific explanation for the percent surface cover reduction, which will be included in the PSA. After completion of the PSA and prior to or during treatment implementation, if there is any deviation (e.g., further reduction) from the reduced percent as explained in the PSA, this will be documented in the post-project implementation report (referred to by CAL FIRE as a Completion Report). This requirement is based on 14 CCR Section 916.4 [936.4, 956.4] Subsection (b)(6) (February 2019 version) and 14 CCR Section 916.5 (February 2019 version). ▶ Equipment, including tractors and vehicles, must not be driven in wet areas or WLPZs, except over existing roads or watercourse crossings where vehicle tires or tracks remain dry. ▶ Equipment used in vegetation removal operations will not be serviced in WLPZs, within wet meadows or other wet areas, or in locations that would allow grease, oil, or fuel to pass into lakes, watercourses, or wet areas. ▶ WLPZs will be kept free of slash, debris, and other material that harm the beneficial uses of water. Accidental deposits will be removed immediately. ▶ Burn piles will be located outside of WLPZs. ▶ No fire ignition (nor use of associated accelerants) will occur within WLPZs however low intensity backing fires may be allowed to enter or spread into WLPZs. ▶ Within Class I and Class II WLPZs, locations where project operations expose a continuous area of mineral soil 800 square feet or larger shall be treated for reduction of soil loss. Treatment shall occur prior to October 15th and disturbances that are created after October 15th shall be treated within 10 days. Stabilization measures shall be selected that will prevent significant movement of soil into water bodies and may include but are not limited to mulching, rip-rap, grass seeding, or chemical soil stabilizers. ▶ Where mineral soil has been exposed by project operations on approaches to watercourse crossings of Class I, II, or III within a WLPZ, the disturbed area shall be stabilized to the extent necessary to prevent the discharge of soil into watercourses or lakes in amounts that would adversely affect the quality and beneficial uses of the watercourse. ▶ Where necessary to protect beneficial uses of water from project operations, protection measures such as seeding, mulching, or replanting shall be used to retain and improve the natural ability of the ground cover within the WLPZ to filter sediment, minimize soil erosion, and stabilize banks of watercourses and lakes. ▶ Equipment limitation zones (ELZs) will be designated adjacent to Class III and Class IV watercourses with minimum widths of 25 feet where side-slope is less than 30 percent and 50 feet where side-slope is 30 percent or greater. An RPF will describe the limitations of heavy equipment within the ELZ and, where appropriate, will include additional measures to protect the beneficial uses of water. This SPR applies to all treatment activities and treatment types, including treatment maintenance.			

Standard Project Requirements	Timing	Implementing Entity	Verifying/Monitoring Entity
SPR HYD-5: Protect Non-Target Vegetation and Special-status Species from Herbicides The project proponent will implement the following measures when applying herbicides: ▶ Locate herbicide mixing sites in areas devoid of vegetation and where there is no potential of a spill reaching non-target vegetation or a waterway. ▶ Use only herbicides labeled for use in aquatic environments when working in riparian habitats or other areas where there is a possibility the herbicide could come into direct contact with water. Only hand application of herbicides will be allowed in riparian habitats and only during low-flow periods or when seasonal streams are dry. ▶ No terrestrial or aquatic herbicides will be applied within WLPZs of Class I and II watercourses, if feasible. If this is not feasible, hand application of herbicides labeled for use in aquatic environments may be used within the WLPZ provided that the project proponent notifies the applicable regional water quality control board no fewer than 15 days prior to herbicide application. The feasibility of avoiding herbicide application within WLPZ of Class I and II watercourses will be determined by the project proponent and may be based on whether doing so will preclude achieving CalVTP program objectives, including, but not limited to, protection of vulnerable communities. The reasons for infeasibility will be documented in the PSA. ▶ No herbicides will be applied within a 50-foot buffer of ESA or CESA listed plant species, with the exception of Ben Lomond spineflower and Santa Cruz (Ben Lomond) wallflower, for which herbicide application will be permitted within the buffer for treatment of invasive species (e.g., eucalyptus, silver-wattle acacia, pampas grass, jubata grass, locust, and French broom) using direct application methods (e.g., cut-stump treatments) where herbicide is applied directly to the target vegetation. Foliar spray treatments will not be permitted within the 50-foot buffer to avoid non-target and special-status species. No herbicides will be applied ~~or~~ within 50 feet of dry vernal pools. ▶ For spray applications in and adjacent to habitats suitable for special-status species, use herbicides containing dye (registered for aquatic use by DPR, if warranted) to prevent overspray. ▶ Application will cease when weather parameters exceed label specifications or when sustained winds at the site of application exceeds 7 miles per hour (whichever is more conservative). ▶ No herbicide will be applied during precipitation events or if precipitation is forecast 24 hours before or after project activities. This SPR applies to herbicide treatment activities and all treatment types, including treatment maintenance.	During herbicide treatment activities	RCDSCC	RCDSCC
SPR HYD-6: Protect Existing Drainage Systems If a treatment activity is adjacent to a roadway with stormwater drainage infrastructure, the existing stormwater drainage infrastructure will be marked prior to ground disturbing activities. If a drainage structure or infiltration system is inadvertently disturbed or modified during project activities, the project proponent will coordinate with owner of the system or feature to repair any damage and restore pre-project drainage conditions. This SPR applies to all treatment activities and treatment types, including treatment maintenance.	Mark existing stormwater drainage infrastructure prior to ground disturbing activities	RCDSCC	RCDSCC

Standard Project Requirements	Timing	Implementing Entity	Verifying/Monitoring Entity
Noise Standard Project Requirements			
SPR NOI-1: Limit Heavy Equipment Use to Daytime Hours The project proponent will require that operation of heavy equipment associated with treatment activities (heavy off-road equipment, tools, and delivery of equipment and materials) will occur during daytime hours if such noise would be audible to receptors (e.g., residential land uses, schools, hospitals, places of worship). Cities and counties in the treatable landscape typically restrict construction-noise (which would apply to vegetation treatment noise) to particular daytime hours. If the project proponent is subject to local noise ordinance, it will adhere to those to the extent the project is subject to them. If the applicable jurisdiction does not have a noise ordinance or policy restricting the time-of-day when noise-generating activity can occur noise-generating vegetation treatment activity will be limited to the hours of 7:00 a.m. to 6:00 p.m., Monday through Saturday, and between 9:00 a.m. and 6:00 p.m. on Sunday and federal holidays. If the project proponent is not subject to local ordinances (e.g., CAL FIRE), it will adhere to the restrictions stated above or may elect to adhere to the restrictions identified by the local ordinance encompassing the treatment area. This SPR applies to all treatment activities and treatment types, including treatment maintenance.	During treatment	RCDSCC	RCDSCC
SPR NOI-2: Equipment Maintenance The project proponent will require that all powered treatment equipment and power tools will be used and maintained according to manufacturer specifications. All diesel- and gasoline-powered treatment equipment will be properly maintained and equipped with noise-reduction intake and exhaust mufflers and engine shrouds, in accordance with manufacturers' recommendations. This SPR applies to all activities and all treatment types, including treatment maintenance.	During treatment	RCDSCC	RCDSCC
SPR NOI-3: Engine Shroud Closure The project proponent will require that engine shrouds be closed during equipment operation. This SPR applies only to mechanical treatment activities and all treatment types, including treatment maintenance.	During treatment	RCDSCC	RCDSCC
SPR NOI-4: Locate Staging Areas Away from Noise-Sensitive Land Uses The project proponent will locate treatment activities, equipment, and equipment staging areas away from nearby noise-sensitive land uses (e.g., residential land uses, schools, hospitals, places of worship), to the extent feasible, to minimize noise exposure. This SPR applies to all treatment activities and treatment types, including treatment maintenance.	During treatment	RCDSCC	RCDSCC
SPR NOI-5: Restrict Equipment Idle Time The project proponent will require that all motorized equipment be shut down when not in use. Idling of equipment and haul trucks will be limited to 5 minutes. This SPR applies to all treatment activities and all treatment types, including treatment maintenance.	During treatment	RCDSCC	RCDSCC
SPR NOI-6: Notify Nearby Off-Site Noise-Sensitive Receptors For treatment activities utilizing heavy equipment, the project proponent will notify noise-sensitive receptors (e.g., residential land uses, schools, hospitals, places of worship) located within 1,500 feet of the treatment activity.	Prior to mechanical treatment activities	RCDSCC	RCDSCC

Standard Project Requirements	Timing	Implementing Entity	Verifying/Monitoring Entity
Notification will include anticipated dates and hours during which treatment activities are anticipated to occur and contact information, including a daytime telephone number, of the project representative. Recommendations to assist noise-sensitive land uses in reducing interior noise levels (e.g., closing windows and doors) will also be included in the notification. This SPR applies only to mechanical treatment activities and all treatment types, including treatment maintenance.	within 1,500 feet of noise-sensitive receptors		
Recreation Standard Project Requirements			
SPR REC-1: Notify Recreational Users of Temporary Closures If a treatment activity would require temporary closure of a public recreation area or facility, the project proponent will coordinate with the owner/manager of that recreation area or facility. If temporary closure of a recreation area or facility is required, the project proponent will work with the owner/manager to post notifications of the closure at least 2 weeks prior to the commencement of the treatment activities. Additionally, notification of the treatment activity will be provided to the Administrative Officer (or equivalent official responsible for distribution of public information) of the county(ies) in which the affected recreation area or facility is located. This SPR applies to all treatment activities and treatment types, including treatment maintenance.	If a temporary closure of a public recreation area or facility is required, post notifications at least 14 days prior to treatment	RCDSCC	RCDSCC
Transportation Standard Project Requirements			
SPR TRAN-1: Implement Traffic Control during Treatments Prior to initiating vegetation treatment activities the project proponent will work with the agency(ies) with jurisdiction over affected roadways to determine if a Traffic Management Plan (TMP) is needed. A TMP will be needed if traffic generated by the project would result in obstructions, hazards, or delays exceeding applicable jurisdictional standards along access routes for individual vegetation treatments. If needed, a TMP will be prepared to provide measures to reduce potential traffic obstructions, hazards, and service level degradation along affected roadway facilities. The scope of the TMP will depend on the type, intensity, and duration of the specific treatment activities under the CalVTP. Measures included in the TMP could include (but are not be limited to) construction signage to provide motorists with notification and information when approaching or traveling along the affected roadway facilities, flaggers for lane closures to provide temporary traffic control along affected roadway facilities, treatment schedule restrictions to avoid seasons or time periods of peak vehicle traffic, haul-trip, delivery, and/or commute time restrictions that would be implemented to avoid peak traffic days and times along affected roadway facilities. If the TMP identifies impacts on transportation facilities outside of the jurisdiction of the project proponent, the TMP will be submitted to the agency with jurisdiction over the affected roadways prior to commencement of vegetation treatment projects. This SPR applies to all treatment activities and treatment types, including treatment maintenance. Smoke generated during prescribed burn operations could potentially affect driver visibility and traffic operations along nearby roadways. Direct smoke impacts to roadway visibility and indirect impacts related to driver distraction will be considered during the planning phase of burning operations. Smoke impacts and smoke management practices specific to traffic operations during prescribed fire operations will be identified and addressed within the TMP. The TMP will include measures to monitor smoke dispersion onto public roadways, and traffic control	Prepare TMP prior to treatment and implement during treatment	RCDSCC	RCDSCC

Standard Project Requirements	Timing	Implementing Entity	Verifying/Monitoring Entity
operations will be initiated in the event burning operations could affect traffic safety along any roadways. This SPR applies only to prescribed burn treatment activities and all treatment types, including treatment maintenance.			
Public Services and Utilities Standard Project Requirements			
SPR UTIL-1: Solid Organic Waste Disposition Plan For projects requiring the disposal of material outside of the treatment area, the project proponent will prepare an Organic Waste Disposition Plan prior to initiating treatment activities. The Solid Organic Waste Disposition Plan will include the amount (e.g., tons) of solid organic waste to be managed onsite (i.e., scattering of wood materials, generating unburned piles, and pile burning) and transported offsite for processing (i.e., biomass power plant, wood product processing facility, composting). If the project proponent intends to transport solid organic waste offsite, the Solid Organic Waste Disposition Plan will clearly identify the location and capacity of the intended processing facility, consistent with local and state regulations to demonstrate that adequate capacity exists to accept the treated materials. This SPR applies only to mechanical and manual treatment activities and all treatment types, including treatment maintenance.	Prepare an Organic Waste Disposition Plan prior to mechanical or manual treatment activities; implement plan during mechanical or manual treatment activities	RCDSCC	RCDSCC

Mitigation Measures	Timing	Implementing Entity	Verifying/Monitoring Entity
Air Quality			
Mitigation Measure AQ-1: Implement On-Road Vehicle and Off-Road Equipment Exhaust Emission Reduction Techniques Where feasible, project proponents will implement emission reduction techniques to reduce exhaust emissions from off-road equipment. It is acknowledged that due to cost, availability, and the limits of current technology, there may be circumstances where implementation of certain emission reduction techniques will not feasible. The project proponent will document the emission reduction techniques that will be applied and will explain the reasons other techniques that could reduce emissions are infeasible. Techniques for reducing emissions may include, but are not limited to, the following: ▶ Diesel-powered off-road equipment used in construction will meet EPA's Tier 4 emission standards as defined in 40 CFR 1039 and comply with the exhaust emission test procedures and provisions of 40 CFR Parts 1065 and 1068. Tier 3 models can be used if a Tier 4 version of the equipment type is not yet produced by manufacturers. This measure can also be achieved by using battery-electric off-road equipment as it becomes available. Prior to implementation of treatment activities, the project proponent will demonstrate the ability to supply the compliant equipment. A copy of each unit's certified tier specification or model year specification and operating permit (if applicable) will be available upon request at the time of mobilization of each unit of equipment. ▶ Use renewable diesel fuel in diesel-powered construction equipment. Renewable diesel fuel must meet the following criteria: ▪ meet California's Low Carbon Fuel Standards and be certified by CARB Executive Officer; ▪ be hydrogenation-derived (reaction with hydrogen at high temperatures) from 100 percent biomass material (i.e., non-petroleum sources), such as animal fats and vegetables; ▪ contain no fatty acids or functionalized fatty acid esters; and ▪ have a chemical structure that is identical to petroleum-based diesel and complies with American Society for Testing and Materials D975 requirements for diesel fuels to ensure compatibility with all existing diesel engines. ▶ Electric- and gasoline-powered equipment will be substituted for diesel-powered equipment. ▶ Workers will be encouraged to carpool to work sites, and/or use public transportation for their commutes. Off-road equipment, diesel trucks, and generators will be equipped with Best Available Control Technology for emission reductions of NO_X and PM.	During treatment	RCDSCC	RCDSCC

Mitigation Measures	Timing	Implementing Entity	Verifying/Monitoring Entity
Archaeological, Historical, and Tribal Cultural Resources			
Mitigation Measure CUL-2: Protect Inadvertent Discoveries of Unique Archaeological Resources or Subsurface Historical Resources If any prehistoric or historic-era subsurface archaeological features or deposits, including locally darkened soil ("midden"), that could conceal cultural deposits, are discovered during ground-disturbing activities, all ground-disturbing activity within 100 feet of the resources will be halted and a qualified archaeologist will assess the significance of the find. The qualified archaeologist will work with the project proponent to develop a primary records report that will comply with applicable state or local agency procedures. If the archaeologist determines that further information is needed to evaluate significance, a data recovery plan will be prepared. If the find is determined to be significant by the qualified archaeologist (i.e., because the find constitutes a unique archaeological resource, subsurface historical resource, or tribal cultural resource), the archaeologist will work with the project proponent to develop appropriate procedures to protect the integrity of the resource. Procedures could include preservation in place (which is the preferred manner of mitigating impacts to archaeological sites), archival research, subsurface testing, or recovery of scientifically consequential information from and about the resource. Any find will be recorded standard DPR Primary Record forms (Form DPR 523) will be submitted to the appropriate regional information center.	During ground-disturbing activities	RCDSCC	RCDSCC
Biological Resources			
Mitigation Measure BIO-1a: Avoid Loss of Special-Status Plants Listed under ESA or CESA If listed plants are determined to be present through application of SPR BIO-1 and SPR BIO-7, the project proponent will avoid and protect these species by establishing a no-disturbance buffer around the area occupied by listed plants and marking the buffer boundary with high-visibility flagging, fencing, stakes, or clear, existing landscape demarcations (e.g., edge of a roadway), exceptions to this requirement are listed later in this measure. The no-disturbance buffers will generally be a minimum of 50 feet from listed plants, but the size and shape of the buffer zone may be adjusted if a qualified RPF or botanist determines that a smaller buffer will be sufficient to avoid killing or damaging listed plants or that a larger buffer is necessary to sufficiently protect plants from the treatment activity. The appropriate buffer size will be determined based on plant phenology at the time of treatment (e.g., whether the plants are in a dormant, vegetative, or flowering state), the individual species' vulnerability to the treatment method being used, and environmental conditions and terrain. For example, paint-on or wicking application of herbicides to invasive plants may be implemented within 50 feet of listed plant species without posing a risk, especially if the listed plants are dormant at the time of application. Consideration of factors such as site hydrology, changes in light, edge effects, and potential introduction of invasive plants and noxious weeds may inform the determination of buffer width. If a no-disturbance buffer is reduced below 50 feet from a listed plant, a qualified RPF or botanist will provide the project proponent with a site- and/or treatment activity-specific explanation for the buffer reduction, which will be included in the PSA. After completion of the PSA and prior to or during treatment implementation, if there is any deviation (e.g., further reduction) from the reduced buffer as explained in the PSA, this will be documented in the post-project implementation report (referred to by CAL FIRE as a Completion Report) with a science-based	Prior to and during treatment	RCDSCC	RCDSCC

Mitigation Measures	Timing	Implementing Entity	Verifying/Monitoring Entity
justification for the deviation. No fire ignition (and associated use of accelerants) will occur within 50 feet of listed plants. For species listed under ESA or CESA, if the project proponent cannot avoid loss by implementing no-disturbance buffers, the project proponent will implement Mitigation Measure BIO-1c. The only exception to this mitigation approach is in cases where it is determined by a qualified RPF or botanist, in consultation with CDFW and USFWS, as appropriate depending on species status and location, that the listed plants would benefit from treatment in the occupied habitat area even though some of the listed plants may be lost during treatment activities. For a treatment to be considered beneficial to listed special-status plants, the qualified RPF or botanist will demonstrate with substantial evidence that habitat function is reasonably expected to improve with implementation of the treatment (e.g., by citing scientific studies demonstrating that the species (or similar species) has benefitted from increased sunlight due to canopy opening, eradication of invasive species, or otherwise reduced competition for resources), and the substantial evidence will be included in the PSA. If it is determined that treatment activities would be beneficial to listed plants, no compensatory mitigation for loss of individuals will be required. **Project-Specific Guidance to Implement Mitigation Measure BIO-1a** ▶ If special-status plant species are detected during protocol-level surveys, a no-disturbance buffer within which treatments will not occur will be established at least 50 feet around the area occupied by the species (exceptions to this buffer are described below for Ben Lomond spineflower and Santa Cruz [Ben Lomond] wallflower). ▶ If special-status plant species are detected during protocol-level surveys, an evaluation of the appropriate treatment design and frequency to maintain the function of special-status plant habitats will be carried out by a qualified RPF, biologist, or botanist. Therefore, habitat function for special-status plants would be maintained because treatment activities and maintenance treatments would be designed to ensure that treatments, including follow-up maintenance, maintain habitat function for the special-status plant species present. <u>Ben Lomond Spineflower and Santa Cruz (Ben Lomond) Wallflower</u> The project proponent will avoid adverse effects to Ben Lomond spineflower and Santa Cruz (Ben Lomond) wallflower by implementing the following strategies that are applicable to manual treatment, mechanical treatment, and prescribed burning: ▶ **Manual and mechanical treatments**. ▪ The recommended 50-foot buffer may be reduced or eliminated for Ben Lomond spineflower because a qualified biologist reviewed and provided substantial evidence that these species would benefit from manual and mechanical treatments conducted up to or within the areas occupied by these species (refer to PSA/Addendum Section 4.5, Impact BIO-1 for an analysis of benefits of manual and mechanical treatments on Ben Lomond spineflower. Manual and mechanical treatments, followed by the manual removal of leaf litter and duff using raking, are proposed within the 50-foot buffer of Ben Lomond spineflower. These actions may be carried out within the immediate area occupied by these species. Any occurrences of Ben Lomond spineflower in the treatment area will be identified and flagged prior to implementation and avoided to the extent feasible.			

Mitigation Measures	Timing	Implementing Entity	Verifying/Monitoring Entity
▪ In cases where Ben Lomond spineflower is ubiquitous throughout the treatment area and treatments cannot be implemented without affecting these species, manual treatments will be permitted and routes for workers will be delineated in advance of the work to avoid excessive trampling of special-status plants. Crews will receive training on identifying these species prior to implementation. Access routes will be prioritized in areas with the least suitable habitat for the special-status species and/or in areas with the lowest density of special-status species and will aim to retain mature occurrences of Ben Lomond spineflower that can serve as seed plants to support future establishment in the remainder of the treated area. ▪ The recommended 50-foot buffer may be reduced or eliminated for Santa Cruz (Ben Lomond) wallflower because a qualified biologist reviewed and provided substantial evidence that this species would benefit from herbicide, manual, and mechanical treatments conducted up to or within the areas occupied by these species (refer to PSA/Addendum Section 4.5, Impact BIO-1 for an analysis of benefits of herbicide, manual, and mechanical treatments on Santa Cruz [Ben Lomond] wallflower). Manual treatments, and mechanical treatments where equipment does not disturb the ground (e.g., masticator head on an excavator where the vehicle is located outside the buffer) followed by the manual removal of masticated material, leaf litter, and duff using raking are permitted within the 50-foot buffer of Santa Cruz (Ben Lomond) wallflower occurrences only when focused surveys by a qualified biologist have confirmed that no live Santa Cruz (Ben Lomond) wallflower plants that have not completed their life cycle are present. These actions may be carried out within the immediate area occupied by the species avoiding any above ground live plants. Any occurrences of Santa Cruz (Ben Lomond) wallflower in the treatment area will be identified and flagged prior to implementation and avoided. ▪ In cases where Santa Cruz (Ben Lomond) wallflowers are ubiquitous throughout the treatment area, manual treatments will be permitted and routes for workers will be delineated in advance of the work to avoid trampling of special-status plants. Crews will receive training on identifying the species prior to implementation. Access routes will be prioritized in areas with the least suitable habitat for the species and/or in areas with the lowest density of the species and will retain live Santa Cruz (Ben Lomond) wallflower that can serve as seed plants to support future establishment in the remainder of the treated area. ▪ Removal of leaf litter and duff will be avoided under the canopy of ponderosa pines. ▸ **Prescribed burning.** The recommended buffer may be reduced or eliminated for Ben Lomond spineflower and Santa Cruz (Ben Lomond) wallflower because a qualified biologist reviewed and provided substantial evidence that these species would benefit from prescribed burning treatments conducted within the normal fire return interval of that habitat (refer to PSA/Addendum Section 4.5, Impact BIO-1 for an analysis of benefits of prescribed burning to Ben Lomond spineflower and Santa Cruz [Ben Lomond] wallflower). ▪ Ben Lomond spineflower does not require a 50-foot buffer where initial treatment (i.e., manual and mechanical treatment) is required to safely initiate prescribed broadcast burning, such as for the creation of control lines or to reduce fuel loading prior to prescribed burning. ▪ Ben Lomond spineflower does not require a 50-foot buffer for prescribed broadcast burn treatments.			

Mitigation Measures	Timing	Implementing Entity	Verifying/Monitoring Entity
▪ In general, prescribed burning in the sandhills communities will occur during the dry season (July to November) if feasible (e.g., if weather and safe burning conditions allow), to mimic the natural fire season experienced in the sandhills and to which many special-status species in sandhills are adapted. If burning during the dry season is not feasible and prescribed burns are conducted during the wet season, in areas not occupied by Ben Lomond spineflower (see below), then any remaining leaf litter, duff, or biomass left on the ground that was not consumed by fire will be removed using rakes. Removal of leaf litter and duff will be avoided under the canopy of ponderosa pines. • In areas occupied by Ben Lomond spineflower, prescribed burning will be conducted during the dormant season (August to November, or before the onset of germination after the first hard rains) if feasible (e.g., if weather and safe burning conditions allow). If this is not feasible and burns are conducted outside of the dormant season of Ben Lomond spineflower, then Mitigation Measure BIO-1c will be implemented. • In areas occupied by Santa Cruz (Ben Lomond) wallflower, prescribed burning will be conducted outside of the 50-foot buffer when live above ground plants are present. If there are no live above ground plants, prescribed burning may occur within 50-feet of documented occurrences. If this is not feasible and burns will be conducted within 50-feet of Santa Cruz (Ben Lomond) wallflower when live above ground plants are present, then Mitigation Measure BIO-1c will be implemented. ▪ RCDSCC has completed their consultation with USFWS and CDFW for technical input regarding the beneficial effects determination for Ben Lomond spineflower and Santa Cruz (Ben Lomond) wallflower. RCDSCC may request ongoing technical assistance from USFWS and/or CDFW. ▸ **Pile burning.** Burn piles will be placed a minimum of 50 feet away from Ben Lomond spineflower and Santa Cruz (Ben Lomond) wallflower plants. Locations for burn piles will prioritize previously disturbed areas, such as roads, trails, and areas previously used for burn piles. ▸ **Herbicide application.** Herbicide application within the 50-foot buffer of Ben Lomond spineflower and Santa Cruz (Ben Lomond) wallflower will be permitted for treatment of invasive species (e.g., eucalyptus, silver-wattle acacia, pampas grass, jubata grass, locust, and French broom) using direct application methods (e.g., cut-stump treatments) where herbicide is applied directly to the target vegetation. Foliar spray treatments will not be permitted within the 50-foot buffer to avoid non-target and special-status species. If these measures are not feasible and significant impacts remain, Mitigation Measure BIO-1c will apply.			
Mitigation Measure BIO-1b: Avoid Loss of Special-Status Plants Not Listed Under ESA or CESA If non-listed special-status plant species (i.e., species not listed under ESA or CESA, but meeting the definition of special-status as stated in Section 3.6.1 of the Program EIR) are determined to be present through application of SPR BIO-1 and SPR BIO-7, the project proponent will implement the following measures to avoid loss of individuals and maintain habitat function of occupied habitat: ▸ Physically avoid the area occupied by the special-status plants by establishing a no-disturbance buffer around the area occupied by species and marking the buffer boundary with high-visibility flagging, fencing, stakes, or	Prior to and during treatment	RCDSCC	RCDSCC

Mitigation Measures	Timing	Implementing Entity	Verifying/Monitoring Entity
clear, existing landscape demarcations (e.g., edge of a roadway). The no-disturbance buffers will generally be a minimum of 50 feet from special-status plants, but the size and shape of the buffer zone may be adjusted if a qualified RPF or botanist determines that a smaller buffer will be sufficient to avoid loss of or damage to special-status plants or that a larger buffer is necessary to sufficiently protect plants from the treatment activity. The appropriate size and shape of the buffer zone will be determined by a qualified RPF or botanist and will depend on plant phenology at the time of treatment (e.g., whether the plants are in a dormant, vegetative, or flowering state), the individual species' vulnerability to the treatment method being used, and environmental conditions and terrain. Consideration of factors such as site hydrology, changes in light, edge effects, and potential introduction of invasive plants and noxious weeds may inform an appropriate buffer size and shape. ▶ Treatments may be conducted within this buffer if the potentially affected special-status plant species is a geophytic, stump-sprouting, or annual species, and the treatment can be conducted outside of the growing season (e.g., after it has completed its annual life cycle) or during the dormant season using only treatment activities that would not damage the stump, root system or other underground parts of special-status plants or destroy the seedbank. ▶ Treatments will be designed to maintain the function of special-status plant habitat. For example, for a fuel break proposed in treatment areas occupied by special-status plants, if the removal of shade cover would degrade the special-status plant habitat despite the requirement to physically or seasonally avoid the special-status plant itself, habitat function would be diminished, and the treatment would need to be modified or precluded from implementation. ▶ No fire ignition (and associated use of accelerants) will occur within the special-status plant buffer. A qualified RPF or botanist with knowledge of the special-status plant species habitat and life history will review the treatment design and applicable impact minimization measures (potentially including others not listed above) to determine if the anticipated residual effects of the treatment would be significant under CEQA because implementation of the treatment would not maintain habitat function of the special-status plant habitat (i.e., the habitat would be rendered unsuitable) or because the loss of special-status plants would substantially reduce the number or restrict the range of a special-status plant species. If the project proponent determines the impact on special-status plants would be less than significant, no further mitigation will be required. If the project proponent determines that the loss of special-status plants or degradation of occupied habitat would be significant under CEQA after implementing feasible treatment design alternatives and impact minimization measures, then Mitigation Measure BIO-1c will be implemented. The only exception to this mitigation approach is in cases where it is determined by a qualified RPF or botanist that the special-status plants would benefit from treatment in the occupied habitat area even though some of the non-listed special-status plants may be killed during treatment activities. For a treatment to be considered beneficial to non-listed special-status plants, the qualified RPF or botanist will demonstrate with substantial evidence that habitat function is reasonably expected to improve with implementation of the treatment (e.g., by citing scientific studies demonstrating that the species (or similar species) has benefitted from increased sunlight due to canopy opening, eradication of invasive species, or otherwise reduced competition for resources), and the substantial evidence will be			

Mitigation Measures	Timing	Implementing Entity	Verifying/Monitoring Entity
included in the PSA. If it is determined that treatment activities would be beneficial to special-status plants, no compensatory mitigation will be required. **Project-Specific Guidance to Implement Mitigation Measure BIO-1b** ▶ If special-status plant species are detected during protocol-level surveys, a no-disturbance buffer of at least 50 feet will be established around the area occupied by the species within which treatments will not occur (exceptions to this buffer are described below for Ben Lomond buckwheat and silverleaf manzanita). ▶ If special-status plant species are detected during protocol-level surveys, an evaluation of the appropriate treatment design and frequency to maintain habitat function within habitat suitable for special-status plants will be carried out by a qualified RPF, biologist, or botanist. Therefore, habitat function for special-status plants would be maintained because treatment activities and maintenance treatments would be designed to ensure that treatments, including follow-up maintenance, maintain habitat function for the special-status plant species present. <u>Ben Lomond Buckwheat and Silverleaf Manzanita</u> The project proponent will avoid adverse effects to Ben Lomond buckwheat and silverleaf manzanita by implementing the following strategies that are applicable to manual treatment, mechanical treatment, and prescribed burning: ▶ **Manual and mechanical treatments**. The recommended 50-foot buffer may be reduced or eliminated for Ben Lomond buckwheat and silverleaf manzanita (following the measures below) because a qualified biologist reviewed and provided substantial evidence that these species would benefit from manual and mechanical treatments conducted up to or within the areas occupied by these species(refer to PSA/Addendum Section 4.5, Impact BIO-1 for an analysis of benefits of manual and mechanical treatments to Ben Lomond buckwheat and silverleaf manzanita.) ▪ Any occurrences of Ben Lomond buckwheat and silverleaf manzanita in the treatment area will be identified and flagged prior to implementation and avoided to the extent feasible. ▪ In cases where Ben Lomond buckwheat is ubiquitous throughout the treatment area and treatments cannot be implemented while also avoiding this species, manual treatments will be permitted and routes for workers will be delineated in advance of the work to avoid excessive trampling of Ben Lomond buckwheat plants. Crews will receive training on identifying this species prior to implementation. Access routes will be prioritized in areas with the least suitable habitat for Ben Lomond buckwheat and/or in areas with the lowest density of special-status species and will aim to retain healthy stands of Ben Lomond buckwheat that can serve as seed plants to support future establishment. ▪ Ponderosa pine will be retained where Ben Lomond buckwheat grow under or near the canopy edge. ▪ Removal of leaf litter and duff will be avoided under the canopy of ponderosa pines.			

Mitigation Measures	Timing	Implementing Entity	Verifying/Monitoring Entity
▪ Manual or mechanical removal of silverleaf manzanita individuals will be avoided, if feasible while still meeting treatment objectives, except where subsequent prescribed burning to promote regeneration would occur. ▪ Manual treatments are proposed within the 50-foot buffer of silverleaf manzanita to remove other shrubs, trees, and plant species that are growing adjacent to, over, or through silverleaf manzanita plants. ▸ **Prescribed burning.** The recommended buffer may be reduced or eliminated for Ben Lomond buckwheat and silverleaf manzanita because a qualified biologist reviewed and provided substantial evidence that these species would benefit from prescribed burning treatments conducted within the species' normal fire return interval (refer to PSA/Addendum Section 4.5, Impact BIO-1 for an analysis of benefits of prescribed burning on Ben Lomond buckwheat and silverleaf manzanita). Prescribed burning would only occur in areas occupied by silverleaf manzanita if it is outside the species' normal fire return interval, and prescribed fire is needed to restore the normal fire return interval. ▪ Ben Lomond buckwheat and silverleaf manzanita do not require a 50-foot buffer where initial treatment (i.e., manual and mechanical treatment) is required to safely initiate prescribed broadcast burning, such as for the creation of control lines or to reduce fuel loading prior to prescribed burning. ▪ Ben Lomond buckwheat and silverleaf manzanita do not require a 50-foot buffer for prescribed broadcast burn treatments. ▪ Prescribed burning in the sandhills communities will occur during the dry season (July to November) if feasible (e.g., as weather and safe burning conditions allow), to mimic the natural fire season experienced in the sandhills that many special-status species are adapted to. ▪ If burning during the dry season is not feasible and prescribed burns are conducted during the wet season, then any remaining leaf litter, duff, or biomass left on the ground that was not consumed by fire will be removed manually using rakes. Removal of leaf litter and duff will be avoided under the canopy of ponderosa pines. ▸ **Pile burning.** Burn piles will be placed a minimum of 50 feet away from Ben Lomond buckwheat and silverleaf manzanita individuals. Locations for burn piles will prioritize previously disturbed areas, such as roads, trails, and areas previously used for burn piles. ▸ **Herbicide application.** Herbicide application within the 50-foot buffer of Ben Lomond buckwheat and silverleaf manzanita will be permitted for treatment for removal of invasive species (e.g., eucalyptus, silver-wattle acacia, pampas grass, jubata grass, locust, and French broom) using direct application methods (e.g., cut-stump treatments) where herbicide is applied directly to the target vegetation. Foliar spray treatments will not be permitted within the 50-foot buffer to avoid non-target and special-status species. If these measures are not feasible and significant impacts remain, Mitigation Measure BIO-1c will apply.			
Mitigation Measure BIO-1c: Compensate for Unavoidable Loss of Special-Status Plants If significant impacts on listed or non-listed special-status plants cannot feasibly be avoided as specified under the circumstances described under Mitigation Measures BIO-1a and 1b, the project proponent will prepare a	Prior to, during, and following treatment	RCDSCC	RCDSCC

Mitigation Measures	Timing	Implementing Entity	Verifying/Monitoring Entity
Compensatory Mitigation Plan that identifies the residual significant impacts that require compensatory mitigation and describes the compensatory mitigation strategy being implemented and how unavoidable losses of special-status plants will be compensated. The project proponent will consult with CDFW and/or any other applicable responsible agency prior to finalizing the Compensatory Mitigation Plan to satisfy that responsible agency's requirements (e.g., permits, approvals) within the plan. If the special-status plant taxa are listed under ESA or CESA, the plan will be submitted to CDFW and/or USFWS (as appropriate) for review and comment. The first priority for compensatory mitigation will be preserving and enhancing existing populations outside of the treatment area in perpetuity, or if that is not an option because existing populations that can be preserved in perpetuity are not available, one of the following mitigation options will be implemented by the project proponent instead: ▶ creating populations on mitigation sites outside of the treatment area through seed collection and dispersal (annual species) or transplantation (perennial species); ▶ purchasing mitigation credits from a CDFW- or USFWS-approved conservation or mitigation bank in sufficient quantities to offset the loss of occupied habitat; and ▶ if the affected special-status plants are not listed under ESA or CESA, compensatory mitigation may include restoring or enhancing degraded habitats so that they are made suitable to support special-status plant species in the future. If relocation efforts are part of the Compensatory Mitigation Plan, the plan will include details on the methods to be used, including collection, storage, propagation, receptor site preparation, installation, long-term protection and management, monitoring and reporting requirements, success criteria, and remedial action responsibilities should the initial effort fail to meet long-term monitoring requirements. The following performance standards will be applied for relocation: ▶ the extent of occupied area will be substantially similar to the affected occupied habitat and will be suitable for self-producing populations. Re-located/re-established populations will be considered suitable for self-producing when: ▶ habitat conditions allow for plants to reestablish annually for a minimum of 5 years with no human intervention, such as supplemental seeding; and ▶ reestablished habitats contain an occupied area comparable to existing occupied habitat areas in similar habitat types in the region. If preservation of existing populations or creation of new populations is part of the mitigation plan, the Compensatory Mitigation Plan will include a summary of the proposed compensation lands and actions (e.g., the number and type of credits, location of mitigation bank or easement, restoration or enhancement actions), parties responsible for the long-term management of the land, and the legal and funding mechanisms (e.g., holder of conservation easement or fee title). The project proponent will submit evidence that the necessary mitigation has been implemented or that the project proponent has entered into a legal agreement to implement it and that compensatory plant populations will be preserved in perpetuity.			

Mitigation Measures	Timing	Implementing Entity	Verifying/Monitoring Entity
If mitigation includes dedication of conservation easements, purchase of mitigation credits, or other offsite conservation measures, the details of these measures will be included in the mitigation plan, including information on responsible parties for long-term management, conservation easement holders, long-term management requirements, funding assurances, and success criteria such as those listed above and other details, as appropriate to target the preservation of long term viable populations. If mitigation includes restoring or enhancing habitat within the treatment area or outside of the treatment area, the Compensatory Mitigation Plan will include a description of the proposed habitat improvements, success criteria that demonstrate the performance standard of maintained habitat function has been met, legal and funding mechanisms, and parties responsible for long-term management and monitoring of the restored habitat. If the loss of occupied habitat cannot be offset (e.g., if preservation of existing populations or creation of new populations through relocation efforts are not available for a certain species), and as a result treatment activities would substantially reduce the number or restrict the range of listed plant species, then the treatment will not qualify as within the scope of this Program EIR. Compensatory mitigation may be satisfied through compliance with permit conditions, or other authorizations obtained by the project proponent (e.g., incidental take permit for state-listed plants), if these requirements are equally or more effective than the mitigation identified above.			
Mitigation Measure BIO-2a: Avoid Mortality, Injury, or Disturbance and Maintain Habitat Function for Listed Wildlife Species and California Fully Protected Species (All Treatment Activities) If California Fully Protected Species or species listed under ESA or CESA are observed during reconnaissance surveys (conducted pursuant to SPR BIO-1) or focused or protocol-level surveys (conducted pursuant to SPR BIO-10), the project proponent will avoid adverse effects to the species by implementing the following. <u>Avoid Mortality, Injury, or Disturbance of Individuals</u> The project proponent will implement one of the following two measures to avoid mortality, injury, or disturbance of individuals: 1. Treatment will not be implemented within the occupied habitat. Any treatment activities outside occupied habitat will be a sufficient distance from the occupied habitat such that mortality, injury, or disturbance of the species will not occur, as determined by a qualified RPF or biologist using the most current and commonly-accepted science and considering published agency guidance; OR 2. Treatment will be implemented outside the sensitive period of the species' life history (e.g., outside the breeding or nesting season) during which the species may be more susceptible to disturbance, or disturbance could result in loss of eggs or young. For species present year-round, CDFW and/or USFWS/NOAA Fisheries will be consulted to determine if there is a period of time within which treatment could occur that would avoid mortality, injury, or disturbance of the species.	Prior to and during treatment	RCDSCC	RCDSCC

Mitigation Measures	Timing	Implementing Entity	Verifying/Monitoring Entity
▶ For species listed under ESA or CESA, if the project proponent cannot avoid mortality, injury or disturbance by implementing one of the two options listed above, the project proponent will implement Mitigation Measure BIO-2c. ▶ Injury or mortality of California Fully Protected Species is prohibited pursuant to Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code and will be avoided. <u>Maintain Habitat Function</u> ▶ The project proponent will design treatment activities to maintain the habitat function, by implementing the following: ▪ While performing review and surveys for SPR BIO-1 and SPR BIO-10, a qualified RPF or biologist will identify any habitat features that are necessary for survival (e.g., habitat necessary for breeding, foraging, shelter, movement) of the affected wildlife species (e.g., trees with complex structure, trees with large cavities, trees with nesting platforms; dens; tree snags; large raptor nests [including inactive nests]; downed woody debris; food sources). These habitat features will be marked and treatments applied to the features will be designed to minimize or avoid the loss or degradation of suitable habitat for listed species during treatments. Identification and treatment of these features will be based on the life history and habitat requirements of the affected species and the most current, commonly accepted science. ▪ If it is determined during implementation of SPR BIO-1 and SPR BIO-10 that listed or fully protected wildlife with specific requirements for high canopy cover (e.g., Humboldt marten, fisher, spotted owl, coastal California gnatcatcher, riparian woodrat) are present within a treatment area, then tree or shrub canopy cover within existing suitable areas will be retained at the percentage preferred by the species (as determined by expert opinion, published habitat association information, or other documented standards that are commonly accepted [e.g., 50 percent for coastal California gnatcatcher]) such that habitat function is maintained. ▶ A qualified RPF or biologist will determine if, after implementation of the impact avoidance measures listed above, the habitat function will remain for the affected species after implementation of the treatment. Because this measure pertains to species listed under CESA or ESA or are fully protected, the qualified RPF or biologist will consult with CDFW and/or USFWS/NOAA Fisheries regarding the determination that habitat function is maintained. If the lead agency determines after consultation that the treatment will not maintain habitat function for the special-status species, the project proponent will implement Mitigation Measure BIO-2c. **Project-Specific Guidance to Implement Mitigation Measure BIO-2a** <u>California Red-Legged Frog</u> If California red-legged frog is assumed present or detected during protocol-level surveys (pursuant to SPR BIO-10), the following measures will be implemented: ▶ Pre-treatment surveys and biological monitoring. Pre-treatment visual surveys will be performed daily by a qualified RPF, biologist, or biological technician, prior to implementation of treatment activities (i.e., mechanical, manual, prescribed burning, and herbicide) within 300 feet of Class I or Class II streams and within or adjacent			

Mitigation Measures	Timing	Implementing Entity	Verifying/Monitoring Entity
to other sensitive habitat areas (e.g., wet intermittent streams, wet seeps), during the dispersal season (October 1 through April 1) or within 24 hours following a rain event greater than one quarter inch. Visual surveys and visual monitoring of the treatment area during operations will be performed year-around prior to any activities within 30 feet of Class I or Class II streams and within or adjacent to other sensitive habitat areas (e.g., wet Class III streams, wet seeps). If a California red-legged frog is found during pre-activity surveys or enters the project site during treatment activities, all work will stop within a non-disturbance buffer of 100 feet around the individual unless the qualified RPF or biological technician determines that a different sized buffer is appropriate to avoid disturbance, injury, or mortality. Treatment activities will cease within the buffer until the animal leaves on its own and the occurrence will be reported to the qualified RPF or biological technician and USFWS. ▶ If California red-legged frog is found during pre-activity surveys, which will be conducted by a qualified RPF, biologist, or biological technician, or enters the project site during treatment activities, the specific habitat features (i.e., log, tree, debris pile) used by the frog when detected will be evaluated by a qualified RPF, biologist, or biological technician for habitat retention, if habitat retention is achievable while meeting the project goals. ▶ Mechanical treatments will be prohibited within 30 feet of Class III wetlands; and all mechanized equipment, including track chippers, and herbicide treatments will shut down for 24 hours following any precipitation event of 0.20 inch to less than 1 inch, 48 hours following any precipitation event 1 inch to less than 2 inches, and 72 hours following any precipitation event greater or equal to 2 inches. ▶ Burn piles located within 300 feet of Class I or Class II watercourses will be inspected prior to ignition to avoid impacts to California red-legged frog that may be using the pile as refuge. ▶ All herbicide use during project implementation will comply with the herbicide use restrictions in the stipulated injunction issued by the Federal District Court for the Northern District of California to resolve the 2006 case brought against the Environmental Protection Agency by the Center for Biological Diversity. For example, to comply with the injunction, only cut stump and basal bark applications will be allowed in California red-legged frog habitat under the following conditions. ▪ Cut stump and basal bark applications may be used but will not be applied within 60 feet of breeding or non-breeding aquatic habitat. ▶ If operators need to move or treat large woody debris greater than 12 inches in diameter, that piece of woody debris will be evaluated for the presence of California red-legged frog by a qualified biological technician, qualified professional, qualified RPF, RPF supervised designee, or a contractor who has been through the environmental awareness training. ▶ All personnel involved in the implementation of the project will check for the presence of California red-legged frog under or next to stationary vehicles prior to operating their vehicles. If a California red-legged frog is found, the qualified RPF, biologist, or biological technician will contact the USFWS to determine necessary next steps to avoid impact.			

Mitigation Measures	Timing	Implementing Entity	Verifying/Monitoring Entity
Foothill Yellow-Legged Frog If foothill yellow-legged frog are detected during focused visual encounter surveys or assumed to be present (pursuant to SPR BIO-10), the following will be implemented: ▶ Biological monitoring by a qualified RPF, biologist, or biological technician during treatment activities (i.e., prescribed burning, mechanical treatments, manual tree and snag removal, and herbicide application) within or adjacent to sensitive habitat areas (e.g., perennial streams, seeps, springs) will be implemented to avoid injury to or mortality of individual frogs. If the qualified RPF, qualified biologist, or qualified biological technician detects a foothill yellow-legged frog during treatments, treatment activities will cease until the individual has left the area or has been moved out of harm's way and to other nearby habitat suitable for the species by the qualified RPF, qualified biologist, or biological technician. ▶ All personnel involved in the implementation of the project will check for the presence of foothill yellow-legged frog under or next to stationary vehicles prior to operating their vehicles. If a foothill yellow-legged frog is found, the qualified RPF or biological technician will contact CDFW and USFWS to determine the next steps to avoid impact. Marbled Murrelet ▶ If it is infeasible to avoid prescribed burning, mechanical treatments, manual tree and snag removal, or herbicide treatments during the marbled murrelet nesting season (March 24 to September 15) and nesting trees are present (pursuant to SPR BIO-1), and nests of the species have been detected during protocol surveys, or occupancy is assumed (pursuant to SPR BIO-10), a no-disturbance buffer will be implemented up to 0.25 mile of nests or suitable nesting trees depending on the noise generated by the activity following the guidance in *Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California* (USFWS 2020). A reduced buffer size may be implemented by a qualified RPF or biologist in coordination with CDFW and USFWS. ▶ If marbled murrelet nests are detected, or assumed the nest tree, or assumed nest tree, and any adjacent trees that provide screening or canopy cover to the nest will be retained regardless of the diameter of the tree. Special-Status Birds (Golden Eagle and White-Tailed Kite) ▶ If the limited operating period for nesting birds is determined to be infeasible (pursuant to SPR BIO-1) and golden eagle or white-tailed kite nest is detected during focused surveys (pursuant to SPR BIO-10), a no-disturbance buffer of at least 1.0 mile (golden eagle) or 0.25 mile (white-tailed kite) will be established around the nest, and no prescribed burning, mechanical treatments, manual treatments, herbicide application, or prescribed herbivory will occur within this buffer until the chicks have fledged as determined by a qualified RPF or biologist. Buffer size may be reduced or adjusted if recommended by a qualified biologist in coordination with CDFW. Mountain Lion ▶ If a nursery is known to occur in the area or further signs of a nursery are detected based on the surveys described under SPR BIO-10 (e.g., lactating adult females or cubs on camera, repeated detections of an adult			

Mitigation Measures	Timing	Implementing Entity	Verifying/Monitoring Entity
female in the area, growls or calls from cubs), RCDSCC will implement a no-disturbance buffer of at least 2,000 feet (Wilmers et al. 2013) for a minimum of 10 weeks. Treatment activities will not occur within this buffer during this time to avoid disturbance, injury, or mortality of mountain lion nurseries. Ringtail If the limited operating period for ringtail is determined to be infeasible (pursuant to SPR BIO-1) and ringtails are assumed present or detected during focused surveys implemented under SPR BIO-10, then the following avoidance and minimization measures will be required for manual snag or large tree (i.e., greater than 12 inches dbh) removal, mechanical, and prescribed burning treatment activities: ▶ Year-Round Take Avoidance Measures. During mechanical treatment activities in heavy brush habitat (e.g., dense conifer saplings, blackberry, shrubs), and after the standard equipment warm-up period, heavy machinery activities in heavy brush habitat will be conducted slowly and cautiously. For example, the head of a masticator will pause above a patch of heavy brush for several seconds before removing the brush. A qualified biologist, RPF, or biological technician will explain this process to contractors and will observe mechanical treatments on the first day of work to ensure that the methods are understood and implemented properly; this could be combined with other pre-activity survey or contractor awareness training requirements. Contractors will watch for ringtail as they masticate in heavy brush. If a ringtail is observed, the contractor will direct treatment activities to halt, and the ringtail will be allowed to leave the area unharmed before treatment begins. If a ringtail is observed outside of maternity season, the qualified biologist, RPF, or biological technician will be contacted and will perform a sweep of the treatment area before work resumes. If the qualified biologist, RPF, or biological technician observes a resting ringtail or active non-maternity den, treatment activities will not occur within that day's treatment area until the ringtail leaves the area on its own. If the qualified biologist, RPF, or biological technician observes a ringtail or confirms the contractor's observation (i.e., based on contractor description or photograph), the occurrence will be reported to CDFW (R3Timber@wildlife.ca.gov). ▶ Den Surveys. Within seven days prior to the start of manual snag or large tree (i.e., greater than 12 inches dbh) removal, mechanical, and prescribed burning treatments during the ringtail maternity season (April 15-July 31), a qualified biologist, RPF, or biological technician will conduct a den search in the treatment area to be treated the next week. The qualified biologist, RPF, or biological technician will search for large trees (i.e., greater than 12 inches diameter at breast height [dbh]) with appropriate cavities (i.e., holes larger than 3 inches in diameter, cavities extending approximately 12 inches down from the cavity hole). If found, the qualified biologist, RPF, or biological technician will inspect the cavity using a cell phone with a flash, or other tools (e.g., borescopes) to determine whether ringtails are present. Areas with appropriate den habitat (e.g., large trees), occupied or not, will be marked (e.g., with flagging, spray paint), for inspection during future sweeps (as described below). The qualified biologist, RPF, or biological technician will also search for dens in dense brush habitat before manual snag or large tree removal, mechanical, and prescribed burning treatments and will note any sightings of fleeing adult ringtails.			

Mitigation Measures	Timing	Implementing Entity	Verifying/Monitoring Entity
▶ **Active Dens.** If active ringtail dens are discovered during a den survey or daily sweep, a no-disturbance buffer of at least 0.25 mile will be implemented around the den, and manual snag or large tree (i.e., greater than 12 inches dbh) removal, mechanical, and prescribed burning treatments will not proceed within the buffer until at least the end of the ringtail maternity season (July 31). The qualified biologist, RPF, or biological technician will confirm that the den is unoccupied before treatment activities resume. The 0.25-mile buffer will incorporate the den and an area greater than the typical ringtail home range in northern California (Wyatt, pers. comm., 2021). If an active den is discovered, CDFW (R3Timber@wildlife.ca.gov) will be notified of the den and buffer location. CDFW will be provided an opportunity to visit the site and provide technical information on the size and shape of the den buffer. ▶ **Daily Sweeps.** If active ringtail dens are not discovered, daily sweeps will be implemented to avoid inadvertent destruction of active dens that eluded detection during the den search as well as take of adult ringtails and kits. ▪ Prior to the start of work for manual snag or large tree (i.e., greater than 12 inches dbh) removal and mechanical treatments, a qualified biologist, RPF, or biological technician will conduct a sweep of the area to be treated and will search all habitat suitable for ringtails where mastication will occur (i.e., larger trees, heavy brush, rock piles) for active dens or adults, including the trees with cavities previously marked by the qualified biologist, RPF, or biological technician. Each day, a trained contractor will search all areas previously marked by the qualified biologist, RPF, or biological technician for active dens (see training requirements below under "Training and Monitoring"). ▪ Before a prescribed burn, a qualified biologist, RPF, or biological technician will search all habitat suitable for ringtails that would be burned (i.e., heavy brush, burn piles, large trees). ▪ If an active den is discovered during a daily sweep, the qualified biologist, RPF, or biological technician will be notified, all work will stop, a no-disturbance buffer of at least 0.25 mile will be implemented around the den, and the requirements described above under "Active Dens" will be followed. ▶ **Training and Monitoring**. On the first morning of work for manual snag or large tree (i.e., greater than 12 inches dbh) removal and mechanical treatments and before a prescribed burn is initiated, the qualified biologist, RPF, or biologist will provide biological resource training (as required under CalVTP PEIR SPR BIO-2) for all contractors. In addition to standard biological resource training, the qualified biologist, RPF, or biological technician will provide additional training specific to ringtail that will include the following elements: ▪ Description of ringtail appearance (i.e., physical features, typical size); description of typical ringtail behavior; and description of denning habitat suitable for ringtail, particularly in that week's treatment area. The approximate location of large trees with cavities that were previously marked will be noted; ▪ Measures required during operation, including daily sweeps of habitat suitable for ringtail where manual snag or large tree (i.e., greater than 12 inches dbh) removal or mechanical treatments will occur that day (i.e., heavy brush habitat, previously marked tree cavities), year-round take avoidance measures, and required increased vigilance when operating in heavy brush;			

Mitigation Measures	Timing	Implementing Entity	Verifying/Monitoring Entity
▪ Measures required if a ringtail is spotted (i.e., all work halts until a qualified biologist, RPF, or biological technician can conduct a den search and sweep; if the qualified biologist, RPF, or biological technician observes a ringtail or confirms the contractor's observation, the occurrence will be reported to CDFW at R3Timber@wildlife.ca.gov); ▪ Measures required if a ringtail den is found (i.e., 0.25-mile no-disturbance buffer and requirements described above under "Active Dens" will be followed); ▪ Definition of and legal consequences for take of ringtail (e.g., $10,000 fine for each take and/or 1 year in jail); and ▪ Requirements for contacting CDFW (R3Timber@wildlife.ca.gov) include the following circumstances: ringtails observed during treatment activities (notify within 3 business days); and active ringtail den discovered (notify within 24 hours); and take of ringtail occurs (notify within 24 hours).			
Mitigation Measure BIO-2b: Avoid Mortality, Injury, or Disturbance and Maintain Habitat Function for Other Special-Status Wildlife Species (All Treatment Activities) If other special-status wildlife species (i.e., species not listed under CESA or ESA or California Fully Protected, but meeting the definition of special status as stated in Section 3.6.1 of the Program EIR) are observed during reconnaissance surveys (conducted pursuant to SPR BIO-1) or focused or protocol-level surveys (conducted pursuant to SPR BIO-10), the project proponent will avoid or minimize adverse effects to the species by implementing the following. Avoid Mortality, Injury, or Disturbance of Individuals The project proponent will implement the following to avoid mortality, injury, or disturbance of individuals: ▶ For all treatment activities except prescribed burning, the project proponent will establish a no-disturbance buffer around occupied sites (e.g., nests, dens, roosts, middens, burrows, nurseries). Buffer size will be determined by a qualified RPF or biologist using the most current, commonly accepted science and will consider published agency guidance; however, buffers will generally be a minimum of 100 feet, unless site conditions indicate a smaller buffer would be sufficient for protection or a larger buffer would be needed. Factors to be considered in determining buffer size will include, but not be limited to, the species' tolerance to disturbance; the presence of natural buffers provided by vegetation or topography; nest height; locations of foraging territory; baseline levels of noise and human activity; and treatment activity. Buffer size may be adjusted if the qualified RPF or biologist determines that such an adjustment would not be likely to adversely affect (i.e., cause mortality, injury, or disturbance to) the species within the nest, den, burrow, or other occupied site. If a no-disturbance buffer is reduced below 100 feet from an occupied site, a qualified RPF or biologist will provide the project proponent with a site- and/or treatment activity-specific explanation for the buffer reduction, which will be included in the PSA. After completion of the PSA and prior to or during treatment implementation, if there is any deviation (e.g., further reduction) from the reduced buffer as explained in the PSA, this will be documented in the post-project implementation report (referred to by CAL FIRE as a Completion Report).	Prior to and during treatment	RCDSCC	RCDSCC

Mitigation Measures	Timing	Implementing Entity	Verifying/Monitoring Entity
▶ No-disturbance buffers will be marked with high-visibility flagging, fencing, stakes, or clear, existing landscape demarcations (e.g., edge of a roadway). No activity will occur within the buffer areas until the qualified RPF or biologist has determined that the young have fledged or dispersed; the nest, den, or other occurrence is no longer active; or reducing the buffer would not likely result in disturbance, mortality, or injury. A qualified RPF, biologist, or biological technician will be required to monitor the effectiveness of the no-disturbance buffer around the nest, den, burrow, or other occurrence during treatment. If treatment activities cause agitated behavior of the individual(s), the buffer distance will be increased, or treatment activities modified until the agitated behavior stops. The qualified RPF, biologist, or biological technician will have the authority to stop any treatment activities that could result in mortality, injury or disturbance to special-status species. ▶ For prescribed burning, the project proponent will implement the treatment outside the sensitive period of the species' life history (e.g., outside the breeding or nesting season) during which the species may be more susceptible to disturbance, or disturbance could result in loss of eggs or young. For species present year-round, the qualified RPF or biologist will determine the period of time within which prescribed burning could occur that will avoid or minimize mortality, injury, or disturbance of the species. The project proponent may consult with CDFW and/or USFWS for technical information regarding appropriate limited operating periods. <u>Maintain Habitat Function</u> For all treatment activities, the project proponent will design treatment activities to maintain the habitat function by implementing the following: ▶ While performing review and surveys for SPR BIO-1 and SPR BIO-10, a qualified RPF or biologist will identify any habitat features that are necessary for survival (e.g., habitat necessary for breeding, foraging, shelter, movement) of the affected wildlife species (e.g., trees with complex structure, trees with large cavities, trees with nesting platforms; tree snags; large raptor nests [including inactive nests]; downed woody debris). These habitat features will be marked and treatments applied to the features will be designed to minimize or avoid the loss or degradation of suitable habitat for listed species during treatments. Identification and treatment of these features will be based on the life history and habitat requirements of the affected species and the most current, commonly accepted science. ▶ If it is determined during implementation of SPR BIO-1 and SPR BIO-10 that special-status wildlife with specific requirements for high canopy cover (e.g., northern goshawk, Sierra Nevada snowshoe hare) are present within a treatment area, then tree or shrub canopy cover within existing suitable areas will be retained at the percentage preferred by the species (as determined by expert opinion, published habitat association information, or other documented standards that are commonly accepted) such that the habitat function is maintained. ▶ A qualified RPF or biologist will determine if, after implementation of the impact avoidance measures listed above, the habitat function will remain for the affected species after implementation of the treatment. The qualified RPF or biologist may consult with CDFW and/or USFWS for technical information regarding habitat function.			

Mitigation Measures	Timing	Implementing Entity	Verifying/Monitoring Entity
A qualified RPF or biologist with knowledge of the special-status wildlife species habitat and life history will review the treatment design and applicable impact minimization measures (potentially including others not listed above) to determine if the anticipated residual effects of the treatment would be significant under CEQA because implementation of the treatment will not maintain habitat function of the special-status wildlife species' habitat or because the loss of special-status wildlife would substantially reduce the number or restrict the range of a special-status wildlife species. If the project proponent determines the impact on special-status wildlife would be less than significant, no further mitigation will be required. If the project proponent determines that the loss of special-status wildlife or degradation of occupied habitat would be significant under CEQA after implementing feasible treatment design alternatives and impact minimization measures, then Mitigation Measure BIO-2c will be implemented. The only exception to this mitigation approach is in cases where it is determined by a qualified RPF or biologist that the non-listed special-status wildlife would benefit from treatment in the occupied habitat area even though some of the non-listed special-status wildlife may be killed, injured, or disturbed during treatment activities. For a treatment to be considered beneficial to non-listed special-status wildlife, the qualified RPF or biologist will demonstrate with substantial evidence that habitat function is reasonably expected to improve with implementation of the treatment (e.g., by citing scientific studies demonstrating that the species (or similar species) has benefitted from increased sunlight due to canopy opening, eradication of invasive species, or otherwise reduced competition for resources), and the substantial evidence will be included in the PSA. If it is determined that treatment activities would be beneficial to special-status wildlife, no compensatory mitigation will be required. The qualified RPF or biologist may consult with CDFW and/or USFWS for technical information regarding the determination that a non-listed special-status species would benefit from the treatment. **Project-Specific Guidance to Implement Mitigation Measure BIO-2b** Special-Status Salamanders ▶ If special-status salamanders (i.e., California giant salamander, Santa Cruz black salamander) are detected during focused surveys or assumed to be present (pursuant to SPR BIO-10), biological monitoring by a qualified biologist during treatment activities within or adjacent to sensitive habitat areas (e.g., streams, seeps, springs, talus slopes) will be implemented to avoid injury to or mortality of individual salamanders. If the qualified biologist detects a special-status salamander during treatments, treatment activities will cease until the salamander has left the area or has been moved out of harm's way and to other nearby habitat suitable for the species by the qualified biologist. Western Pond Turtle ▶ If western pond turtle is detected during focused surveys (pursuant to SPR BIO-10), the following measures will be conducted in suitable upland habitat for western pond turtle: ▪ Mechanized equipment, manual tree and snag removal, and pile burning which may cause loss of nests will not occur within 50 feet of western pond turtle nests. Manual treatment (not including tree or snag removal), prescribed herbivory, and herbicide application may occur within this buffer. Special-Status Birds (Olive-sided Flycatcher and Purple Martin)			

Mitigation Measures	Timing	Implementing Entity	Verifying/Monitoring Entity
▶ If the limited operating period for olive-sided flycatcher and purple martin is determined to be infeasible (pursuant to SPR BIO-1) and an olive-sided flycatcher or purple martin nest is detected during focused surveys (pursuant to SPR BIO-10), a no-disturbance buffer of at least 100 feet will be established around the nest, and no prescribed burning, mechanical treatments, manual treatments, herbicide application, or prescribed herbivory will occur within this buffer until the chicks have fledged as determined by a qualified RPF or biologist. Buffer size may be reduced or adjusted if recommended by a qualified biologist in consultation with CDFW. American Badger ▶ If American badger is detected during focused surveys, a no-disturbance buffer will be established around the den, the size of which will be determined by the qualified RPF or biologist, and no treatment activities will occur within this buffer. Buffer size may be reduced or adjusted if recommended by a qualified biologist in consultation with CDFW. San Francisco Dusky-Footed Woodrat ▶ A no-disturbance buffer of 5 to 10 feet will be established around San Francisco dusky-footed woodrat nests, if feasible, during prescribed burning, mechanical treatments, and manual treatments. ▶ If San Francisco dusky-footed woodrat nests within mechanical or manual snag and tree removal treatment areas cannot be avoided, a qualified biologist or RPF will implement nest relocation procedures, if feasible, outside of the season when most young are present in the nest (April through mid-July). The biologist or RPF would dismantle the woodrat nest by hand and rebuild the nest outside of the treatment footprint. ▪ Prior to any nest removal, safety measures will be employed to minimize potential human exposure to possible diseases carried by woodrats. Adequate protection, such as protective clothing, equipment and tools, gloves, and appropriate masks, will be used to ensure safety regarding viruses and diseases potentially carried by rodents. ▪ Nest removal efforts will not take place during inclement or extreme weather conditions and will take place at dusk or dawn when woodrats are least susceptible to predators. ▪ Rebuilt nests will be located in the vicinity (approximately 50 feet) of other existing nests (when other nests occur outside of the treatment area), and in the same habitat type as the original nest when feasible. ▶ If San Francisco dusky-footed woodrat nests are located within prescribed burning treatment areas, broadcast burning will not occur during the season when the majority of woodrat young are present in the nest (April through mid-July) to avoid loss of young woodrats, unless control lines can be established around the nest. ▶ In areas of existing woodrat habitat where pile burning would occur, pile burning will take place as soon as feasible to reduce the risk of woodrats occupying the debris piles. Prior to burning, debris piles should be disturbed to ensure any woodrats inside of the piles have the opportunity to escape. Special-Status Bats			

Mitigation Measures	Timing	Implementing Entity	Verifying/Monitoring Entity
▶ If special-status bat roosts are identified during focused surveys, a no-disturbance buffer of 250 feet will be established around active pallid bat and Townsend's big-eared bat roosts and mechanical treatments and manual tree and snag removal will not occur within this buffer while the roost is active as determined by a qualified RPF or biologist. ▶ If special-status bat roosts are identified in a treatment area where prescribed burning is planned, prescribed burning activities will be implemented only outside of the bat breeding season, which is April 1 through August 31.			
Mitigation Measure BIO-2c: Compensate for Mortality, Injury, or Disturbance and Loss of Habitat Function for Special-Status Wildlife if Applicable (All Treatment Activities) If the provisions of Mitigation Measure BIO-2a, BIO-2b, BIO-2d, BIO-2e, BIO-2f, or BIO-2g cannot be implemented and the project proponent determines that additional mitigation is necessary to reduce significant impacts, the project proponent will compensate for such impacts to species or habitat by acquiring and/or protecting land that provides (or will provide in the case of restoration) habitat function for affected species that is at least equivalent to the habitat function removed or degraded as a result of the treatment. Compensation may include: 1. Preserving existing habitat outside of the treatment area in perpetuity; this may entail purchasing mitigation credits and/or lands from a CDFW- or USFWS-approved entity in sufficient quantity to offset the residual significant impacts, generally at a ratio of 1:1 for habitat; and 2. Restoring or enhancing existing habitat within the treatment area or outside of the treatment area (including decommissioning roads, adding perching structures, removing existing perching structures, or removing existing movement barriers or other existing features that are adversely affecting the species). The project proponent will prepare a Compensatory Mitigation Plan that identifies the residual significant effects that require compensatory mitigation and describes the compensatory mitigation strategy being implemented to reduce residual effects, and: 1. For preserving existing habitat outside of the treatment area in perpetuity, the Compensatory Mitigation Plan will include a summary of the proposed compensation lands (e.g., the number and type of credits, location of mitigation bank or easement), parties responsible for the long-term management of the land, and the legal and funding mechanisms for long-term conservation (e.g., holder of conservation easement or fee title). The project proponent will submit evidence that the necessary mitigation has been implemented or that the project proponent has entered into a legal agreement to implement it and that compensatory habitat will be preserved in perpetuity. 2. For restoring or enhancing habitat within the treatment area or outside of the treatment area, the Compensatory Mitigation Plan will include a description of the proposed habitat improvements, success criteria that demonstrate the performance standard of maintained habitat function has been met, legal and funding mechanisms, and parties responsible for long-term management and monitoring of the restored habitat. Review requirements are as follows:	Prior to, during, and following treatment	RCDSCC	RCDSCC

Mitigation Measures	Timing	Implementing Entity	Verifying/Monitoring Entity
▶ The project proponent will consult with CDFW and/or any other applicable responsible agency prior to finalizing the Compensatory Mitigation Plan in order to satisfy that responsible agency's requirements (e.g., permits, approvals) within the plan. ▶ For species listed under ESA or CESA or a California Fully Protected Species, the project proponent will submit the mitigation plan to CDFW and/or USFWS/NOAA Fisheries for review and comment. ▶ For other special-status wildlife species the project proponent may consult with CDFW and/or USFWS regarding the availability and applicability of compensatory mitigation and other related technical information. Compensatory mitigation may be satisfied through compliance with permit conditions, or other authorizations obtained by the project proponent (e.g., incidental take permit), if these requirements are equally or more effective than the mitigation identified above.			
Mitigation Measure BIO-2e: Design Treatment to Retain Special-Status Butterfly Host Plants (All Treatment Activities) If federally listed butterflies are identified as occurring or having potential to occur during review and surveys for SPR BIO-1 and confirmed during protocol-level surveys per SPR BIO-10, then the following measures will be implemented: ▶ Treatment areas within the range of these species will be surveyed for the host plant for each species (Table 3.6-34). ▶ Host plants for federally listed butterflies within the occupied habitat will be marked with high-visibility flagging, fencing, or stakes, and no treatment activities will occur within 10 feet of these plants. ▶ Because prescribed herbivory could result in the indiscriminate removal of the host plants for federally listed butterflies, this treatment type will not be used within occupied habitat of any federally listed butterfly species, unless it is known that the host plant is unpalatable to the herbivore. ▶ Treatment areas that are not occupied but are within the range of the federally listed butterfly will be divided into as many treatment units as feasible such that the entirety of the habitat is not treated within the same year. ▶ Treatments will be conducted in a patchy pattern to the extent feasible in areas that are not occupied but are within the range of the federally listed butterfly, such that the entirety of the habitat is not burned or removed and untreated portions of suitable habitat are retained. If the project proponent cannot implement the measures above to avoid mortality, injury, or disturbance of federally listed butterflies or degradation of occupied habitat (host plants) such that its function would not be maintained, the project proponent will implement Mitigation Measure BIO-2c. **CESA and ESA Listed Species.** A qualified RPF or biologist will determine if, after implementation of any feasible impact avoidance measures (potentially including others not listed above), the treatment will result in mortality, injury, or disturbance, or if after implementation of the treatment, habitat function will remain for the affected species. For species listed under CESA or ESA or that are fully protected, the qualified RPF or biologist will consult with CDFW and/or USFWS regarding this determination. If consultation determines that mortality, injury, or	Prior to and during treatment	RCDSCC	RCDSCC

Mitigation Measures	Timing	Implementing Entity	Verifying/Monitoring Entity
disturbance of listed butterflies or degradation of occupied habitat such that its function would not be maintained would occur, the project proponent will implement Mitigation Measure BIO-2c.			

Table 3.6-34 Special-status Butterflies and Associated Host Plants

Butterfly Species	Host Plants
bay checkerspot butterfly	dwarf plantain (*Plantago virginica*), purple owl's clover (*Castilleja exserta*)
Behren's silverspot butterfly	blue violet (*Viola adunca*)
callippe silverspot butterfly	California golden violet (*Viola pedunculata*)
Carson wandering skipper	salt grass (*Distichlis spicata*)
El Segundo blue butterfly	seacliff buckwheat (*Eriogonum parvifolium*)
Hermes copper butterfly	spiny redberry (*Rhamnus crocea*)
Kern primrose sphinx moth	plains evening-primrose (*Camissonia contorta*), field primrose (*Camissonia campestris*)
Laguna Mountains skipper	Cleveland's horkelia (*Horkelia clevelandii*), sticky cinquefoil (*Drymocallis glandulosa*)
Lange's metalmark butterfly	naked-stemmed buckwheat (*Eriogonum nudum*)
lotis blue butterfly	seaside bird's foot trefoil (*Hosackia gracilis*)
Mission blue butterfly	lupine (*Lupinus* spp.)
Myrtle's silverspot butterfly	blue violet
Oregon silverspot butterfly	blue violet
Palos Verdes blue butterfly	Santa Barbara milkvetch (*Astragalus trichopodus*), common deerweed (*Acmispon glaber*)
San Bruno elfin butterfly	broadleaf stonecrop (*Sedum spathulifolium*), manzanita (*Arctostaphylos* spp.), huckleberry (*Vaccinuum* spp.)
Smith's blue butterfly	seacliff buckwheat, seaside buckwheat (*Eriogonum latifolium*)
Quino checkerspot butterfly	dwarf plantain, purple owl's clover

Mitigation Measures	Timing	Implementing Entity	Verifying/Monitoring Entity
Other Special-status Species. A qualified RPF or biologist with knowledge of the special-status species' habitat and life history will review the treatment design and applicable impact minimization measures (potentially including others not listed above) to determine if the anticipated residual effects of the treatment would be significant under CEQA, because implementation of the treatment will not maintain habitat function of the special-status species' habitat or because the loss of special-status individuals would substantially reduce the number or restrict the range of a special-status species. If the project proponent determines the impact on special-status butterflies would be less than significant, no further mitigation will be required. If the project proponent determines that the loss of special-status butterflies or degradation of occupied habitat would be significant under CEQA after implementing feasible treatment design alternatives and impact minimization measures, then Mitigation Measure BIO-2c will be implemented. The only exception to this mitigation approach is in cases where it is determined by a qualified RPF or biologist that the special-status butterfly species would benefit from treatment in the occupied habitat area even though some may be killed, injured or disturbed during treatment activities. For a treatment to be considered beneficial to special-status butterfly species, the qualified RPF or biologist will demonstrate with substantial evidence that habitat function is reasonably expected to improve with implementation of the treatment (e.g., by citing scientific studies demonstrating that the species (or similar species) has benefitted from increased sunlight due to canopy opening, eradication of invasive species, or otherwise reduced competition for resources). If it is determined that treatment activities would be beneficial to special-status butterflies, no compensatory mitigation will be required. Project-Specific Guidance to Implement Mitigation Measure BIO-2e To avoid impacts on monarch butterfly, the following measures will be implemented for broadcast burning, mechanical treatments, manual tree and snag removal, and herbicide application: ▶ Treatments will be designed to retain milkweed (*Asclepias* spp.) plants in the project area as feasible. Large patches of milkweed plants in a treatment area will be marked with high-visibility flagging, fencing, stakes, or other methods, and these plants will not be removed or trampled during treatment activities. ▶ Broadcast burning and mowing in habitat suitable for monarch will be restricted to October 31-March 15. ▶ Treatments will be conducted in a patchy pattern in habitat suitable for monarch, such that the entirety of the habitat is not burned or removed, and untreated portions of suitable habitat are retained.			
Mitigation Measure BIO-2f: Avoid Habitat for Special-Status Beetles, Flies, Grasshoppers, and Snails (All Treatment Activities) If treatment activities would occur within the limited range of any state or federally listed beetle, fly, grasshopper, or snail, and these species are identified as occurring or having potential to occur due to the presence of potentially suitable habitat during review ~~and surveys for~~ pursuant to SPR BIO-1 and ~~surveys for~~ SPR BIO-10, and the species have been detected during surveys pursuant to SPR BIO-10 or assumed to be present, then the following measures will be implemented:	Prior to and during treatment	RCDSCC	RCDSCC

Mitigation Measures	Timing	Implementing Entity	Verifying/Monitoring Entity
~~To avoid and minimize impacts to Mount Hermon June beetle and Zayante band-winged grasshopper, treatment activities will not occur within "Sandhills" habitat in Santa Cruz County, the only suitable habitat for these species.~~ To avoid injury, mortality of Mount Hermon June beetle, or disturbance that would cause injury or mortality to Mount Hermon June beetle, the following measures will be implemented within suitable habitat for the species: ▪ The following treatments may occur within habitat suitable for the species during the flight season (May 1 to September 15) or at any other time: • manual treatments that do not remove plant roots where Mount Hermon June beetle larvae may be present (e.g., tree and shrub cutting/pruning, raking ground surface to expose soil); • herbicide application using cut stump or hand spray; and • mechanical treatments only if heavy equipment (e.g., masticator, chipper) is located on paved or compacted surfaces. ▪ The following treatments may only occur within habitat suitable for the species during September 16 to April 30 (i.e., outside of the flight season): • broadcast burning. • mechanical treatments if heavy equipment (e.g., masticator, chipper) is located on paved and compacted surfaces (determined by a qualified biologist to be unsuitable for Mount Hermon June beetle emergence), or other methods used to avoid soil disturbance greater than 6 inches deep (e.g., low ground pressure vehicles, use of trench plates). ▪ Masticator heads must not contact soil surface. ▪ Soil disturbance more than 6 inches deep will be avoided. ▪ Removal of native plant species will be minimized to the extent feasible while meeting treatment goals. ▪ Cut, or masticated material left in preparation for prescribed burning, or chipped material, will not be left on the soil surface within 200 feet of mapped Zayante soils during flight season (May 1 to September 15), other than on compacted surfaces or other habitats determined by a qualified biologist to be unsuitable for the species (e.g., redwood forest). When in suitable habitat for the Mount Hermon June beetle and Zayante band-winged grasshopper, all chipped or masticated material will be removed through either burning or manual removal. ▪ If Mount Hermon June beetle is observed during treatment activities, work within 100 feet will stop, and the USFWS will be contacted to determine when/if work may continue. ▪ The RCDSCC will send the resumes of qualified biologists to the USFWS for review, prior to treatment. To avoid injury, mortality of Zayante band-winged grasshopper, or disturbance that would cause injury or mortality to Zayante band-winged grasshopper, the following measures will be implemented within habitat suitable for the species:			

Mitigation Measures	Timing	Implementing Entity	Verifying/Monitoring Entity
▪ Only the following treatments may occur within the nymph and flight season (April 1 – November 30) within habitat suitable for the species: • manual removal of non-native vegetation; and • herbicide application on non-native species using cut stump or hand spray only. ▪ The following treatments may occur within habitat suitable for the species only during December 1 to March 31 (i.e., outside of the nymph and flight season): • manual treatments that do not create soil disturbance (e.g., tree and shrub cutting/pruning, raking ground surface to expose soil); • broadcast burning; • herbicide application on non-native species using cut stump or hand spray only; and • mechanical treatments using a chipper on paved or compacted surfaces determined by a qualified biologist to be unsuitable for Zayante band winged grasshopper emergence. ▪ If Zayante band-winged grasshopper is observed during treatment activities, work in within 100 feet will stop, and the USFWS will be contacted to determine when/if work may continue. ▪ Cut, masticated, or chipped material will not be left on the soils surface within habitat for Zayante band-winged grasshopper. ▪ Masticator heads must not contact soil surface while in operation. ▶ If the project proponent determines that treatment activities beyond those described above for Mount Herman June beetle and Zayante band-winged grasshopper are necessary to meet the objectives of the project, the project proponent will implement Mitigation Measure BIO-2c. ▶ In addition, a qualified RPF or biologist of the lead agency will determine if, after implementation of the impact avoidance measures listed above, habitat function will remain for the affected species after implementation of the treatment. Because this measure pertains to species listed under ESA, the qualified RPF or biologist will consult with USFWS regarding the determination that habitat function is maintained. If the lead agency determines after consultation that the treatment will not maintain habitat function for the special-status species, the project proponent will implement Mitigation Measure BIO-2c. ▶ To avoid and minimize impacts to Casey's June beetle, Delhi Sands flower-loving fly (*Rhaphiomidas terminates abdominalis*), Delta green ground beetle (*Elaphrus virisis*), Morro shoulderband snail, Ohlone tiger beetle (*Cicindela ohlone*), and Trinity bristle snail, treatment activities will not occur within habitat in the range of these species that is deemed suitable by a qualified RPF or biologist with familiarity of the species.			
Mitigation Measure BIO-3a: Design Treatments to Avoid Loss of Sensitive Natural Communities and Oak Woodlands The project proponent will implement the following measures when working in treatment areas that contain sensitive natural communities identified during surveys conducted pursuant to SPR BIO-3:	Prior to and during treatment	RCDSCC	RCDSCC

Mitigation Measures	Timing	Implementing Entity	Verifying/Monitoring Entity
▶ Reference the *Manual of California Vegetation*, Appendix 2, Table A2, *Fire Characteristics* (Sawyer et al. 2009 or current version, including updated natural communities data at http://vegetation.cnps.org/) or other best available information to determine the natural fire regime of the specific sensitive natural community type (i.e., alliance) present. The condition class and fire return interval departure of the vegetation alliances present will also be determined. ▶ Design treatments in sensitive natural communities and oak woodlands to restore the natural fire regime and return vegetation composition and structure to their natural condition to maintain or improve habitat function of the affected sensitive natural community. Treatments will be designed to replicate the fire regime attributes for the affected sensitive natural community or oak woodland type including seasonality, fire return interval, fire size, spatial complexity, fireline intensity, severity, and fire type as described in *Fire in California's Ecosystems* (Van Wagtendonk et al. 2018) and the *Manual of California Vegetation* (Sawyer et al. 2009 or current version, including updated natural communities data at http://vegetation.cnps.org/). Treatments will not be implemented in sensitive natural communities that are within their natural fire return interval (i.e., time since last burn is less than the average time required for that vegetation type to recover from fire) or within Condition Class 1. ▶ To the extent feasible, no fuel breaks will be created in sensitive natural communities with rarity ranks of S1 (critically imperiled) and S2 (imperiled). ▶ To the extent feasible, fuel breaks will not remove more than 20 percent of the native vegetation relative cover from a stand of sensitive natural community vegetation in sensitive natural communities with a rarity rank of S3 (vulnerable) or in oak woodlands. In forest and woodland sensitive natural communities with a rarity rank of S3, and in oak woodlands, only shaded fuel breaks will be installed, and they will not be installed in more than 20 percent of the stand of sensitive natural community or oak woodland vegetation (i.e., if the sensitive natural community covers 100 acres, no more than 20 acres will be converted to create the fuel break). ▶ Use prescribed burning as the primary treatment activity in sensitive natural communities that are fire dependent (e.g., closed-cone forest and woodland alliances, chaparral alliances characterized by fire-stimulated, obligate seeders), to the extent feasible and appropriate based on the fire regime attributes as described in *Fire in California's Ecosystems* (Van Wagtendonk et al. 2018) and the *Manual of California Vegetation* (Sawyer et al. 2009 or current version, including updated natural communities data at http://vegetation.cnps.org/). ▶ Time prescribed herbivory to occur when non-target vegetation is not susceptible to damage (e.g. non-target vegetation is dormant or has completed its reproductive cycle for the year). For example, use herbivores to control invasive plants growing in sensitive habitats or sensitive natural communities when sensitive vegetation is dormant but invasive plants are growing. Timing of herbivory to avoid non-target vegetation will be determined by a qualified botanist, RPF, or biologist based on the specific vegetation alliance being treated, the life forms and life conditions of its characteristic plant species, and the sensitivity of the non-target vegetation to the effects of herbivory.			

Mitigation Measures	Timing	Implementing Entity	Verifying/Monitoring Entity
The feasibility of implementing the avoidance measures will be determined by the project proponent based on whether implementation of this mitigation measure will preclude completing the treatment project within the reasonable period of time necessary to meet CalVTP program objectives, including, but not limited to, protection of vulnerable communities. If the avoidance measures are determined by the project proponent to be infeasible, the project proponent will document the reasons implementation of the avoidance strategies are infeasible in the PSA. After completion of the PSA and prior to or during treatment implementation, if there is any change in the feasibility of avoidance strategies from those explained in the PSA, this will be documented in the post-project implementation report (referred to by CAL FIRE as a Completion Report). A qualified RPF or botanist with knowledge of the affected sensitive natural community will review the treatment design and applicable impact minimization measures (potentially including others not listed above) to determine if the anticipated residual effects of the treatment would be significant under CEQA because implementation of the treatment will not maintain habitat functions of the sensitive natural community or oak woodland. If the project proponent determines the impact on sensitive natural communities or oak woodlands would be less than significant, no further mitigation will be required. If the project proponent determines that the loss or degradation of sensitive natural communities or oak woodlands would be significant under CEQA after implementing feasible treatment design alternatives and impact minimization measures, then Mitigation Measure BIO-3b will be implemented. The only exception to this mitigation approach is in cases where it is determined by a qualified RPF or botanist that the sensitive natural community or oak woodland would benefit from treatment in the occupied habitat area even though some loss may occur during treatment activities. For a treatment to be considered beneficial to a sensitive natural community or oak woodland, the qualified RPF or botanist will demonstrate with substantial evidence that habitat function is reasonably expected to improve with implementation of the treatment (e.g., by citing scientific studies demonstrating that the community (or similar community) has benefitted from increased sunlight due to canopy opening, eradication of invasive species, or otherwise reduced competition for resources), and the substantial evidence will be included in the PSA. If it is determined that treatment activities would be beneficial to sensitive natural communities or oak woodlands, no compensatory mitigation will be required. **Project-Specific Guidance to Implement Mitigation Measure BIO-3a** Sandhills Ecosystem Habitat within the sandhills will be treated as a sensitive at the local level and treatments would be designed to avoid loss of sandhill habitat. The following will be implemented for treatments within sandhill habitat: ▶ Prescribed burning and manual and mechanical treatments, followed by leaf litter and duff removal using raking, will be the primary treatment methods in sandhill habitats. ▶ Herbicide applications in sandhill habitats will use cut-stump treatments rather than foliar spray, to avoid contact with non-target organisms. ▶ Removal of leaf litter and duff will be avoided under the canopy of ponderosa pines. ▶ The natural fire regime of different sandhill habitats will be determined along with the fire return interval departure. Treatments will not be implemented in sandhill habitats that are within their natural fire return			

Mitigation Measures	Timing	Implementing Entity	Verifying/Monitoring Entity
interval (i.e., time since last burn is less than the average time required for that vegetation type to recover from fire). ▶ Treatments will be designed to restore the natural fire regime and return vegetation composition and structure to their natural condition to maintain or improve habitat function of that specific sandhill plant community. ▶ Treatments will be designed to replicate the natural fire regime attributes including seasonality (as feasible), fire return interval, fire size, spatial complexity, fire line intensity, severity, and fire type as described in *Fire Management in the Sandhills: A Synthesis and Recommendations for the Land Trust of Santa Cruz County Sandhills Properties Forest Health Project* (McGraw 2024).			
Mitigation Measure BIO-3b: Compensate for Loss of Sensitive Natural Communities and Oak Woodlands If significant impacts on sensitive natural communities or oak woodlands cannot feasibly be avoided or reduced as specified under Mitigation Measure BIO-3a, the project proponent will implement the following actions: ▶ Compensate for unavoidable losses of sensitive natural community and oak woodland acreage and function by: ▪ restoring sensitive natural community or oak woodland functions and acreage within the treatment area; ▪ restoring degraded sensitive natural communities or oak woodlands outside of the treatment area at a sufficient ratio to offset the loss of acreage and habitat function; or ▪ preserving existing sensitive natural communities or oak woodlands of equal or better value to the sensitive natural community lost through a conservation easement at a sufficient ratio to offset the loss of acreage and habitat function. ▶ The project proponent will prepare a Compensatory Mitigation Plan that identifies the residual significant effects on sensitive natural communities or oak woodlands that require compensatory mitigation and describes the compensatory mitigation strategy being implemented to reduce residual effects, and: 1. For preserving existing habitat outside of the treatment area in perpetuity, the Compensatory Mitigation Plan will include a summary of the proposed compensation lands (e.g., the number and type of credits, location of mitigation bank or easement), parties responsible for the long-term management of the land, and the legal and funding mechanism for long-term conservation (e.g., holder of conservation easement or fee title). The project proponent will submit evidence that the necessary mitigation has been implemented or that the project proponent has entered into a legal agreement to implement it and that compensatory habitat will be preserved in perpetuity. 2. For restoring or enhancing habitat within the treatment area or outside of the treatment area, the Compensatory Mitigation Plan will include a description of the proposed habitat improvements, success criteria that demonstrate the performance standard of maintained habitat function has been met, legal and funding mechanisms, and parties responsible for long-term management and monitoring of the restored or enhanced habitat.	Prior to, during, and following treatment	RCDSCC	RCDSCC

Mitigation Measures	Timing	Implementing Entity	Verifying/Monitoring Entity
The project proponent will consult with CDFW and/or any other applicable responsible agency prior to finalizing the Compensatory Mitigation Plan in order to satisfy that responsible agency's requirements (e.g., permits, approvals) within the plan.			
Mitigation Measure BIO-3c: Compensate for Unavoidable Loss of Riparian Habitat If, after implementation of SPR BIO-4, impacts to riparian habitat remain significant under CEQA, the project proponent will implement the following: ▶ Compensate for unavoidable losses of riparian habitat acreage and function by: ▪ restoring riparian habitat functions and acreage within the treatment area; ▪ restoring degraded riparian habitat outside of the treatment area; ▪ purchasing riparian habitat credits at a CDFW-approved mitigation bank; or ▪ preserving existing riparian habitat of equal or better value to the riparian habitat lost through a conservation easement at a sufficient ratio to offset the loss of riparian habitat function and value. ▶ The project proponent will prepare a Compensatory Mitigation Plan that identifies the residual significant effects on riparian habitat that require compensatory mitigation and describes the compensatory mitigation strategy being implemented to reduce residual effects, and: 1. For preserving existing riparian habitat outside of the treatment area in perpetuity, the Compensatory Mitigation Plan will include a summary of the proposed compensation lands (e.g., the number and type of credits, location of mitigation bank or easement), parties responsible for the long-term management of the land, and the legal and funding mechanism for long-term conservation (e.g., holder of conservation easement or fee title). The project proponent will submit evidence that the necessary mitigation has been implemented or that the project proponent has entered into a legal agreement to implement it and that compensatory plant populations will be preserved in perpetuity. 2. For restoring or enhancing riparian habitat within the treatment area or outside of the treatment area, the Compensatory Mitigation Plan will include a description of the proposed habitat improvements, success criteria that demonstrate the performance standard of maintained habitat function has been met, legal and funding mechanisms, and parties responsible for long-term management and monitoring of the restored or enhanced habitat. The project proponent will consult with CDFW and/or any other applicable responsible agency prior to finalizing the Compensatory Mitigation Plan to satisfy that responsible agency's requirements (e.g., permits, approvals) within the plan. Compensatory mitigation may be satisfied through compliance with permit conditions, or other authorizations obtained by the project proponent (e.g., Lake and Streambed Alteration Agreement), if these requirements are equally or more effective than the mitigation identified above.	Prior to, during, and following treatment	RCDSCC	RCDSCC
Mitigation Measure BIO-4: Avoid State and Federally Protected Wetlands Impacts to wetlands will be avoided using the following measures:	Prior to, during, and following treatment	RCDSCC	RCDSCC

Mitigation Measures	Timing	Implementing Entity	Verifying/Monitoring Entity
▶ The qualified RPF or biologist will delineate the boundaries of federally protected wetlands according to methods established in the USACE wetlands delineation manual (Environmental Laboratory 1987) and the appropriate regional supplement for the ecoregion in which the treatment is being implemented. ▶ The qualified RPF or biologist will delineate the boundaries of wetlands that may not meet the definition of waters of the United States, but would qualify as waters of the state, according to the state wetland procedures (California Water Boards 2019 or current procedures). ▶ A qualified RPF or biologist will establish a buffer around wetlands and mark the buffer boundary with high-visibility flagging, fencing, stakes, or clear, existing landscape demarcations (e.g., edge of a roadway). The buffer will be a minimum width of 25 feet but may be larger if deemed necessary. The appropriate size and shape of the buffer zone will be determined in coordination with the qualified RPF or biologist and will depend on the type of wetland present (e.g., seasonal wetland, wet meadow, freshwater marsh, vernal pool), the timing of treatment (e.g., wet or dry time of year), whether any special-status species may occupy the wetland and the species' vulnerability to the treatment activities, environmental conditions and terrain, and the treatment activity being implemented. ▶ A qualified RPF or biological technician will periodically inspect the materials demarcating the buffer to confirm that they are intact and visible, and wetland impacts are being avoided. ▶ Within this buffer, herbicide application is prohibited. ▶ Within this buffer, soil disturbance is prohibited. Accordingly, the following activities are not allowed within the buffer zone: mechanical treatments, prescribed herbivory, equipment and vehicle access or staging. ▶ Only prescribed (broadcast) burning may be implemented in wetland habitats if it is determined by a qualified RPF or biologist that: ▪ No special-status species are present in the wetland habitat ▪ The wetland habitat function would be maintained. ▪ The prescribed burn is within the normal fire return interval for the wetland vegetation types present ▪ Fire containment lines and pile burning are prohibited within the buffer No fire ignition (and associated use of accelerants) will occur within the wetland buffer			
Mitigation Measure BIO-5: Retain Nursery Habitat and Implement Buffers to Avoid Nursery Sites The project proponent will implement the following measures while working in treatment areas that contain nursery sites identified in surveys conducted pursuant to SPR BIO-10: ▶ Retain Known Nursery Sites. A qualified RPF or biologist will identify the important habitat features of the wildlife nursery and, prior to treatment activities, will mark these features for avoidance and retention during treatment. ▶ Establish Avoidance Buffers. The project proponent will establish a non-disturbance buffer around the nursery site if activities are required while the nursery site is active/occupied. The appropriate size and shape of the buffer will be determined by a qualified RPF or biologist, based on potential effects of project-related habitat	Prior to and during treatment	RCDSCC	RCDSCC

Mitigation Measures	Timing	Implementing Entity	Verifying/Monitoring Entity
disturbance, noise, visual disturbance, and other factors. No treatment activity will commence within the buffer area until a qualified RPF or biologist confirms that the nursery site is no longer active/occupied. Monitoring of the effectiveness of the non-disturbance buffer around the nursery site by a qualified RPF, biologist, or biological technician during and after treatment activities will be required. If treatment activities cause agitated behavior of the individual(s), the buffer distance will be increased, or treatment activities modified until the agitated behavior stops. The qualified RPF, biologist, or biological technician will have the authority to stop any treatment activities that could result in potential adverse effects to special-status species.			
Greenhouse Gas Emissions			
Mitigation Measure GHG-2: Implement GHG Emission Reduction Techniques During Prescribed Burns When planning for and conducting a prescribed burn, project proponents implementing a prescribed burn will incorporate feasible methods for reducing GHG emissions, including the following, which are identified in the *National Wildfire Coordinating Group Smoke Management Guide for Prescribed Fire* (NWCG 2018): ▶ reduce the total area burned by isolating and leaving large fuels (e.g., large logs, snags) unburned; ▶ reduce the total area burned through mosaic burning; ▶ burn when fuels have a higher fuel moisture content; ▶ reduce fuel loading by removing fuels before ignition. Methods to remove fuels include mechanical treatments, manual treatments, prescribed herbivory, and biomass utilization; and ▶ schedule burns before new fuels appear. As the science evolves, other feasible methods or technologies to sequester carbon could be incorporated, such as conservation burning, a technique for burning woody material that reduces the production of smoke particulates and carbon released into the atmosphere and generates more biochar. Biochar is produced from the material left over after the burn and spread with compost to increase soil organic matter and soil carbon sequestration. Technologies to reduce greenhouse gas emissions may also include portable units that perform gasification to produce electricity or pyrolysis that produces biooil that can be used as liquid fuel and/or syngas that can be used to generate electricity. The project proponent will document in the Burn Plan required pursuant to SPR AQ-3 which methods for reducing GHG emissions can feasibly be integrated into the treatment design.	Prior to and during prescribed burning treatment	RCDSCC	RCDSCC
Hazardous Materials, Public Health and Safety			
Mitigation Measure HAZ-3: Identify and Avoid Known Hazardous Waste Sites Prior to the start of vegetation treatment activities requiring soil disturbance (i.e., mechanical treatments) or prescribed burning, CAL FIRE and other project proponents will make reasonable efforts to check with the landowner or other entity with jurisdiction (e.g., California Department of Parks and Recreation) to determine if there are any sites known to have previously used, stored, or disposed of hazardous materials. If it is determined that hazardous materials sites could be located within the boundary of a treatment site, the project proponent will conduct a DTSC EnviroStor web search (https://www.envirostor.dtsc.ca.gov/public/) and consult DTSC's Cortese List to	During PSA preparation **Database searches are complete; see PSA/Addendum for results**	RCDSCC	RCDSCC

Mitigation Measures	Timing	Implementing Entity	Verifying/Monitoring Entity
identify any known contamination sites within the project site. If a proposed mechanical treatment or prescribed burn is located on a site included on the DTSC Cortese List as containing potential soil contamination that has not been cleaned up and deemed closed by DTSC, the area will be marked and no prescribed burning or soil disturbing treatment activities will occur within 100 feet of the site boundaries. If it is determined through coordination with landowners or after review of the Cortese List that no potential or known contamination is located on a project site, the project may proceed as planned.			

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Attachment B

Biological Resources

Special-Status Plant Species Known to Occur in the Vicinity of the Treatment Areas and Their Potential for Occurrence in the Treatment Areas

Species	Listing Status[1] Federal	Listing Status[1] State	CRPR	Habitat	Potential for Occurrence[2]
Blasdale's bent grass *Agrostis blasdalei*	–	–	1B.2	Coastal dunes, coastal bluff scrub, coastal prairie. Sandy or gravelly soil close to rocks; often in nutrient-poor soil with sparse vegetation. 15–1,200 feet in elevation. Blooms May–July. Geophyte.	*Not expected to occur.* The project area does not contain coastal dunes, coastal bluff scrub, or coastal prairie habitat suitable for this species.
Bent-flowered fiddleneck *Amsinckia lunaris*	–	–	1B.2	Cismontane woodland, valley and foothill grassland, coastal bluff scrub. Sometimes on serpentine. 10–2,610 feet in elevation. Blooms March–June. Annual.	*May occur.* The project contains oak woodland and grassland habitat suitable for this species.
Anderson's manzanita *Arctostaphylos andersonii*	–	–	1B.2	Broadleaved upland forest, chaparral, north coast coniferous forest. Open sites, redwood forest. 195–2,495 feet in elevation. Blooms November–May. Perennial.	*May occur.* The project area contains redwood, Doug fir, knobcone pine, Ponderosa pine, chaparral, oak woodland, madrone forest, and California bay forest habitat suitable for this species.
Schreiber's manzanita *Arctostaphylos glutinosa*	–	–	1B.2	Closed-cone coniferous forest, chaparral. Mudstone or diatomaceous shale outcrops; often with knobcone pine. 560–2,245 feet in elevation. Blooms (November), March–April. Perennial.	*Not expected to occur.* The project area is outside of the known range of this species.
Ohlone manzanita *Arctostaphylos ohloneana*	–	–	1B.1	Coastal scrub, closed cone coniferous forests. Monterey shale. 1,475–1,740 feet in elevation. Blooms February–March. Perennial.	*Not expected to occur.* The project area is outside of the known elevational range of this species.
Kings Mountain manzanita *Arctostaphylos regismontana*	–	–	1B.2	Broadleaved upland forest, chaparral, north coast coniferous forest. Granitic or sandstone outcrops. 785–2,315 feet in elevation. Blooms December–April. Perennial.	*Not expected to occur.* The project area is outside of the known range of this species.
silverleaf manzanita *Arctostaphylos silvicola*	–	–	1B.2	Chaparral, closed-cone coniferous forest, lower montane coniferous forest. Only known from Zayante (inland marine) sands in Santa Cruz County. 490–1705 feet in elevation. Blooms January–March. Perennial.	***Known to occur.*** There are seven previously documented occurrences of silverleaf manzanita throughout the project area. One is off Worth Ln, another is near Weston Rd, and the remaining five occur near Newell Creek, Olympia and off Mt Hermon Rd (CNDDB 2023a). The species was also observed during the SPR BIO-1 survey. Silverleaf manzanita association is mapped in 14 locations throughout the project area and encompasses five of the seven occurrences. The project area contains chaparral, ponderosa pine and knobcone pine forest on Zayante sand substrate suitable for this species.

Species	Listing Status[1] Federal	Listing Status[1] State	CRPR	Habitat	Potential for Occurrence[2]
Marsh sandwort *Arenaria paludicola*	FE	SE	1B.1	Wetland. Marshes and swamps. Growing up through dense mats of Typha, Juncus, Scirpus, etc. in freshwater marsh. Sometimes riparian forests. Sandy soil. 10–560 feet in elevation. Blooms May–August. Perennial.	*May occur*. The project area contains riparian forest on sandy soils suitable for this species. There was a known occurrence in the southeastern section of the project area that has since been extirpated due to development.
Humboldt milk-vetch *Astragalus agnicidus*	–	SE	1B.1	Broadleafed upland forest, north coast coniferous forest. Disturbed openings in partially timbered forest lands; also along ridgelines; south aspects. 525–2,200 feet in elevation. Blooms April–September. Perennial.	*May occur*. The project area contains ridgelines and oak woodland, madrone forest, tanoak woodland, California bay forest, redwood, Doug fir, knobcone pine and Ponderosa pine forest habitat suitable for this species.
Santa Cruz Mountains pussypaws *Calyptridium parryi var. hesseae*	–	–	1B.1	Chaparral, cismontane woodland. Sandy or gravelly openings. 985–5,035 feet in elevation. Blooms May–August. Annual.	May occur. The project area contains chapparal, oak woodland, tanoak woodland, and California bay woodland with sandy substrate suitable for this species.
Swamp harebell *Campanula californica*	–	–	1B.2	Wetland. Bogs and fens, closed-cone coniferous forest, coastal prairie, meadows and seeps, freshwater marsh, north coast coniferous forest. Bogs and marshes in a variety of habitats; uncommon where it occurs. 5–1,330 feet in elevation. Blooms June–October. Geophyte.	*Not expected to occur*. The project area does not contain bog, fen or marsh habitat suitable for this species. Additionally, all occurrences are known from Marin County and north, except for one 1944 collection near Camp Evers in Scott's Valley (CCH 2023).
Bristly sedge *Carex comosa*	–	–	2B.1	Wetland. Marshes and swamps, coastal prairie, valley and foothill grassland. Lake margins, wet places. 15–5,315 feet in elevation. Blooms May–September. Geophyte.	*May occur*. The project area contains forested/shrub wetland habitat suitable for this species.
Deceiving sedge *Carex saliniformis*	–	–	1B.2	Wetland. Coastal prairie, coastal scrub, meadows and seeps, marshes and swamps (coastal salt). Mesic sites. 10–755 feet in elevation. Blooms June (July). Geophyte.	*Not expected to occur*. The project area does not contain coastal salt swamp or marsh habitat suitable for this species. Additionally, all occurrences are known from Sonoma County and north, except for one 1944 collection near Camp Evers in Scott's Valley that has since been extirpated.
Congdon's tarplant *Centromadia parryi ssp. congdonii*	–	–	1B.1	Valley and foothill grassland. Alkaline soils, sometimes described as heavy white clay. 0–755 feet in elevation. Blooms May–October (November). Annual.	*Not expected to occur*. The project area is outside of the known range of this species and does not contain alkaline clay soil suitable for this species.

Species	Listing Status[1] Federal	Listing Status[1] State	CRPR	Habitat	Potential for Occurrence[2]
Ben Lomond spineflower *Chorizanthe pungens var. hartwegiana*	FE	–	1B.1	Lower montane coniferous forest. Zayante coarse sands in maritime ponderosa pine sandhills. 345–1,560 feet in elevation. Blooms April–July. Annual.	*Known to occur*. There are five previously documented occurrences of Ben Lomond spineflower in the project area. Three are near E Zayante Rd, one is near Michael Gray Field Park, and one is near Mt. Hermon Rd (CNDDB 2023a). This species is widespread throughout Land Trust of Santa Cruz County properties in the project area (McGraw, pers. comm., 2024). The project area contains maritime ponderosa pine sandhills habitat suitable for this species.
Monterey spineflower *Chorizanthe pungens var. pungens*	FT	–	1B.2	Coastal dunes, chaparral, cismontane woodland, coastal scrub, valley and foothill grassland. Sandy soils in coastal dunes or more inland within chaparral or other habitats. 0–560 feet in elevation. Blooms April–June (July), (August). Annual.	*Not expected to occur.* The project area is outside the geographical range of this species One collection from 1935 was documented in between Scott's Valley and Felton (CCH 2023), however, this species was likely misidentified (McGraw, pers. comm., 2024).
Scotts Valley spineflower *Chorizanthe robusta var. hartwegii*	FE	–	1B.1	Meadows, valley and foothill grassland. In grasslands with mudstone and sandstone outcrops. 350–810 feet in elevation. Blooms April–July. Annual.	*May occur*. The project area contains grassland habitat with sandstone and mudstone substrate suitable for this species. Scotts Valley spineflower was documented in Olympia adjacent to the project area (CalFlora 2023; CNDDB 2023a), however, this occurrence was misidentified and is *Chorizanthe pungens var. hartwegiana* (McGraw, pers. comm., 2024)
Robust spineflower *Chorizanthe robusta var. robusta*	FE	–	1B.1	Cismontane woodland, coastal dunes, coastal scrub, chaparral. Sandy terraces and bluffs or in loose sand. 30–805 feet in elevation. Blooms April–September. Annual.	*Not expected to occur.* The project area contains oak woodland, chaparral, and coastal sage scrub habitat with sandy substrate suitable for this species; however, the Project Area is outside of the species range.
San Francisco collinsia *Collinsia multicolor*	–	–	1B.2	Closed-cone coniferous forest, coastal scrub. On decomposed shale (mudstone) mixed with humus; sometimes on serpentine. 100–820 feet in elevation. Blooms (February), March–May. Annual.	*May occur*. The project area contains knobcone pine and coastal sage scrub habitat suitable for this species. The project area is composed of Miocene marine substrate that can include mudstone and shale that would be suitable for this species.
Tear drop moss *Dacryophyllum falcifolium*	–	–	1B.3	Limestone. North Coast coniferous forest. Limestone substrates and rock outcrops. 165–900 feet in elevation. Perennial.	*May occur*. The project area contains redwood and knobcone pine forest with limestone substrate suitable for this species.

Species	Listing Status[1] Federal	Listing Status[1] State	CRPR	Habitat	Potential for Occurrence[2]
Western leatherwood *Dirca occidentalis*	–	–	1B.2	Broadleafed upland forest, chaparral, closed-cone coniferous forest, cismontane woodland, north coast coniferous forest, riparian forest, riparian woodland. On brushy slopes, mesic sites; mostly in mixed evergreen and foothill woodland communities. 80–1,400 feet in elevation. Blooms January–March, (April). Perennial.	*Not expected to occur.* The project area is outside of the known range of this species.
Santa Clara Valley dudleya *Dudleya abramsii ssp. setchellii*	FE	–	1B.1	Ultramafic. Valley and foothill grassland, cismontane woodland. On rocky serpentine outcrops and on rocks within grassland or woodland. 195–1,495 feet in elevation. Blooms April–October. Perennial.	*Not expected to occur.* The project area does not contain serpentine substrate suitable for this species.
Ben Lomond buckwheat *Eriogonum nudum var. decurrens*	–	–	1B.1	Chaparral, cismontane woodland, lower montane coniferous forest. Ponderosa pine sandhills in Santa Cruz County. 165–2,630 feet in elevation. Blooms June–October. Perennial.	***Known to occur.*** This species is widespread in the project area (McGraw, pers. comm., 2024). Four occurrences of Ben Lomond buckwheat are documented in the southern half of the project area near Olympia (CNDDB 2023a). The project area contains oak woodland, ponderosa pine sandhills and openings in sandhill chaparral suitable for this species.
Santa Cruz (Ben Lomond) wallflower *Erysimum teretifolium*	FE	SE	1B.1	Lower montane coniferous forest, chaparral. Inland marine sands (Zayante coarse sand). 590–1,690 feet in elevation. Blooms March–July. Biennial / Short-Lived Perennial.	***Known to occur.*** There are six occurrences of Santa Cruz wallflower in the southern half of the project area near Michael Gray Field Park, Olympia and off Mt Hermon Rd (CNDDB 2023a). The project area contains ponderosa pine sandhills and openings in sandhill chaparral suitable for this species.
Minute pocket moss *Fissidens pauperculus*	–	–	1B.2	Redwood. North coast coniferous forest. Moss growing on damp soil along the coast. In dry streambeds and on stream banks. 40–3,360 feet in elevation. Perennial.	*May occur*. The project area contains redwood forest with stream habitat suitable for this species.
Fragrant fritillary *Fritillaria liliacea*	–	–	1B.2	Coastal scrub, valley and foothill grassland, coastal prairie, cismontane woodland. Often on serpentine; various soils reported though usually on clay, in grassland. 10–1,310 feet in elevation. Blooms February–April. Geophyte.	*Not expected to occur.* The project area does not contain serpentine or clay soils suitable for this species.
Toren's grimmia *Grimmia torenii*	–	–	1B.3	Cismontane woodland, lower montane coniferous forest, chaparral. Openings, rocky, boulder and rock walls, carbonate, volcanic. 1,070–3,810 feet in elevation. Perennial.	*May occur.* The project area contains knobcone pine, oak woodland, California bay woodland, and chaparral habitat with carbonate substrate suitable for this species.
Vaginulate grimmia *Grimmia vaginulata*	–	–	1B.1	Limestone. Chaparral. Openings; rocky, boulder and rock walls, carbonate. 2,250–3,730 feet in elevation. Perennial.	*Not expected to occur.* The project area is outside the known elevational range for this species.

Species	Listing Status[1] Federal	Listing Status[1] State	CRPR	Habitat	Potential for Occurrence[2]
Short-leaved evax *Hesperevax sparsiflora var. brevifolia*	–	–	1B.2	Coastal bluff scrub, coastal dunes, coastal prairie. Sandy bluffs and flats. 0–705 feet in elevation. Blooms March–June. Annual.	*Not expected to occur.* The project area does not contain coastal bluff scrub, dune, or prairie habitat suitable for this species.
Santa Cruz cypress *Hesperocyparis abramsiana var. abramsiana*	FT	SE	1B.2	Chaparral, closed-cone coniferous forest, lower montane coniferous forest, sandhills habitats. Restricted to the Santa Cruz Mountains, on sandstone and granitic-derived soils; often with *Pinus attenuata* and/or redwoods. 990–3,560 feet in elevation. Perennial.	*May occur.* The project area contains chaparral, knobcone pine forest, and sandhills habitat on sandstone-derived substrate suitable for this species. There is a 1940 occurrence of Santa Cruz Cypress in the general vicinity of Mt. Hermon (CNDDB 2023a).
Butano Ridge cypress *Hesperocyparis abramsiana var. butanoensis*	FT	SE	1B.2	Closed-cone coniferous forest, lower montane coniferous forest, chaparral. Sandstone. 1,310–1,610 feet in elevation. Blooms October. Perennial.	*Not expected to occur.* The project area is outside of the known range of this species.
Loma Prieta hoita *Hoita strobilina*	–	–	1B.1	Ultramafic. Chaparral, cismontane woodland, riparian woodland. Serpentine; mesic sites. 200–3,200 feet in elevation. Blooms May–July (August), (October). Perennial.	*Not expected to occur.* The project area does not contain serpentine soils suitable for this species.
Santa Cruz tarplant *Holocarpha macradenia*	FT	SE	1B.1	Coastal prairie, coastal scrub, valley and foothill grassland. Light, sandy soil or sandy clay; often with nonnatives. 35–720 feet in elevation. Blooms June–October. Annual.	*May occur*. The project area contains grassland, and coastal sage scrub habitat suitable for this species.
Kellogg's horkelia *Horkelia cuneata var. sericea*	–	–	1B.1	Closed-cone coniferous forest, coastal scrub, coastal dunes, chaparral. Old dunes, coastal sandhills; openings. 20–710 feet in elevation. Blooms April–September. Perennial.	*May occur.* The project area contains knobcone pine, chaparral, and coastal sage scrub habitat with sandy substrate within the sandhills ecosystem suitable for this species. Kellog's horkelia is known to occur in the general vicinity of Graham Hill Road, Green Hills Road, and East Zayante Road (CNDDB 2023a), as well as on Land Trust of Santa Cruz County properties (McGraw, pers. comm., 2024).
Point Reyes horkelia *Horkelia marinensis*	–	–	1B.2	Coastal dunes, coastal prairie, coastal scrub. Sandy flats and dunes near the coast; in grassland or scrub plant communities. 5–2,550 feet in elevation. Blooms May–September. Perennial.	*Not expected to occur.* This species is only known from areas near the coast and the project area is too far away from the coast to be within the known range of this species.
Perennial goldfields *Lasthenia californica ssp. macrantha*	–	–	1B.2	Coastal bluff scrub, coastal dunes, coastal scrub. 15–605 feet in elevation. Blooms January–November. Perennial.	*Not expected to occur.* The project area is too inland for the known range of this coast-dwelling species.
Smooth lessingia *Lessingia micradenia var. glabrata*	–	–	1B.2	Ultramafic. Chaparral, cismontane woodland. Serpentine; often on roadsides. 395–1,380 feet in elevation. Blooms (May), (June) July–November. Annual.	*Not expected to occur.* The project area does not contain serpentine soils suitable for this species.

Species	Listing Status[1] Federal	Listing Status[1] State	CRPR	Habitat	Potential for Occurrence[2]
Arcuate bush-mallow *Malacothamnus arcuatus*	–	–	1B.2	Chaparral, cismontane woodland. 10–2,410 feet in elevation. Blooms April–September. Perennial.	*May occur*. The project area contains chaparral, coastal sage scrub, and oak woodland habitat suitable for this species.
Marsh microseris *Microseris paludosa*	–	–	1B.2	Closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland. 15–990 feet in elevation. Blooms April–June (July). Perennial.	*May occur*. The project area contains knobcone pine forest, oak woodland, coastal sage scrub, and grassland habitat suitable for this species.
Northern curly-leaved monardella *Monardella sinuata ssp. nigrescens*	–	–	1B.2	Coastal dunes, coastal scrub, chaparral, lower montane coniferous forest. Along trails or on slides in sandy soils and in sandhills habitat. 0–985 feet in elevation. Blooms (April) May–July (August), (September). Annual.	*Known to Occur* The project area contains chaparral, ponderosa pine forest, coastal sage scrub, and sandhills habitat with sandy soils suitable for this species. Curly-leaved monardella is known to occur in the vicinity of Olympia and Scotts Valley (CNDDB 2023a), as well as other locations throughout the project area (McGraw, pers. comm., 2024).
Woodland woollythreads *Monolopia gracilens*	–	–	1B.2	Ultramafic. Chaparral, valley and foothill grassland, cismontane woodland, broadleafed upland forest, north coast coniferous forest. Grassy sites, in openings; sandy to rocky soils. Often seen on serpentine after burns but may have only weak affinity to serpentine. 330–3,940 feet in elevation. Blooms (February) March–July. Annual.	*May occur*. The project area contains chaparral, grassland, oak woodland, knobcone pine, and redwood habitat with sandy soils suitable for this species. There is a 1930 occurrence of woodland woollythreads in the general vicinity of Mt Hermon (CNDDB 2023a).
Kellman's bristle moss *Orthotrichum kellmanii*	–	–	1B.2	Chaparral, cismontane woodland. Sandstone outcrops with high calcium concentrations from eroded boulders out of non-calcareous sandstone bedrock. Rock outcrops in small openings within dense chaparral with overstory of scattered *Pinus attenuata*. 1,130–2,250 feet in elevation. Blooms January–February. Perennial.	*May occur*. The project area contains dense chaparral and knobcone pine forest and woodland habitat with sandstone substrate suitable for this species.
Dudley's lousewort *Pedicularis dudleyi*	–	SR	1B.2	Chaparral, north coast coniferous forest, valley and foothill grassland. Deep shady woods of older coast redwood forests; also in maritime chaparral. 200–2,960 feet in elevation. Blooms April–June. Perennial.	*May occur*. The project area contains chaparral, grassland, and redwood forest habitat suitable for this species. Dudley's lousewort is known to occur in the Felton USGS quad (CalFlora 2023).
Santa Cruz Mountains beardtongue *Penstemon rattanii var. kleei*	–	–	1B.2	Chaparral, lower montane coniferous forest, north coast coniferous forest. Sandy shale slopes; sometimes in the transition between forest and chaparral. 1,310–3,610 feet in elevation. Blooms May–June. Perennial.	*May occur*. The project area contains chaparral, ponderosa pine, knobcone pine, and redwood forest habitat suitable for this species. Santa Cruz mountains beardtongue is known to occur in the Felton USGS quad (CalFlora 2023).

Species	Listing Status[1] Federal	Listing Status[1] State	CRPR	Habitat	Potential for Occurrence[2]
White-rayed pentachaeta *Pentachaeta bellidiflora*	FE	SE	1B.1	Valley and foothill grassland, cismontane woodland. Open dry rocky slopes and grassy areas, sometimes on soils derived from serpentine bedrock. 115–2,000 feet in elevation. Blooms March–May. Annual.	*May occur*. The project area contains grassland, madrone woodland, and oak woodland habitat suitable for this species.
Monterey pine *Pinus radiata*	–	–	1B.1	Closed-cone coniferous forest, cismontane woodland. Dry bluffs and slopes. 200–610 feet in elevation. Perennial.	*Known to occur*. One Monterey pine was observed in the project area during SPR BIO-1 surveys performed by Ascent on September 13, 2023, in the proposed fuel break near Ohlone trail.
White-flowered rein orchid *Piperia candida*	–	–	1B.2	North coast coniferous forest, lower montane coniferous forest, broadleafed upland forest. Sometimes on serpentine. Forest duff, mossy banks, rock outcrops, and muskeg. 150–5,300 feet in elevation. Blooms (March) May–September. Perennial.	*May occur*. The project area contains redwood, big leaf maple, box elder, California bay laurel, Douglas fir, tanoak, and oak woodland habitat suitable for this species. This species is known to in the Felton USG quadrangle (CNPS 2024).
Choris' popcornflower *Plagiobothrys chorisianus var. chorisianus*	–	–	1B.2	Chaparral, coastal scrub, coastal prairie. Mesic sites. 50–525 feet in elevation. Blooms March–June. Annual.	*May occur*. The project area contains chaparral and coastal sage scrub habitat suitable for this species. There are old collections of this species in the vicinity of Camp Evers and Skypark Airport (CCH 2023).
San Francisco popcornflower *Plagiobothrys diffusus*	–	SE	1B.1	Valley and foothill grassland, coastal prairie. 150–1,180 feet in elevation. Blooms March–June. Annual.	*May occur*. The project area contains Californian annual and perennial grassland habitat suitable for this species.
Hairless popcornflower *Plagiobothrys glaber*	–	–	1A	Salt marsh, Vernal pool, Wetland. Meadows and seeps, marshes and swamps. Coastal salt marshes and alkaline meadows. 15–590 feet in elevation. Blooms March–May. Annual.	*Not expected to occur*. The project area is outside of the known range for this species.
Scotts Valley polygonum *Polygonum hickmanii*	FE	SE	1B.1	Valley and foothill grassland. Purisima sandstone or mudstone with a thin soil layer; vernally moist due to runoff. 690–755 feet in elevation. Blooms May–August. Annual.	*May occur*. The project area is right on the edge of the purisima formation and contains Californian annual and perennial grassland habitat suitable for this species.
Sanford's arrowhead *Sagittaria sanfordii*	–	–	1B.2	Wetland. Marshes and swamps. In standing or slow-moving freshwater ponds, marshes, and ditches. 0–2,135 feet in elevation. Blooms May–October (November). Geophyte.	*May occur*. The project area contains ditches and a forested/shrub wetland habitat suitable for this species.
Rock sanicle *Sanicula saxatilis*	–	SR	1B.2	Broadleafed upland forest, chaparral, valley and foothill grassland. Bedrock outcrops and talus slopes in chaparral or oak woodland habitat. 2,200–4,100 feet in elevation. Blooms April–May. Perennial.	*Not expected to occur*. The project area is outside of the known elevational range for this species.

Species	Listing Status[1] Federal	Listing Status[1] State	CRPR	Habitat	Potential for Occurrence[2]
Chaparral ragwort *Senecio aphanactis*	–	–	2B.2	Chaparral, cismontane woodland, coastal scrub. Drying alkaline flats. 65–2,805 feet in elevation. Blooms January–April (May). Annual.	*May occur*. The project area contains chaparral, oak woodland, and coastal sage scrub habitat suitable for this species.
Santa Cruz microseris *Stebbinsoseris decipiens*	–	–	1B.2	Ultramafic. Broadleafed upland forest, closed-cone coniferous forest, chaparral, coastal prairie, coastal scrub, valley and foothill grassland. Open areas in loose or disturbed soil, usually derived from sandstone, shale or serpentine, on seaward slopes. 35–1,640 feet in elevation. Blooms April–May. Annual.	*Not expected to occur*. The project area is not located on seaward slopes suitable for this species. All known occurrences are closer to the coast (CNDDB 2023a; CNPS 2024).
Most beautiful jewelflower *Streptanthus albidus ssp. peramoenus*	–	–	1B.2	Ultramafic. Chaparral, valley and foothill grassland, cismontane woodland. Serpentine outcrops, on ridges and slopes. 310–3,280 feet in elevation. Blooms (March) April–September (October). Annual.	*Not expected to occur*. The project area is outside of the known range of this species.
Santa Cruz clover *Trifolium buckwestiorum*	–	–	1B.1	Coastal prairie, broadleafed upland forest, cismontane woodland. Moist grassland. Gravelly margins. 345–2,000 feet in elevation. Blooms April–October. Annual.	*May occur*. The project area contains oak woodland and Californian annual and perennial grassland suitable for this species.
Pacific Grove clover *Trifolium polyodon*	–	SR	1B.1	Wetland. Closed-cone coniferous forest, meadows and seeps, coastal prairie, valley and foothill grassland. Along small springs and seeps in grassy openings. 15–395 feet in elevation. Blooms April–June (July). Annual.	May occur. The project area contains knobcone pine and Californian annual and perennial grassland suitable for this species.

Notes: CRPR = California Rare Plant Rank; CEQA = California Environmental Quality Act; ESA = Endangered Species Act; NPPA = Native Plant Protection Act

1 Legal Status Definitions

Federal:

FE Federally Listed as Endangered (legally protected by ESA)

FT Federally Listed as Threatened (legally protected by ESA)

State:

SE State Listed as Endangered (legally protected by CESA)

SR State Listed as Rare (legally protected by NPPA)

California Rare Plant Ranks (CRPR):

1A Plant species that are presumed extirpated or extinct because they have not been seen or collected in the wild in California for many years. A plant is extinct if it no longer occurs anywhere. A plant that is extirpated from California has been eliminated from California but may still occur elsewhere in its range.

1B Plant species considered rare or endangered in California and elsewhere (protected under CEQA, but not legally protected under ESA or CESA).

2B Plant species considered rare or endangered in California but more common elsewhere (protected under CEQA, but not legally protected under ESA or CESA).

CRPR Threat Ranks:

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

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

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

2 Potential for Occurrence Definitions

Not expected to occur: Species is unlikely to be present because of poor habitat quality, lack of suitable habitat features, or restricted current distribution of the species.

May occur: Suitable habitat is available and there have been nearby recorded occurrences of the species.

Known to occur: The species has been observed within the treatment areas.

Sources: CNDDB 2023a; CNPS 2024; CCH 2023; Jepson 2023

Special-Status Wildlife Species Known to Occur in the Vicinity of the Treatment Areas and Their Potential for Occurrence in the Treatment Areas

Species	Listing Status[1] Federal	Listing Status[1] State	Habitat	Potential for Occurrence[2]
Amphibians and Reptiles				
California giant salamander *Dicamptodon ensatus*	–	SSC	Known from wet coastal forests near streams and seeps from Mendocino County south to Monterey County and east to Napa County. Aquatic larvae found in cold, clear streams, occasionally in lakes and ponds. Adults known from wet forests under rocks and logs near streams and lakes.	*May occur*. The species has been documented to occur historically within the project area and more recently within other portions of the San Lorenzo River watershed (CNDDB 2023a). The species is likely to be present in the forested portions of the project area.
California red-legged frog *Rana draytonii*	FT	SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	*Known to occur.* The species has been documented within the project area near Glenwood (CNDDB 2023a) and may be present in other areas of the project. Aquatic habitat that suitable for breeding by California red-legged frog may be found in the perennial streams within the project area and nearby perennial wetlands.
California tiger salamander - central California DPS *Ambystoma californiense* pop. 1	FT	ST	Lives in vacant or mammal-occupied burrows throughout most of the year; in grassland, savanna, or open woodland habitats. Need underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	*Not expected to occur.* The project area is outside of the range of the species (CNDDB 2023b). The only documented occurrences of the species in Santa Cruz County are near Watsonville (CNDDB 2023a).
Foothill yellow-legged frog (Central Coast DPS) *Rana boylii* pop. 4	FT	SE	San Francisco Peninsula and Diablo Range south of San Francisco Bay Estuary, and south through the Santa Cruz and Gabilan Mountains east of the Salinas River in the southern inner Coast Ranges. Partly shaded shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying and at least 15 weeks to attain metamorphosis.	*May occur*. The species was documented to occur recently within Newhall Creek near the project area (CNDDB 2023a) and historically within the project area near Zayante and Glenwood. Streams such as Zayante Creek that boarders the project area may provide suitable habitat for the species where proper stream conditions and sunny banks are found.
Santa Cruz black salamander *Aneides niger*	–	SSC	Mixed deciduous and coniferous woodlands and coastal grasslands in San Mateo, Santa Cruz, and Santa Clara counties. Adults found under rocks, talus, and damp woody debris.	*May occur*. The species has been documented to occur within the San Lorenzo River Drainage in the vicinity of the project area (CNDDB 2023a), and the mixed conifer, oak woodland, and grasslands within the project area may provide habitat for the species.
Santa Cruz long-toed salamander *Ambystoma macrodactylum croceum*	FE	SE FP	Freshwater marsh, marsh and swamp, and wetlands. Wet meadows near sea level in a few restricted locales in Santa Cruz and Monterey counties. Aquatic larvae prefer shallow (less than 12 inches) water, using clumps of vegetation or debris for cover. Adults use mammal burrows.	*Not expected to occur*. The project area is outside of the range of the species (CNDDB 2023c). The species is not documented to occur north of Aptos (CNDDB 2023a).

Species	Listing Status[1] Federal	Listing Status[1] State	Habitat	Potential for Occurrence[2]
Western pond turtle *Emys marmorata*	FP	SSC	Ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 1,500 feet from water for egg-laying.	*May occur*. The species has been documented to occur within the San Lorenzo River Drainage in the vicinity of the project area (CNDDB 2023a), and the and streams and adjacent uplands within project area may provide habitat for the species.
Birds				
American peregrine falcon *Falco peregrinus anatum*	FD	SD	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures. Nest consists of a scrape or a depression or ledge in an open site.	*Not expected to occur*. Documented to occur along the crest of the Santa Cruz Mountains (CNDDB 2023a). While portions of the project area are within and adjacent to former quarries, the quarries are terraced and do not provide cliff habitat that would support nesting by this species.
Bank swallow *Riparia riparia*	–	ST	Riparian scrub, riparian woodland. Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	*Not expected to occur*. Documented to occur historically along the lower San Lorenzo River within the City of Santa Cruz west of the project area (CNDDB 2023a). The streams within and adjacent to the project area do not provide the cutbank and cliff habitat suitable for nesting by the species.
Black swift *Cypseloides niger*	–	SSC	Coastal belt of Santa Cruz and Monterey Co; central and southern Sierra Nevada; San Bernardino and San Jacinto Mountains. Breeds in small colonies on cliffs behind or adjacent to waterfalls in deep canyons and sea-bluffs above the surf; forages widely	*Not expected to occur*. Documented to occur along the coastline in western Santa Cruz County (CNDDB 2023a). It is unlikely that the streams within and adjacent to the project area provide the waterfall and cliff habitat that is suitable for nesting by this species.
California black rail *Laterallus jamaicensis coturniculus*	–	ST FP	Brackish marsh, freshwater marsh, marsh and swamp, salt marsh, wetland. Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	*Not expected to occur*. Documented to occur in western Santa Cruz County (CNDDB 2023a). The project area does not contain marsh habitat suitable for the species.
Golden eagle *Aquila chrysaetos*	–	FP	Broadleaved upland forest, cismontane woodland, coastal prairie, Great Basin grassland, Great Basin scrub, lower montane coniferous forest, pinyon and juniper woodlands, upper montane coniferous forest, and valley and foothill grassland. Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	*May occur*. Documented to occur in Santa Cruz County (Suddjian and Gerow 2011). Portions of the project area contain large oaks and other trees in relatively open areas that may provide nesting habitat for the species.

Species	Listing Status[1] Federal	Listing Status[1] State	Habitat	Potential for Occurrence[2]
Marbled murrelet *Brachyramphus marmoratus*	FT	SE	Lower montane coniferous forest, old growth, redwood. Feeds near-shore; nests inland along coast from Eureka to Oregon border and from Half Moon Bay to Santa Cruz. Nests in old-growth redwood-dominated forests, up to six miles inland, often in Douglas fir.	*May occur*. The species has been documented to occur within Henry Cowell Redwoods State Park on the western side of the San Lorenzo drainage (CNDDB 2023a). Some of the habitat in this portion of the drainage was degraded by wildfire in 2020. While the project area may not contain old-growth stands typically used for murrelet nesting, murrelets may use marginal habitat within the project area due to the loss of other habitat in the vicinity. Individual trees within the project area may provide suitable nesting structure.
Olive-sided flycatcher *Contopus cooperi*	–	SSC	Lower montane coniferous forest, redwood, upper montane coniferous forest. Nesting habitats are mixed conifer, montane hardwood-conifer, Douglas fir, redwood, red fir and lodgepole pine. Most numerous in montane conifer forests where tall trees overlook canyons, meadows, lakes or other open terrain.	*May occur*. The species has been documented to occur within the vicinity of the project area, in Quail Hollow Ranch County Park (iNaturalist 2024). Trees within the project area may be used for nesting by this species.
Purple martin *Progne subis*	–	SSC	Broadleaved upland forest, lower montane coniferous forest. Inhabits woodlands, low elevation coniferous forest of Douglas fir, ponderosa pine, and Monterey pine. Nests in old woodpecker cavities mostly, also in human-made structures. Nest often located in tall, isolated tree/snag.	*May occur*. Documented to occur in Santa Cruz County (Suddjian and Gerow 2011). Portions of the project area contain large redwood and Douglas fir trees that may provide nesting habitat for the species.
Saltmarsh common yellowthroat *Geothlypis trichas sinuosa*	BCC	SSC	Marsh and swamp. Resident of the San Francisco Bay region, in fresh and saltwater marshes. Requires thick, continuous cover down to water surface for foraging; tall grasses, tule patches, willows for nesting.	*Not expected to occur*. Documented to occur in western Santa Cruz County (CNDDB 2023a). The project area does not contain marsh habitat suitable for the species.
Tricolored blackbird *Agelaius tricolor*	BCC	ST SSC	Freshwater marsh, marsh and swamp, swamp, wetland. Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few kilometers of the colony.	*Not expected to occur*. Documented to occur in western Santa Cruz County and near Watsonville (CNDDB 2023a). The project area does not contain marsh habitat suitable for the species.
Western snowy plover *Charadrius nivosus nivosus*	FT	SSC	Sandy beaches, salt pond levees and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	*Not expected to occur*. Documented to occur in western Santa Cruz County (CNDDB 2023a). The project area does not contain beach habitat suitable for the species.
White-tailed kite *Elanus leucurus*	–	FP	Cismontane woodland, marsh and swamp, riparian woodland, valley and foothill grassland, and wetlands. Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	*May occur*. The species has been documented to occur in Santa Cruz County (CNDDB 2023a), and the project area contains oak woodlands that may be suitable habitat for this species.

Species	Listing Status[1] Federal	Listing Status[1] State	Habitat	Potential for Occurrence[2]
Yellow rail *Coturnicops noveboracensis*	–	SSC	Freshwater marsh, meadow and seep. Summer resident in eastern Sierra Nevada in Mono County. Fresh-water marshlands.	*Not expected to occur*. Documented to occur historically in Santa Cruz County (CNDDB 2023a). The project area does not contain marsh habitat suitable for the species.
Fish				
Coho salmon - central California coast ESU *Oncorhynchus kisutch* pop. 4	FE	SE	Federal listing = pops between Punta Gorda and San Lorenzo River. State listing includes populations south of Punta Gorda. Require beds of loose, silt-free, coarse gravel for spawning. Also need cover, cool water and sufficient dissolved oxygen.	*May occur*. The species has been documented to occur within the San Lorenzo River drainage, and is thought to occur within Zayante Creek (CDFG 2004), which runs through and adjacent to the project area.
Eulachon *Thaleichthys pacificus*	FT	–	Found in Klamath River, Mad River, Redwood Creek and in small numbers in Smith River and Humboldt Bay tributaries. Spawn in lower reaches of coastal rivers with moderate water velocities and bottom of pea-sized gravel, sand and woody debris	*Not expected to occur*. The project does not occur along the lower reaches of the San Lorenzo River where this species may be found.
Steelhead - central California coast DPS *Oncorhynchus mykiss irideus* pop. 8	FT	–	From Russian River, south to Soquel Creek and to, but not including, Pajaro River. Also San Francisco and San Pablo Bay basins.	***Known to occur***. Zayante Creek and Bean Creek are located within and directly adjacent to the project area. These creeks have been documented to contain steelhead (Titus et al. 2010).
Tidewater goby *Eucyclogobius newberryi*	FE	SSC	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	*Not expected to occur*. Brackish water habitat for the species is not present in the project area.
Invertebrates				
Crotch bumble bee *Bombus crotchii*	–	SC	Found primarily in California: mediterranean, Pacific coast, western desert, Great Valley, and adjacent foothills through most of southwestern California. Habitat includes open grassland and scrub. Nests underground.	*Not expected to occur*. Habitat for the species is present in the project area; however, the project area is outside of the current range of the species which does not extend west of the crest of the Santa Cruz Mountains (CDFW 2023).
Monarch *Danaus plexippus*	FC	–	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	*May occur*. The project is too far from the coast to provide overwintering habitat: however, monarchs have been documented to breed in the vicinity of the project area (Western Monarch and Milkweed Mapper 2023), and habitat for the host plants of the species (*Asclepias* spp.) is present in the project area.
Mount Hermon June beetle *Polyphylla barbata*	FE	–	Known only from sand hills in vicinity of Mt. Hermon, Santa Cruz County. Found in sand parkland and sand chaparral.	***Known to occur***. The species has been documented to occur in portions of the project area. May be present in any sand parkland, sand chaparral, ponderosa pine forest, sand hills oak woodland, or any other habitat on Zayante soil or adjacent loam soils within the project area.

Species	Listing Status[1] Federal	Listing Status[1] State	Habitat	Potential for Occurrence[2]
Western bumble bee *Bombus occidentalis*	–	SC	Once common throughout much of its range, in California, this species is currently largely restricted to high elevation sites in the Sierra Nevada and the northern California coast. Habitat includes open grassy areas, chaparral, scrub, and meadows. Requires suitable nesting sites for the colonies, availability of nectar and pollen from floral resources throughout the duration of the colony period (spring, summer, and fall), and suitable overwintering sites for the queens.	*Not expected to occur.* Habitat for the species is present in the project area; however, the project area is outside of the current range of the species (CDFW 2023).
Zayante band-winged grasshopper *Trimerotropis infantilis*	FE	–	Chaparral, interior dunes. Isolated sandstone deposits in the Santa Cruz Mountains (the Zayante Sand Hills ecosystem) Mostly on sand parkland habitat but also in areas with well-developed ground cover and in sparse chaparral with grass.	***Known to occur.*** The species has been documented to occur in portions of the project area. May be present in any sand parkland or sand chaparral habitat within the project area that contains sufficient openings and lack of surface cover.
Mammals				
American badger *Taxidea taxus*	–	SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	*May occur*. Documented to occur within the project region west of the project area (CNDDB 2023a), and the project is within the range of the species. Suitable habitat is present in the project area.
Mountain lion *Puma concolor*	–	SC	Mountain lions inhabit a wide range of ecosystems, including mountainous regions, forests, deserts, and wetlands. Mountain lions establish and defend large territories and can travel large distances in search of prey or mates. In April of 2020, the California Fish and Game Commission found that listing of the Central Coast and Southern California Evolutionarily Significant Units may be warranted, and designated mountain lion within these ESUs as a candidate species.	***Known to occur.*** Habitat suitable for the species occurs within the project area, and the species has been documented to occur (Santa Cruz Puma Project 2023). More remote portions of the project area may provide denning or nursery habitat for the species; however, portions of the project area adjacent to development and near public access trails are not likely to support denning or nursery habitat due to human disturbance.
Pallid bat *Antrozous pallidus*	–	SSC	Most common in open, dry habitats with rocky areas for roosting. Tree roosting has also been documented in large conifer snags, inside basal hollows of redwoods and giant sequoias, and bole cavities in oaks. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	*May occur*. Documented to occur within the project region (CNDDB 2023a), and the project is within the range of the species. Suitable habitat may be present in the project area within the cavities of larger trees.
Ringtail *Bassariscus astutus*	–	FP	Riparian habitats, forest habitats, and shrub habitats in lower to middle elevations.	*May occur*. Habitat for the species is present within the project area, and the project is within the range of the species. The species has not been documented within the region; however, the species is not tracked in the CNDDB and may be present where no documentation has occurred.

Species	Listing Status[1] Federal	Listing Status[1] State	Habitat	Potential for Occurrence[2]
San Francisco dusky-footed woodrat *Neotoma fuscipes annectens*	–	SSC	Forest habitats of moderate canopy and moderate to dense understory. May prefer chaparral and redwood habitats. Constructs nests of shredded grass, leaves and other material. May be limited by availability of nest-building materials.	*Known to Occur*. Habitat for the species is present within the project area. The project is within the range of the species, and the species has been documented to occur within the region (CNDDB 2023a).
Townsend's big-eared bat *Corynorhinus townsendii*	–	SSC	Found throughout California in a wide variety of habitats. Most common in mesic sites. Requires large cavities for roosting, which may include abandoned buildings and mines, caves, and basal cavities of trees. Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	*May occur*. Documented to occur within the project region (CNDDB 2023; iNaturalist 2023), and the project is within the range of the species. Suitable habitat may be present in the project area within the cavities of larger trees.

Notes: CNDDB = California Natural Diversity Database; CEQA = California Environmental Quality Act; DPS = Distinct Population Segment; ESU = Evolutionary Significant Unit

1 Legal Status Definitions

Federal:

FE Federally Listed as Endangered (legally protected)
FT Federally Listed as Threatened (legally protected)
FD Federally Delisted
FP Proposed for Listing under the federal Endangered Species Act
FC Candidate for Listing under the federal Endangered Species Act

State:

FP Fully Protected (legally protected)
SSC Species of Special Concern (no formal protection other than CEQA consideration)
SE State Listed as Endangered (legally protected)
ST State Listed as Threatened (legally protected)
SC State Candidate for listing (legally protected)
SD State Delisted

2 Potential for Occurrence Definitions

Not expected to occur: Species is unlikely to be present because of poor habitat quality, lack of suitable habitat features, or restricted current distribution of the species.
May occur: Suitable habitat is available; however, there are little to no other indicators that the species might be present.
Known to occur: Species has been documented within the treatment site.

Sources: CNDDB 2023a; CNDDB 2023b; CNDDB 2023c; CDFG 2004; CDFW 2023; iNaturalist 2023; Santa Cruz Puma Project 2023; Titus et al. 2010; Western Monarch and Milkweed Mapper 2023.

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CDFG. *See* California Department of Fish and Game.

CDFW. *See* California Department of Fish and Wildlife.

CNDDB. *See* California Natural Diversity Database.

CNPS. *See* California Native Plant Society.

CCH. See Consortium of California Herbaria.

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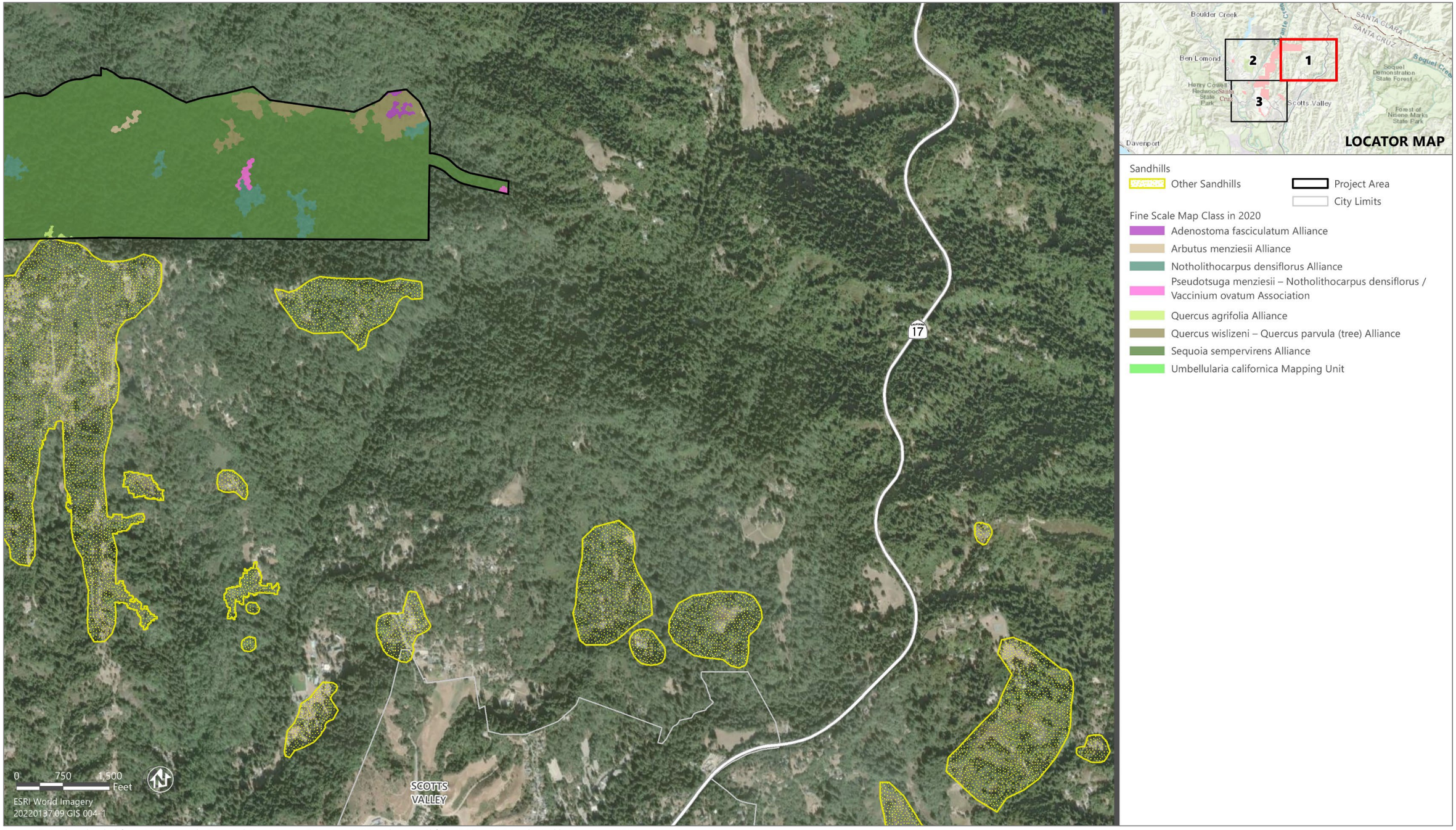
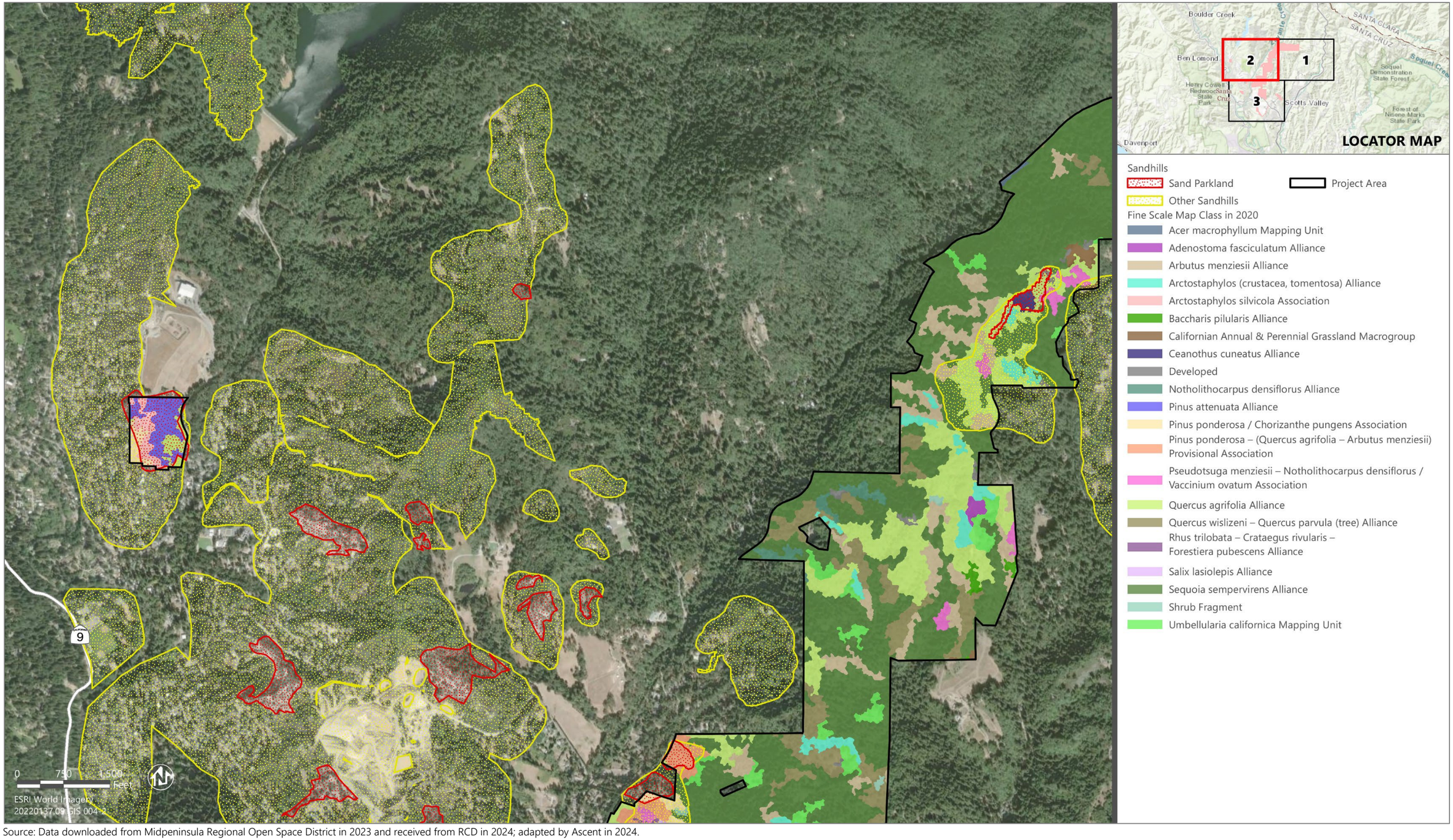
Attachment C

Vegetation Maps



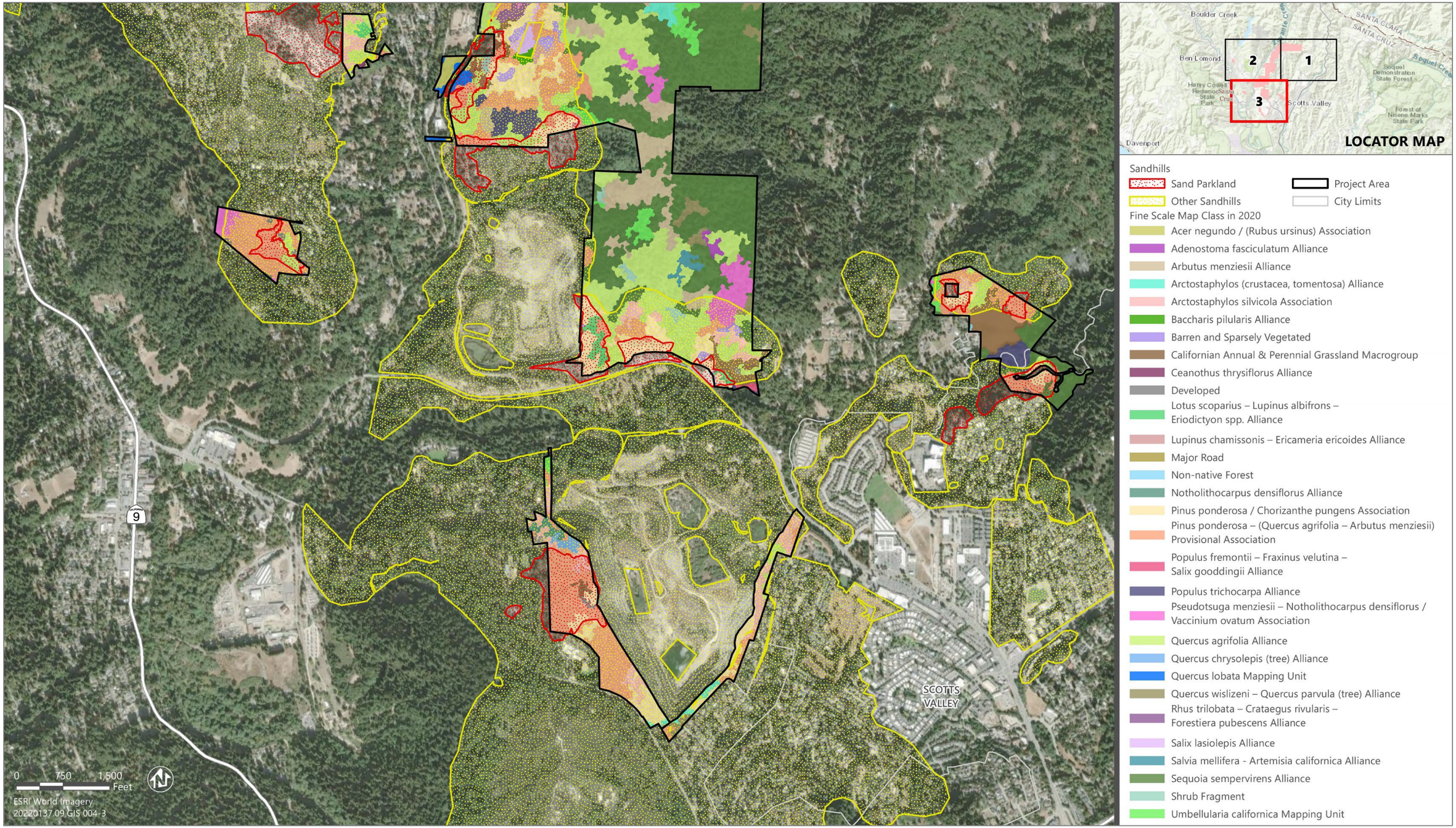
Source: Data downloaded from Midpeninsula Regional Open Space District in 2023 and received from RCD in 2024; adapted by Ascent in 2024.

Figure C-1a Vegetation Map of the Project Area



Source: Data downloaded from Midpeninsula Regional Open Space District in 2023 and received from RCD in 2024; adapted by Ascent in 2024.

Figure C-1b Vegetation Map of the Project Area



Source: Data downloaded from Midpeninsula Regional Open Space District in 2023 and received from RCD in 2024; adapted by Ascent in 2024.

Figure C-1c Vegetation Map of the Project Area