

ATTACHMENT C

Biological Resources Report
for the
Draft Fuel Management Plan
for the
East Campus Housing Area
at California State University Monterey Bay

April 2023



Prepared for

California State University, Monterey Bay

Prepared by



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TABLE OF CONTENTS

EXECUTIVE SUMMARY	III
1. INTRODUCTION.....	1
1.1 Project Location.....	1
1.2 Project Description.....	1
2. METHODS.....	9
2.1 Personnel and Survey Methods.....	9
2.2 Data Sources	10
2.2.1 Botany	11
2.2.2 Wildlife.....	11
2.3 Definitions.....	11
2.3.1 Special-Status Species	11
2.3.2 Sensitive Habitats.....	12
2.4 Regulatory Setting.....	12
2.4.1 Federal Regulations.....	12
2.4.2 State Regulations.....	15
2.4.3 Local Regulations	16
3. RESULTS.....	17
3.1 Vegetation Types	17
3.1.1 Coast Live Oak Woodland	17
3.1.2 Ruderal/Disturbed.....	20
3.1.3 Central Maritime Chaparral.....	21
3.1.4 Central Coastal Scrub.....	21
3.1.5 Non-Native Grassland.....	21
3.1.6 Developed	22
3.2 Special-Status Species.....	22
3.2.1 Special-Status Wildlife Species	22
3.2.2 Special-Status Plant Species	30
3.3 Sensitive Habitats.....	36
3.3.1 Central Maritime Chaparral.....	36
4. IMPACTS AND MITIGATION	37
4.1 Approach to Analysis.....	37
4.1.1 HMP Species and Habitat Impact Analysis	37
4.1.2 Best Management Practices.....	38
4.1.3 Thresholds of Significance.....	38
4.2 Areas of No Impact.....	38
4.3 Impacts and Mitigation Measures	38
5. REFERENCES.....	43

Figures

Figure 1. Project Vicinity..... 2

Figure 2. Project Location..... 3

Figure 3. Fuel Management Plan 5

Figure 4a. Vegetation Types 18

Figure 4b. Vegetation Types..... 19

Figure 5. Potential CTS Aquatic Resources within the Former Fort Ord 26

Figure 6. Potential CTS Upland Habitat within the Former Fort Ord..... 27

Figure 7. Special-Status Plant Occurrences within the Project Site..... 31

Tables

Table 1. Biological Surveys within the Project Site 9

Table 2. Vegetation Types within the Project Site..... 17

Table 3. Potential for Special-Status Wildlife Species Presence within the Project Site..... 23

Table 4. Potential for Special-Status Plant Species Presence within the Project Site..... 32

Table 5. Area of Special-Status Plant Species Observed within the Project Site 32

Appendices

- Appendix A: Draft Fuel Management Plan for East Campus Housing Area
- Appendix B: California Natural Diversity Database Report
- Appendix C: Information for Planning and Consultation Resource List
- Appendix D: Special-Status Species Table

EXECUTIVE SUMMARY

California State University, Monterey Bay (CSUMB) is proposing the Fuel Management Plan for the East Campus Housing Area Project (project or proposed project), located on the CSUMB campus in unincorporated Monterey County, California. The proposed project consists of the implementation of the proposed Draft Fuel Management Plan (Draft FMP), which involves the implementation of fuel management and reduction strategies and protective measures as a part of the CSUMB Campus Community Wildfire Protection Strategic Plan (Strategic Plan) in the East Campus Housing Area and along Inter-Garrison Road. The proposed project would involve the managed reduction of fire fuel hazards in the project site through implementation of the fuel management and reduction activities identified in the Strategic Plan to create a defensible space, remove invasive plants, and thin vegetation.

Special-status species, including Hooker's manzanita, Toro manzanita, Pajaro manzanita, sandmat manzanita, Monterey ceanothus, Fort Ord spineflower, Monterey spineflower, seaside bird's-beak, Eastwood's goldenbush, coast wallflower, Monterey gilia, Kellogg's horkelia, Point Reyes horkelia, marsh microseris, northern curly-leaved monardella, Yadon's piperia, Townsend's big-eared bat, Monterey dusky-footed woodrat, Monterey ornate shrew, American badger, California tiger salamander, northern California legless lizard, coast horned lizard, Smith's blue butterfly, and nesting raptors and other protected avian species, are known or have the potential to occur within the project site. In addition, central maritime chaparral, a sensitive natural community, occurs within the site. Finally, the project may result in trimming or removal of trees. The Draft FMP was developed and designed to avoid and minimize any potentially significant impacts to these sensitive biological resources to a less than significant level under CEQA as well as avoid the potential for incidental take of species listed under the California Endangered Species Act (CESA) or the federal Endangered Species Act (ESA). As a component of the Draft FMP, Best Management Practices (BMPs) were identified and are required to be implemented at specified times to avoid and minimize impacts to special-status species and natural communities. As a result, the timing of the proposed fuel management and reduction activities would be dictated by the requirements of the BMPs. The analysis in this Biological Resources Report determined that potential impacts to sensitive biological resources would be less than significant with implementation of the project's BMPs. In addition, potential impacts to trees are already addressed under CSUMB's established tree restoration program. Therefore, no mitigation would be required to avoid or minimize a potentially significant impact.

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1. INTRODUCTION

Denise Duffy & Associates, Inc. (DD&A) was contracted by California State University, Monterey Bay (CSUMB) to prepare a biological resources study for CSUMB's Fuel Management Plan for the East Campus Housing Area Project (project or proposed project), located on the CSUMB campus within unincorporated Monterey County, California (**Figures 1 and 2**). The campus is located on approximately 1,396 acres of land within the former Fort Ord military base (**Figure 1**). The proposed project consists of the implementation of the proposed Draft Fuel Management Plan (Draft FMP; **Appendix A**), which involves the implementation of fuel management and reduction strategies and protective measures as a part of the CSUMB Campus Community Wildfire Protection Strategic Plan (Strategic Plan) in the East Campus Housing Area and along Inter-Garrison Road. The Strategic Plan identified opportunities and actions to reduce risk of wildfires and to protect lives, property, and natural resources, as well as treatment areas within the CSUMB campus where the fire hazard is high due to high fuel loads. The proposed project would involve the managed reduction of fire fuel hazards in the project area through implementation of the identified fuel management and reduction activities to create a defensible space, remove invasive plants, and thin vegetation while implementing prescriptive measures to maintain and protect natural resources.

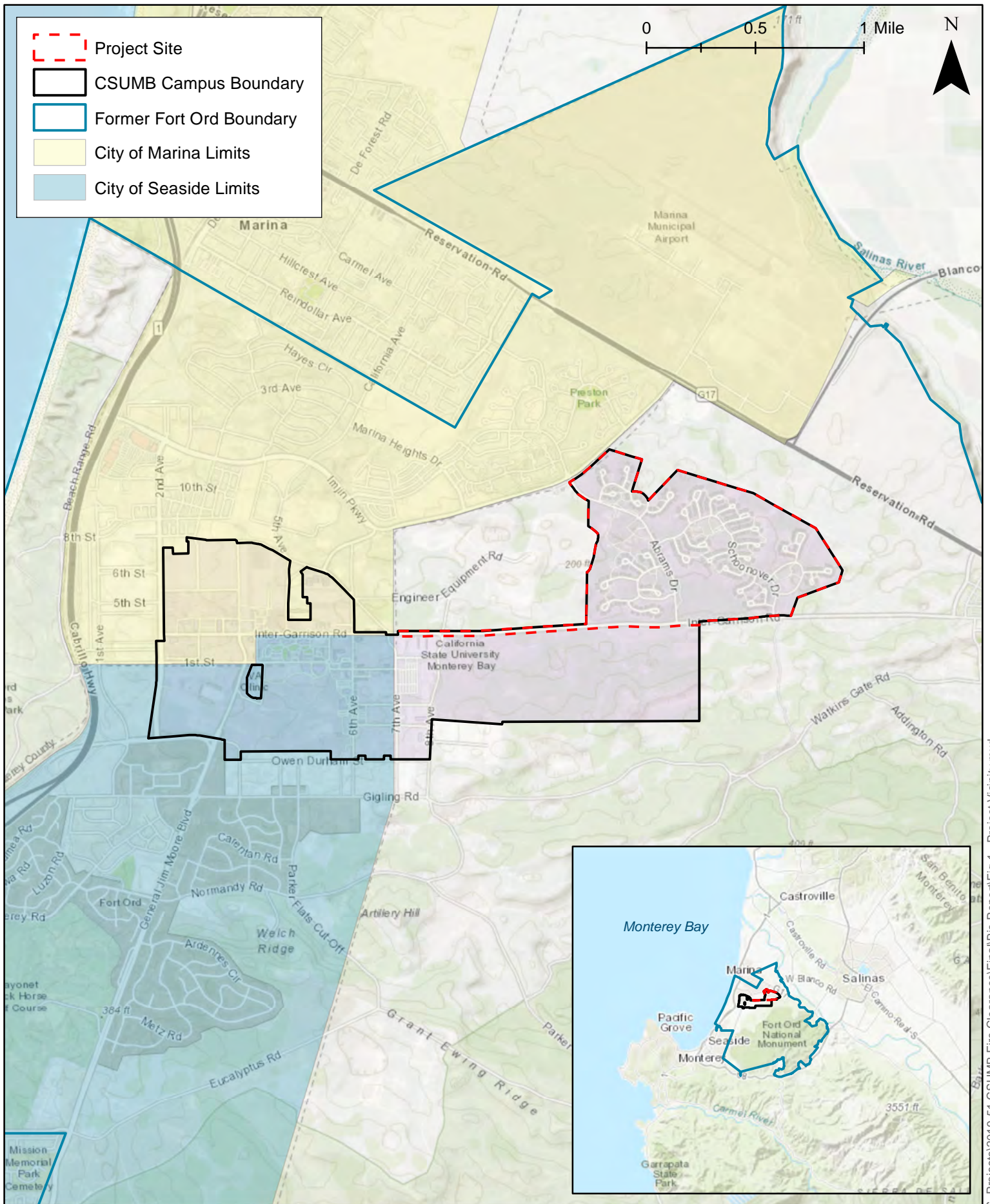
This Biological Resources Report describes the existing biological resources within and adjacent to the project site, including any special-status species or sensitive habitats which occur or have the potential to occur within and adjacent to the site. This report also assesses the potential impacts to biological resources that may result from implementation of the proposed project and recommends appropriate avoidance and minimization measures necessary to reduce those impacts to a less-than-significant level in accordance with the California Environmental Quality Act (CEQA).

1.1 Project Location

The proposed project is located within the East Campus Housing Area south of Imjin Parkway, west of Reservation Road, and north of Inter-Garrison Road, and also includes a 50-foot buffer on the north and south sides of Inter-Garrison Road (only within CSUMB property) from the campus core to the East Campus Housing Area of the CSUMB campus (**Figure 2**). The project area encompasses two parcels in the East Campus Housing Area: a 406.2-acre parcel (APN 031-101-032, Army Corps of Engineers [Army] Parcel S1.2.1) and a 20.3-acre parcel (APN 031-101-031, Army Parcel S1.2.2). In addition, the project site includes approximately 9.3 acres within the road right-of-way along Inter-Garrison Road (Army Parcel S1.3.3) (**Figure 2**).

1.2 Project Description


CSUMB Campus Planning and Development (CSUMB or campus) developed a comprehensive wildfire management program, the Campus Community Wildfire Protection Strategic Plan (Strategic Plan), to guide and direct the personnel, operations, planning efforts, funding allocation, and resources to address the wildfire threat to the CSUMB campus community. The Strategic Plan identifies opportunities and actions to reduce risk of wildfires and to protect lives, property, and natural resources, as well as treatment areas within the CSUMB campus where the fire hazard is high due to high fuel loads.



Project Vicinity

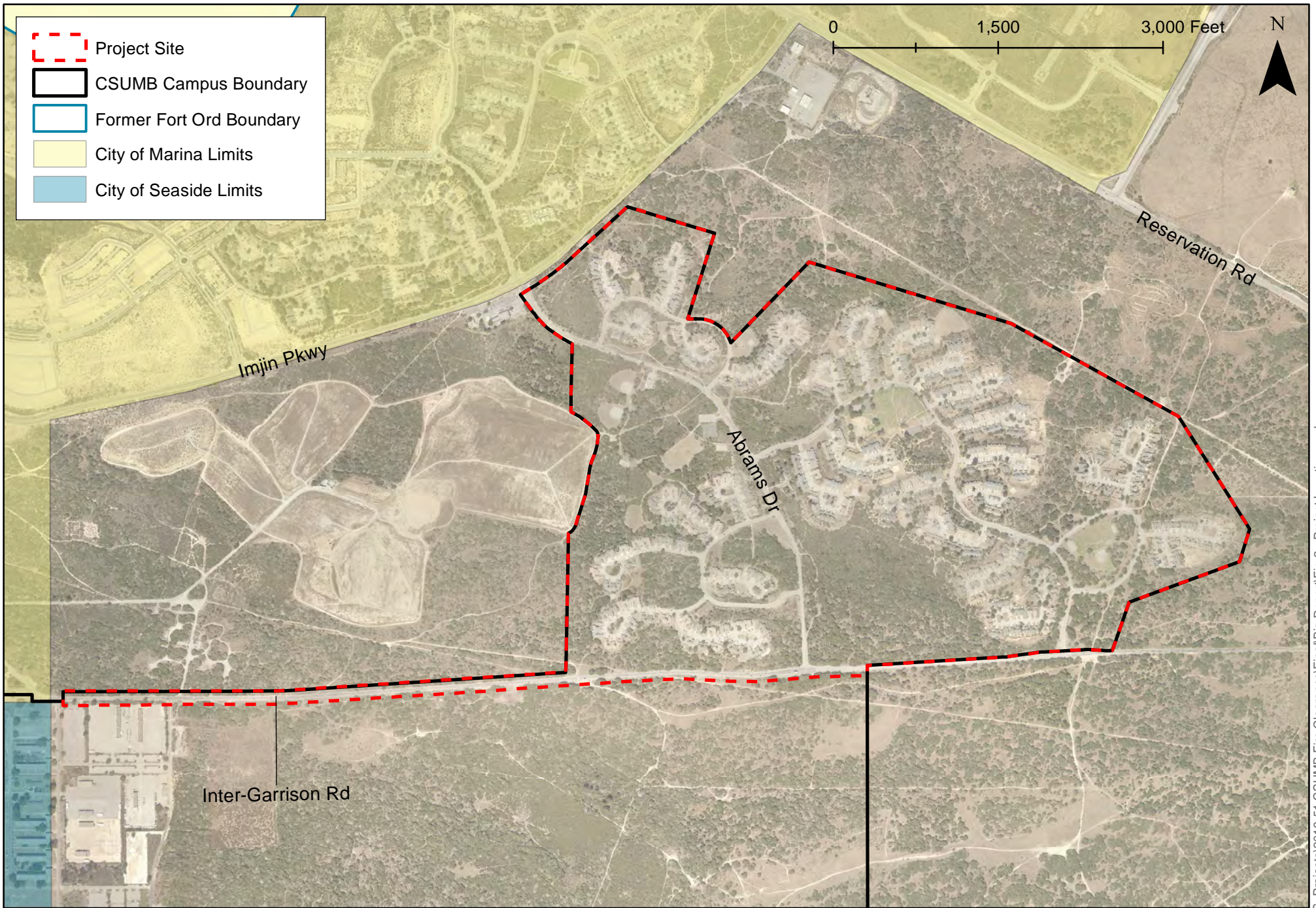
Date
1/28/2022

Scale
1 in = 3,000 ft



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Figure
1



Project Location

Date
1/28/2022
Scale
1 in = 1,000 ft



Denise Duffy & Associates, Inc.
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Figure
2

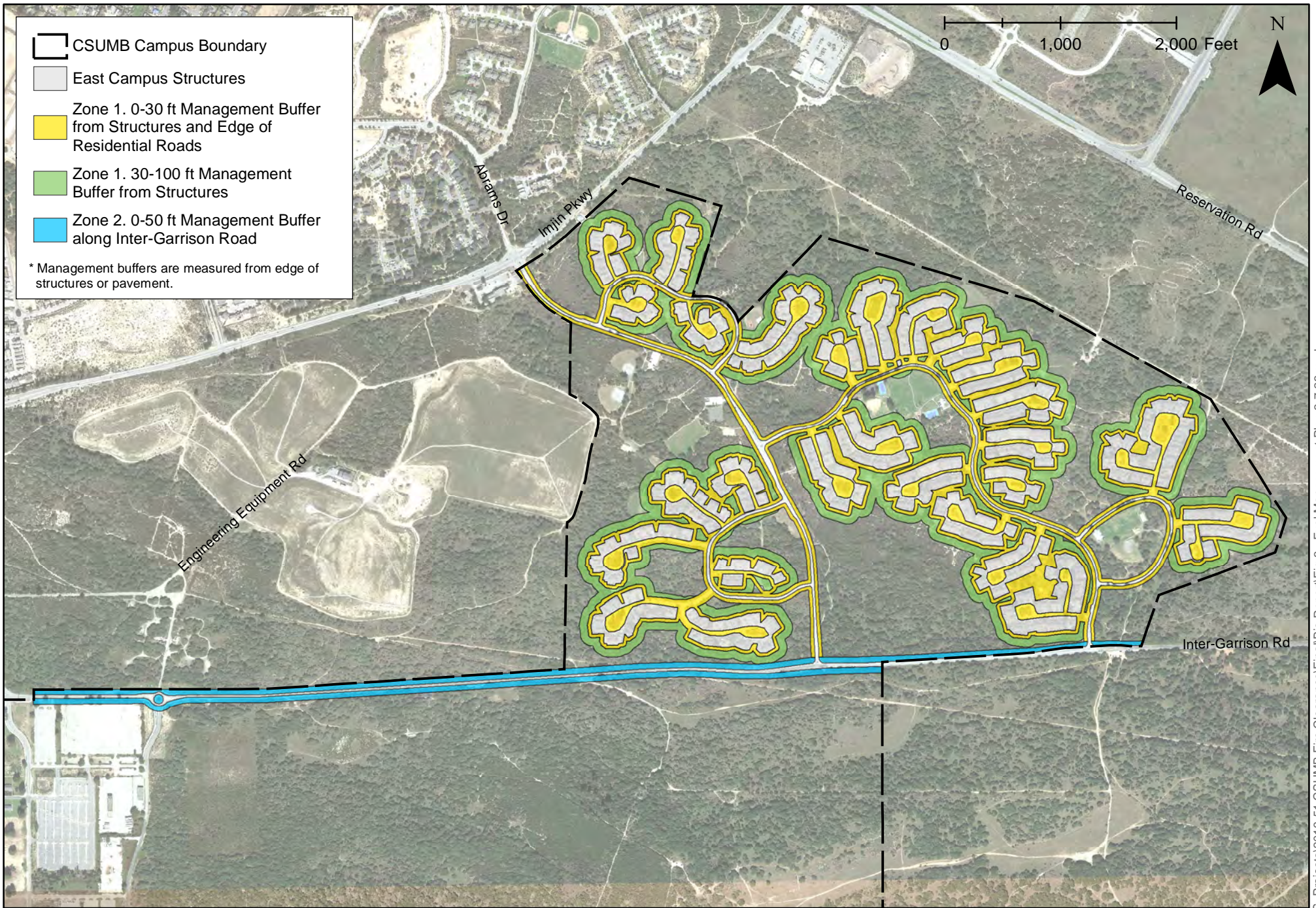
The proposed project consists of the implementation of the Draft FMP, which involves the implementation of fuel management and reduction strategies and protective measures within designated treatment areas in the East Campus Housing Area and along Inter-Garrison Road as a component of, and in accordance with, Goal 1 of the Strategic Plan (**Figure 3**). The proposed project would involve the managed reduction of fire fuel hazards in the project area through implementation of the identified fuel management and reduction activities to create a defensible space, remove invasive plants, and thinning of vegetation while implementing prescriptive measures to maintain and protect natural resources.

There are approximately 1,200 residential units in the East Campus Housing Area housing approximately 4,000 – 5,000 residents, including students, staff, and faculty and family members of CSUMB. This area is surrounded by wildland areas at risk of wildfire. The proposed project would establish defensible space around the residential units. The primary access route (Inter-Garrison Road) in and out of the East Campus Housing Area is an emergency evacuation route, which is surrounded by wildland and at risk of a wildfire event. The proposed project would provide defensible space for this residential community and fuel reduction and management along the north and south sides of Inter-Garrison Road to ensure a safe evacuation route and emergency access to the East Campus Housing Area and wildland areas. Reducing the fuel load along the roadways will not only improve emergency vehicle access and evacuation safety, but will also reduce the amount of heat that evacuating residents might be exposed to during a fire, improve visibility, and expand the usable width of narrow roadways. The proposed project would reduce the fuel load of a potential wildfire to help slow or prevent the spread of a wildfire that could threaten this community. The proposed project would also protect the wildland habitat from potential fire starting within the community and along Inter-Garrison Road and spreading into the wildland areas.

The Draft FMP includes management activities to remove hazardous vegetation and create defensible space around roadways and residential structures that have been identified by the campus and California Department of Forestry and Fire Protection (CAL FIRE) as at-risk areas. The campus would work with private contractors annually to inspect and manage vegetation in the East Campus Housing Area. A summary of the proposed activities identified in the Draft FMP is provided below:

- Implementing and monitoring fuel management and reduction activities within 5 feet (Zone 0), 30 feet (Zone 1), and 100 feet (Zone 2) of structures in the East Campus Housing Area to create a defensible space.
- Implementing and monitoring fuel management and reduction activities within 50 feet along Inter-Garrison Road to create a defensible space.
- Removal of leaves, dead/dying plants, and trees from the treatment areas at regular intervals would be implemented to help reduce low fuel moisture biomass and highly flammable fine fire fuels.¹
- Trimming of trees so that trees are not overhanging the roofline of any building, touching walls or other elements of a building.

¹ As defined in the CSUMB Draft FMP (detailed in **Attachment A**), “fuel” means any combustible material, including petroleum-based products, cultivated landscape plants, grasses, and weeds, and wildland vegetation. “Removal” consists of the elimination of specified vegetation and chipping or disposing of the vegetation. Eliminated vegetation may be placed on-site as directed by a biologist or hauled off-site in accordance with federal, state, and local regulations.



Fuel Management Plan

Date
4/13/2023

Scale
1 in = 1,000 ft



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Planning and Environmental Consulting

Figure
3

- Removal of invasive plants would be implemented to help reduce the presence of undesirable species, enrich native coastal live oak stands, protect rare plants, and enhance thinning efforts aimed at reducing overall biomass levels.
- Thinning of vegetation to reduce woody biomass and to break-up horizontally- and vertically-continuous fuels would be implemented on an as-needed basis depending upon topography and vegetation type.
- Pressure washing and inspecting equipment prior to entering the project site to reduce the potential of spreading noxious weeds. If found, invasive species shall be removed and placed in a trash (not green yard waste intended for re-use) dumpster and taken to the landfill.
- Treated fire fuel materials would either be removed from the site or would be chipped and spread within the treatment area.
- Reducing vegetation to a maximum height of 4 inches and a minimum of 3 feet in all directions surrounding all street signs and fire hydrants to assist locating and access by emergency personnel.
- Cutting and mowing annual grass and herbs to 4-inch height and excluding sensitive species avoidance areas until permissible would avoid the exposure of bare soil, as this may cause erosion.

The proposed fuel management and reduction activities would be conducted year-round depending upon fire safety conditions and availability of labor and resources. In addition, the Draft FMP was developed and designed to avoid and minimize any potentially significant impacts to sensitive biological resources to a less than significant level under CEQA, as well as avoid the potential for incidental take under the California Endangered Species Act (CESA) and federal Endangered Species Act (ESA). As a component of the Draft FMP, Best Management Practices (BMPs) were identified and are required to be implemented at specified times to avoid and minimize impacts to special-status species and natural communities (CSUMB Best Management Practices Required for Fuel Reduction and Defensible Space Activities, as detailed in Attachment E of the Draft FMP). As a result, the timing of the proposed fuel management and reduction activities would be further dictated by the requirements of the BMPs.

In addition, as a component of the Draft FMP, the following measures will be implemented in the treatment areas to limit dust and emissions (where feasible and appropriate):

- Prohibit all mastication or other activities causing fine particles or ground disturbance during periods of high wind (over 15 mph).
- Water all active work areas, where ground/soil disruption may occur, at least twice daily. Frequency should be based on the type of operation, soil, and wind exposure.
- Maintain at least two feet of freeboard in haul trucks.
- Cover all trucks hauling dirt, sand, or loose materials.
- Cover inactive storage piles.

- Post a publicly visible sign which specifies the telephone number and person to contact regarding dust complaints. This person shall respond to complaints and take corrective action within 48 hours. The phone number of the Monterey Bay Air Resources District (MBARD) shall be visible to ensure compliance with Rule 402 (Nuisance).
- Operation equipment shall conform to the MBARD's Tier 3 or 5 emission standards and, where feasible, operation equipment shall use alternative fuels such as compressed natural gas (CNG), propane, electricity, or biodiesel.

The proposed project would reduce the potential for future wildfire-caused greenhouse gas emissions by targeting and reducing the fuel load that would result in the greatest release of greenhouse gas emissions if burned. The proposed project would also result in added protection of public safety and health by reducing the risk of wildfire to the community and contribute to the resiliency of the campus community. With the BMPs and air quality control measures required for the proposed project, potentially significant environmental impacts are avoided and minimized. Removal of healthy, mature, scenic trees – typically those greater than six inches diameter at breast height (DBH) – is not proposed or anticipated as part of the project. The Draft FMP only proposes to remove dead, dying, or hazardous trees or trees under six inches DBH. As a part of the University's climate resiliency goals, if any trees over four inches DBH (but under six inches DBH per the Draft FMP) must be removed for public safety purposes, the trees will be replaced 2:1 as part of CSUMB's campus-wide habitat restoration program. The tree replacement efforts would be carefully considered to not impact future fuel load.

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2. METHODS

2.1 Personnel and Survey Methods

DD&A biologists conducted multiple biological surveys at the project site between 2016 and 2021 in support of the CSUMB Master Plan and Near-Term Developments Project (CSUMB Master Plan), the Oak Woodlands Conservation Area Project (Oak Woodlands Project), and the CSUMB Borderlands Management Plan. In addition, Dr. Fred Watson, Professor in the Department of Applied Environmental Science at CSUMB, conducted surveys for Monterey gilia (*Gilia tenuiflora* ssp. *arenaria*) within the project site in 2017. The dates for each of these surveys are outlined in **Table 1** below. Data collected during these surveys were used to assess the environmental conditions of the project site and its surroundings, evaluate environmental constraints at the site and within the local vicinity, and provide a basis for recommendations to minimize and avoid impacts.

Table 1. Biological Surveys within the Project Site

Survey Type	Project	Date	Location	Surveyor
Focused spring-flowering plant species survey	CSUMB Master Plan	April 2016	Entire project site	DD&A
Focused summer-flowering plant species survey	CSUMB Master Plan	July 2016	Entire project site	DD&A
Reconnaissance-level wildlife and general habitat survey	Oak Woodlands Project	December 2016	Entire project site	DD&A
Focused Monterey gilia survey	N/A	Spring 2017	Entire project site	F. Watson Lab
Reconnaissance-level wildlife and general habitat survey	CSUMB Master Plan	August 2017	Entire project site	DD&A
Focused spring- and summer-flowering plant species survey	CSUMB Borderlands Management Plan	April and June 2021	Sliver of project site south of Inter-Garrison Rd and east of 8 th Ave	DD&A

Prior to surveys in 2016, local reference populations of Monterey spineflower (*Chorizanthe pungens* var. *pungens*) and Monterey gilia were checked on an approximately weekly basis from mid-March until the time of the survey to ensure these species would be in peak bloom during the time of the survey. In 2016, local reference populations for seaside bird's-beak (*Cordylanthus rigidus* ssp. *littoralis*), and Yadon's piperia (*Piperia yadonii*) were checked on an approximately weekly basis for two to three weeks prior to the surveys. Reconnaissance-level wildlife and general habitat survey methods included using aerial maps to identify general habitat types and potential sensitive habitats and verifying conditions in the field. General habitat types were mapped using a combination of GPS and hand drawing on aerial maps, which were later digitized using ArcGIS software.

In surveys conducted by DD&A, the project site was surveyed for botanical resources following the applicable guidelines outlined in the U.S. Fish and Wildlife Service (Service) *Guidelines for Conducting and Reporting Botanical Inventories for Federally listed, Proposed and Candidate Plants* (Service, 2000), the California Department of Fish and Wildlife (CDFW) *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW, 2018), and California Native

Plant Society (CNPS) *Botanical Survey Guidelines* (CNPS, 2001). All special-status plant species identified were mapped using a Trimble Pro XH GPS unit, which were later digitized using ArcGIS software. Populations of plants with more than five individuals were mapped as a polygon and the density of the population was documented. Densities were recorded as low (1-33% cover), medium (34-66% cover) and high (67-100% cover). Individual plants or populations of five or fewer individuals were mapped as a point and a count of the number of individual plants was documented. Populations included all individuals within approximately three feet of another individual; individual plants further away than three feet were mapped as a separate polygon or point. Data collected during the surveys was used to assess the environmental conditions of the project site and its surroundings, evaluate environmental constraints at the site and within the local vicinity, and provide a basis for recommendations to minimize and avoid impacts.

The Service's protocol for special-status plant surveys requires that surveys are conducted approximately every three years (Service, 2000), while CDFW's protocol requires that surveys are conducted every one to five years depending on the vegetation type present (CDFW, 2018). Given these protocols, the results of 2016 and 2017 surveys may not reflect current conditions. Therefore, this report assumes that special-status plants that were identified within the project site during previous surveys are likely still present within the site but does not exclude the potential for other special-status plants to occur within the site (north of Inter-Garrison Road and west of 8th Avenue) if suitable habitat is present and there are known occurrences in the vicinity.

2.2 Data Sources

The primary literature and data sources reviewed to determine the presence or potential presence of special-status species and biological resources within the project site include:

- Current agency status information from the Service and CDFW for species listed, proposed for listing, or candidates for listing as threatened or endangered under the federal Endangered Species Act (ESA) or the California Endangered Species Act (CESA), and those considered CDFW “species of special concern”, including:
 - California Natural Diversity Database (CNDDDB) occurrences reports from the U.S. Geological Survey (USGS) Marina, Monterey, Moss Landing, Prunedale, Salinas, Seaside, and Spreckels quadrangles (**Appendix B**; CDFW, 2021b), and
 - The Service's Information for Planning and Consultation (IPaC) Resource List for the project site (**Appendix C**; Service, 2021);
- The California Native Plant Society (CNPS) Inventory of Rare and Endangered Vascular Plants of California (CNPS, 2021);
- Flora and Fauna Baseline Study of Fort Ord (U.S. Army Corps of Engineers [ACOE], 1992); and
- Installation-Wide Multispecies Habitat Management Plan for Former Fort Ord (HMP) (ACOE, 1997).

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

2.2.1 Botany

The classification and characterization of the vegetation of the project site is based on field observations and the *Manual of California Vegetation* (Sawyer et.al., 2009). A generalized nomenclature for vegetation types is used within this document for ease of reference; however, each vegetation type description also lists the *Manual of California Vegetation* (Sawyer et.al. 2009) vegetation type(s) in order to provide a crosswalk to the *Natural Communities List* (CDFW, 2021a).

Information regarding the distribution and habitats of local and state vascular plants was also reviewed (Howitt and Howell, 1964 and 1973; Munz and Keck, 1973; Matthews and Mitchell, 2015; Baldwin, et. al, 2012; Jepson Flora Project, 2021; ACOE, 1992; ACOE, 1997). All plants observed within the project site were identified to species or intraspecific taxon using keys and descriptions in Baldwin, et. al, (2012) and Matthews and Mitchell (2015). Scientific nomenclature for plants in this report follows Baldwin, et.al., (2012) and common names follow Matthews and Mitchell (2015). A full botanical inventory was not recorded for the project site; however, the dominant species within each habitat were recorded and all plant species encountered were identified to species or intraspecific taxon necessary to eliminate them as being special-status species. Dominant plant species are those which are more numerous than its competitors in an ecological community or makes up more of the biomass; generally, the species that are most abundant. Most ecological communities are defined by their dominant species.

2.2.2 Wildlife

The following literature and data sources were reviewed: CDFW reports on special-status wildlife (Remsen, 1978; Williams, 1986; Jennings and Hayes, 1994; Thelander, 1994); *Monterey Birds* (Roberson 2002); California Wildlife Habitat Relationships Program species-habitat models (CDFW, 2008; Zeiner et al., 1988 and 1990); *Flora and Fauna Baseline Study of Fort Ord* (ACOE, 1992); and the HMP (ACOE, 1997); and general wildlife references (Stebbins, 1985).

2.3 **Definitions**

2.3.1 Special-Status Species

Special-status species are those plants and animals that have been formally listed or proposed for listing as endangered or threatened or are candidates for such listing under ESA or CESA. Listed species are afforded legal protection under the ESA and CESA. Species that meet the definition of rare or endangered under the CEQA Guidelines Section 15380 are also considered special-status species. Animals on the CDFW's list of "species of special concern" (most of which are species whose breeding populations in California may face extirpation if current population trends continue) meet this definition and are typically provided management consideration through the CEQA process, although they are not legally protected under the ESA or CESA. CDFW also includes some animal species that are not assigned any of the other status designations in the CNDDDB "Special Animals" list; however, these species have no legal or protection status and are not analyzed in this document.

Plants listed as rare under the California Native Plant Protection Act (CNPPA) or included in CNPS California Rare Plant Ranks (CRPR; formerly known as CNPS Lists) 1A, 1B, 2A, and 2B are also treated as special-status species as they meet the definitions of Sections 2062 and 2067 of the CESA and in

accordance with CEQA Guidelines Section 15380.² In general, the CDFW requires that plant species on CRPR 1A (plants presumed extirpated in California and either rare or extinct elsewhere), CRPR 1B (plants rare, threatened, or endangered in California and elsewhere), CRPR 2A (plants presumed extirpated in California, but more common elsewhere); and CRPR 2B (plants rare, threatened, or endangered in California, but more common elsewhere) of the CNPS Inventory of Rare and Endangered Vascular Plants of California (CNPS, 2021) be fully considered during the preparation of environmental documents relating to CEQA. CNPS CRPR 4 species (plants of limited distribution) may, but generally do not, meet the definitions of Sections 2062 and 2067 of CESA, and are not typically considered in environmental documents relating to CEQA. While other species (i.e., CRPR 3 or 4 species) are sometimes found in database searches or within the literature, these do not meet the definitions of Section 2062 and 2067 of CESA and are not analyzed in this document.

Raptors (e.g., eagles, hawks, and owls) and their nests are protected under California Fish and Game Code Section 3503.5. Section 3503.5 states that it is “unlawful to take, possess, or destroy the nest or eggs of any such bird except otherwise provided by this code or any regulation adopted pursuant thereto.” In addition, protected species under Fish and Game Code Section 3511 (birds), Section 4700 (mammals), Section 5515 (fish), and Section 5050 (reptiles and amphibians) are also considered special-status animal species. Species with no formal special-status designation but thought by experts to be rare or in serious decline may also be considered special-status animal species in some cases, depending on project-specific analysis and relevant, localized conservation needs or precedence.

2.3.2 Sensitive Habitats

Sensitive habitats include riparian corridors, wetlands, habitats for legally protected species, areas of high biological diversity, areas supporting rare or special-status wildlife habitat, and unusual or regionally restricted habitat types. Vegetation communities considered sensitive include those listed on CDFW’s *California Natural Communities List* (i.e., those habitats that are rare or endangered within the borders of California) (CDFW, 2021a), those that are occupied by species listed under the ESA or are critical habitat in accordance with ESA, and those that are defined as Environmentally Sensitive Habitat Areas (ESHA) under the California Coastal Act (Coastal Act). Specific habitats may also be identified as sensitive in city or county general plans or ordinances. Sensitive habitats are regulated under federal regulations (such as the Clean Water Act [CWA] and Executive Order [EO] 11990 – Protection of Wetlands), state regulations (such as CEQA and the CDFW Streambed Alteration Program), or local ordinances or policies (such as city or county tree ordinances and general plan policies).

2.4 **Regulatory Setting**

2.4.1 Federal Regulations

Federal Endangered Species Act

Provisions of the ESA of 1973 (16 USC 1532 et seq., as amended) protect federally listed threatened or endangered species and their habitats from unlawful take. Listed species include those for which proposed and final rules have been published in the Federal Register. The ESA is administered by the Service or National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS).

² CNPS initially created five CRPR to categorize degrees of concern; however, to better define and categorize rarity in California’s flora, the CNPS Rare Plant Program and Rare Plant Program Committee have developed the new CRPR 2A and CRPR 2B.

In general, NMFS is responsible for the protection of ESA-listed marine species and anadromous fish, whereas other listed species are under Service jurisdiction.

Section 9 of ESA prohibits the take of any fish or wildlife species listed under ESA as endangered or threatened. Take, as defined by ESA, is “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct.” Harm is defined as “any act that kills or injures the fish or wildlife...including significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife.” In addition, Section 9 prohibits removing, digging up, and maliciously damaging or destroying federally listed plants on sites under federal jurisdiction. Section 9 does not prohibit take of federally listed plants on sites not under federal jurisdiction. If there is the potential for incidental take of a federally listed fish or wildlife species, take of listed species can be authorized through either the Section 7 consultation process for federal actions or a Section 10 incidental take permit process for non-federal actions. Federal agency actions include activities that are on federal land, conducted by a federal agency, funded by a federal agency, or authorized by a federal agency (including issuance of federal permits).

Recovery Plans

The ultimate goal of the ESA is the recovery (and subsequent conservation) of endangered and threatened species and the ecosystems on which they depend. A variety of methods and procedures are used to recover listed species, such as protective measures to prevent extinction or further decline, consultation to avoid adverse impacts of federal activities, habitat acquisition and restoration, and other on-the-ground activities for managing and monitoring endangered and threatened species. The collaborative efforts of the Service and its many partners (federal, state, and local agencies, tribal governments, conservation organizations, the business community, landowners, and other concerned citizens) are critical to the recovery of listed species.

Two recovery plans have been prepared for listed species known or with the potential to occur within the project site:

- Recovery Plan for the Central California Distinct Population Segment of the California Tiger Salamander (*Ambystoma californiense*) (Service, 2017a), and
- Smith’s Blue Butterfly Recovery Plan (Service, 1984).

Executive Order 13112-Invasive Species

Executive Order 13112 - Invasive Species (64 FR 6183) requires the prevention of introduction and spread of invasive species. Invasive species are defined as “alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health.” Each federal agency whose actions may affect the status of invasive species on a project site shall, to the extent practicable and permitted by law, subject to the availability of appropriations, use relevant programs and authorities to: 1) prevent the introduction of invasive species; 2) detect and respond rapidly to and control populations of such species in a cost-effective and environmentally sound manner; 3) monitor invasive species populations accurately and reliably; 4) provide for restoration of native species and habitat conditions in ecosystems that have been invaded; 5) conduct research on invasive species and develop technologies to prevent introduction and provide for environmentally sound control of invasive species; and 6) promote public education on invasive

species and the means to address them. A national invasive species management plan was prepared by the National Invasive Species Council and the Invasive Species Advisory Committee that recommends objectives and measures to implement the Executive Order. The California Invasive Plant Council (Cal-IPC) Inventory categorizes non-native invasive plants that threaten California's wildlands. Categorization is based on an assessment of the ecological impacts of each plant. The Cal-IPC Inventory represents the best available knowledge of invasive plant experts in the state. Although the impact of each plant varies regionally, its rating represents cumulative impacts statewide. Therefore, a plant whose statewide impacts are categorized as Limited may have more severe impacts in a particular region. Conversely, a plant categorized as having a High cumulative impact across California may have very little impact in some regions.

Fort Ord Installation-Wide Multispecies Habitat Management Plan

The U.S. Army's decision to close and dispose of the Fort Ord military base was considered a major federal action that could affect listed species under the ESA. In 1993, the Service issued a Biological Opinion (BO) in accordance with Section 7 of the ESA on the disposal and reuse of former Fort Ord requiring that an HMP be developed and implemented to reduce the incidental take of listed species and loss of habitat that supports these species (Service, 1993, Service, 2017b). The *Fort Ord Installation-Wide Multispecies Habitat Management Plan* (Fort Ord HMP or HMP) was prepared to assess impacts on vegetation and wildlife resources and provide mitigation for their loss associated with the disposal and reuse of former Fort Ord (ACOE, 1997).

The HMP establishes guidelines for the conservation and management of species and habitats on former Fort Ord lands by identifying lands that are available for development, lands that have some restrictions with development, and habitat reserve areas. The intent of the plan is to establish large, contiguous habitat conservation areas and corridors to compensate for future development in other areas of the former base. The HMP identifies what type of activities can occur on each parcel at former Fort Ord; parcels are designated as "development with no restrictions," "habitat reserves with management requirements," or "habitat reserves with development restrictions." The HMP sets the standards to assure the long-term viability of former Fort Ord's biological resources in the context of base reuse so that no further mitigation should be necessary for impacts to species and habitats considered in the HMP. This plan has been approved by the Service; the HMP, deed restrictions, and Memoranda of Agreement between the Army and various land recipients provide the legal mechanism to assure HMP implementation. It is a legally binding document, and all recipients of former Fort Ord lands are required to abide by its management requirements and procedures.

The HMP anticipates some losses to special-status species and sensitive habitats as a result of redevelopment of the former Fort Ord. With the designated reserves and corridors and habitat management requirements in place, the losses of individuals of species and sensitive habitats considered in the HMP are not expected to jeopardize the long-term viability of those species, their populations, or sensitive habitats on former Fort Ord. Recipients of disposed land with restrictions or management guidelines designated by the HMP are obligated to implement those specific measures through the HMP and through deed covenants.

However, the HMP does not provide specific authorization for incidental take of federal or state listed species to existing or future non-federal land recipients under the ESA or CESA. As such, impacts to

applicable federal and state listed species require incidental take authorization under Section 7 or Section 10 from the Service and/or a Section 2081 incidental take permit (ITP) from the CDFW.

The project site is located within designated “development” parcels under the HMP. Parcels designated as “development” do not have management requirements relative to HMP species. However, the 2017 Programmatic BO and HMP require the identification of sensitive botanical resources within the development parcels that may be salvaged for use in restoration activities in reserve areas (Service, 2017b and ACOE, 1997).

2.4.2 State Regulations

California Endangered Species Act

The CESA was enacted in 1984. The California Code of Regulations (Title 14, §670.5) lists animal species considered endangered or threatened by the state. Section 2090 of CESA requires state agencies to comply with endangered species protection and recovery and to promote conservation of these species. Section 2080 of the Fish and Game Code prohibits "take" of any species that the commission determines to be an endangered species or a threatened species. “Take” is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." A Section 2081 Incidental Take Permit from the CDFW may be obtained to authorize “take” of any state listed species.

California Native Plant Protection Act

The CNPPA of 1977 directed CDFW to carry out the legislature’s intent to “preserve, protect and enhance rare and Endangered plants in the State.” The CNPPA prohibits importing rare and Endangered plants into California, taking rare and Endangered plants, and selling rare and Endangered plants. The CESA and CNPPA authorized the Fish and Game Commission to designate endangered, threatened, and rare species and to regulate the taking of these species (§2050-2098, Fish and Game Code). Plants listed as rare under the CNPPA are not protected under CESA; however, these plants may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research.

California Fish and Game Code

Birds. Section 3503 of the Fish and Game Code states that it is “unlawful to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.” Section 3503.5 prohibits the killing, possession, or destruction of any birds in the orders Falconiformes or Strigiformes (birds-of-prey). Section 3511 prohibits take or possession of fully protected birds. Section 3513 prohibits the take or possession of any migratory nongame birds designated under the federal Migratory Bird Treaty Act. Section 3800 prohibits take of nongame birds.

Fully Protected Species. The classification of fully protected was the state's initial effort in the 1960's to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish (§5515), mammals (§4700), amphibians and reptiles (§5050), and birds (§3511). Most fully protected species have also been listed as threatened or endangered species under the more recent endangered species laws and regulations. Fully protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

Species of Special Concern. As noted above, the CDFW also maintains a list of wildlife “species of special concern.” Although these species have no legal status, the CDFW recommends considering these species during analysis of project impacts to protect declining populations and avoid the need to list them as endangered in the future.

CSUMB Tree Restoration Program

CSUMB has established a Tree Restoration Program for impacts to coast live oak and other trees resulting from projects that take place on campus. This program requires that for every tree greater than 4” DBH removed, two coast live oak trees would be replanted, and assumed to survive, in the identified restoration area on campus. In some cases, more than two trees would need to be planted to achieve this survival rate. The implementation of this program is required for all projects that would result in impacts to trees 4” DBH or greater.

2.4.3 Local Regulations

As a state entity, CSUMB is not subject to local government planning or ordinances, such as the general plans and ordinances for the cities of Marina and Seaside and the County of Monterey. Accordingly, because neither local general plans nor any other local land use plans or ordinances are applicable to CSUMB, such local plans and ordinances are not summarized here or further analyzed in this section.

Habitat Conservation Plans or Natural Community Conservation Plans

There are no approved Habitat Conservation Plans (HCP) or Natural Community Conservation Plans (NCCP) associated with the project site.

3. RESULTS

3.1 Vegetation Types

The survey results include mapping and quantification of the acreage of five vegetation types within the project site (**Figures 4a** and **4b**). Several areas were identified where these vegetation types integrate with one another; these areas are identified as “mix” habitats and the dominant species from each of the two separate vegetation types are approximately evenly distributed throughout these areas. Additionally, some areas of the project site are developed with housing and paved streets and sidewalks. **Table 2** provides the acreages of these vegetation types and developed areas within the project site. A brief description of each of these vegetation types and developed areas can be found below, and identification of whether the vegetation type is considered a sensitive habitat. In addition, each description identifies the *Manual of California Vegetation* (Sawyer et.al. 2009) vegetation type(s).

Table 2. *Vegetation Types within the Project Site*

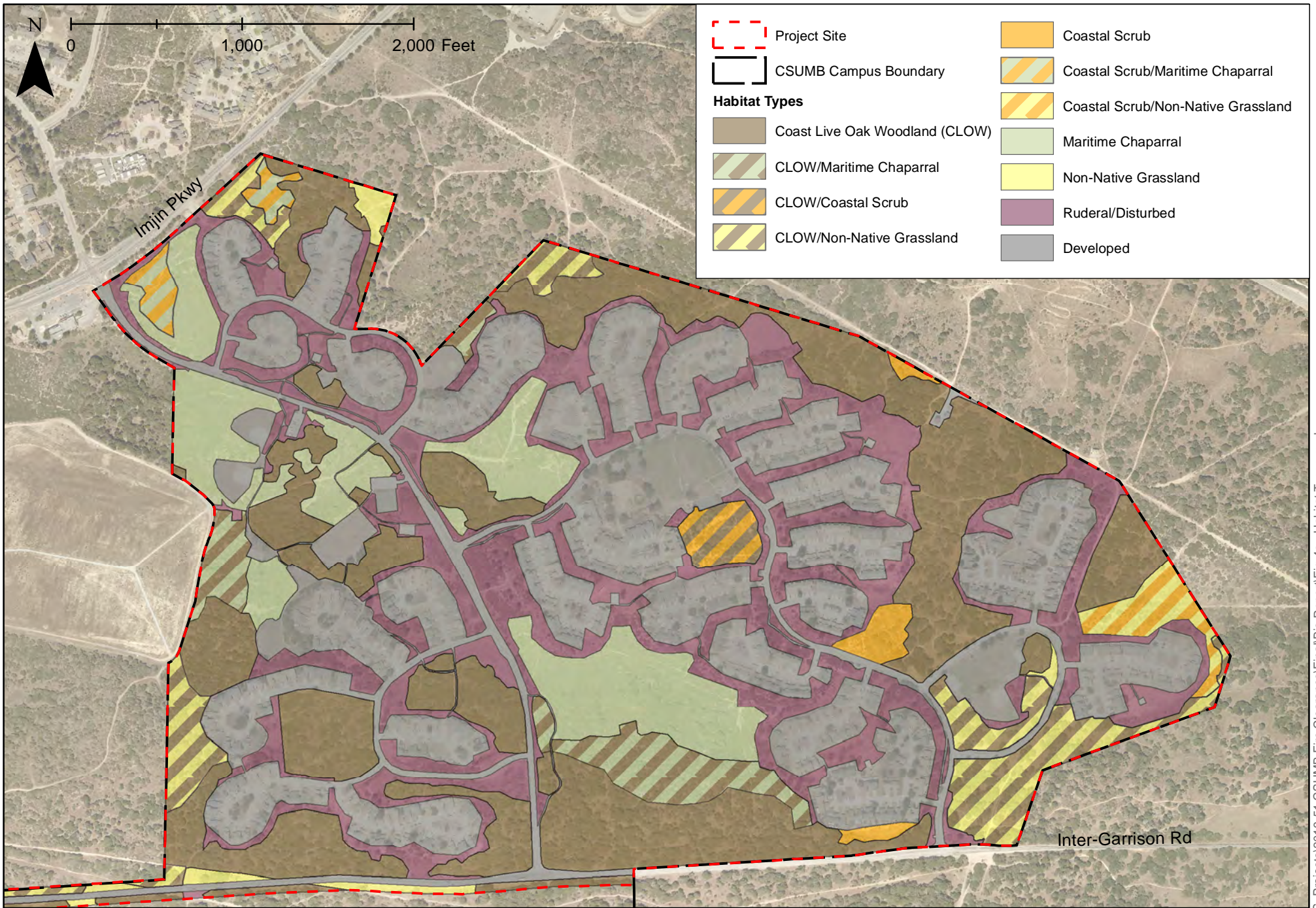
Vegetation Types	Total Area (ac)
<i>Coast Live Oak Woodland</i>	103.3
<i>Ruderal/Disturbed</i>	84.0
<i>Central Maritime Chaparral¹</i>	38.5
<i>Coast Live Oak Woodland/Non-Native Grassland Mix</i>	23.7
<i>Central Maritime Chaparral/Coast Live Oak Woodland Mix</i>	12.9
<i>Central Coastal Scrub/Non-Native Grassland Mix</i>	4.6
<i>Central Coastal Scrub</i>	3.4
<i>Coast Live Oak Woodland/Central Coastal Scrub Mix</i>	3.4
<i>Central Maritime Chaparral/Central Coastal Scrub Mix</i>	3.1
<i>Non-Native Grassland</i>	3.6
<i>Developed</i>	164.2
Total	444.7

¹ **Bold** indicates a sensitive habitat addressed in the Fort Ord HMP.

3.1.1 Coast Live Oak Woodland

- *A Manual of California Vegetation* classification: coast live oak woodland (*Quercus agrifolia*/*Toxicodendron diversilobum*/grass association)

Coast live oak woodland is the dominant habitat type within the project site (**Figures 4a** and **4b**). Coast live oak woodland is an open-canopied to nearly closed-canopied community with a grass or sparsely scattered shrub understory. Three coast live oak communities, each with different growth characteristics, understory associates, and canopy cover, have been recognized on the former Fort Ord: coastal coast live oak woodland, inland coast live oak woodland, and coast live oak savanna (ACOE, 1992). “Coastal” coast live oak woodland is the dominant vegetation type within the project site. The distinction of “coastal” is given based on the proximity of the coast live oak woodland to the coast. In coastal coast live oak woodland, coast live oaks grow in unprotected sites and are exposed to the combined stresses of strong winds, salt spray, and sterile, sandy soils, which are often referred to as “sand hills.” These environmental factors create an oak woodland characterized by short, wind-pruned trees that intergrades with the surrounding coastal scrub and maritime chaparral communities.



Habitat Types

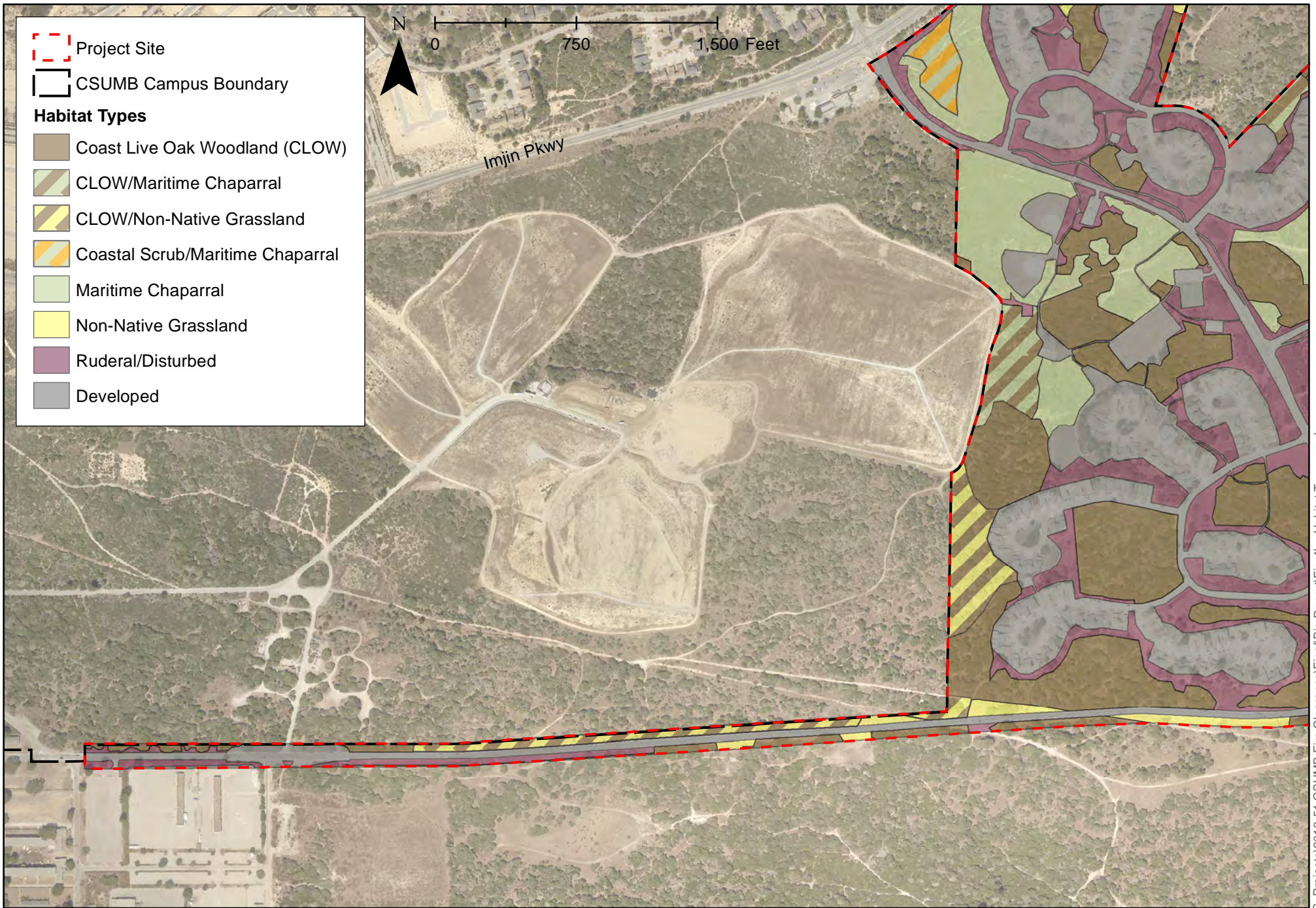
Date
1/28/2022

Scale
1 in = 700 ft



Denise Duffy & Associates, Inc.
Planning and Environmental Consulting

Figure
4a



Habitat Types

Date
1/28/2022

Scale
1 in = 700 ft



Denise Duffy & Associates, Inc.
Planning and Environmental Consulting

Figure
4b

Oak woodlands within the project site are largely homogeneous in species composition. The coast live oak (*Quercus agrifolia*) canopy is quite dense in many areas with an understory dominated by poison oak or, in some areas, invasive ice plant. Other plant species observed within the coast live oak woodland include hedge-nettle (*Stachys* sp.), slender wild oat (*Avena barbata*), sheep sorrel (*Rumex acetosella*), fiesta flower (*Pholistoma auritum*), and scattered shrubs such as fuchsia-flowered gooseberry (*Ribes speciosum*), California coffeeberry (*Frangula californica*), and sticky monkey flower (*Mimulus aurantiacus*).

In several areas, the coast live oak woodland intergrades with other vegetative communities, including maritime chaparral, coastal scrub, and non-native grassland. Where these vegetative communities comprise of approximately half of the dominant species, the areas have been mapped as coast live oak mixes (**Figures 4a** and **4b**). The dominant plant species and the common wildlife found in these mixed vegetation types are generally the same as those described for the individual vegetation types.

Coast live oak woodland is important habitat to many wildlife species. Oaks provide nesting sites for many avian species and cover for a variety of mammals, including mourning dove (*Zenaidura macroura*), American kestrel (*Falco sparverius*), California ground squirrel (*Spermophilus beecheyi*), and California pocket mouse (*Chaetodipus californicus*). Acorns provide an important food source for acorn woodpecker (*Melanerpes formicivorus*), western scrub jay (*Aphelocoma californica*), and black-tailed deer (*Odocoileus hemionus columbianus*). Other common wildlife species found in the coast live oak woodland are raccoon (*Procyon lotor*), Nuttall's woodpecker (*Picoides nuttallii*), northern flicker (*Colaptes auratus*), bobcat (*Lynx rufus*), and coyote (*Canis latrans*). Generally, red-tailed hawks (*Buteo jamaicensis*) and great-horned owls (*Bubo virginianus*) nest and roost in the coast live oaks.

Oak woodlands are considered important natural communities because they provide a variety of ecological, aesthetic, and economical values. The extent of oak woodland in California has declined due to agricultural conversion, urban development, fuelwood harvesting, and grazing activities. Coast live oak woodland is not considered a sensitive habitat by CDFW (CDFW, 2021a); however, as a native tree and habitat, impacts to coast live oak trees and woodland are typically addressed and mitigated under CEQA and per the CSUMB Tree Restoration Program.

3.1.2 Ruderal/Disturbed

- *A Manual of California Vegetation* classification: none

Ruderal, disturbed areas are those areas which have been disturbed by human activities and are dominated by non-native annual grasses and other “weedy” species. Ruderal areas within the project site includes areas around the developed areas that are regularly disturbed and other areas of historic disturbance (**Figures 4a** and **4b**). The ruderal areas include vegetation dominated by hottentot fig, ripgut grass, slender oat, cut-leaved plantain (*Plantago coronopus*), English plantain (*P. lanceolata*), sand mat (*Cardionema ramosissimum*), long-beaked filaree, and telegraphweed.

Common wildlife species which do well in urbanized and disturbed areas can utilize this habitat, such as the American crow (*Corvus brachyrhynchos*), California ground squirrel, raccoon, striped skunk (*Mephitis mephitis*), western scrub jay, European starling (*Sturnus vulgaris*), coast range fence lizard, and rock pigeon (*Columba livia*). This habitat type is considered to have low biological value, as it generally dominated by non-native plant species and consists of relatively low-quality habitat from a wildlife perspective.

3.1.3 Central Maritime Chaparral

- *A Manual of California Vegetation* classifications: brittle leaf–wooly leaf manzanita chaparral (*Arctostaphylos* [crustacea, tomentosa] shrubland alliance) and sandmat manzanita chaparral (*Arctostaphylos pumila* provisional shrubland alliance)

Central maritime chaparral within the project site (**Figures 4a** and **4b**) is dominated by shaggy-barked manzanita, sandmat manzanita, dwarf ceanothus, coyote brush (*Baccharis pilularis*), chamise, and sticky monkey flower. Additional species within this habitat type include California coffeeberry, fuchsia-flowered gooseberry, chaparral currant (*Ribes malvaceum*), poison oak, black sage (*Salvia mellifera*), sticky cinquefoil (*Drymocallis glandulosa*), and creeping snowberry (*Symphoricarpos mollis*).

Common wildlife species that occur within central maritime chaparral habitat include California quail (*Callipepla californica*), California towhee (*Melospiza crissalis*), California thrasher (*Toxostoma redivivum*), common poorwill (*Phalaenoptilus nuttallii*), Anna’s hummingbird (*Calypte anna*), wrentit (*Chamaea fasciata*), western scrub jay, northern pacific rattlesnake (*Crotalus oreganus* ssp. *oreganus*), coast range fence lizard (*Sceloporus occidentalis bocourtii*), gopher snake (*Pituophis catenifer catenifer*), coast gartersnake (*Thamnophis elegans terrestris*), and brush rabbit (*Sylvilagus bachmani*).

3.1.4 Central Coastal Scrub

- *A Manual of California Vegetation* classifications: coyote brush scrub (*Baccharis pilularis* shrubland alliance) and black sage scrub (*Salvia mellifera* shrubland alliance)

Holland (1986) describes central coastal scrub habitat as an area with dense shrubs, approximately one to two meters tall, which lacks grassy openings and is often integrated with other habitat types. Dominant shrub species in the central coastal scrub habitat within the project site (**Figures 4a** and **4b**) include black sage, coyote brush, poison oak, sticky monkey flower, and coast sagebrush (*Artemisia californica*).

Central coastal scrub habitats provide cover and food for a number of wildlife species, including songbirds, snakes, lizards, rodents, and other small mammals. Common species that may occur within the central coastal scrub habitat include California quail, blue-gray gnatcatcher (*Poliophtila caerulea*), Anna’s hummingbird, coast range fence lizard, northern pacific rattlesnake, gopher snake, brush rabbit, and California ground squirrel.

3.1.5 Non-Native Grassland

- *A Manual of California Vegetation* classification: annual brome grasslands (*Bromus diandrus*-*Avena* spp. Association)

Throughout California, non-native grasslands typically occur in open areas of valleys and foothills, usually on fine-textured clay or loam soils that are somewhat poorly drained (Holland, 1986). Non-native grasslands are often dominated by non-native annual grasses and forbs along with scattered native grasses and wildflowers. The dominant species observed in this habitat within the project site (**Figures 4a** and **4b**) include slender oat, ripgut grass (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), rat-tail fescue (*Festuca myuros*), slender wild oat (*Avena barbata*), and long-beaked filaree (*Erodium botrys*). Additional species found within this habitat include needlegrass (*Stipa* sp.), sky lupine (*Lupinus nanus*), California poppy (*Eschscholzia californica*), wedge-leaved horkelia (*Horkelia cuneata*), sheep sorrel, and telegraphweed (*Heterotheca grandiflora*).

Non-native grasslands provide habitat to a number of common wildlife species. Botta's pocket gopher (*Thomomys bottae*), California ground squirrel, American badger, and several rodent species use non-native grasslands for foraging and cover. Raptors are also known to forage in this habitat, including red-tailed hawk. Reptiles, such as northern pacific rattlesnake, gopher snake, and coast range fence lizard, are also common non-native grassland species. Avian species that may be found within the non-native grassland habitat include grasshopper sparrow (*Ammodramus savannarum*), savannah sparrow (*Passerculus sandwichensis*), western kingbird (*Tyrannus verticalis*), and red-tailed hawk.

3.1.6 Developed

- *A Manual of California Vegetation* classification: none

Developed areas comprise a large portion of the project site (**Figures 4a** and **4b**). These areas include paved roads and parking lots, structures, and landscaped areas. Very little natural vegetation is present within these areas, and they are considered to have little biological value. However, some common wildlife species that do well in urbanized areas may be found foraging within the developed areas, including American crow, California ground squirrel, raccoon, striped skunk, western scrub jay, European starling, and rock pigeon.

3.2 **Special-Status Species**

Published occurrence data within the project site and surrounding USGS Quads were evaluated to compile a table of special-status species known to occur in the vicinity of the project site (please refer to Section 2. Methods and **Appendix D**). Each of these species was evaluated for their likelihood to occur within and immediately adjacent to the project site (**Appendix D**).³ The special-status species that are known to or have been determined to have a moderate or high potential to occur within or immediately adjacent the project site are discussed below. All other species presented in **Appendix D** are assumed “unlikely to occur” or have a low potential to occur but are unlikely to be impacted for the species-specific reasons presented. Please note that only those species that are known or have a moderate or high potential to occur within the proposed project site are discussed in the impacts and mitigation section of this document.

3.2.1 Special-Status Wildlife Species

The project site and adjacent areas were evaluated for the presence or potential presence of a variety of special-status wildlife species (**Appendix D**). The following species are discussed due to their moderate or high potential to occur or known presence within the project site and potential to be impacted by the project. **Table 3** summarizes the potential for these species to occur within the project site.

³ Please see **Appendix D** for the evaluation standards for the potential for species to occur.

Table 3. Potential for Special-Status Wildlife Species Presence within the Project Site

Species	Potential Occurrence within Project Site
Townsend's big-eared bat	Moderate
Monterey dusky-footed woodrat	High
Monterey ornate shrew ¹	High
American badger	Moderate
California tiger salamander	High
Northern California legless lizard	High
Coast horned lizard	High
Smith's blue butterfly	Moderate
Nesting Raptors and Other Protected Avian Species	Moderate – High
¹ Bold indicates a special-status species addressed in the Fort Ord HMP.	

Townsend's Big-Eared Bat

Special-status bat species with the potential to occur in the vicinity that use oak woodland, central coastal scrub, and central maritime chaparral habitats and abandoned buildings as either maternity, migratory, or foraging roosts include the Townsends's big-eared bat (*Corynorhinus townsendii*).

The CNDDDB reports one occurrence of this species within the quadrangles reviewed, located approximately 1.3 miles east of the project site. This species may utilize some of the coast live oak trees within the project site for night roosts and may forage over all undeveloped areas of the project site. Townsend's big-eared bat has a moderate potential to occur within these areas at the project site.

Monterey Dusky-Footed Woodrat

The Monterey dusky-footed woodrat (*Neotoma macrotis luciana*, MDFW) is a CDFW species of special concern. This is a subspecies of the dusky-footed woodrat (*Neotoma macrotis*), which is common to oak woodlands and other forest types throughout California. Dusky-footed woodrats are frequently found in forest habitats with moderate canopy cover and a moderate to dense understory, including riparian forests; however, they may also be found in chaparral communities. Relatively large nests are constructed of grass, leaves, sticks, and feathers and are built in protected spots, such as rocky outcrops or dense brambles of blackberry and/or poison oak. Typical food sources for this species include leaves, flowers, nuts, berries, and truffles. Dusky-footed woodrats may be a significant food source for small- to medium-sized predators. Populations of this species may be limited by the availability of nest material. Within suitable habitat, nests are often found in close proximity to each other.

The CNDDDB does not report any occurrences of Monterey dusky-footed woodrat within the seven quadrangles reviewed. However, this species is known to occur throughout the former Fort Ord and woodrat nests were observed within the project site during field surveys. Therefore, the Monterey dusky-footed woodrat has a high potential to occur within the project site in areas that contain suitable habitat.

Monterey Ornate Shrew

The Monterey ornate shrew (*Sorex ornatus salarius*), also known as the Salinas ornate shrew, is a CDFW species of special concern and HMP species. In general, this shrew is common in the southern two-thirds of California west of the Sierra Nevada, from Mendocino to Butte counties, south to the Mexican border.

It occupies a variety of mostly moist or riparian woodland habitats and also occurs within chaparral, grassland, and emergent wetland habitats where there is thick duff or downed logs. The breeding season is long; while most pregnancies occur in March and April, they may occur from February through October. The litter size is about six and females may have more than one litter per year. Most individuals do not live to breed a second year. Foraging occurs under logs rocks and leaf litter, and prey items are mostly insects and some other invertebrates.

The CNDDDB reports six (6) occurrences of the Monterey ornate shrew within the quadrangles reviewed, the nearest located approximately 4.2 miles from the project site. In addition, Figure B-18 in the HMP identifies the project site as containing potential habitat for this species (ACOE, 1997). As with most shrews, little is known about their ecology since they are hard to locate and do not survive well in traps due to very high metabolic rates. However, field surveys on the UC Fort Ord Natural Reserve found that habitats within the project site (e.g., non-native grassland, coast live oak woodland, central coastal scrub, central maritime chaparral, and mixes of these habitats) are likely considered suitable habitat for the shrew. Therefore, there is a high potential for the Monterey ornate shrew to occur within these habitats in the project site.

American Badger

The American badger (*Taxidea taxus*) is a CDFW species of special concern. Badgers occupy a diversity of habitats within California. The principal requirements seem to be sufficient food, friable soils, and relatively open, uncultivated grounds. Grasslands, savannas, and mountain meadows near timberline are preferred. Badgers feed primarily of burrowing rodents, such as gophers, squirrels, mice, and kangaroo rats, as well as some insects and reptiles. Badgers also break open beehives to eat both the brood and honey. They are active all year long and are nocturnal and diurnal. Mating occurs in summer and early fall and two to five young are born in burrows dug in relatively dry, often sandy soil, usually with sparse overstory cover.

The CNDDDB reports eight occurrences of American badger within the quadrangles reviewed, including a 1992 occurrence which overlaps the project site. Additionally, this species is known to occur throughout the former Fort Ord. Suitable habitat is present within the non-native grassland, central maritime chaparral/non-native grassland mix, and central coastal scrub/non-native grassland mix, and within ruderal habitat in close proximity to the aforementioned more commonly used habitats within the project site. Therefore, the American badger has a high potential to occur within suitable habitat areas.

California Tiger Salamander

The California tiger salamander (*Ambystoma californiense*, CTS) was listed as a federally threatened species on August 4, 2004 (69 FR 47211-47248). Critical habitat was designated for CTS on August 23, 2005 (70 FR 49379-49458) and went into effect on September 22, 2005. Additionally, CTS was listed as a state threatened species on March 3, 2010.

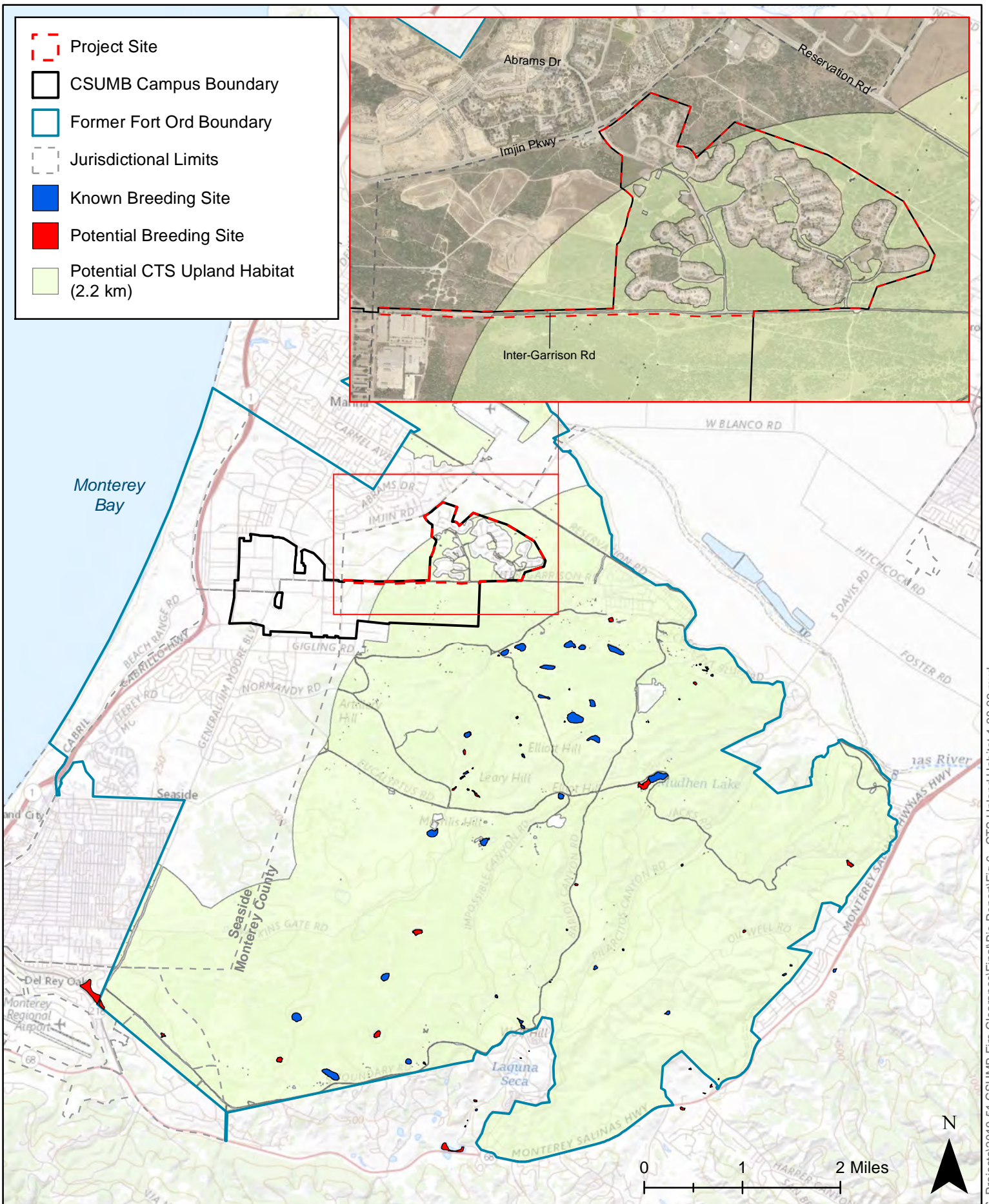
The CTS is a large, stocky salamander most commonly found in annual grassland habitat, but also occurring in the grassy understory of valley-foothill hardwood and chaparral habitats, and uncommonly along stream courses in valley-foothill riparian habitats (Service, 2004). Adults spend most of their lives underground, typically in burrows of ground squirrels and other animals (Service, 2004). The CTS has been eliminated

from an estimated 55 percent of its documented historic breeding sites. Currently, about 150 known populations of CTS remain. The CTS persists in disjunct remnant vernal pool complexes in Sonoma County and Santa Barbara County, in vernal pool complexes and isolated stockponds scattered along a narrow strip of rangeland on the fringes of the Central Valley from southern Colusa County south to northern Kern County, and in sag ponds and human-maintained stockponds in the coast ranges from the San Francisco Bay Area south to the Temblor Range.

Above-ground migratory and breeding activity may occur under suitable environmental conditions from mid-October through May. Adults may travel long distances between upland and breeding sites; adults have been found more than two kilometers (1.24 miles) from breeding sites (Service, 2004). Breeding occurs from November to February, following relatively warm rains (Stebbins, 2003). The CTS breeds and lays eggs primarily in vernal pools and other temporary rainwater ponds. Permanent human-made ponds are sometimes utilized if predatory fishes are absent; streams are rarely used for reproduction. Eggs are laid singly or in clumps on both submerged and emergent vegetation and on submerged debris in shallow water (Stebbins, 1972; Jennings and Hayes, 1994). Males typically spend 6-8 weeks at breeding ponds, while females typically spend only 1-2 weeks (Loredo et al., 1996). Eggs hatch within 10-14 days (Service, 2004) and a minimum of 10 weeks is required to complete development through metamorphosis (Jennings and Hayes, 1994), although the larval stage may last up to six months and some larvae in Contra Costa and Alameda Counties may remain in their breeding sites over the summer (Service, 2004).

The project site is not located within designated critical habitat for CTS. The CNDDDB reports 55 occurrences of this species within the quadrangles reviewed, including a 2005 occurrence of an adult within the project site. Extensive surveys have been conducted within the former Fort Ord to determine the aquatic resources that are known or have the potential to be occupied by CTS (**Figure 5**). No potential or known CTS breeding (aquatic) habitat is present within the project site. The nearest known CTS-occupied pond is 0.4 mile (0.6 km) from the project site (Pond 101 East).

The Service and CDFW consider suitable upland aestivation habitat within two kilometers of known or potential breeding locations for CTS as occupied habitat unless protocol-level surveys are conducted with negative results pursuant to the *Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander* (Service and CDFW, 2003). However, Central California tiger salamanders have been reported to migrate up to 1.3 miles or 2.2 kilometers (Service, 2017a). As a result, the Service and CDFW recommend analyzing the upland habitat within 2.2 kilometers of known or potential breeding locations for CTS to identify potential suitable aestivation habitat. Portions of the project site, including the location of the CNDDDB occurrence, are within 2.2 kilometers of several aquatic resources known or with the potential to be occupied by CTS (**Figure 6**). Therefore, this species has a high potential to occur within the project site.



**Potential CTS Upland Habitat
within the Former Fort Ord**

Date
2/2/2022
Scale
1 in = 2,000 ft



Denise Duffy & Associates, Inc.
Planning and Environmental Consulting

Figure
6

Northern California Legless Lizard

The northern California legless lizard (*Anniella pulchra*) is a CDFW species of special concern, as well as an HMP species.⁴ This fossorial (burrowing) species typically inhabits sandy or loose (friable) soils. Habitats known to support northern California legless lizard include (but are not limited to) coastal dunes, valley and foothill grasslands, chaparral, and coastal scrub at elevations from near sea level to approximately 1,800 meters (6,000 feet). The northern California legless lizard forages on invertebrates beneath the leaf litter or duff layer at the base of bushes and trees or under wood, rocks, and slash in appropriate habitats. The diet of this species likely overlaps to some extent with that of juvenile alligator lizards and perhaps some other salamanders. This species may be preyed upon by alligator lizards, snakes, birds, and small mammals. Little is known about the specific habitat requirements for courtship and breeding; however, the mating season for this species is believed to begin late spring or early summer, with one to four live young born between September and November.

The CNDDDB reports 56 occurrences of this species within the quadrangles reviewed, including a 2014 occurrence within the project site. An additional CNDDDB occurrence is located immediately north of the project site. Suitable habitat for northern California legless lizard is present throughout all undeveloped areas of the project site where appropriate cover conditions occur. Therefore, the northern California legless lizard has a high potential to occur within the project site.

Coast Horned Lizard

The coast horned lizard (*Phrynosoma blainvillii*) is a CDFW species of special concern. Horned lizards occur in valley-foothill hardwood, conifer, and riparian habitats, as well as in pine-cypress, juniper, chaparral, and annual grass habitats. This species generally inhabits open country, especially sandy areas, washes, flood plains, and wind-blown deposits in a wide variety of habitats. Coast horned lizards rely on camouflage for protection and will often lay motionless when approached. Horned lizards often bask in the early morning on the ground or on elevated objects such as low boulders or rocks. Predators and extreme heat are avoided by burrowing into loose soil. Periods of inactivity and winter hibernation are spent burrowed into the soil or under surface objects. Little is known about the habitat requirements for breeding and egg-laying of this species. Prey species include ants, beetles, wasps, grasshoppers, flies, and caterpillars.

The CNDDDB reports five occurrences of this species within the quadrangles reviewed, including a 1992 occurrence within the project site. Additionally, this species has been observed throughout Fort Ord by DD&A biologists. Suitable habitat for this species is present within the project site within the central maritime chaparral and central coastal scrub habitats, including the mixed habitats, and may utilize open

⁴ The HMP identifies this species as black-legless lizard (*Anniella pulchra* ssp. *nigra*) in order to differentiate it from the previously identified silvery-legless lizard (*A. p.* ssp. *pulchra*). These subspecies are based primarily on phenotypic differences (black-legless lizard being much darker, having fewer scales on the back, and a relatively shorter tail) and very limited genetic work. Further, the range of the black-legless lizard has historically been classified as “restricted to coastal and interior dune sand other areas of sandy soils in the vicinity of Monterey Bay and the Monterey Peninsula” (Service, 1998), while the range of silvery-legless lizard has been classified as widespread throughout central California (Parham and Papenfuss, 2008). However, recent genetic studies have revealed five lineages of this species that correspond with different geographic areas of California (Parham and Papenfuss, 2008). These studies do not, however, identify the legless lizards occurring on the coast of Monterey Bay (i.e. the currently designated black-legless lizard) as a separate lineage. Currently, CDFW identifies both subspecies as the Northern California legless lizard and this document, therefore, follows the current regulatory identification.

sandy areas of the non-native grassland and ruderal habitats. Therefore, there is a high potential for the coast horned lizard to occur within these habitats within the project site.

Smith's Blue Butterfly

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

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

The CNDDDB reports 14 occurrences of SBB within the project site, the nearest located approximately 1.9 miles west of the project site within Fort Ord Dunes State Park. Suitable habitat for this species is present within coastal scrub areas of the project site. The obligate host plants were not identified within the project site during previous botanical surveys; however, surveys were conducted more than three years ago and may not reflect current site conditions. Therefore, this species has a moderate potential to occur within the project site.

Nesting Raptors, Migratory Birds, and Other Protected Avian Species

Raptors, their nests, and other nesting birds are protected under California Fish and Game Code. While the life histories of these species vary, overlapping nesting and foraging similarities allow for their concurrent discussion. Most raptors are breeding residents throughout most of the wooded portions of the state. Stands of live oak, riparian deciduous, or other forest habitats, as well as open grasslands, are used most frequently for nesting. Breeding generally occurs February through September, with peak activity May through July. Prey for these species include small birds, small mammals, and some reptiles and amphibians. Many raptor species hunt in open woodland and habitat edges. Various species of raptors (such as red-tailed hawk, red-shouldered hawk [*Buteo lineatus*], great horned owl, American kestrel, and turkey vulture [*Cathartes aura*]) have a potential to nest within any of the large coast live oak, Monterey pine, Monterey cypress, or other mature trees present within the project site. Additionally, migratory bird species that may nest within the trees, shrubs, and non-native grasslands within the project site include, but are not limited to, common poorwill, blue-gray gnatcatcher, Townsend's warbler (*Setophaga townsendii*), western tanager (*Piranga*

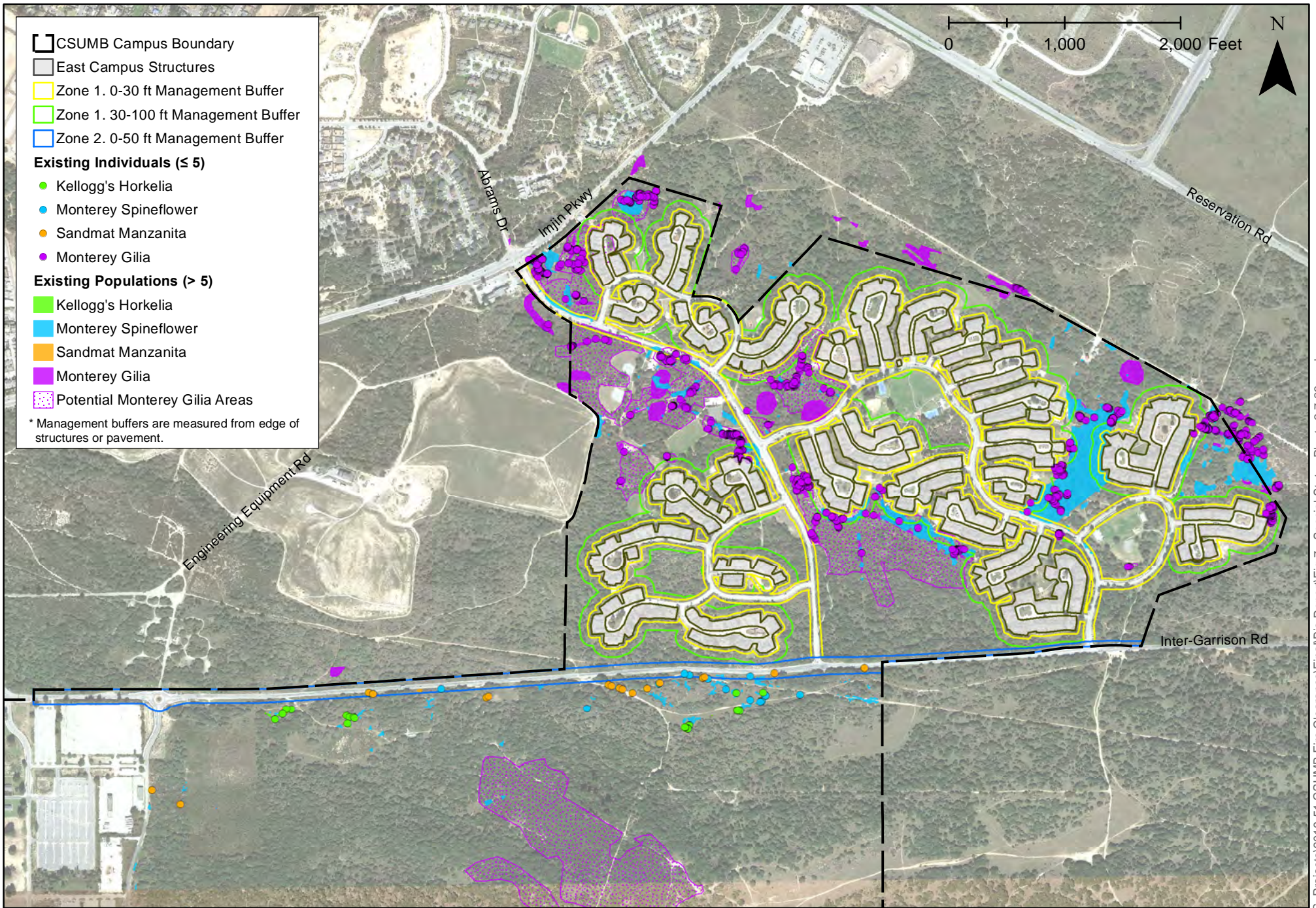
ludoviciana), savannah sparrow, ash-throated fly catcher (*Myiarchus cinerascens*), and violet-green swallow (*Tachycineta thalassina*).

Avian species identified as CDFW species of special concern or Fully Protected Species, including white-tailed kite and western burrowing owl, have the potential to occur within the project site. Suitable nesting habitat for the white-tailed kite is present within the coast live oak woodland habitat. This species may also forage over any of the undeveloped areas within the project site. In addition, marginally suitable nesting and foraging habitat for the western burrowing owl is present within non-native grassland areas. Therefore, nesting raptors, migratory birds, and other protected avian species have a moderate to high potential to occur within the project site.

3.2.2 Special-Status Plant Species

The project site and adjacent areas were evaluated for the presence or potential presence of a variety of special-status plant species (**Appendix D**). Focused botanical surveys were conducted within the project site in 2016 and 2021; however, surveys in 2021 were conducted as part of the CSUMB Borderlands Management Plan and only encompassed the small sliver of the project site south of Inter-Garrison Road. As described in Section 2. Methods, the Service's protocol for special-status plant surveys requires that surveys are conducted approximately every three years, while CDFW's protocol requires that surveys are conducted every one to five years depending on the vegetation types present. Given these protocols, the results of 2016 surveys may not reflect current conditions. Therefore, this report assumes that special-status plants that were identified within the project site during previous surveys are likely still present within the site, but does not exclude the potential for other special-status plants to occur within the site if suitable habitat is present and they have known occurrences in the vicinity of the project.

Published occurrence data within the project site and surrounding USGS quadrangles were evaluated to compile a table of special-status species known to occur in the vicinity of the project site (see Section 2. Methods and **Appendix D**). Each of these species was evaluated for their likelihood to occur within and immediately adjacent to the project site. The special-status species that are known to or have been determined to have a moderate or high potential to occur within or immediately adjacent the project site are discussed below. **Table 4** summarizes the potential for these species to occur within the project site. **Figure 7** and **Table 5** identifies the area of each of species observed within the survey area. All other species are assumed unlikely to occur or have a low potential to occur within the project site based on the species-specific reasons presented in **Appendix D**, are therefore unlikely to be impacted by the project, and are not discussed further.



Special-Status Plant Species Occurrences

Date
4/13/2023

Scale
1 in = 1,000 ft



Denise Duffy & Associates, Inc.
Planning and Environmental Consulting

Figure
7

Table 4. Potential for Special-Status Plant Species Presence within the Project Site

Species	Potential Occurrence within the Project Site
Hooker's manzanita*	Moderate
Toro manzanita	Moderate
Pajaro manzanita	Moderate
Sandmat manzanita	Present
Monterey ceanothus	Moderate
Fort Ord spineflower	Moderate
Monterey spineflower	Present
Seaside bird's-beak	Moderate
Eastwood's goldenbush	Moderate
Coast wallflower	Moderate
Monterey gilia	Present
Kellogg's horkelia	Moderate
Point Reyes horkelia	Moderate
Marsh microseris	Moderate
Northern curly-leaved monardella	Moderate
Yadon's piperia	Moderate
* Bold indicates a Fort Ord HMP Species.	

Table 5. Area of Special-Status Plant Species Observed within the Project Site⁵

Species	Individuals	Acres
Sandmat Manzanita*	3	0.03
Monterey Spineflower	12	16.6
Monterey Gilia	5	9.8
* Bold indicates Fort Ord HMP Species.		

Hooker's Manzanita

Hooker's manzanita (*Arctostaphylos hookeri* ssp. *hookeri*) is a CNPS CRPR 1B and HMP species in the Ericaceae family. This evergreen shrub is associated with closed-cone coniferous forest, chaparral, cismontane woodland and coastal scrub habitats on sandy soils at a range of 85-536 meters in elevation. The blooming period is from January to June.

Hooker's manzanita was not identified within the project site during botanical surveys; however, the CNDDDB reports 19 occurrences of this species within the quadrangles reviewed, the nearest located approximately 0.5 miles from the project site. Therefore, this species has a moderate potential to occur within the project site.

Toro Manzanita

Toro manzanita (*Arctostaphylos montereyensis*, also often referred to as Monterey manzanita) is a CNPS CRPR 1B and HMP species. This evergreen shrub in the Ericaceae family blooms from February-March.

⁵ Please note that the areas presented in Table 5 only represent the areas of the project site where focused special-status plant surveys were completed in 2016 and 2021 by DD&A. This table does not include data from Dr. Watson.

Toro manzanita is associated with maritime chaparral, cismontane woodland, and coastal scrub on sandy soils at elevations of 30-730 meters.

Toro manzanita was not identified within the project site during botanical surveys; however, this species was identified within other areas of the CSUMB campus during 2016 surveys. In addition, the CNDDDB reports 16 occurrences of this species within the quadrangles reviewed, including an occurrence which overlaps the project site. Therefore, this species has a moderate potential to occur within the project site.

Pajaro Manzanita

Pajaro manzanita (*Arctostaphylos pajaroensis*) is a CNPS CRPR 1B species in the Ericaceae family. This evergreen shrub is associated with chaparral on sandy soils at a range of 30-760 meters in elevation. The blooming period is December to March.

Pajaro manzanita was not identified within the project site during botanical surveys; however, the CNDDDB reports 22 occurrences of this species within the quadrangles reviewed, the nearest located approximately 1.2 miles from the project site. Therefore, this species has a moderate potential to occur within the project site.

Sandmat Manzanita

Sandmat manzanita (*Arctostaphylos pumila*) is a CNPS CRPR 1B and HMP species. This evergreen shrub in the Ericaceae family blooms from February to May. Sandmat manzanita is associated with openings in chaparral, coastal scrub, closed cone coniferous forest, coastal dunes, and cismontane woodland habitats on sandy soils at elevations between 3-205 meters.

Sandmat manzanita was identified within the project site during 2016 and 2021 botanical surveys (**Figure 7; Table 5**). Therefore, this species is present within the project site south of Inter-Garrison Road and is assumed to still be present within the site north of Inter-Garrison Road.

Monterey Ceanothus

Monterey ceanothus (*Ceanothus rigidus*) is a CNPS CRPR 4 and HMP species. This evergreen shrub in the Rhamnaceae family blooms from February to April (sometimes through June). This species is associated with closed-cone coniferous forests, chaparral, and coastal scrub on sandy soils at elevations between 3-550 meters.

Monterey ceanothus was not identified within the project site during botanical surveys; however, this species is known to occur throughout the Former Fort Ord where suitable habitat is present. Therefore, this species has a moderate potential to occur within the project site.

Fort Ord Spineflower

Fort Ord spineflower (*Chorizanthe minutiflora*) is a CNPS CRPR 1B species. This annual herb in the Polygonaceae family is associated with sandy openings of maritime chaparral and coastal scrub at elevations of 55-150 meters. The blooming period is April to July.

Fort Ord spineflower was not identified within the project site during botanical surveys; however, the CNDDDB reports five (5) occurrences of this species within the quadrangles reviewed, the nearest located approximately 0.7 miles from the project site. Therefore, this species has a moderate potential to occur within the project site.

Monterey Spineflower

Monterey spineflower and is a federally threatened, CNPS CRPR 1B, and HMP species. It is a small, prostrate annual herb in the Polygonaceae family that blooms from April to June. The white to rose floral tube of Monterey spineflower distinguishes it from the more common, but closely related, diffuse spineflower (*Chorizanthe diffusa*), which has a lemon-yellow floral tube. Monterey spineflower typically occurs on open sandy or gravelly soils on relic dunes in coastal dune, coastal scrub, and maritime chaparral habitats, though it can also be associated with cismontane woodlands and valley and foothill grasslands, within a range of 3-450 meters in elevation.

Monterey spineflower was identified within the project site during 2016 and 2021 botanical surveys (**Figure 7; Table 5**). Therefore, this species is present within the project site south of Inter-Garrison Road and is assumed to still be present within the site north of Inter-Garrison Road.

Seaside Bird's-Beak

Seaside bird's-beak is a state endangered, CNPS CRPR 1B, and HMP species. It is a hemiparasitic annual in the Scrophulariaceae family and blooms April through October. Seaside bird's-beak is typically associated with closed-cone coniferous forest, chaparral, cismontane woodlands, coastal dunes, and coastal scrub in sandy soils and often in disturbed areas, within the range of 0-425 meters in elevation.

Seaside bird's-beak was not identified within the project site during botanical surveys; however, the CNDDDB reports 14 occurrences of this species within the quadrangles reviewed, the nearest located approximately 0.3 miles from the project site. Therefore, this species has a moderate potential to occur within the project site.

Eastwood's Goldenbush

Eastwood's goldenbush (*Ericameria fasciculata*, also often referred to as Eastwood's goldenfleece) is a CNPS CRPR 1B and HMP species. This evergreen shrub in the Asteraceae is associated with openings in closed-cone coniferous forest, maritime chaparral, coastal dunes, and coastal scrub on sandy soils at elevations of 30-275 meters. The blooming period is from July-October.

Eastwood's goldenbush was not identified within the project site during botanical surveys; however, the CNDDDB reports 23 occurrences of this species within the quadrangles reviewed, including an occurrence which overlaps the project site. Therefore, this species has a moderate potential to occur within the project site.

Coast Wallflower

Coast wallflower (*Erysimum ammophilum*) is a CNPS CRPR 1B and HMP species in the Brassicaceae family. This perennial herb is associated with openings in maritime chaparral, coastal dunes, and coastal scrub on sandy soils at elevations of 0-60 meters. The blooming period is February to June.

Coast wallflower was not identified within the project site during botanical surveys; however, the CNDDDB reports 21 occurrences of this species within the quadrangles reviewed, including an occurrence which overlaps the project site. Therefore, this species has a moderate potential to occur within the project site.

Monterey Gilia

Monterey gilia is a federally Endangered, state Threatened, CNPS CRPR 1B, and HMP species. This annual herb in the Polemoniaceae blooms from April through June and is found in sandy openings of maritime chaparral, cismontane woodland, coastal dune, and coastal scrub habitats within the range of 0-45 meters in elevation.

Monterey gilia was observed within the project site during 2017 botanical surveys by Fred Watson. Therefore, this species is assumed to still be present within the site.

Kellogg's Horkelia

Kellogg's horkelia (*Horkelia cuneata* ssp. *sericea*) is a CNPS CRPR 1B species. It is a perennial herb in the Rosaceae family and blooms April through June. Kellogg's horkelia is typically associated with openings in closed cone coniferous forest, maritime chaparral, and coastal scrub in sandy or gravelly soils on relic dunes, within a range of 10 to 200 meters in elevation.

Kellogg's horkelia was not identified within the project site during botanical surveys; however, this species was identified within other areas of the CSUMB campus during 2016 surveys. In addition, the CNDDDB reports 17 occurrences of this species within the quadrangles reviewed, including an occurrence which overlaps the project site. Therefore, this species has a moderate potential to occur within the project site.

Point Reyes Horkelia

Point Reyes horkelia (*Horkelia marinensis*) is a CNPS CRPR 1B species. It is a perennial herb in the Rosaceae family and blooms May through September. Point Reyes horkelia is typically associated with coastal dunes, coastal prairie, and coastal scrub in sandy soils, within a range of 5-755 meters in elevation.

Point Reyes horkelia was not identified within the project site during botanical surveys; however, the CNDDDB reports 21 occurrences of this species within the quadrangles reviewed, including an occurrence which overlaps the project site. Therefore, this species has a moderate potential to occur within the project site.

Marsh Microseris

Marsh microseris (*Microseris paludosa*) is a CNPS CRPR 1B species in the Asteraceae family. This rhizomatous, perennial herb is found in closed-cone coniferous forest, cismontane woodland, coastal scrub, and valley and foothill grassland habitats at elevations from 5-300 meters. The blooming period is from April through July.

Marsh microseris was not identified within the project site during botanical surveys; however, the CNDDDB reports 10 occurrences of this species within the quadrangles reviewed, the nearest located approximately 1.1 miles from the project site. Therefore, this species has a moderate potential to occur within the project site.

Northern Curly-Leaved Monardella

Northern curly-leaved monardella (*Monardella sinuata* ssp. *nigrescens*) is a CNPS CRPR 1B species in the Lamiaceae family. This annual herb is found in chaparral, coastal dunes, and coastal scrub at elevations of 0-300 meters. This species may also be found in ponderosa pine sandhills in Santa Cruz County and valley and foothill grassland habitats at elevations from 5-300 meters. The blooming period is from April through September.

Northern curly-leaved monardella was not identified within the project site during botanical surveys; however, the CNDDDB reports 10 occurrences of this species within the quadrangles reviewed, the nearest located approximately 300 feet from the project site. Therefore, this species has a moderate potential to occur within the project site.

Yadon's Piperia

Yadon's piperia is a federally endangered, CNPS CRPR 1B, and HMP species. This perennial herb in the Orchidaceae family blooms from May to August and is found in closed-cone coniferous forest, maritime chaparral on sandy soils, and coastal bluff scrub at elevations from 10-510 meters. Overall, this species favors a well-drained, sandy soil substrate with podzolic conditions, and areas that retain moisture during the rainy season but are not subject to inundation (V. Yadon in litt. 2002). As in some other plant taxa, individual orchids that flower in one year may not have the necessary energy reserves to flower in the following year. As a result, an unknown proportion of a population may be dormant in any given year, thus making it difficult to track population dynamics through monitoring of population size (Wells, 1981; Rasmussen, 1995; A. Graff in litt., 2002). However, it would be expected that some percentage of a resident population would flower in any given year. As a result, while it may be difficult to track population dynamics in any given year, determining presence or absence for a specific area is not.

Yadon's piperia was not identified within the project site during botanical surveys; however, the CNDDDB reports 24 occurrences of this species within the quadrangles reviewed, the nearest located approximately 1.6 miles from the project site. Therefore, this species has a moderate potential to occur within the project site.

3.3 Sensitive Habitats

One sensitive habitat was identified within the project site: central maritime chaparral (which includes the central maritime chaparral mix habitats).

3.3.1 Central Maritime Chaparral

Central maritime chaparral habitat, including the central maritime chaparral/central coastal scrub and central maritime chaparral/coast live oak woodland mix habitats, is identified as a sensitive habitat on the CDFW's *Natural Communities List* (CDFW, 2021a). Central maritime chaparral is also identified as a sensitive habitat in the HMP. Approximately 54.5 acres of central maritime chaparral habitat, including mixed habitat types, occurs within the project site (**Figures 4a and 4b**).

4. IMPACTS AND MITIGATION

4.1 Approach to Analysis

4.1.1 HMP Species and Habitat Impact Analysis

The project site is located within parcels designated by the HMP as “development” and under CSUMB's jurisdiction. Through implementation of the HMP, impacts to HMP species and habitats occurring within designated development parcels were anticipated and mitigated through the establishment of habitat reserves and corridors and the implementation of habitat management requirements within habitat reserve parcels on former Fort Ord. As described above, parcels designated as “development” have no management restrictions. However, the 2017 Programmatic BO and HMP require the identification of sensitive botanical resources within these parcels that may be salvaged for use in restoration activities in reserve areas (Service, 2017b and ACOE, 1997).

The HMP species known or with the potential to occur within the project site include CTS, SBB, Northern California legless lizard, Monterey ornate shrew, Hooker’s manzanita, Toro manzanita, sandmat manzanita, Monterey ceanothus, Monterey spineflower, seaside bird’s-beak, Eastwood’s goldenbush, coast wallflower, Monterey gilia, and Yadon’s piperia (**Appendix D**). With the designated off-campus habitat reserves and corridors and habitat management requirements of the HMP in place, the loss of these species associated with development in the Fort Ord area is not expected to jeopardize the long-term viability of these species and their populations on the former Fort Ord (Service, 1993). This is such because the recipients of disposed land with habitat management requirements and development restrictions designated by the HMP will be obligated to implement those specific measures through the HMP and deed covenants.

In addition to the HMP species identified, impacts to sensitive central maritime chaparral habitat are also addressed in the HMP and, therefore, impacts to this habitat are also considered mitigated through the implementation of the HMP based on the same conclusions. Because the proposed project is: 1) proposing activities within designated development parcels; 2) required to comply with the HMP; and 3) would not result in any additional impacts to HMP species and habitats beyond those anticipated in the HMP, no additional mitigation measures for these HMP species or central maritime chaparral habitat would be required.

However, the 2017 Programmatic BO and HMP require the identification of sensitive botanical resources within the development parcels that may be salvaged for use in restoration activities in reserve areas. In addition, the HMP requires that land recipients prepare and implement Resource Management Plans (RMP) and Borderland Management Plans for specified parcels within their respective jurisdictions.

As described earlier in this report, the HMP does not exempt existing or future land recipients from the federal and state requirements of ESA and CESA. Of the HMP species known or with the potential to occur within the project site, four are federal and/or state listed species that would require take authorization from the Service and/or CDFW under ESA and/or CESA: CTS, SBB, seaside bird's-beak, and Monterey gilia. Although these species are HMP species, the take of these species is prohibited under the ESA and/or CESA. Project activities that would result in take of these species would need to be authorized by the Service and/or CDFW through the issuance of incidental take permits from the applicable agency to avoid violation of the ESA and/or CESA.

4.1.2 Best Management Practices

The BMPs in Attachment E of Appendix A identify numerous measures that would avoid and minimize impacts to sensitive biological resources. The impact analysis assumes that these measures will be implemented.

4.1.3 Thresholds of Significance

For the purposes of this analysis, an impact is considered to be significant and require mitigation if it would result in any of the following:

- a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or the Service;
- b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW or the Service;
- c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling hydrological interruption, or other means;
- d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native nursery sites;
- e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

4.2 **Areas of No Impact**

Criterion “c” is not evaluated for impacts to state or federally protected wetlands as none occur within the project site.

4.3 **Impacts and Mitigation Measures**

Impact BIO-1: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or the Service.

As described in Section 1.2 Project Description, the proposed project was designed to avoid and minimize adverse impacts to special-status species, including Hooker's manzanita, Toro manzanita, Pajaro manzanita, sandmat manzanita, Monterey ceanothus, Fort Ord spineflower, Monterey spineflower, seaside bird's-beak, Eastwood's goldenbush, coast wallflower, Monterey gilia, Kellogg's horkelia, Point Reyes horkelia, marsh microseris, northern curly-leaved monardella, and Yadon's piperia to the greatest extent feasible. Through implementation of the BMPs identified in the Draft FMP, the project would avoid and minimize impacts to these species by requiring botanical surveys for rare plants prior to initial fuel reduction activities; scheduling project activities outside the vegetative life cycle or blooming period of annual or low-lying special-status plants (i.e., Fort Ord spineflower, Monterey spineflower, seaside bird's-beak, coast wallflower, Monterey gilia, Kellogg's horkelia, Point Reyes horkelia, marsh microseris, northern curly

leaved monardella, and Yadon's piperia), when feasible; avoiding or strategically removing special-status shrub species (i.e., Hooker's manzanita, Toro manzanita, Pajaro manzanita, sandmat manzanita, Monterey ceanothus, and Eastwood's goldenbush); prohibiting vehicle traffic and piling cut vegetation or other debris in areas where special-status plant species are known to occur; flagging sensitive resources prior to implementation of fuel reduction activities; requiring pressure washing of equipment prior to entering the project site; and requiring removal of invasive species within the project site. Implementation of the BMPs identified in the Draft FMP, which are required as part of the project, would avoid and minimize impacts to special-status plant species to a less than significant level.

In addition, the project was designed to avoid and minimize adverse impacts to special-status wildlife species, including Townsend's big-eared bat, MDFW, Monterey ornate shrew, American badger, CTS, northern California legless lizard, coast horned lizard, SBB, and nesting raptors and other protected avian species (including, but not limited to, burrowing owl and white-tailed kite) to the greatest extent feasible. Through implementation of the BMPs identified in the Draft FMP, the project would avoid and minimize impacts to these species by scheduling project activities outside the avian nesting season and alternatively, if project activities must occur during the nesting season, requiring surveys for special-status wildlife species prior to fuel reduction activities; implementing species-specific avoidance measures if special-status wildlife species are identified within or adjacent to work areas; requiring flagging of sensitive resources prior to implementation of fuel reduction activities; requiring pressure washing of equipment prior to entering the project site; and requiring removal of invasive species within the project site. Implementation of the BMPs, which are required as part of the project, would avoid and minimize potential impacts to special-status wildlife species to a less than significant level.

As described above, the proposed project involves the implementation of BMPs to avoid and reduce potentially significant impacts to special-status species to a less-than-significant level. No mitigation is required.

Impact BIO-2: Substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW or the Service.

Vegetation types occurring within the project site that are listed as sensitive on the CDFW's *Natural Communities List* (CDFW, 2021a) include central maritime chaparral and central maritime chaparral mixed habitat types. Approximately 54.5 acres of central maritime chaparral, including central maritime chaparral mixed habitat types, are present within the project site. The proposed project consists of wildfire fuel reduction activities and would not include new development within the site. The project was designed to have a minimal impact on the natural environment by avoiding impacts to rare plants that comprise this habitat to the greatest extent feasible, requiring pressure washing of equipment prior to entering the project site, and requiring removal of any invasive species encountered within the site. Therefore, this impact would be less than significant, and no mitigation is required.

Impact BIO-3: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native nursery sites.

Wildlife movement corridors are pathways or habitat linkages that connect discrete areas of natural open space otherwise separated or fragmented by topography, changes in vegetation, and other natural or man-made factors, such as urbanization. The fragmentation of natural habitat creates isolated “islands” of vegetation that may not provide sufficient area or resources to accommodate sustainable populations for a number of species, and, therefore, adversely affect both genetic and species diversity. Corridors often partially or largely mitigate the adverse effects of fragmentation by: 1) allowing animals to move between remaining habitats to replenish depleted populations and increase the gene pool available; 2) providing escape routes from fire, predators, and human disturbances, thus, reducing the risk that catastrophic events (e.g., fire and disease) will result in population or species extinction; and 3) serving as travel paths for individual animals moving throughout their home range in search of food, water, mates, and other needs, or for dispersing juveniles in search of new home ranges.

The proposed project consists of wildfire fuel reduction activities within a mostly developed area and would not include new development within the project site. The project would not fragment natural habitat beyond existing conditions or create a barrier to wildlife movement. Therefore, this impact would be less than significant, and no mitigation is required.

Impact BIO-4: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Implementation of the proposed project may result in impacts to trees within the campus boundaries. However, CSUMB has established a tree restoration program for impacts to coast live oak and other trees resulting from projects that take place on campus. This program requires that for every tree greater than 4” DBH removed, a minimum of two coast live oak trees would be replanted in the identified restoration area on campus. The implementation of this program is required for all projects that would result in impacts to trees at least 4” DBH. With the implementation of the BMPs identified in the Draft FMP, the proposed project would comply with the CSUMB tree restoration program by avoiding removal of trees or tree branches greater than 4” DBH unless they are determined to be a safety and/or fire hazard; inventorying and tracking removal or significant pruning of trees greater than 4” DBH; and identifying tree pruning standards. If any trees must be removed for public safety purposes, the trees will be replaced 2:1 as part of CSUMB’s tree restoration program. The tree replacement efforts would be carefully considered as to not impact future fuel load. Therefore, implementation of the project would not conflict with the CSUMB tree restoration program. This impact would be less than significant, and no mitigation is required.

Impact BIO-5: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

As described in Section 2.4, Regulatory Setting, the project site is not located within an approved HCP or NCCP area. However, the project site is located within the former Fort Ord and the plan area of the HMP. As described in Section 4.1, Approach to Analysis, the proposed project activities are consistent with the approved HMP as it is located within parcels designated for “development” and the parcels do not have any

restrictions for use. In addition, the proposed project will comply with the requirements of the HMP, as applicable. Therefore, implementation of the proposed project would not conflict with the approved HMP. This impact would be less than significant, and no mitigation is required.

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