California State University Monterey Bay
DRAFT
Fuel Management Plan for the East Campus Housing Area
Pursuant to California Public Resources Code Chapter 3. Section 4291

FUEL[1] REDUCTION[2] AND DEFENSIBLE SPACE PRESCRIPTIONS WITHIN ZONES 0, 1, AND 2

ZONE 0 – Ember Resistant Zone

Location: Extends 5 feet from buildings, structures, decks, etc.[3]

Strategy: Implement CAL FIRE Defensible Space as described in:

- CAL FIRE Defensible Space Website https://www.fire.ca.gov/programs/communications/defensible-space-prc-4291/

An ember-resistant zone is now required by law (AB 3074) beginning January 1, 2023. This zone includes the area under and around all attached decks, and requires the most stringent wildfire fuel reduction. The ember-resistant zone is designed to keep fire or embers from igniting materials that can spread the fire to the home. The following provides guidance for this zone, which may change based on the regulations developed by the Board of Forestry and Fire Protection.

Worker qualifications and roles: To ensure compliance with the following Fuel Reduction and Defensible Space Prescriptions and the Best Management Practices[4] for Fuel Reduction and Defensible Space Activities (BMP) (Appendix E), work will be:

- At all times overseen and supervised by a professional biologist
- Tree work will be directed by a certified arborist under the direction of the biologist
- Tree work will be performed in accordance with American National Safety Institute (ANSI) A300 Pruning Standards
- Tree work will be performed by tree care workers that comply with California Public Resources Code Chapter 3. Mountainous, Forest-, Brush-, and Grass-Covered Lands, Section 4291[5]
- All workers will complete the munitions training in advance of performing work found at https://www.fortordsafety.com/

Fuel Reduction and Defensible Space Prescriptions

1. Use hardscape like gravel, pavers, concrete, and other noncombustible mulch materials. No combustible bark or mulch.
2. Remove[6] all dead and dying weeds, grass, plants, shrubs, trees, branches, and vegetative debris (leaves, needles, cones, bark, etc.). Check roofs, gutters, decks, porches, stairways, etc.

[1] "Fuel" means any combustible material, including petroleum-based products, cultivated landscape plants, grasses, and weeds, and wildland vegetation.

FUEL[1] REDUCTION[2] AND DEFENSIBLE SPACE PRESCRIPTIONS WITHIN ZONES 0, 1, AND 2
3. Remove all branches within 10 feet of any chimney or stovepipe outlet. 4. Limit plants in this area to low growing, nonwoody, properly maintained plants. 5. Limit combustible items (outdoor furniture, planters, etc.) on top of decks. 6. Relocate firewood and lumber to Zone 2. 7. Replace combustible fencing, gates, and arbors attach to the home with noncombustible alternatives. 8. Consider relocating garbage and recycling containers outside this zone. 9. Consider relocating boats, RVs, vehicles, and other combustible items outside this zone.
ZONE 1 – Lean, Clean, and Green Zone **Location:** East Campus Housing and Inter-Garrison Road Fuel Management Buffers (Figures 1a and 1b) • 0-30 feet Management Buffer from Structures, Fences, and Road Edges[7, 8] • 0-50 feet Management Buffer from Inter-Garrison Road Edge (where CSUMB is the property owner**). Due to munitions restrictions, no digging is permitted on property south of Inter-Garrison Road.** **Strategy:** Implement CAL FIRE Defensible Space Requirements as described in: • CAL FIRE Defensible Space Website https://www.fire.ca.gov/programs/communications/defensible-space-prc-4291/

[2] Fuel Reduction: reduce vegetation or fuel load to lessen the threat of wildfire.
[3] Zone 0 not shown in figures due to scale. Zone 0 is currently not required by law and is voluntary responsibility of the homeowner or rental housing company.
[4] The Best Management Practices document provides special status species and biological avoidance measures as well as specific tree pruning requirements.
[5] https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=4291.&lawCode=PRC
[6] "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.
[7] Management buffers are measured from edge of structures/fences or road edges. A road edge is where the road ends and/or curb and sidewalk begin.
[8] Backyards are considered Zone 0.

FUEL[1] REDUCTION[2] AND DEFENSIBLE SPACE PRESCRIPTIONS WITHIN ZONES 0, 1, AND 2

- CAL FIRE Defensible Space Flyer (Attachment A)

Worker qualifications and roles: To ensure compliance with the following Fuel Reduction[9] and Defensible Space Prescriptions and the Best Management Practices[10] (BMP) (Appendix E), work will be:

- At all times overseen and supervised by a professional biologist
- Tree work will be directed by a certified arborist under the direction of the biologist
- Tree work will be performed in accordance with American National Safety Institute (ANSI) A300 Pruning Standards
- Tree work will be performed by tree care workers that comply with California Public Resources Code Chapter 3. Mountainous, Forest-, Brush-, and Grass-Covered Lands, Section 4291[11]
- All workers will complete the munitions training in advance of performing work found at https://www.fortordsafety.com/

Fuel Reduction and Defensible Space Prescriptions

1. Dead vegetation removal
    a. Remove all dead plants, grass, weeds, and other vegetation (Attachment A).
    b. Remove dead or dry leaves and pine needles from yards, roofs, and rain gutters (Attachment A).
2. Tree, shrub, and other vegetation trimming
    a. Remove tree branches that hang over roof and keep branches 10 feet away from chimneys (Attachment A).
    b. Trim trees regularly to keep branches a minimum of 10 feet from other trees (Attachment A).
    c. Remove or prune flammable plants and shrubs near windows.

[9] "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.
[10] The Best Management Practices document provides special status species and biological avoidance measures as well as specific tree pruning requirements.
[11] https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=4291.&lawCode=PRC

FUEL[1] REDUCTION[2] AND DEFENSIBLE SPACE PRESCRIPTIONS WITHIN ZONES 0, 1, AND 2

d. Remove vegetation and items that could catch fire from around and under decks, balconies, and stairs.

e. Create a separation between trees, shrubs, and items that could catch fire, such as patio furniture, wood piles, swing sets, etc. (recommend minimum of 10 feet of separation).

3. Tree removal size and replacement

   a. Do not remove healthy trees greater than 6 inches diameter measured at breast height (diameter at breast height [DBH], 4.5 feet above natural grade).

   b. Remove trees less than 6 inches DBH if within 10 feet of structures or fence lines. Replacement of trees greater than 4 inches DBH shall be documented by the biologist and replanted via CSUMB Habitat Restoration Program administered through Campus Planning and Development.

4. Mowing

   a. Cut and mow annual grass and herbaceous plants down to a height of 4 inches.

   b. Mow before 10 a.m.

   c. Only mow outside of special-status species areas (Figures 2a, 2a-1, and 2b) unless a Project Biologist has determined permissible.

   d. Avoid removing all vegetation to bare soil, as this may cause erosion.

   e. Do not mow ice plant.

5. Equipment

   a. Equipment shall be pressure washed prior to entering the project site, cleaned of mud or other debris that may contain invasive plants and/or seeds, and inspected to reduce the potential of spreading noxious weeds. If found, invasive species shall be removed and placed in a trash (not yard waste) dumpster and taken to the landfill.

   b. Equipment and personnel can access vegetated nonpaved areas if work is compliant with the species-specific BMP avoidance measures (Appendix E) and or CSUMB Fuel Reduction and Defensible Space Activity Timetable (Attachment D)

FUEL[1] REDUCTION[2] AND DEFENSIBLE SPACE PRESCRIPTIONS WITHIN ZONES 0, 1, AND 2

6. Branches and chipping placement and relocation
    a. Relocate dead and downed wood (fuels) outside of Zones 1 and 2 and only to areas where special-status species have not been identified (refer to Figures 2a, 2a-1, and 2b) prior to relocation of vegetation as directed by a qualified biologist.
    b. If chipping small wood is most practicable, relocate chipping material to areas where special-status species have not been identified (refer to Figures 2a, 2a-1, and 2b prior to relocation of vegetation). Chips shall be spread so that no chip piles are left on-site or reused within the campus in coordination with the Project Biologist.
    c. Relocate non-chipped branches off site in accordance with federal, state, and local regulations.
    d. Biologist to estimate and report the weight or volume to Campus Planning and Development for annual waste/reuse report to CalRecycle.
7. Street signs & hydrants
    a. Reduce vegetation to a maximum height of 4 inches within a minimum of 3 feet in all directions surrounding all street signs and fire hydrants so that emergency personnel can easily locate and access.
8. Timing
    a. To avoid impacts to special status species, Fuel Reduction and Defensible Space Prescriptions in this section shall comply with Attachment D, *CSUMB Fuel Reduction and Defensible Space Activity Timetable*.

ZONE 2 – Reduce Fuel Zone

Location: East Campus Housing Fuel Management Buffers (Figure 1a)

- 30-100 feet Management Buffer from Zone 1

Strategy: Implement CAL FIRE Defensible Space Requirements as described in:

- CAL FIRE Defensible Space Website https://www.fire.ca.gov/programs/communications/defensible-space-prc-4291/
- CAL FIRE Defensible Space Flyer (Attachment A)

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FUEL[1] REDUCTION[2] AND DEFENSIBLE SPACE PRESCRIPTIONS WITHIN ZONES 0, 1, AND 2

- CAL FIRE Vertical Plant and Tree Spacing (Attachment B)
- CAL FIRE Horizontal Plant and Tree Spacing (Attachment C)

Worker qualifications and roles: To ensure compliance with the following Fuel Reduction[12] and Defensible Space Prescriptions and the Best Management Practices[13] (BMP) (Appendix E), work will be:

- At all times overseen and supervised by a professional biologist
- Tree work will be directed by a certified arborist under the direction of the biologist
- Tree work will be performed in accordance with American National Safety Institute (ANSI) A300 Pruning Standards
- Tree work will be performed by tree care workers that comply with California Public Resources Code Chapter 3. Mountainous, Forest-, Brush-, and Grass-Covered Lands, Section 4291[14]
- All workers will complete the munitions training in advance of performing work found at https://www.fortordsafety.com/

Fuel Reduction and Defensible Space Prescriptions

1. Vertical Spacing – Tree, shrub, and grass trimming
    a. Large trees do not need to be cut and removed as long as all of the plants beneath them are managed, reducing the vertical fuel ladder as described in Attachment A.
    b. Remove tree branches 10 feet from structures or other trees (Attachment A).
    c. Limb up healthy tree branches 6 feet from the ground (Attachment B)
    d. To create vertical spacing and reduce fuel ladders created by shrubs under trees (Attachment B).
        i. limb up tree branches 3x the height of the shrub

[12] "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.
[13] The Best Management Practices document provides special status species and biological avoidance measures as well as specific tree pruning requirements.
[14] https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=4291.&lawCode=PRC

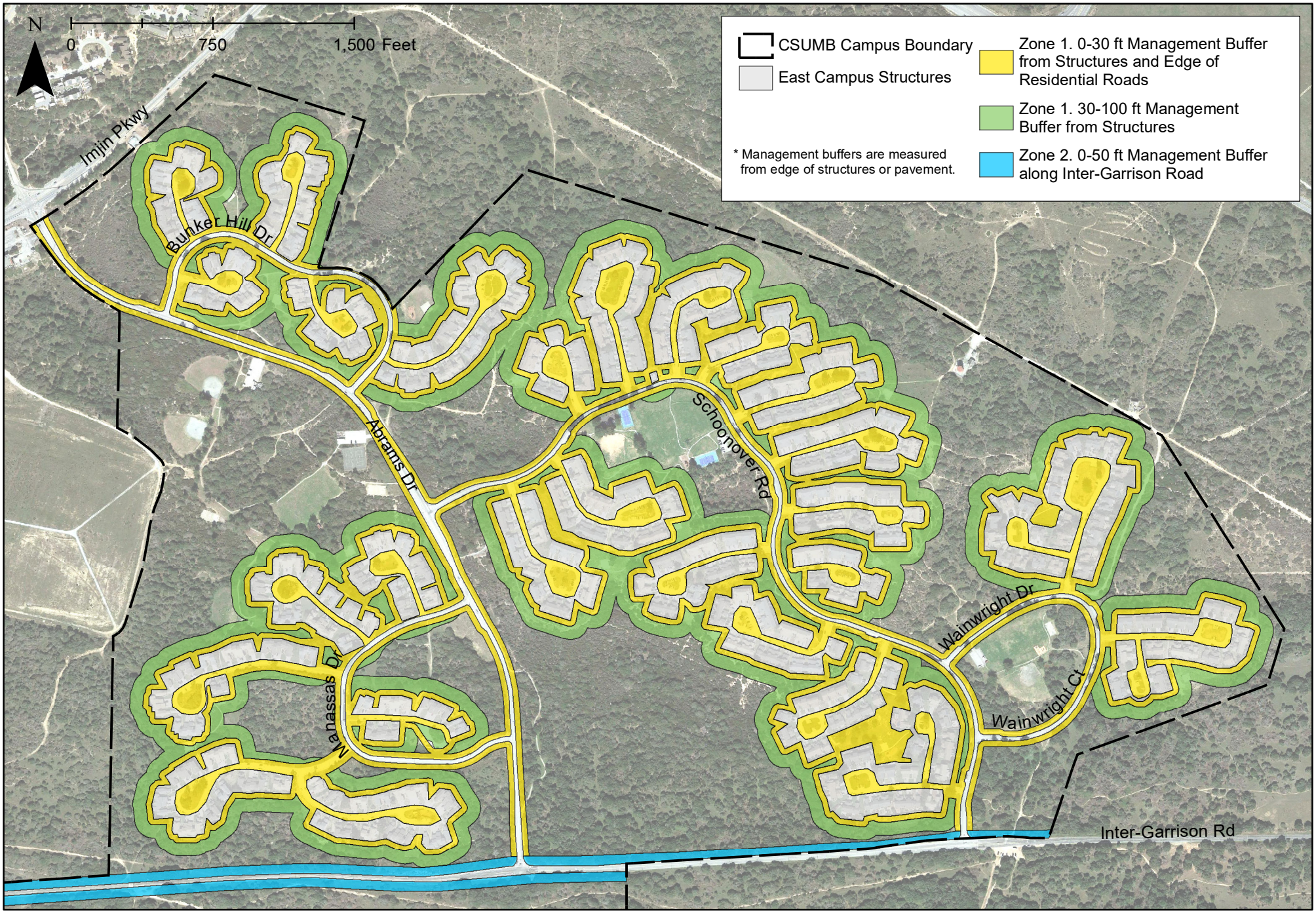
FUEL[1] REDUCTION[2] AND DEFENSIBLE SPACE PRESCRIPTIONS WITHIN ZONES 0, 1, AND 2

2. Horizontal spacing (as defined in Attachment C)
    i. Flat to mild slopes (less than 20%)
        1. Create a horizontal space between shrubs equal to 2x the height of the shrubs by removing trees and shrubs.
        2. Create a horizontal space of 10 feet between trees by removing trees under 6 inches DBH and shrubs.
    ii. Mild to moderate slopes (20%-40%)
        1. Create a horizontal space between shrubs equal to 4x the height of the shrubs by removing trees and shrubs.
        2. Create a horizontal space of 20 feet between trees by removing trees under 6 inches DBH and shrubs.
    iii. Moderate to steep slopes (greater than 40%)
        1. Shrubs shall create a horizontal space between shrubs equal to 6x the height of the shrubs
        2. Create a horizontal space of 30 feet between trees by removing trees under 6 inches DBH and shrubs.
3. Tree removal size and replacement
    a. Replacement of trees greater than 4 inches DBH shall be documented by the biologist and replanted via CSUMB Habitat Restoration Program administered through Campus Planning and Development.
    b. Except as required by the vertical and horizontal spacing requirements described above, do not remove trees greater than 6 inches DBH.
    c. Only remove trees under 6 inches DBH if they are within 10 feet of trees greater than 6 inches DBH.
4. Dead vegetation removal
    a. Remove fallen leaves, needles, twigs, bark, cones, and small branches as directed by the Project Biologist as these may be permissible to a depth of 3 inches if determined appropriate by the Project Biologist.

FUEL[1] REDUCTION[2] AND DEFENSIBLE SPACE PRESCRIPTIONS WITHIN ZONES 0, 1, AND 2

5. Tree snag (standing dead trees) removal
    a. Limit removal of snags within non-native grasslands or ruderal/disturbed habitats as snags create habitat for various native wildlife species (Figures 3a and 3b) as directed by the Project Biologist.
6. Mowing
    a. Cut and mow annual grass and herbaceous plants down to a height of 4 inches.
    b. Mow before 10 a.m.
    c. Only mow outside of special-status species areas (Figures 2a, 2a-1, and 2b) unless a Project Biologist has determined permissible.
    d. Avoid removing all vegetation to bare soil, as this may cause erosion.
    e. Do not mow ice plant.
7. Equipment
    a. Equipment shall be pressure washed prior to entering the project site, cleaned of mud or other debris that may contain invasive plants and/or seeds, and inspected to reduce the potential of spreading noxious weeds. If found, invasive species shall be removed and placed in a trash (not yard waste) dumpster and taken to the landfill.
    b. Equipment can drive in habitat area if work is compliant with the species-specific BMP avoidance measures (Appendix E) and or CSUMB Fuel Reduction and Defensible Space Activity Timetable (Attachment D)
8. Street signs & hydrants
    a. Reduce vegetation to a maximum height of 4 inches within a minimum of 3 feet in all directions surrounding all street signs and fire hydrants so that emergency personnel can easily locate and access.

FUEL[1] REDUCTION[2] AND DEFENSIBLE SPACE PRESCRIPTIONS WITHIN ZONES 0, 1, AND 2
9. Timing a. To avoid impacts to special status species, Fuel Reduction and Defensible Space Prescriptions in this section shall comply with Attachment D, *CSUMB Fuel Reduction and Defensible Space Activity Timetable*.



CSUMB Fuel Management Plan – East Campus Housing Area
Fuel Management Buffers

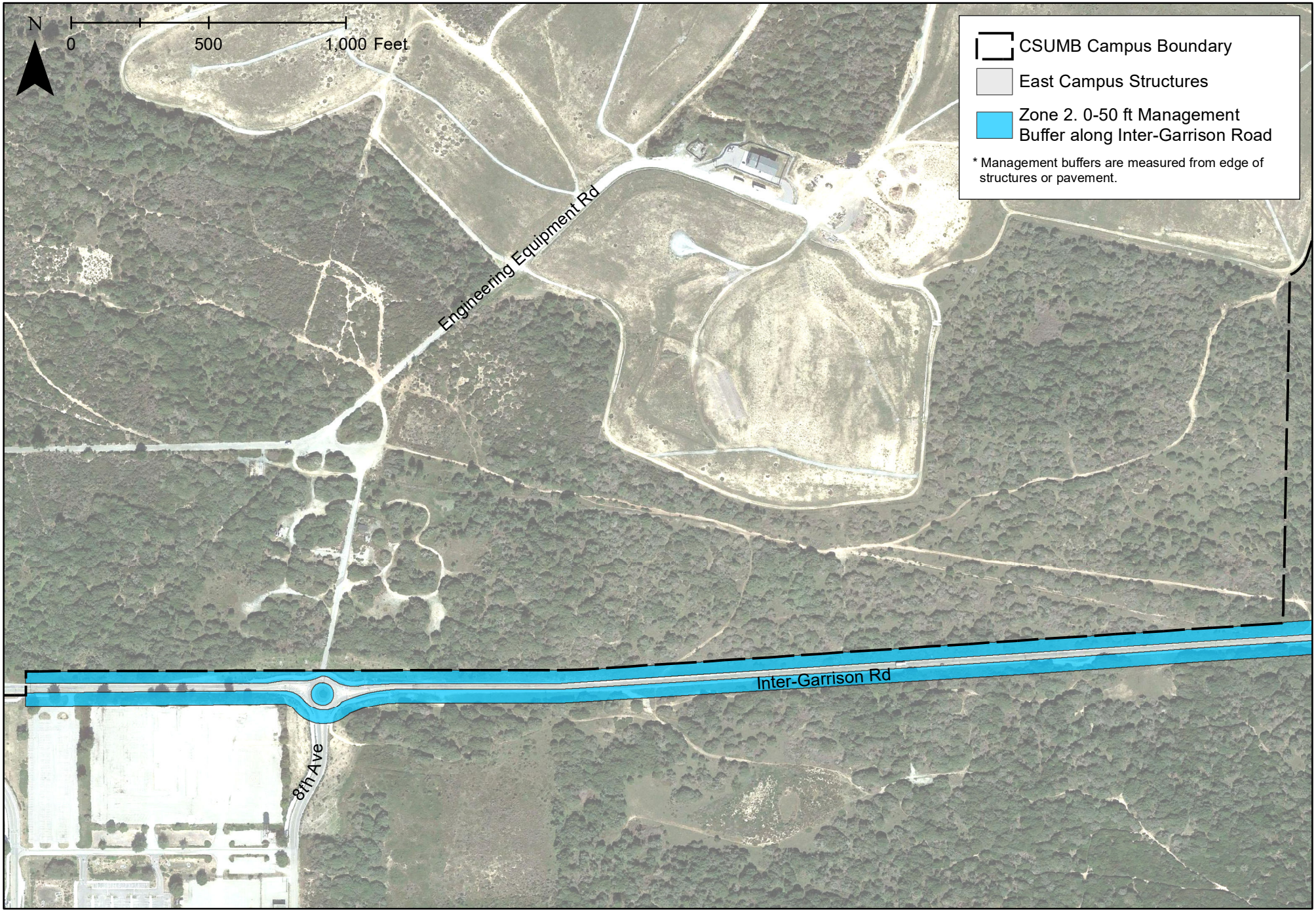
Date: 8/23/2022

Scale: 1 in = 700 ft

Denise Duffy & Associates, Inc.
Planning and Environmental Consulting

Figure 1a

Path: D:\GIS\GIS_Projects\2019-51 CSUMB Fire Clearance\Final\Fuel Management Plan\Fig 1a - Fuel Management Buffers.mxd



CSUMB Fuel Management Plan – East Campus Housing Area
Fuel Management Buffers

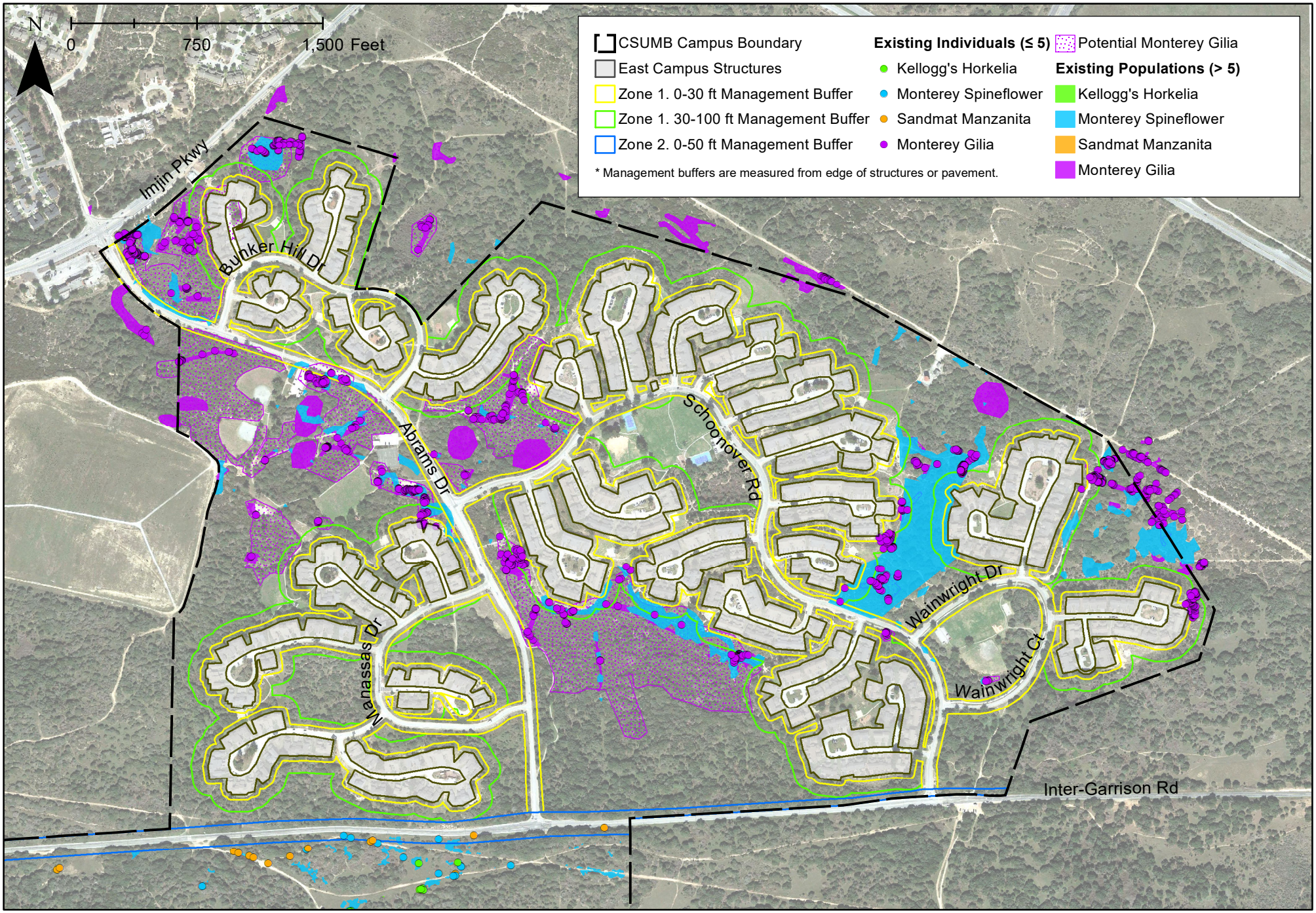
Date
8/23/2022

Scale
1 in = 500 ft

Denise Duffy & Associates, Inc.
Planning and Environmental Consulting

Figure
1b

Path: D:\GIS\GIS_Projects\2019-51 CSUMB Fire Clearance\Final\Fuel Management Plan\Fig 1b - Fuel Management Buffers.mxd



CSUMB Fuel Management Plan – East Campus Housing Area
Special-Status Plant Species Occurrences

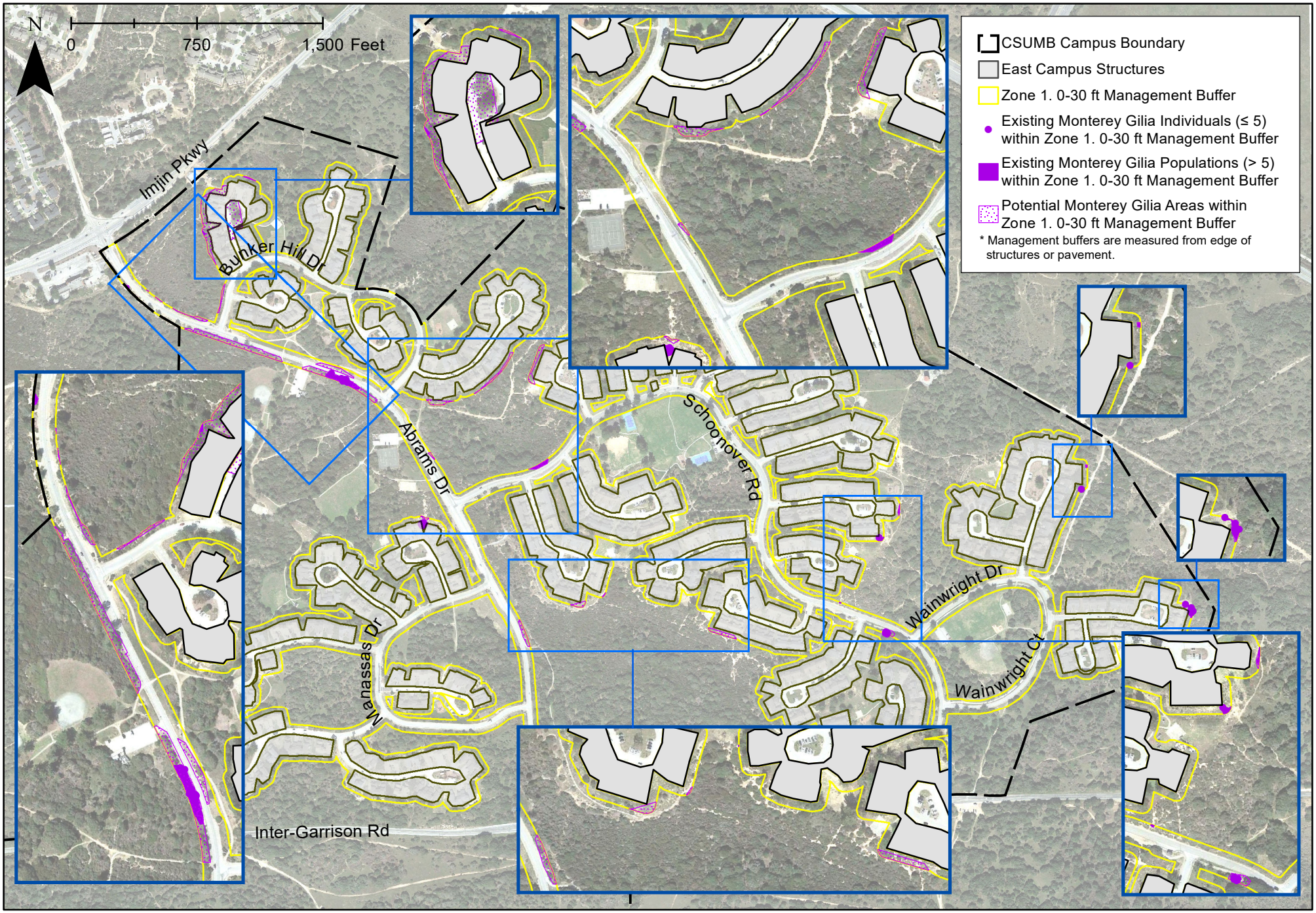
Date
8/23/2022

Scale
1 in = 800 ft

Denise Duffy & Associates, Inc.
Planning and Environmental Consulting

Figure
2a

Path: D:\GIS\GIS_Projects\2019-51 CSUMB Fire Clearance\Final\Fuel Management Plan\Fig 2a - Special-Status Plants.mxd



CSUMB Fuel Management Plan – East Campus Housing Area
Monterey Gilia Occurrences within Zone 1. 0-30 ft Management Buffer

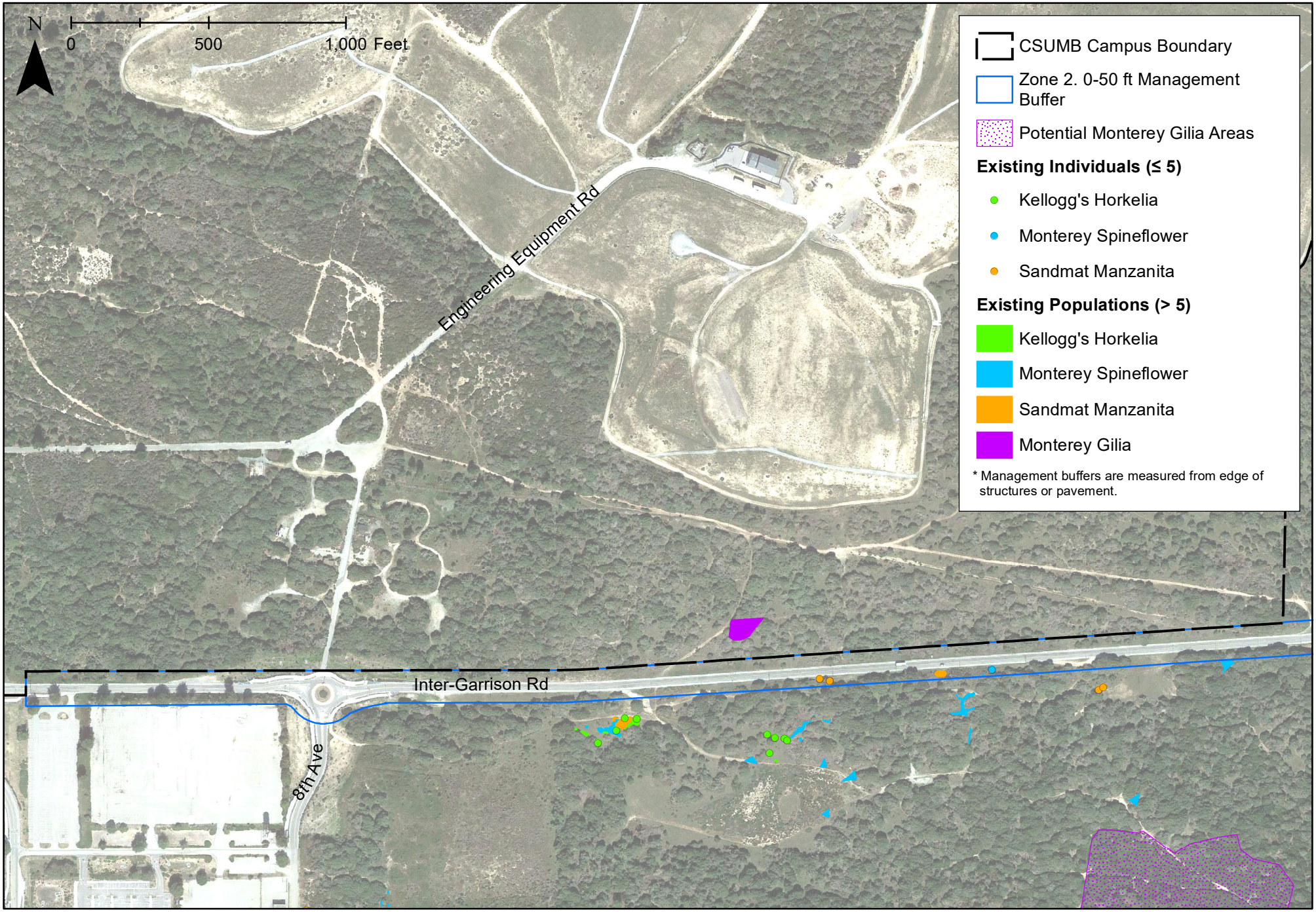
Date: 8/23/2022

Scale: 1 in = 800 ft

Denise Duffy & Associates, Inc.
Planning and Environmental Consulting

Figure 2a-1

Path: D:\GIS\GIS_Projects\2019-51 CSUMB Fire Clearance\Final\Fuel Management Plan\Fig 2a-1 - Sand Gilia within 30 ft Buffer.mxd



CSUMB Fuel Management Plan – East Campus Housing Area
Special-Status Plant Species Occurrences

Date
8/23/2022

Scale
1 in = 500 ft

Denise Duffy & Associates, Inc.
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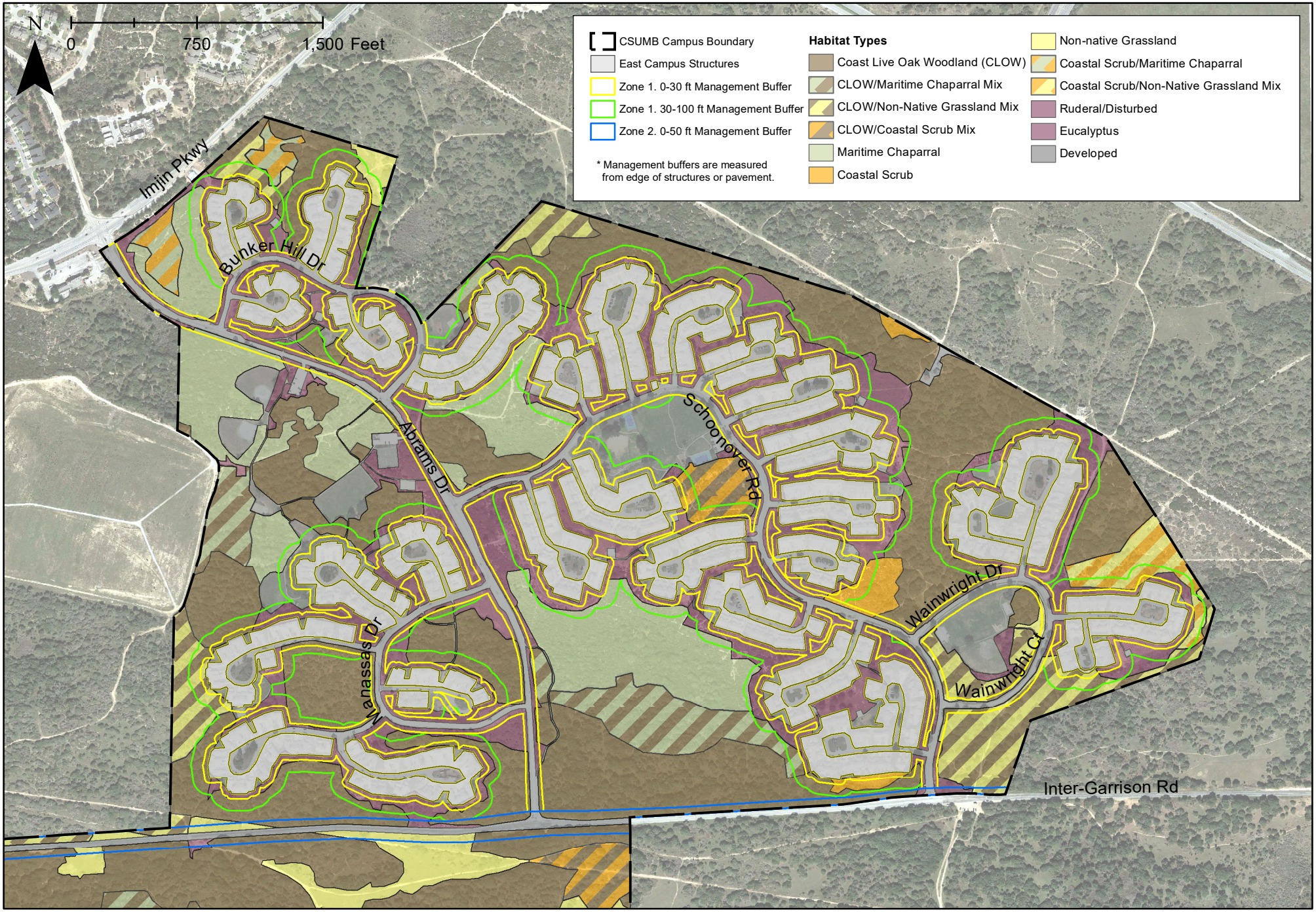
Figure
2b

Path: D:\GIS\GIS_Projects\2019-51 CSUMB Fire Clearance\Final\Fuel Management Plan\Fig 2b - Special-Status Plants.mxd



CSUMB Fuel Management Plan – East Campus Housing Area
Habitat Types

Date
8/23/2022

Scale
1 in = 800 ft

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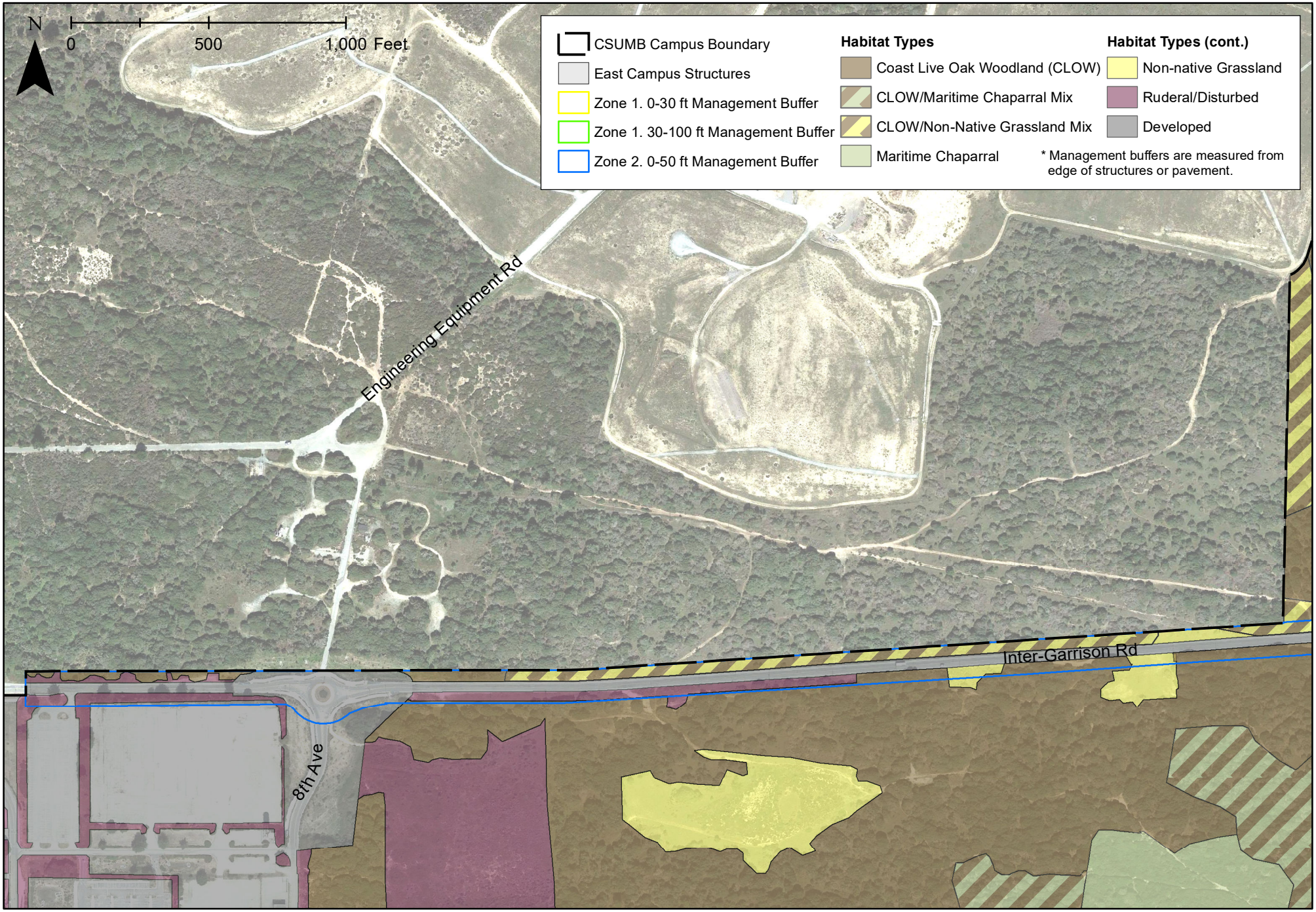
Figure
3a

Path: D:\GIS\GIS_Projects\2019-51 CSUMB Fire Clearance\Final\Fuel Management Plan\Fig 3a - Habitat Types.mxd



CSUMB Fuel Management Plan – East Campus Housing Area
Habitat Types

Date
8/23/2022

Scale
1 in = 500 ft

Denise Duffy & Associates, Inc.
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Figure
3b

Path: D:\GIS\GIS_Projects\2019-51 CSUMB Fire Clearance\Final\Fuel Management Plan\Fig 3b - Habitat Types.mxd

WILDFIRE IS COMING.
ARE YOU READY?

Defensible Space is your property's front line defense against wildfire. Creating and maintaining defensible space around your home can dramatically increase your home's chance of surviving a wildfire and improves the safety of firefighters defending your property. 100 feet of defensible space is required by law.*

ONE LESS SPARK ONE LESS WILDFIRE

*For more information on creating defensible space and legal requirements visit **READYFORWILDFIRE.ORG**

TWO ZONES MAKE UP THE REQUIRED 100 FEET OF DEFENSIBLE SPACE:

ZONE 1: 30 feet of Lean, Clean & Green

1. Remove all dead plants, grass and weeds.
2. Remove dead or dry leaves and pine needles from your yard, roof and rain gutters.
3. Keep tree branches 10 feet away from your chimney and other trees.

ZONE 2: 30–100 feet of Reduced Fuel

4. Cut or mow annual grass down to a maximum height of 4 inches.
5. Create horizontal spacing between shrubs and trees.
6. Create vertical spacing between grass, shrubs and trees.

Use Equipment Properly to Keep from Sparking a Wildfire

7. Mow before 10 a.m., and never on a hot or windy day. String trimmers are a safer option (vs. lawnmowers) for clearing vegetation.

VERTICAL SPACING

Large trees do not have to be cut and removed as long as all of the plants beneath them are removed. This eliminates a vertical "fire ladder."

HORIZONTAL SPACING

Create horizontal and vertical spacing between plants, the amount of spacing will depend on how steep the slope is and the size of the plants.

https://www.readyforwildfire.org/prepare-for-wildfire/get-ready/defensible-space/

Attachment A. Calfire Defensible Space Flyer

PLANT AND TREE SPACING

The spacing between grass, shrubs, and trees is crucial to reduce the spread of wildfire. The spacing needed is determined by the type and size of the shrubs and trees, as well as the slope of the land. For example, a property on a steep slope with larger plant life will require greater spacing between trees and shrubs than a level property that has small, sparse vegetation.

VERTICAL SPACING

Remove all tree branches at least 6 feet from the ground.

If shrubs are under trees, additional vertical space is needed. Lack of vertical space can allow a fire to move from the ground to the shrubs to the treetops like a ladder.

FIRE-SAFE LANDSCAPING

Fire-safe landscaping isn't necessarily the same thing as a well-maintained yard. Fire-safe landscaping uses fire-resistant plants that are strategically planted to resist the spread of fire to your home.

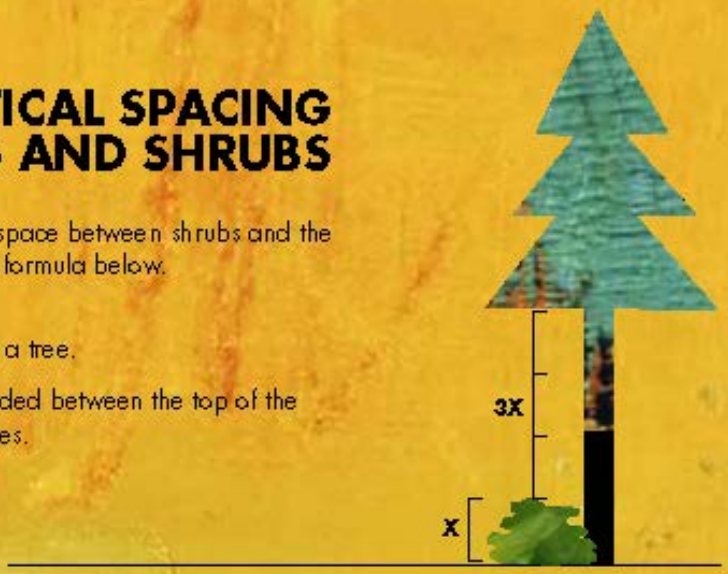
The good news is that you don't need to spend a lot of money to make your landscape fire-safe. And fire-safe landscaping can increase your property value and conserve water while beautifying your home. For more information on fire-safe landscaping, visit: **ReadyForWildfire.org/landscaping**.

MINIMUM VERTICAL SPACING BETWEEN TREES AND SHRUBS

To determine the proper vertical space between shrubs and the lowest branches of trees, use the formula below.

Example:
A five-foot shrub is growing near a tree.

3 x 5 = 15 feet of clearance needed between the top of the shrub and the lowest tree branches.



https://www.readyforwildfire.org/prepare-for-wildfire/get-ready/defensible-space/

Attachment B. Calfire Vertical Plant and Tree Spacing

MINIMUM HORIZONTAL SPACING FOR TREES AND SHRUBS

Horizontal spacing depends on the slope of the land and the height of the shrubs or trees. Check the diagrams below to determine spacing distance.

FLAT TO MILD SLOPE (LESS THAN 20%)

MILD TO MODERATE SLOPE (20%–40%)

MODERATE TO STEEP SLOPE (GREATER THAN 40%)

https://www.readyforwildfire.org/prepare-for-wildfire/get-ready/defensible-space/

Attachment C. Calfire Horizontal Plant and Tree Spacing

Attachment D. CSUMB Fuel Reduction and Defensible Space Activity Timetable

Biological Resource	Habitat Area[1]	Recommended Work Windows for Conducting Fuel Reduction and Defensible Space Activities[2]																					
		Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
Plant Species																							
Monterey spineflower *(Chorizanthe pungens* var. *pungens*)	Maritime chaparral, cismontane woodland, coastal dunes, coastal scrub, and valley and foothill grassland on sandy soils.																						
Fort Ord spineflower (*Chorizanthe minutiflora*)	Sandy openings of maritime chaparral and coastal scrub.																						
Monterey gilia *(Gilia tenuiflora* ssp. *arenaria)*	Openings in maritime chaparral, cismontane woodland, coastal dunes, and coastal scrub on sandy soils.																						
Kellogg's horkelia *(Horkelia cuneata* var. *sericea)*	Openings of closed-cone coniferous forests, maritime chaparral, coastal dunes, and coastal scrub on sandy or gravelly soils.																						
Point Reyes horkelia *(Horkelia marinensis)*	Coastal dunes, coastal prairie, and coastal scrub on sandy soils.																						
Coast wallflower *(Erysimum ammophilum)*	Openings in maritime chaparral, coastal dunes, and coastal scrub on sandy soils.																						
Marsh microseris *(Microseris paludosa)*	Closed-cone coniferous forest, cismontane woodland, coastal scrub, and valley and foothill grassland.																						
Seaside bird's-beak *(Cordylanthus rigidus* ssp. *littoralis)*	Closed-cone coniferous forests, maritime chaparral, cismontane woodlands, coastal dunes, and coastal scrub on sandy soils, often on disturbed sites.																						
Northern curly-leaved monardella *(Monardella sinuata* ssp. *nigrescens)*	Chaparral, coastal dunes, coastal scrub, and lower montane coniferous forest (ponderosa pine sandhills).																						
Yadon's piperia *(Piperia yadonii)*	Sandy soils in coastal bluff scrub, closed-cone coniferous forest, and maritime chaparral.																						
Toro manzanita *(Arctostaphylos montereyensis)*	Maritime chaparral, cismontane woodland, and coastal scrub on sandy soils.																						
Sandmat manzanita *(Arctostaphylos pumila)*	Openings of closed-cone coniferous forests, maritime chaparral, cismontane woodland, coastal dunes, and coastal scrub on sandy soils.																						
Hooker's manzanita *(Arctostaphylos hookeri* ssp. *hookeri)*	Closed-cone coniferous forest, chaparral, cismontane woodland, and coastal scrub on sandy soils.																						
Pajaro manzanita *(Arctostaphylos pajaroensis)*	Chaparral on sandy soils.																						
Eastwood's goldenbush *(Ericameria fasciculata)*	Openings in closed-cone coniferous forest, maritime chaparral, coastal dunes, and coastal scrub on sandy soils.																						
Monterey ceanothus *(Ceanothus rigidus)*	Closed cone coniferous forest, chaparral, and coastal scrub on sandy soils.																						

[1] See Figures 3a and Figure 3b for habitat locations and Figures 2a, 2a-1, and 2b for mapped populations.

[2] Please note that these recommended work windows are generated from species characteristics and life histories and may vary seasonally and annually. Therefore, work may be conducted outside these recommended work windows, but only with written authorization from a qualified biologist.

Biological Resource	Habitat Area[1]	Recommended Work Windows for Conducting Fuel Reduction and Defensible Space Activities[2]
		Jan. / Feb. / Mar. / Apr. / May / June / July / Aug. / Sept. / Oct. / Nov. / Dec.
Trees, including but not limited to: coast live oak, Monterey pine, Monterey cypress	Trees and coast live oak woodland occur throughout the CSUMB property.	
Wildlife Species		
Monterey dusky-footed woodrat *(Neotoma macrotis luciana)*	Forest, oak woodland, and chaparral habitats of moderate canopy with moderate to dense understory.	
California tiger salamander *(Ambystoma californiense)*	Annual grassland and grassy understory of valley-foothill hardwood habitats in central and northern California. Need underground refuges and vernal pools or other seasonal water sources.	
Smith's blue butterfly *(Euphilotes enoptes smithi)*	Most commonly associated with coastal dunes and coastal sage scrub plant communities in Monterey and Santa Cruz Counties. Plant hosts are *Eriogonum latifolium* and *E. parvifolium*.	
Nesting avian species	All areas and habitats in work areas. Stands of live oak, riparian deciduous, or other forest habitats, as well as open grasslands, are used most frequently for nesting.	
Special-status bat species	Rural and urban settings from inland deserts to coastal redwoods, oak woodland, grassland and low- to mid-elevation mixed coniferous habitats.	
Other special-status wildlife species with potential to occur, including but not limited to Monterey ornate shrew (*Sorex ornatus salarius*), American badger (*Taxidea taxus)*, northern California legless lizard (*Anniella pulchra*), and coast horned lizard (*Phrynosoma blainvillii*)	Various; please refer to Appendix C (Special-Status Species Table) of the project's Biological Resources Report.	

LEGEND:

- Special-status herbaceous plant species have gone to seed; fuel reduction and defensible space activities and maintenance of vegetation are acceptable within this timeframe.
- Boundaries of special-status herbaceous plant species shall be delineated with staking and flagging and shall be avoided until plants have gone to seed.
- Special-status shrub and tree species shall be avoided to the greatest extent feasible throughout the year; however, activities may occur during this timeframe with implementation of the BMPs identified in CSUMB Best Management Practices Required for Fuel Reduction and Defensible Space Activities.
- Most beneficial time to trim and remove trees.
- Monterey dusky-footed woodrat surveys shall be conducted in suitable habitat three days prior to implementing activities.
- Conduct nesting bird surveys prior to fuel reduction activities in all areas plan for vegetation maintenance.
- While the reproductive season is generally March 1 through September 15, special-status bat species could be present and active at any time of year and surveys are required prior to fuel reduction activities in all areas plan for vegetation maintenance year-round.
- No nesting bird surveys shall be required during this timeframe.
- Ideal time to work in/near habitat for this species. Protection measures identified in the BMPs must be implemented.
- If feasible, work in/near habitat should be avoided. If work is required during this time, protection measures identified in the BMPs must be implemented.
- Activities may be conducted year-round. Implementation of the protection measures identified in the BMPs is required year-round.

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(California Public Resources Code Chapter 3. Section 4291)

SPECIAL-STATUS SPECIES AVOIDANCE AND MINIMIZATION MEASURES REQUIRED WITHIN ZONES 0, 1, AND 2

The following recommendations have been developed to avoid and minimize potential impacts to the special-status species and sensitive habitats within and adjacent to the fuel reduction site to a less-than-significant level in accordance with the California Environmental Quality Act (CEQA). 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 the federal Endangered Species Act (ESA) or the California Endangered Species Act (CESA).

Species	General Habitat/Description	Best Management Practices (BMPs)	Recommended Work Windows for Conducting Fuel Reduction and Defensible Space Activities[1] (Also Refer to Attachment D)
WORKER REQUIREMENTS			
ALL	**ALL**	**Worker qualifications and roles:** To ensure compliance with the Fuel Management Plan (FMP) and these Best Management Practices[2] Required for Fuel Reduction and Defensible Space Activities (BMP), work will be: • At all times overseen and supervised by a professional biologist • Figures 2a, 2a-1, and 2b will be consulted as a basis for avoiding special-status species • Tree work will be directed by a certified arborist under the direction of the biologist • Tree work will be performed in accordance with American National Safety Institute (ANSI) A300 Pruning Standards • Tree work will be performed by tree care workers that comply with California Public Resources Code Chapter 3. Mountainous, Forest-, Brush-, and Grass-Covered Lands, Section 4291.[3] • All workers will complete the munitions training in advance of performing work found at https://www.fortordsafety.com/	Year-round
ALL	**ALL**	**Employee Education Program**: A qualified biologist shall conduct an Employee Education Program for the workers prior to the implementation of any fuel management activities. The qualified biologist shall meet with the fuel management workers (crews) at the onset of work at the project site to educate them on the following: 1) the appropriate access route(s) in and out of the construction area and review project boundaries; 2) how a biological monitor will examine the area and agree upon a method which will ensure the safety of the monitor during such activities, 3) the identification of special-status species that may be present; 4) the specific mitigation measures that will be incorporated into the work effort; 5) the general provisions and protections afforded; and 6) the proper procedures if a special-status species is encountered within the project site to avoid impacts.	Year-round
PLANTS			
Monterey gilia *(Gilia tenuiflora* ssp. *arenaria)*	Openings in maritime chaparral, cismontane woodland, coastal dunes, and coastal scrub on sandy soils at elevations of 0-45 meters. Annual herb in the Polemoniaceae family; typically blooms April-June.	• Activities shall only occur in areas known to support Monterey gilia from approximately June 1 to September 30 (see Figures 2a, 2a-1, and 2b). • Vehicle traffic in areas known to support Monterey gilia is strictly prohibited at any time. • Piling of any cut vegetation or other debris within areas known to support Monterey gilia is strictly prohibited at any time. • Areas known to support Monterey gilia shall be avoided from October 1 to May 31. Boundaries of Monterey gilia populations shall be staked and flagged prior to implementing any activities to avoid impacts to the populations. The flagged areas shall be avoided from October 1 to May 31.	June 1 – September 30
Seaside bird's-beak *(Cordylanthus rigidus* ssp. *littoralis)*	Closed-cone coniferous forests, maritime chaparral, cismontane woodlands, coastal dunes, and coastal scrub on sandy soils, often on disturbed sites, at elevations of 0-425 meters. Annual hemi-parasitic herb in the Orobanchaceae family; typically blooms April-October.	• Prior to initiating fuel reduction and defensible space activities, a qualified biologist shall survey the work area for seaside bird's-beak during the appropriate blooming period of this species. • Activities shall only occur in areas known to support seaside bird's-beak from approximately October 1 to January 31. • Vehicle traffic in areas known to support seaside bird's-beak is strictly prohibited at any time. • Piling of any cut vegetation or other debris within areas known to support seaside bird's-beak is strictly prohibited at any time. • Areas known to support seaside bird's-beak shall be avoided from February 1 to September 30. Boundaries seaside bird's-beak shall be staked and flagged prior to implementing any activities to avoid impacts to the populations. The flagged areas shall be avoided from February 1 to May 31.	October 1 – January 31

[1] Please note that these recommended work windows (Attachment D) are generated from species characteristics and life histories and may vary seasonally and annually. Therefore, work may be conducted outside these recommended work windows with implementation of specific avoidance measures. Avoidance is required for species that would be detrimentally affected by activities without the implementation of specific measures identified herein and are protected by federal and/or law, but only with written authorization from a qualified biologist.
[2] This Best Management Practices document (Attachment E) provides special-status species and sensitive habitat avoidance and minimization measures, as well as specific tree pruning requirements.
[3] https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=4291.&lawCode=PRC

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Species	General Habitat/Description	Best Management Practices (BMPs)	Recommended Work Windows for Conducting Fuel Reduction and Defensible Space Activities[1] (Also Refer to Attachment D)
Northern curly-leaved monardella *(Monardella sinuata* ssp. *nigrescens)*	Chaparral, coastal dunes, coastal scrub, and lower montane coniferous forest (ponderosa pine sandhills) on sandy soils at elevations of 0-300 meters. Annual herb in the Lamiaceae family; typically blooms April-September.	• Prior to initiating fuel reduction and defensible space activities, a qualified biologist shall survey the work area for northern curly-leaved monardella during the appropriate blooming period of this species. • Activities shall only occur in areas known to support northern curly-leaved monardella from approximately September 1 to January 31. • Vehicle traffic in areas known to support northern curly-leaved monardella is strictly prohibited at any time. • Piling of any cut vegetation or other debris within areas known to support northern curly-leaved monardella is strictly prohibited at any time. • Areas known to support northern curly-leaved monardella shall be avoided from February 1 to August 31. Boundaries of northern curly-leaved monardella shall be staked and flagged prior to implementing any activities to avoid impacts to the populations. The flagged areas shall be avoided from February 1 to August 31.	September 1 – January 31
Yadon's piperia *(Piperia yadonii)*	Sandy soils in coastal bluff scrub, closed-cone coniferous forest, and maritime chaparral at elevations of 10-510 meters. Annual herb in the Orchidaceae family; blooms February-August.	• Prior to initiating fuel reduction and defensible space activities, a qualified biologist shall survey the work area for Yadon's piperia during the appropriate blooming period of this species. • Fuel reduction and defensible space activities (collectively referred to herein as “activities”) shall only occur in areas known to support Yadon's piperia, as determined by the field survey, from approximately September 1 to January 31. • Vehicle traffic in areas known to support Yadon's piperia is strictly prohibited at any time. • Piling of any cut vegetation or other debris within areas known to support Yadon's piperia is strictly prohibited at any time. • Areas known to support Yadon's piperia populations shall be avoided from February 1 to August 31. Boundaries of Yadon's piperia populations shall be staked and flagged prior to implementing any activities to avoid impacts to the populations. The flagged areas shall be avoided from February 1 to August 31.	September 1 – January 31
Monterey spineflower *(Chorizanthe pungens* var. *pungens*)	Maritime chaparral, cismontane woodland, coastal dunes, coastal scrub, and valley and foothill grassland on sandy soils at elevations of 3-450 meters. Annual herb in the Polygonaceae family; typically blooms April-July.	• Fuel reduction and defensible space activities (collectively referred to herein as “activities”) shall only occur in areas known to support Monterey spineflower from approximately June 1 to January 31 (see Figures 2a and 2b). • Vehicle traffic in areas known to support Monterey spineflower is strictly prohibited at any time. • Piling of any cut vegetation or other debris within areas known to support Monterey spineflower is strictly prohibited at any time. • Areas known to support Monterey spineflower populations shall be avoided from February 1 to May 31. Boundaries of Monterey spineflower populations shall be staked and flagged prior to implementing any activities to avoid impacts to the populations. The flagged areas shall be avoided from February 1 to May 31.	June 1 – January 31
Fort Ord spineflower (*Chorizanthe minutiflora*)	Sandy openings of maritime chaparral and coastal scrub at elevations of 55-150 meters. Only known occurrences on Fort Ord National Monument. Annual herb in the Polygonaceae family; blooms April-July.	• Prior to initiating fuel reduction and defensible space activities, a qualified biologist shall survey the work area for Fort Ord spineflower during the appropriate blooming period of this species. • Fuel reduction and defensible space activities (collectively referred to herein as “activities”) shall only occur in areas known to support Fort Ord spineflower, as determined by the field survey, from approximately June 1 to January 31. • Vehicle traffic in areas known to support Fort Ord spineflower is strictly prohibited at any time. • Piling of any cut vegetation or other debris within areas known to support Fort Ord spineflower is strictly prohibited at any time.	June 1 – January 31

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Species	General Habitat/Description	Best Management Practices (BMPs)	Recommended Work Windows for Conducting Fuel Reduction and Defensible Space Activities[1] (Also Refer to Attachment D)
		• Areas known to support Fort Ord spineflower populations shall be avoided from February 1 to May 31. Boundaries of Fort Ord spineflower populations shall be staked and flagged prior to implementing any activities to avoid impacts to the populations. The flagged areas shall be avoided from February 1 to May 31.	
Coast wallflower *(Erysimum ammophilum)*	Openings in maritime chaparral, coastal dunes, and coastal scrub on sandy soils at elevations of 0-60 meters. Perennial herb in the Brassicaceae family; typically blooms February-June.	• Prior to initiating fuel reduction and defensible space activities, a qualified biologist shall survey the work area for coast wallflower during the appropriate blooming period of this species. • Activities shall only occur in areas known to support coast wallflower from approximately June 1 to January 31. • Vehicle traffic in areas known to support coast wallflower is strictly prohibited at any time. • Piling of any cut vegetation or other debris within areas known to support coast wallflower is strictly prohibited at any time. • Areas known to support coast wallflower shall be avoided from February 1 to May 31. Boundaries of coast wallflower populations shall be staked and flagged prior to implementing any activities to avoid impacts to the populations. The flagged areas shall be avoided from February 1 to May 31.	June 1 – January 31
Marsh microseris *(Microseris paludosa)*	Closed-cone coniferous forest, cismontane woodland, coastal scrub, and valley and foothill grassland at elevations of 5-300 meters. Perennial herb in the Asteraceae family; blooms April-July.	• Prior to initiating fuel reduction and defensible space activities, a qualified biologist shall survey the work area for marsh microseris during the appropriate blooming period of this species. • Fuel reduction and defensible space activities (collectively referred to herein as “activities”) shall only occur in areas known to support marsh microseris, as determined by the field survey, from approximately June 1 to January 31. • Vehicle traffic in areas known to support marsh microseris is strictly prohibited at any time. • Piling of any cut vegetation or other debris within areas known to support marsh microseris is strictly prohibited at any time. • Areas known to support Marsh microseris populations shall be avoided from February 1 to May 31. Boundaries of marsh microseris populations shall be staked and flagged prior to implementing any activities to avoid impacts to the populations. The flagged areas shall be avoided from February 1 to May 31.	June 1 – January 31
Kellogg’s horkelia *(Horkelia cuneate* var. *sericea)*	Openings of closed-cone coniferous forests, maritime chaparral, coastal dunes, and coastal scrub on sandy or gravelly soils at elevations of 10-200 meters. Perennial herb in the Rosaceae family; typically blooms April-September.	• Prior to initiating fuel reduction and defensible space activities, a qualified biologist shall survey the work area for Kellogg's horkelia during the appropriate blooming period of this species. • Activities shall only occur in areas known to support Kellogg’s horkelia from approximately June 1 to January 31 (see Figures 2a and 2b). • Vehicle traffic in areas known to support Kellogg’s horkelia is strictly prohibited at any time. • Piling of any cut vegetation or other debris within areas known to support Kellogg’s horkelia is strictly prohibited at any time. • Areas known to support Kellogg’s horkelia shall be avoided from February 1 to May 31. Boundaries of Kellogg’s horkelia populations shall be staked and flagged prior to implementing any activities to avoid impacts to the populations. The flagged areas shall be avoided from February 1 to May 31.	June 1 – January 31

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Species	General Habitat/Description	Best Management Practices (BMPs)	Recommended Work Windows for Conducting Fuel Reduction and Defensible Space Activities[1] (Also Refer to Attachment D)
Point Reyes horkelia *(Horkelia marinensis)*	Coastal dunes, coastal prairie, and coastal scrub on sandy soils at elevations of 5-350 meters. Perennial herb in the Rosaceae family; blooms May-September.	• Prior to initiating fuel reduction and defensible space activities, a qualified biologist shall survey the work area for Point Reyes horkelia during the appropriate blooming period of this species. • Activities shall only occur in areas known to support Point Reyes horkelia from approximately June 1 to January 31 (see Figures 2a and 2b). • Vehicle traffic in areas known to support Point Reyes horkelia is strictly prohibited at any time. • Piling of any cut vegetation or other debris within areas known to support Point Reyes horkelia is strictly prohibited at any time. • Areas known to support Point Reyes horkelia shall be avoided from February 1 to May 31. Boundaries of Point Reyes horkelia populations shall be staked and flagged prior to implementing any activities to avoid impacts to the populations. The flagged areas shall be avoided from February 1 to May 31.	June 1 – January 31
Hooker's manzanita *(Arctostaphylos hookeri* ssp. *hookeri)*	Closed-cone coniferous forest, chaparral, cismontane woodland, and coastal scrub on sandy soils at elevations of 85-536 meters. Evergreen shrub in the Ericaceae family; blooms January-June.	• Prior to initiating fuel reduction and defensible space activities, a qualified biologist shall survey the work area for Hooker's. • Hooker's manzanita shall be avoided year-round to the greatest extent feasible during activities due to its slow growth pattern. • Vehicle traffic in areas known to support Hooker's manzanita is strictly prohibited at any time. • Piling of any cut vegetation or other debris within areas known to support Hooker's manzanita is strictly prohibited at any time.	Year-round
Pajaro manzanita *(Arctostaphylos pajaroensis)*	Chaparral on sandy soils at elevations of 30-760 meters. Evergreen shrub in the Ericaceae family; blooms December-March.	• Prior to initiating fuel reduction and defensible space activities, a qualified biologist shall survey the work area for Pajaro manzanita. • Pajaro manzanita individuals shall be retained at approximately 50-foot intervals. Hand crews shall receive additional training from the Project Biologist in Pajaro manzanita identification. • Vehicle traffic in areas known to support Pajaro manzanita is strictly prohibited at any time. • Piling of any cut vegetation or other debris within areas known to support Pajaro manzanita is strictly prohibited at any time.	Year-round
Sandmat manzanita *(Arctostaphylos pumila)*	Openings of closed-cone coniferous forests, maritime chaparral, cismontane woodland, coastal dunes, and coastal scrub on sandy soils at elevations of 3-205 meters. Evergreen shrub in the Ericaceae family; typically blooms February-May.	• Prior to initiating fuel reduction and defensible space activities, a qualified biologist shall survey the work area for sandmat manzanita. • Sandmat manzanita shall be avoided year-round to the greatest extent feasible during activities due to its slow growth pattern. • Vehicle traffic in areas known to support sandmat manzanita is strictly prohibited at any time. • Piling of any cut vegetation or other debris within areas known to support sandmat manzanita is strictly prohibited at any time. • Figures 2a and 2b shall be referenced to recognize boundaries of sandmat manzanita for avoidance.	Year-round
Toro manzanita *(Arctostaphylos montereyensis)*	Maritime chaparral, cismontane woodland, and coastal scrub on sandy soils at elevations of 30-730 meters. Evergreen shrub in the Ericaceae family; typically blooms February-March.	• Prior to initiating fuel reduction and defensible space activities, a qualified biologist shall survey the work area for Toro manzanita. • Toro manzanita individuals shall be retained at approximately 50-foot intervals. Hand crews shall receive additional training from the Project Biologist in Toro manzanita identification. • Vehicle traffic in areas known to support Toro manzanita is strictly prohibited at any time.	Year-round

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Species	General Habitat/Description	Best Management Practices (BMPs)	Recommended Work Windows for Conducting Fuel Reduction and Defensible Space Activities[1] (Also Refer to Attachment D)
		• Piling of any cut vegetation or other debris within areas known to support Toro manzanita is strictly prohibited at any time.	
Eastwood's goldenbush *(Ericameria fasciculata)*	Openings in closed-cone coniferous forest, maritime chaparral, coastal dunes, and coastal scrub on sandy soils at elevations of 30-275 meters. Evergreen shrub in the Asteraceae family; typically blooms July-October.	• Prior to initiating fuel reduction and defensible space activities, a qualified biologist shall survey the work area for Eastwood's goldenbush. • Eastwood's goldenbush shall be avoided to the greatest extent feasible during activities due to its slow growth pattern. • Vehicle traffic in areas known to support Eastwood's goldenbush is strictly prohibited at any time. • Piling of any cut vegetation or other debris within areas known to support Eastwood's goldenbush is strictly prohibited at any time.	Year-round
Monterey ceanothus *(Ceanothus rigidus)*	Closed cone coniferous forest, chaparral, and coastal scrub on sandy soils at elevations of 3-550 meters. Evergreen shrub in the Rhamnaceae family, blooms February-June.	• Prior to initiating fuel reduction and defensible space activities, a qualified biologist shall survey the work area for Monterey ceanothus. • Monterey ceanothus shall be avoided year-round to the greatest extent feasible during activities due to its slow growth pattern. • Vehicle traffic in areas known to support Monterey ceanothus is strictly prohibited at any time. • Piling of any cut vegetation or other debris within areas known to support Monterey ceanothus is strictly prohibited at any time.	Year-round
Trees, including but not limited to: coast live oak, Monterey pine, and Monterey cypress	The CSUMB Tree Restoration Program was established to mitigation for impacts to coast live oak trees and other trees resulting from projects that occur on campus. This program replants two coast live oak trees for every tree greater than 4" diameter breast height (DBH) removed within an identified restoration area on campus. CSUMB Master Plan Project Design Feature (PDF) OS-4 provides for continuation and expansion of the CSUMB tree restoration program and management project to maximize the health and stability of existing and replacement trees. This includes, but is not limited to, Campus Planning approving and directing major trimming (over 30 percent) and replacement of all removed trees over 4 inches DBH at a minimum 2:1 ratio.	• Removal of trees greater than 4" in diameter shall be avoided to the greatest extent feasible unless they are determined a safety and/or fire hazard. • Branches larger than 4" shall not be cut from existing trees to the greatest extent feasible unless they are determined to be a safety and/or fire hazard. • The Project Biologist shall inventory and track removal of trees greater than 4" DBH that are determined a safety and/or fire hazard and must be removed or pruning of more than 30% of any tree. CSUMB shall review documents and coordinate this effort with its Tree Restoration Program and replace removed trees as determined feasible. • Pruning shall be conducted to avoid unnecessary injuries to trees. General principles of pruning (ANSI A300 Pruning Standards) include placing cuts immediately beyond the branch collar, making clean cuts by scoring the underside of the branch first, and, for coast live oak, pruning is recommended from May 1 to January 31.	May 1 – January 31
Invasive plant species (i.e., *Genista* sp., *Acacia* sp., iceplant, etc.)	Per CSUMB Master Plan, PDF-OS-3: Remove invasive species using best management practices during construction, demolition, and landscape projects.	• Equipment shall be pressure washed prior to entering the project site, cleaned of mud or other debris that may contain invasive plants and/or seeds, and inspected to reduce the potential of spreading noxious weeds. Equipment shall also be pressure washed and cleared of debris prior to exiting the project site to limit the spread of noxious weeds. • If found, invasive species shall be removed and placed in a trash (not green yard waste intended for reuse) dumpster and taken to the landfill.	Year-round

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WILDLIFE			
Monterey dusky-footed woodrat *(Neotoma macrotis luciana)*	Forest and oak woodland habitats of moderate canopy with moderate to dense understory. Also occurs in chaparral habitats.	• To avoid and reduce impacts to the Monterey dusky-footed woodrat, a qualified biologist shall conduct surveys for woodrat nests in suitable habitat proposed for fuel reduction, ground disturbance, or staging activities within three days prior to the implementation of activities within the project area and within a buffer zone of 100 feet from the limit of disturbance. All woodrat nests shall be flagged for avoidance from impacts that may result from activities and for protection during activities, where feasible. Nests that cannot be avoided shall be manually deconstructed prior to implementing activities to allow animals to escape harm. If a litter of young is found or suspected, nest material shall be replaced, and the nest left alone for 2-3 weeks before a re-check to verify that young are capable of independent survival before proceeding with nest dismantling.	Year-round
California tiger salamander *(Ambystoma californiense)*	Annual grassland and grassy understory of valley-foothill hardwood habitats in central and northern California. Need underground refuges and vernal pools or other seasonal water sources.	• A qualified biologist will survey the proposed project area and immediately adjacent areas 48 hours before and the morning of the onset of work activities for the presence of CTS. If any life stage of CTS is observed, project activities will not commence until the Service and CDFW are consulted and appropriate actions are taken to allow project activities to begin. • A qualified biologist shall survey appropriate areas of the site daily before the onset of work activities for the presence of CTS. The qualified biologist shall remain on site until all ground disturbing activities are completed. If any life stage of CTS is found and these individuals are likely to be killed or injured by work activities, work shall stop and the Service and CDFW shall be contacted. Activities will not resume until the Service and CDFW are consulted and appropriate actions are taken to allow project activities to continue. • The qualified biologist shall complete a daily log summarizing activities and environmental compliance throughout the duration of the proposed project. • Only tightly woven fiber netting or similar material may be used for erosion control at the project site. Coconut coir matting is an acceptable erosion control material. No plastic mono-filament matting will be used for erosion control, as this material may ensnare wildlife, including CTS. • Because dusk and dawn are often the times when CTS are most actively foraging and dispersing, all project activities should cease one half hour before sunset and should not begin prior to one half hour after sunrise. • All trash that may attract predators shall be properly contained, removed from the work site, and disposed of regularly. Following completion of work activities, all trash and construction debris shall be removed from work areas.	April 15 – October 15
Smith's blue butterfly *(Euphilotes enoptes smithi)*	Most commonly associated with coastal dunes and coastal sage scrub plant communities in Monterey and Santa Cruz Counties. Plant hosts are *Eriogonum latifolium* and *E. parvifolium*.	• Prior to project activities, CSUMB shall retain a qualified biologist to conduct a survey for SBB habitat (i.e., its host plants, *E. latifolium* and *E. parvifolium*) within the project site. If found, SBB habitat shall be avoided. • Areas known to support SBB habitat shall be flagged, and activities within those areas shall only occur from approximately June 1 to January 31, or at the discretion of the qualified biologist. • Vehicle traffic in areas known to support SBB habitat shall be strictly prohibited at all times. • Piling of any cut vegetation or other debris within areas known to support SBB habitat shall be strictly prohibited at all times.	September 1 – January 31
Nesting Avian Species and other protected Avian Species, including but not limited to burrowing owl (*Athene cunicularia*) and white-tailed kite (*Elanus leucurus*)	Stands of live oak, riparian deciduous, or other forest habitats, as well as open grasslands, are used most frequently for nesting.	• In compliance with CDFW Code and standard professional practice, activities that may directly (e.g., vegetation removal) or indirectly (e.g., noise/ground disturbance) affect protected nesting avian species shall be timed to avoid the breeding and nesting season (January 15 – September 15). Specifically, vegetation and/or tree removal should be scheduled between September 16 and January 14. • Alternatively, if activities during the breeding and nesting season cannot be avoided, a qualified biologist shall conduct pre-activity surveys for nesting raptors and other protected avian species within the site and within a suitable buffer area (recommended buffer distances are 500 feet for birds of prey and 250 feet for other passerine species) if activities commences between January 15 and September 15. Pre-activity surveys shall	September 16 – January 14

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Species	General Habitat/Description	Best Management Practices (BMPs)	Recommended Work Windows for Conducting Fuel Reduction and Defensible Space Activities[1] (Also Refer to Attachment D)
		be conducted no more than 14 days prior to the start of fuel reduction activities during the early part of the breeding season (January through April) and no more than 30 days prior to the initiation of these activities during the late part of the breeding season (May through September). Because some bird species nest early in spring and others nest later in summer, surveys for nesting birds may be required to continue during fuel reduction activities to address new arrivals, and because some species breed multiple times in a season. The necessity and timing of these continued surveys shall be determined by the qualified biologist based on review of fuel reduction schedule and buffer distances.	
Special-Status Bat Species, including but not limited to Townsend's big-eared bat (*Corynorhinus townsendii*)	Found in rural and urban settings from inland deserts to coastal redwoods, oak woodland, grassland and low to mid-elevation mixed coniferous-deciduous forests. Typically roost during the day in tree cavities, tree foliage, bark crevices, limestone caves, lava tubes, and mines, but can roost in buildings that offer suitable conditions. Night roosts are in more open settings and include bridges, rock crevices, and trees.	• To avoid and reduce impacts to special-status bat species, a qualified bat specialist or wildlife biologist shall conduct surveys during the reproductive season (March 1 through September 15) to characterize bat utilization of the project site and potential species present (techniques utilized to be determined by the biologist) prior to any tree or vegetation removal (or any other suitable roosting habitat). Surveys should also be conducted outside of the reproductive season, generally September 16-February 28 (or 29), as bats could be present and active any time of the year. • Surveys may include visual inspection during the day and emergence surveys aided by acoustics at sunset, and shall be conducted no more than 14 days prior to any tree or vegetation removal (or any other suitable roosting habitat) within 100 feet of vegetation removal limits. If, according to the bat specialist, no bats or bat signs are observed in the course of the surveys, tree and building removal may proceed. If bats and/or bat signs are observed during the surveys, the biologist shall determine if disturbance would jeopardize a maternity roost or another type of roost (i.e., foraging, day, or night). If avoidance is not possible then vegetation removal must be postponed until the end of the reproductive season. According to CDFW, maternity roosts cannot be moved or deliberately disturbed for any species of bat.	September 16 – February 28 (or February 29)
Other special-status wildlife species with potential to occur, including but not limited to Monterey ornate shrew (*Sorex ornatus salarius*), American badger (*Taxidea taxus)*, Northern California legless lizard (*Anniella pulchra*), and Coast horned lizard (*Phrynosoma blainvillii*)	Various; please refer to Appendix C (Special-Status Species Table) of the project's Biological Resources Report.	• A qualified biologist shall conduct an Employee Education Program for the workers prior to the implementation of any fuel management activities. The qualified biologist shall meet with the fuel management workers (crews) at the onset of work at the project site to educate them on the following: 1) the appropriate access route(s) in and out of the construction area and review project boundaries; 2) how a biological monitor will examine the area and agree upon a method which will ensure the safety of the monitor during such activities, 3) the identification of special-status species that may be present; 4) the specific mitigation measures that will be incorporated into the work effort; 5) the general provisions and protections afforded; and 6) the proper procedures if a special-status species is encountered within the project site to avoid impacts.	Year-round

ATTACHMENT B

California Environmental Quality Act
Supporting Documentation

California State University Monterey Bay
Fuel Management Plan for the East Campus Housing Area

PROJECT DESCRIPTION

Introduction

The Draft Fuel Management Plan for the East Campus Housing Area (Draft FMP) (proposed project) consists of the implementation of fuel reduction strategies and fire prevention protective measures as a part of the California State University, Monterey Bay (CSUMB) Campus Community Wildfire Protection Strategic Plan (Strategic Plan) in the East Campus Housing Area and along Inter-Garrison Road and all other roadways in the East Campus Housing Area, which serve as emergency evacuation routes. The Draft FMP is included as **Attachment A**. The Draft FMP would remove flammable vegetation and create defensible space in an area encompassing approximately 436 acres within the wildland urban interface.

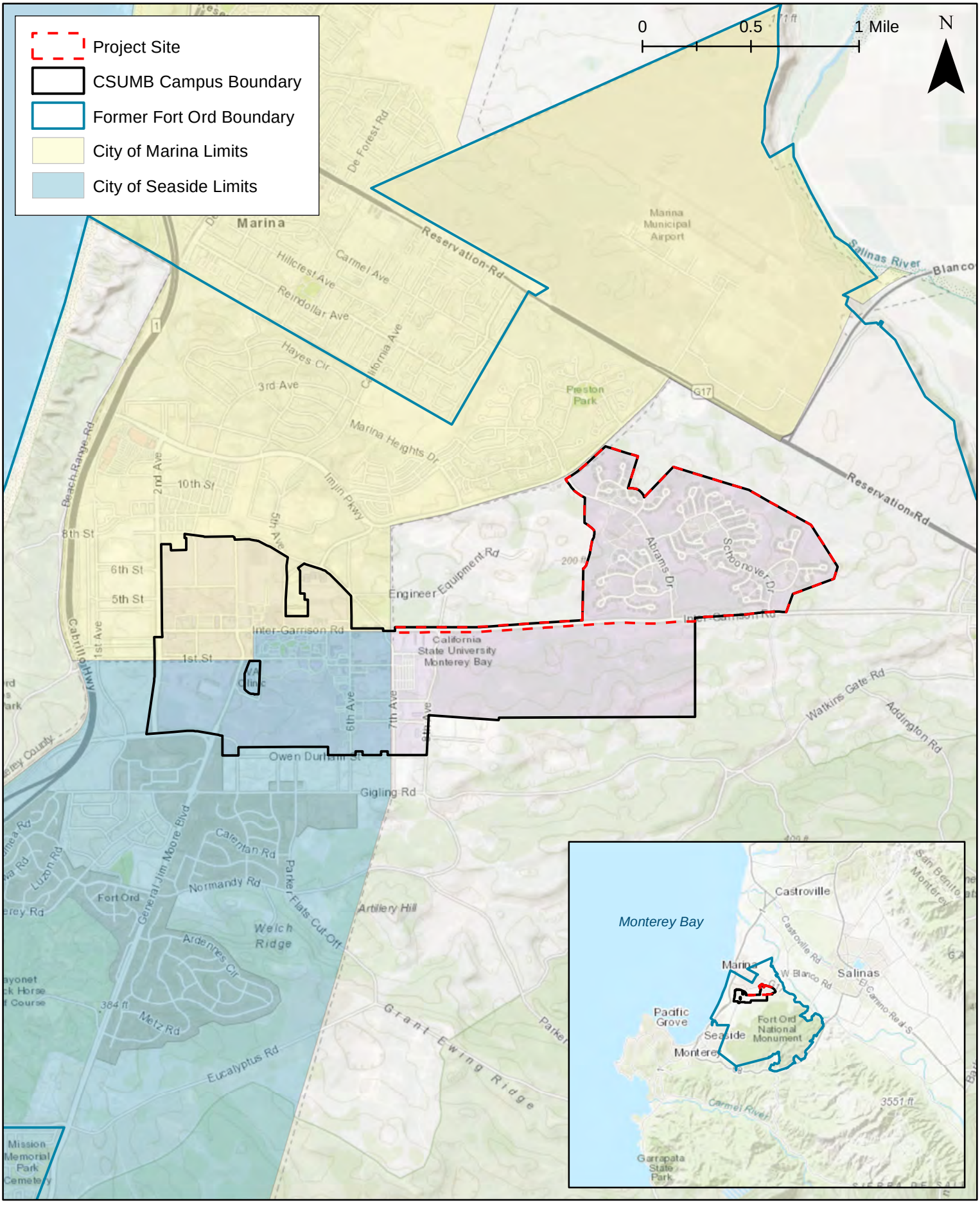
Project Location

The proposed project area is within the East Campus Housing Area south of Imjin Parkway, west of Reservation Road, and north of Inter-Garrison Road, and includes a 50-foot buffer on the north and south sides of Inter-Garrison Road from the campus core to the East Campus Housing Area of the CSUMB campus (**Figure 1**). 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) (**Figure 2**), and the aforementioned 50-foot buffer, totaling approximately 9.3 acres, within the road right-of-way along Inter-Garrison Road (Army Parcel S1.3.3) (**Figure 2**). The project area site contains coast live oak woodland, maritime chaparral, coastal scrub, non-native grassland, and ruderal/disturbed habitat communities.

Regional access to the project area is provided by Highway 1, a six-lane arterial highway located approximately three miles west of the project area, or by Reservation Road, a four-lane arterial road approximately one mile east of the area. Local access to the project area is provided by: Abrams Drive, a local two-lane road; and Imjin Parkway and Inter-Garrison Road, which are two-lane collectors located north and south of the area, respectively. The local access roads are located approximately three miles west of Highway 1.

<u>Wildland Urban Interface and Fire Hazard Severity Zones</u>

Wildfires become especially dangerous when wildland vegetation begins to intermix with residential areas. This area is referred to as the Wildland Urban Interface (WUI), which is a zone of transition between wilderness (unoccupied land) and land developed by human activity, and where wildfires pose the greatest risk to people due to the proximity of flammable vegetation. The combination of increasing development in or near wildlands, the accumulation of wildland fuels,



Project Vicinity

Date	Figure
1/28/2022	1
Scale: 1 in = 3,000 ft	

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Planning and Environmental Consulting

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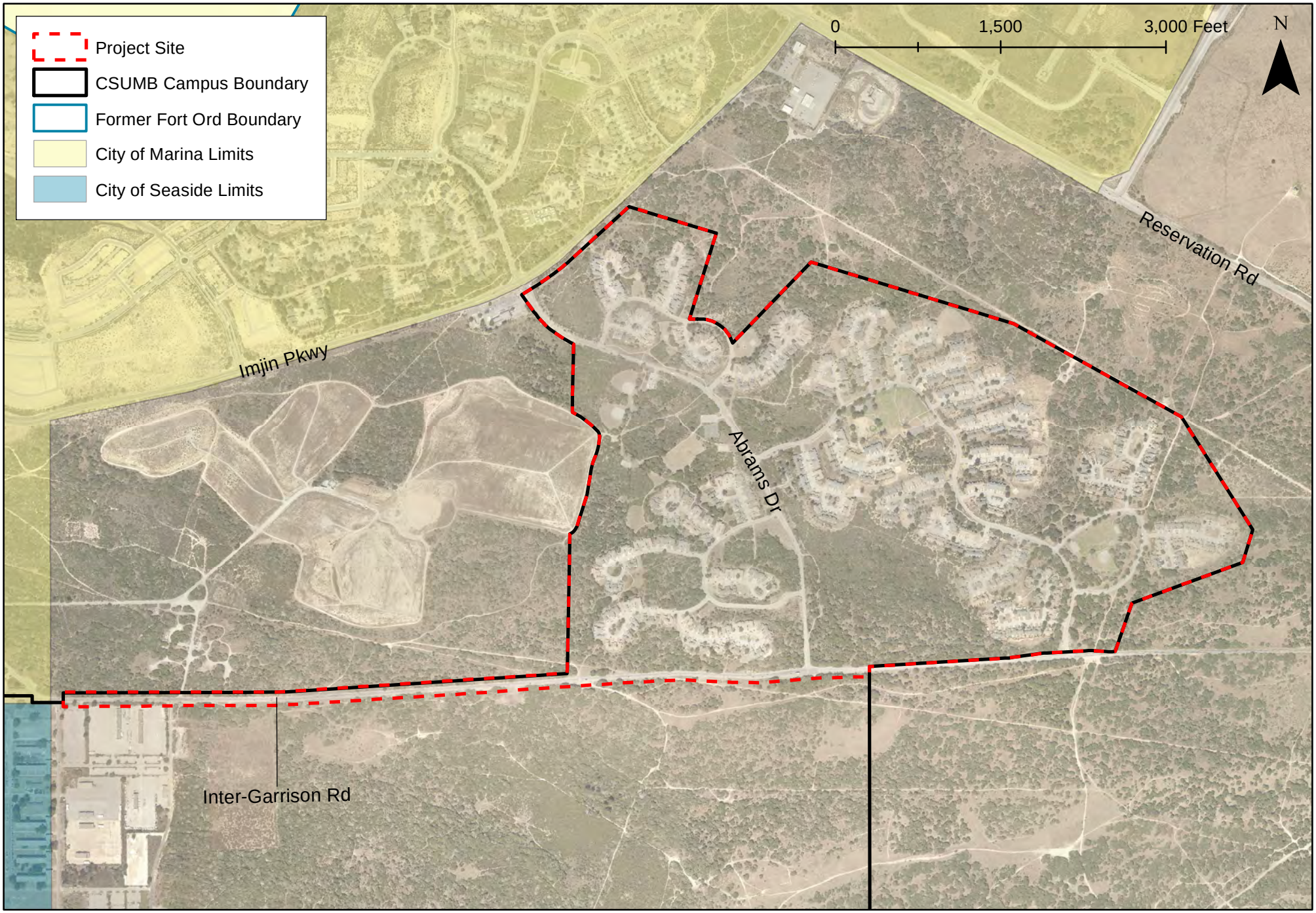

Project Location

Date
1/28/2022

Scale
1 in = 1,000 ft

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Figure
2

Path: D:\GIS\GIS_Projects\2019-51 CSUMB Fire Clearance\Final\Bio Report\Fig 2 - Project Location.mxd

a drying and warming climate, longer fire seasons, and rugged terrain has resulted in significant wildfire risk to communities located in or near the WUI. Wildfire in these WUI areas could result in substantial impacts to natural resources and substantial health, safety, and welfare impacts to the built/human environment adjacent to these areas.

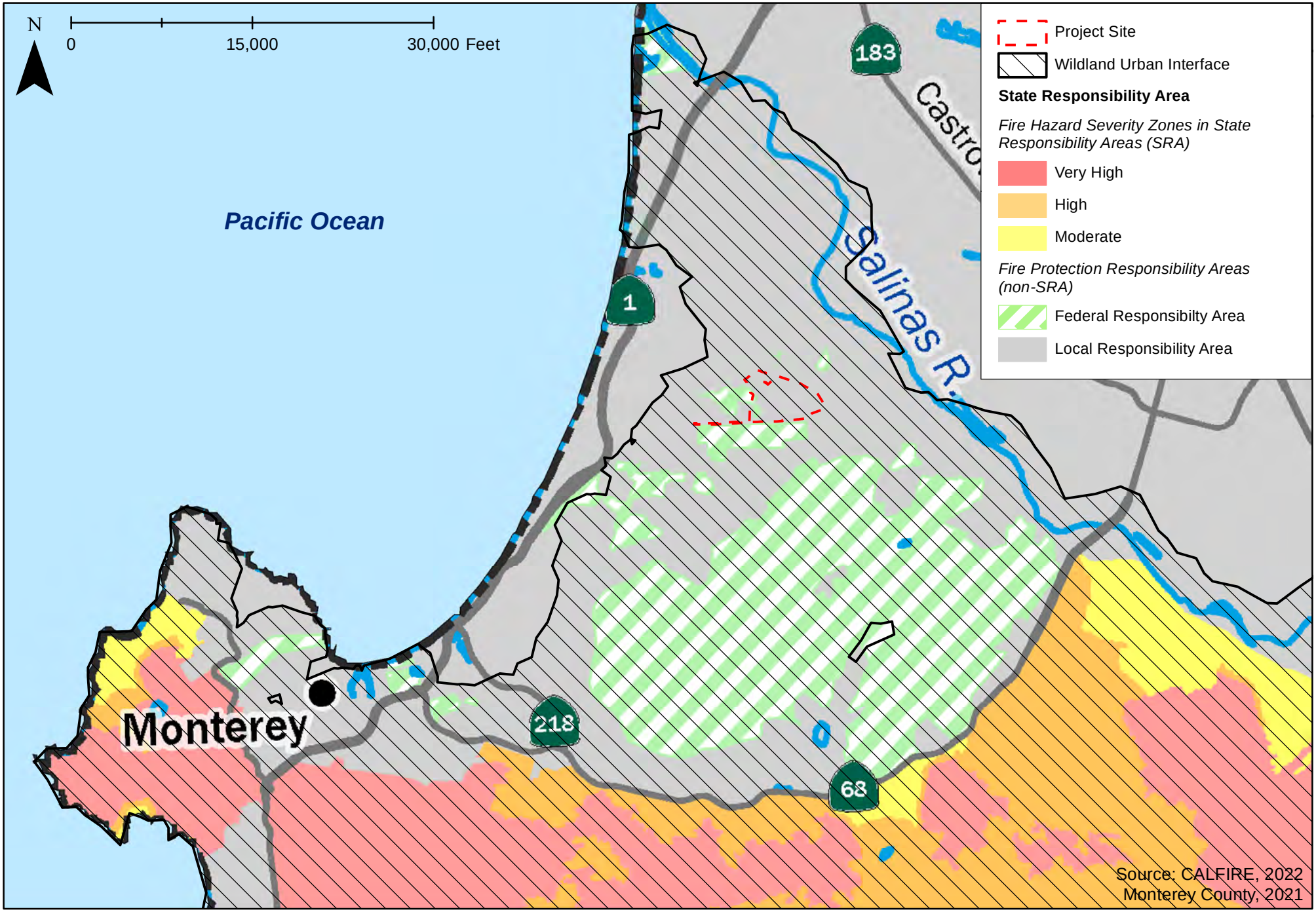
As shown in **Figure 3**, the East Campus Housing Area is located within the WUI. The project area is surrounded by undeveloped lands that are also located within the WUI, the most significant of which include approximately 14,650 acres of land managed by the Bureau of Land Management (BLM) (i.e., the Fort Ord National Monument) to the south.

PRC Sections 4201-4204 directs CAL FIRE to classify lands within State Responsibility Areas (SRAs) into Fire Hazard Severity Zones (FHSZs) based on fuel loading, slope, fire weather, and other relevant factors, including areas where winds have been identified by the department as a major cause of wildfire spread. These classify a wildland zone as a moderate, high, or very high fire hazard based on the average hazard across the area within the zone. SRAs are lands that provide forest or range products, watersheds not owned or managed by the federal government or within the boundaries of incorporated cities, and where CAL FIRE has the primary financial responsibility for preventing and suppressing fires (PRC Sections 4113 and 4125) (**Figure 3**).

AB 337 ("Bates Bill"), Government Code Section 51175, was prompted by the devastating Oakland Hills Fire of 1991. This legislation calls for CAL FIRE to evaluate fire hazard severity in Local Responsibility Areas (LRAs) and to make a recommendation to the local jurisdiction where very high FHSZs exist. CAL FIRE uses an extension of the SRA FHSZ model as the basis for evaluating fire hazard in a LRA. LRAs include land in cities, cultivated agricultural lands, nonflammable areas in unincorporated areas, and lands that do not meet the criteria for SRA or Federal Responsibility Area (FRA). LRAs may include flammable vegetation and wildlife urban interface areas. The LRA hazard rating reflects risk of flame and ember intrusion from adjacent wildlands and from flammable vegetation in the urban area. LRA fire protection is typically provided by city fire departments, fire protection districts, and counties, or by CAL FIRE under contract to local governments. CAL FIRE released the LRA recommendation map for Monterey County in November 2008 and the recommended FHSZs in the project vicinity are shown in **Figure 4**.

Federal Responsibility Areas (FRAs) are fire-prone wildland areas that are owned or managed by a federal agency, as shown in **Figures 3** and **4**. Primary financial and rule-making jurisdiction authority rests with the federal land agency.

As shown in **Figures 4** and **5**, the project area is not located within a SRA. State law designates the majority of the project area as a LRA, and some of areas of the project area (a portion along the western boundary of the area and south of Inter-Garrison Road) are designated as FRAs (**Figures 3** and **4**). The East Campus Housing Area is within close proximity to a Very High FHSZ (or VHFHSZ) in a LRA (1.5 miles to the east) and a VHFHSZ in the FRA (0.5 mile south of Inter-Garrison Road) (**Figures 3** and **4**).



Fire Hazard Severity Zones and Responsibility Areas

Date
4/13/2023

Scale
1 in = 10,000 ft

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Figure
3

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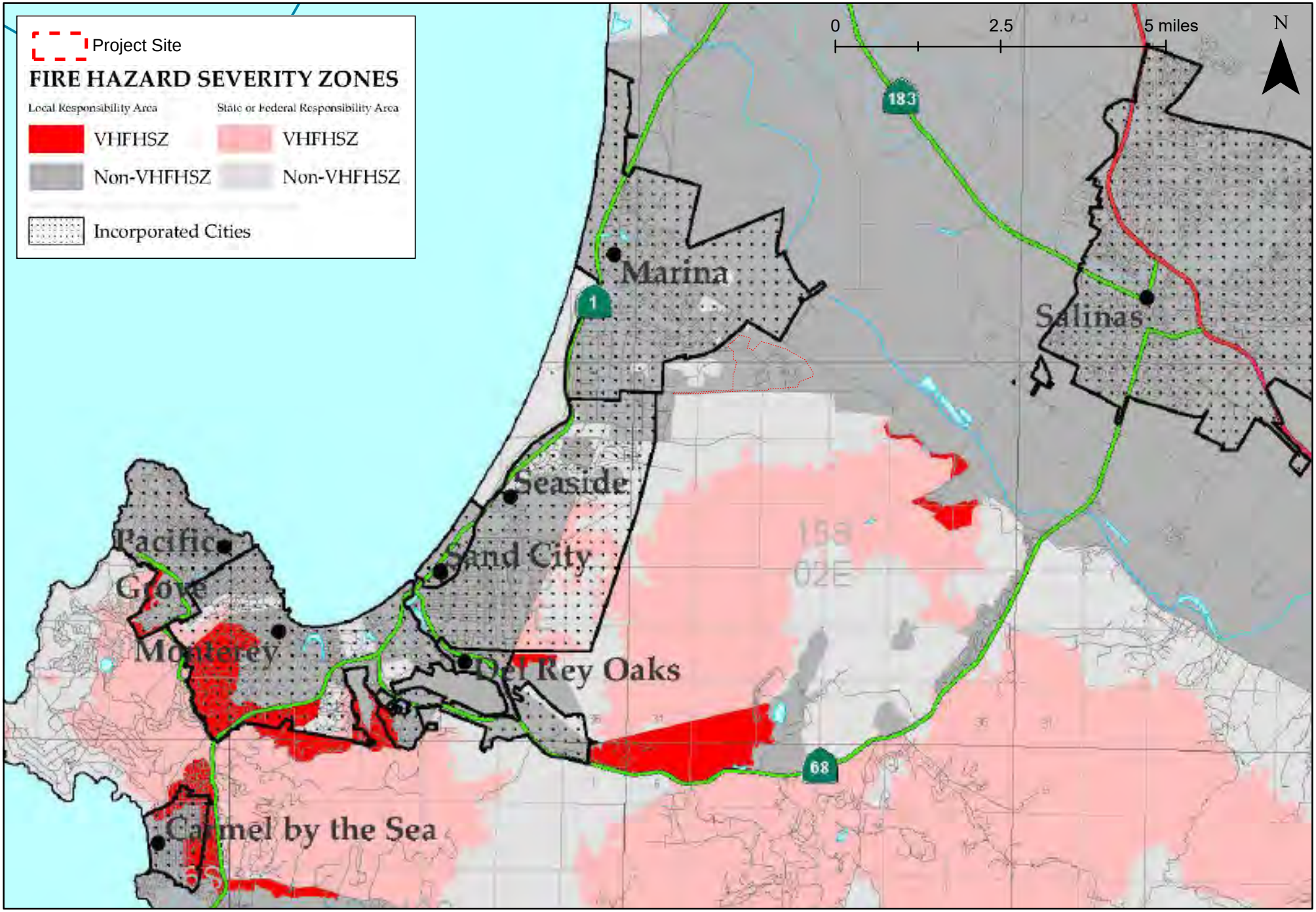

Fire Hazard Severity Zone Map

Date
2/10/2022

Scale
1 in = 1.2 mi

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Figure
4

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Project Background

The CSUMB Emergency Management Program provides the coordination and management of all stages of emergencies and disasters on a campus-wide basis. This is accomplished through the utilization of the phases of emergency management: prevention, mitigation, preparedness, response, and recovery. These phases are used to accomplish the tasks and associated mission and to ensure CSUMB's resilience to emergencies or a disaster through all-hazards and a whole-community approach. The CSUMB Emergency Management Program works and coordinates with CSUMB emergency responders, staff, faculty, facilities, the student population, fire departments, local, county, state and federal agencies, and the private sector to coordinate the needed resources to respond to and recover from an emergency or disaster affecting the CSUMB campus or its population.

In keeping with the Emergency Management Program's Mission and Strategic Framework, the CSUMB Campus Community Wildfire Protection Strategic Plan (Strategic Plan) was developed as a guide to address the threat wildfires represent to the University. Community Wildfire Protection Plans (CWPPs) are a proven strategy for reducing the risk of catastrophic wildfires and protecting lives and property. A CWPP is unique in that it empowers communities to share the responsibility of determining the best strategies for protection against wildfire. CWPPs are also developed to mitigate losses from wildfires. Wildfires occur throughout the year and can pose a serious threat to the campus community. By developing a CWPP, the campus has outlined a comprehensive Strategic Plan to mitigate, prepare, respond to, and recover from a wildfire. It clarifies how the campus, projects, and funds will be connected to achieve the desired outcome with maximizing efficiency. It includes meaningful target measures and a sequence of activities that help focus on the key efforts that will implement the strategy to accomplish the mission.

CWPPs such as the Monterey County Community Wildfire Protection Plan (MCCWPP) and CSUMB's Strategic Plan have been prepared to address specific wildfire prevention and mitigation for the County and campus, respectively. These plans identify the need for fuel management and reduction activities to protect structures and roadside fuel treatment to remove any obstructions for evacuation and emergency access. Table 13 of the MCCWPP provides recommended prioritization of areas within Monterey County where wildfire hazardous fuel reduction work may be needed. The communities listed qualify as at-risk communities pursuant to the Healthy Forests Restoration Act (HFRA) and/or communities at-risk as listed by the California Fire Alliance. The CSUMB community is included in this list and identifies the CSUMB community as a high priority in terms of the need for fuel reduction work. The CSUMB community meets the definition of an at-risk community in the HFRA as a "group of homes and other structures with basic infrastructure and services, such as utilities and collectively maintained transportation routes, that are at risk of wildfire, and are within are adjacent to federal land, per 16 USC 6511(A)(ii)." In addition, former Fort Ord, in which the CSUMB campus is located, is included in this list and the MCCWPP identifies the former military base as a high priority in need of fuel reduction work. The former Fort Ord meets the definition of an at-risk community in the HFRA as it is "listed in the Federal Register, are at risk of wildfire, and are within or adjacent to Federal land, per 16 USC 6511(A)(i)."

The MCCWPP also states that roads are an essential part of any fire and fuels management plan, providing the principal access to the communities, homes, and wild places in the watershed. Additionally, roads may offer a defensible space from which firefighters can conduct direct attack on wildfires and provide strategic locations for roadside shaded fuelbreaks. Roadside fuelbreaks also represent a safe escape/evacuation route for residents in the event of a wildfire. Roadside

protection is recommended to be implemented within a corridor that extends up to 100 feet out from either side of the road.

PRC Section 4291 gives CAL FIRE the authority to enforce 100 feet of defensible space around all buildings and structures on non-federal SRA lands, or non-federal forest-covered lands, brush-covered lands, grass-covered lands, or any land that is covered with flammable material. As described above, the project area is located within the WUI and contains these habitat communities, and, thus is required to maintain defensible space as outlined in PRC Section 4291 and Government Code 51175-51189. In addition, CSUMB's Main Campus is less than two miles from the East Campus Housing Area and wildland area. There are also PG&E powerlines running through the community and natural gas transmission lines running through the project area.

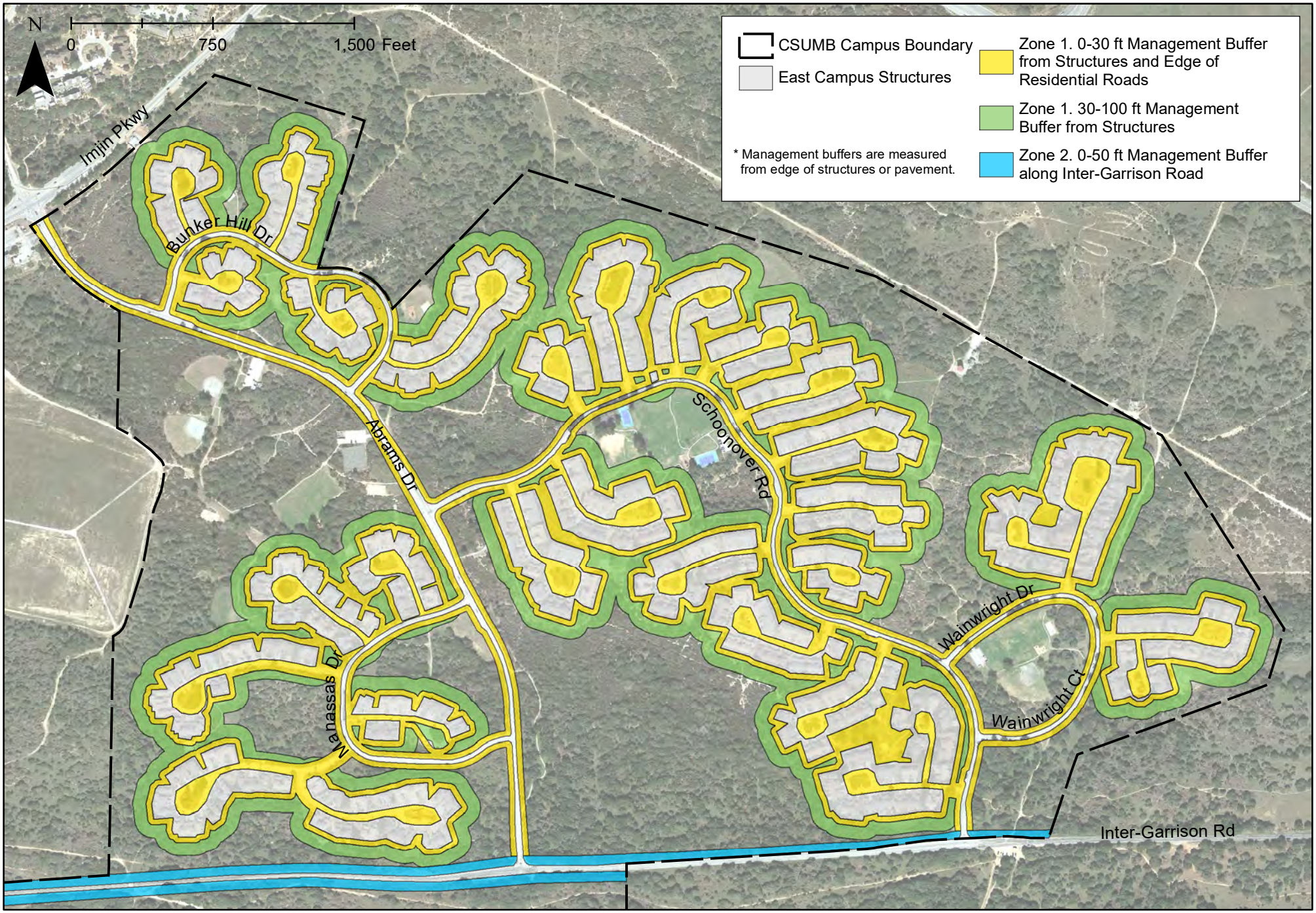
In response to the recommendations in the CWPPs and state regulations, CSUMB prepared the Draft FMP (proposed project) for the East Campus Housing Area. The proposed project is an objective of the Strategic Plan, which identifies wildfire safety strategies and objectives and determines specific tasks to be fulfilled by the Draft FMP. The proposed project would align with the goals and objectives of the Strategic Plan as a part of the CSUMB Emergency Management Program's Mission and Strategic Framework.

The Draft FMP and Strategic Plan were submitted along with a Fire Prevention Program Grant Application to CAL FIRE. Fire Departments for the City of Marina and the City of Seaside provided letters of support for the grant application and expressed their concern for the at-risk areas of the CSUMB campus, specifically the East Campus Housing Area and Inter-Garrison Road corridor. CAL FIRE awarded CSUMB the grant funding to implement the plan, recognizing the fire risk on the campus.

Project Description

CSUMB developed a comprehensive wildfire management program, the 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.

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 (**Figures 5a** and 5**b**). 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.



Fuel Management Buffers

Date
8/23/2022

Scale
1 in = 700 ft

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Figure
5a

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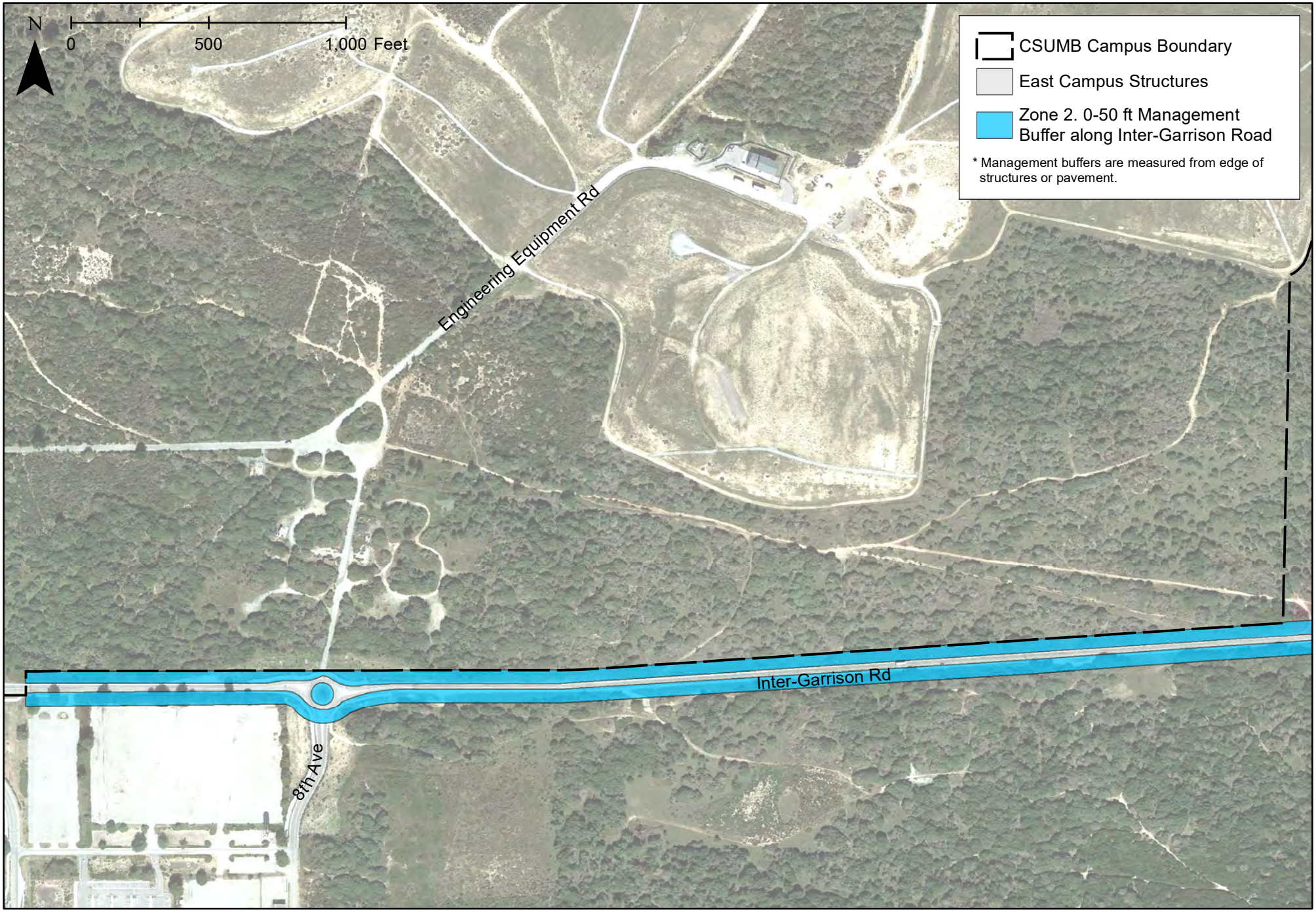

Fuel Management Buffers

Date
8/23/2022

Scale
1 in = 500 ft

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Figure
5b

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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.
- 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 accumulation.
- 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.

[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.

- Pressure washing and inspecting equipment prior to entering the project area 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 area 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.

A Biological Resources Report was prepared to describe the existing biological resources within and adjacent to the project area, including any special-status species or sensitive habitats which occur or have the potential to occur within and adjacent to the area (**Attachment C**). The report also assesses the potential impacts to biological resources that may result from implementation of the proposed project. The analysis determined that potential impacts to sensitive biological resources would be less than significant with implementation of the project's 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 so as to not impact future fuel load.

Project Goals and Objectives

The goal of the proposed project is to reduce the risk of wildfire in the project area through implementation of the Draft FMP. As discussed above, the proposed project is an objective of the Strategic Plan, which identifies wildfire safety strategies and objectives and determines specific tasks to be fulfilled by the Draft FMP. The proposed project would align with the goals and objectives of the Strategic Plan as a part of the CSUMB Emergency Management Program's Mission and Strategic Framework. The project's key objectives are to: 1) reduce the fire hazard within the East Campus Housing Area to an acceptable level of risk; and 2) implement fuel reduction and clearance activities while minimizing risk to natural resources.

EXEMPT STATUS

Statutory exemptions are projects specifically excluded from California Environmental Quality Act (CEQA) consideration as defined by the State Legislature and delineated in PRC Section 21080. The project qualifies for a CEQA Statutory Exemption under Article 18, *Section 15269(c) Emergency Projects*.

In addition, the project would qualify for a Class 1 Categorical Exemption under Article 19 (Categorical Exemptions) *15301(h) Existing Facilities*, and a Class 4 Categorical Exemption under Article 19 (Categorical Exemptions) *15304(i) Minor Alterations to Land* of the State CEQA Guidelines.

Finally, under CEQA Guidelines section 15061(b)(3), Review for Exemption (14 CCR Sec. 15061(b)(3)), activities are exempt from, and otherwise not subject to, CEQA under the "common sense" exemption where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment. Therefore, the proposed project also qualifies under the "common sense" exemption.

Reason Why the Project is Statutorily Exempt

Article 18 (Statutory Exemptions) of the State CEQA Guidelines lists types of projects that are exempt to the requirements of CEQA. This section provides an analysis of why this project meets the conditions for a *Section 15269(c) Emergency Projects* exemption.

15269 Emergency Projects

Section 15269(c) consists of:

(c) Specific actions necessary to prevent or mitigate an emergency. This does not include long-term projects undertaken for the purpose of preventing or mitigating a situation that has a low probability of occurrence in the short-term, but this exclusion does not apply (i) if the anticipated period of time to conduct an environmental review of such a long-term project would create a risk to public health, safety or welfare, or (ii) if activities (such as fire or catastrophic risk mitigation or modifications to improve facility integrity) are proposed for existing facilities in response to an emergency at a similar existing facility.[2]

Statutory Exemption Analysis

Section 15269(c) of the CEQA Guidelines specifies that the CEQA statutory exemption for emergency projects exempts specific actions necessary to prevent of mitigate an emergency, including where "fire or catastrophic risk mitigation or modifications to improve facility integrity are proposed for existing facilities in response to an emergency at a similar existing facility."

The proposed project meets these conditions. The proposed project would be statutorily exempt from environmental review under CEQA because it consists of fuel management activities in the East Campus Housing Area and along Inter-Garrison Road and all other roadways in the East Campus Housing Area, which would be used for both emergency access and evacuation in the event of a wildfire. The structures and roadways in the project area do not currently meet the defensible space requirements under PRC Section 4291 and Government Code 51175-51189.

[2] *CCR Title 14, Division 6, Chapter 3, Article 18. Statutory Exemptions, Section 15269 Emergency Projects*. Available at: https://www.law.cornell.edu/regulations/california/14-CCR-15269

This statutory exemption applies to the activities outlined in the Draft FMP because the project is being implemented as fire or catastrophic risk mitigation to create a defensible space around residential structures and roadways, and to improve the integrity of the access roads, thereby improving both access for fire equipment and evacuation safety for residents. This statutory exemption is applicable if measures are *"in response to an emergency at a similar existing facility"* and if there is substantial evidence in the record to prove an emergency situation exists. Due to increasing risk of wildfire in Wildland Urban Interfaces or WUIs in California, CSUMB intends to begin the fuel management activities as soon as possible and before the peak of the next fire season occurs to reduce the vulnerability of residents to wildfire.

The CSUMB campus and former Fort Ord are located within the WUI and listed as at-risk communities by the Monterey County Community Wildfire Protection Plan (MCCWPP). Wildland fires have occurred not far from the CSUMB campus and region. Analysis of the Fire and Resource Assessment Program (FRAP) fire history maps shows historic high wildfire activity in the Monterey Bay area. The 1997 and 2003 Eucalyptus Fires burned 264 acres and 819 acres (respectively) on former Fort Ord lands approximately 2.5 miles southwest of the project area. Additional wildfires in the region include the 2008 Basin Complex, 2016 Soberanes, and 2022 Colorado Fires in Big Sur; and the 2020 River, Carmel, Dolan, and Coleman Fires in Monterey County. The 2020 River Fire burned for 19 days, burning over 48,000 acres, destroying 30 structures, and damaging 13 more. The 2020 River Fire western boundary reached within 5 miles of the project area. There have been numerous brush fires north of Reservation Road and within the Marina Municipal Airport (40 acres in 2017 and 49 acres in 2019) approximately less than a half-mile from the project area.

There is evidence to show that rising temperatures and low seasonal precipitation associated with climate change are increasing fire activity in the Monterey Bay area. There is also evidence that suggests fire risk is increased where development expands in the WUI. Wildfire fuel management is recognized as an important strategy for managing future fire risk to people and structures.

A statutory exemption applies to any given project that falls under its definition, regardless of the project's potential impacts to the environment. However, it is important to note that any CEQA exemption applies only to CEQA and not any other state, local, or federal laws that may be applicable to a proposed project, including, but not limited, to CESA and ESA. As described above, 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). A Biological Resources Report was prepared to describe the existing biological resources within and adjacent to the project area, including any special-status species or sensitive habitats which occur or have the potential to occur within and adjacent to the area (**Attachment C**). The report also assesses the potential impacts to sensitive biological resources that may result from implementation of the proposed project. The analysis determined that potential impacts to sensitive biological resources would be less than significant with implementation of the project's BMPs. As a result, potentially significant impacts to sensitive

biological resources will be avoided and minimized with implementation of the project's BMPs and any incidental take of listed species under CESA and ESA will be avoided.

Reason Why the Project is Categorically Exempt

Article 19 (Categorical Exemptions) of the CEQA Guidelines lists classes of projects that are exempt from the requirements of CEQA. This section provides an analysis of why this project meets the conditions for a *Section 15301(h) Class 1 Existing Facilities* and *Section 15304(i) Minor Alterations to Land* exemption, together with the reasons why none of the possible exceptions to Categorical Exemptions, found in *Section 15300.2 Exceptions*, apply to this proposed project.

Section 15301 Existing Facilities:

Class 1 consists of the operation, repair, maintenance, permitting, leasing, licensing, or other minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of existing or former use. The types of "existing facilities" itemized below are not intended to be all-inclusive of the types of projects which might fall within Class 1. The key consideration is whether the project involves negligible or no expansion of use.

Section 15301(h) consists of:

Maintenance of existing landscaping, native growth, and water supply reservoirs.[3]

Section 15304 Minor Alterations to Land:

Class 4 consists of minor public or private alterations in the condition of land, water, and/or vegetation which do not involve the removal of healthy, mature, scenic trees except for forestry and agricultural purposes.

Section 15304(i) consists of:

Fuel management activities within 30 feet of structures to reduce the volume of flammable vegetation, provided that the activities will not result in the taking of endangered, rare, or threatened plant or animal species or significant erosion and sedimentation of surface waters. This exemption shall apply to fuel management activities within 100 feet of a structure if the public agency having fire protection responsibility for the area has determined that 100 feet of fuel clearance is required due to extra hazardous fire conditions.[4]

Categorical Exemption Analysis

The proposed project meets the conditions described in Sections 15301(h) and 15304(i). The proposed project would be categorically exempt from environmental review under CEQA because it involves the maintenance of existing landscaping and native growth and would not involve the expansion of use of any existing facilities. The removal of dead, dying, and hazardous trees constitutes a maintenance activity for an existing public facility (e.g., campus housing and roadways) involving no expansion of use. The buildings and roadways within the project area do

[3] *CCR Title 14, Division 6, Chapter 3, Article 19. Categorical Exemptions, Section 15301 Existing Facilities.* Accessible at: https://www.law.cornell.edu/regulations/california/14-CCR-15301

[4] *CCR Title 14, Division 6, Chapter 3, Article 19. Categorical Exemptions, Section 15304 Minor Alterations to Land.* Accessible at: https://www.law.cornell.edu/regulations/california/14-CCR-15304

not currently meet the defensible space requirements under PRC Section 4291 and Government Code 51175-51189. Maintenance of the existing landscaping and native vegetation in accordance with the Draft FMP would meet the key project objectives, which are to: 1) reduce the fire hazard within the East Campus Housing Area to an acceptable level of risk; and 2) implement fuel reduction and clearance activities while minimizing risk to natural resources.

The proposed project would also be categorically exempt from environmental review under CEQA because it involves minor alterations of land, including fuel management activities to reduce the volume of flammable vegetation within 30 and 100 feet of structures and 50 feet of Inter-Garrison Road, as determined necessary by the CSUMB Emergency Management Program and CAL FIRE. No healthy, mature, scenic trees would be removed as part of this project.

The proposed fuel management and reduction activities would be conducted year-round depending upon fire safety conditions, availability of labor and resources, and the need for avoidance of sensitive biological resources. A Biological Resources Report was prepared to describe the existing biological resources within and adjacent to the project area, including any special-status species or sensitive habitats which occur or have the potential to occur within and adjacent to the area (**Attachment C**). The report also assesses the potential impacts to sensitive biological resources that may result from implementation of the proposed project. The Biological Resources Report concluded that potential impacts to sensitive biological resources would be less than significant with implementation of the project's BMPs. As a result, potentially significant impacts to sensitive biological resources will be avoided and minimized with implementation of the project's BMPs and any incidental take of listed species under CESA and ESA will be avoided.

The Draft FMP was developed and designed to avoid and minimize impacts to sensitive resources, including take of endangered, rare, or threatened species. The Draft FMP requires the implementation of biological resource avoidance measures and tree pruning recommendations during activities. As a component of the Draft FMP, Best Management Practices (BMPs) were identified and required to be implemented at all 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). Therefore, the proposed activities would not result in the taking of endangered, rare, or threatened plant or animal species or significant erosion.

There would be no impact to cultural resources or hazardous materials (i.e., unexploded ordinance) due to the lack of ground disturbance. There are no surface waters within or adjacent to the project area, and, therefore, the implementation of the proposed Draft FMP would not result in sedimentation of surface waters.

The proposed project would reduce the potential for future greenhouse gas emissions by avoiding and reducing wildfire-caused 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 would 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 are not proposed or anticipated as part of the project. Healthy trees greater than six inches diameter DBH may be considered mature or scenic. However, the Draft FMP only proposes to remove dead, dying, or hazardous trees or trees under six inches. As a part of the University's climate resiliency,

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 as to not impact future fuel load.

Conclusion

Under CEQA Guidelines section 15061(b)(3), Review for Exemption (14 CCR Sec. 15061(b)(3)), activities are exempt from, and otherwise not subject to, CEQA under the "common sense" exemption where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment. As analyzed above, the proposed project would not result in any significant effects on the environment. Therefore, in addition to the statutory and categorical exemptions identified above, qualifies under the "common sense" exemption.

As described above, the proposed project would not result in a significant impact to environmental resources. Therefore, the project is eligible for the identified categorical exemptions under CEQA.

Exceptions to Categorical Exemption Analysis

CEQA Guidelines Section 15300.2 identifies exceptions that override a lead agency's ability to use a categorical exemption. These exceptions are listed below, including documentation as to why each exception does not apply to the proposed project.

Location
Classes 3, 4, 5, 6, and 11 are qualified by consideration of where the project is to be located – a project that is ordinarily insignificant in its impact on the environment may in a particularly sensitive environment be significant. Therefore, these classes are considered to apply all instances, except where the project may impact on an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law by federal, state, or local agencies.
This exception does not apply to the proposed project. A Biological Resources Report was prepared to describe the existing biological resources within and adjacent to the project area, including any special-status species or sensitive habitats which occur or have the potential to occur within and adjacent to the area (**Attachment C**). The report also assesses the potential impacts to sensitive biological resources that may result from implementation of the proposed project. While sensitive biological resources, including sensitive habitat, are known to occur in the project area, the Draft FMP was developed and designed to avoid and minimize impacts to sensitive resources, including take of endangered, rare, or threatened species and sensitive habitats. The Draft FMP requires the implementation of biological resources avoidance measures and tree pruning recommendations during activities. As a component of the Draft FMP, Best Management Practices (BMPs) were identified and required to be implemented at all 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). The Biological Resources Report concluded that potential impacts to sensitive biological resources would be less than significant with implementation of the project's BMPs. As a result, potentially significant impacts to sensitive biological resources will be avoided and minimized with implementation of the project's BMPs and any incidental take of listed species under CESA and ESA will be avoided. Therefore, the proposed project would not result in impacts to a sensitive environment.

Cumulative Impact

All exemptions are inapplicable when the cumulative impact of successive projects of the same type in the same place, over time, is significant.

This exception does not apply to the proposed project. The Draft FMP involves conducting fuel management activities in the East Campus Housing Area. These activities would be conducted year-round depending upon fire safety conditions and availability of labor and resources. In addition, 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. As described above, the Biological Resources Report concluded that potential impacts to sensitive biological resources would be less than significant with implementation of the project's BMPs.

There are no other projects of the same type proposed in the East Campus Housing Area, and, therefore, no cumulative impacts would occur.

Significant Effect

A categorical exemption shall not be used for an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances.

This exception does not apply to the proposed project. There are no unusual circumstances related to the project that would create a reasonable possibility of significant effects to the environment. The Draft FMP outlines fuel management and reduction activities in accordance with PRC Section 4291, which identifies activities to create defensible space. The proposed project is not unusual in size or location as evidenced by the issuance of the grant by CAL FIRE. Therefore, impacts would be less than significant.

Scenic Highways

A categorical exemption shall not be used for a project which may result in damage to scenic resources, including but not limited to, trees, historic buildings, rock outcroppings, or similar resources, within a highway officially designated as a State Scenic Highway. This does not apply to improvements which are required as mitigation by and adopted negative declaration or certified EIR.

This exception does not apply to the proposed project. According to the California Scenic Highway Mapping System, the closest eligible State Scenic highway is State Route 1, approximately 1.68 miles west of the project. Because the proposed project would manage vegetation in residential areas and on local roads and outside of the proposed scenic highway designation, there would be no damage to scenic resources due to project implementation. No impact would occur.

Hazardous Waste Sites
A categorical exemption shall not be used for a project located on a site which is included on any list compiled pursuant to §65962.5 of the Government Code.
This exception does not apply to the proposed project. The proposed project area is not located on a site which is included on any list compiled pursuant to Section 65962.5 of the Government Code.

Historical Resources
A categorical exemption shall not be used for a project which may cause a substantial adverse change in the significance of a historical resource.
This exception does not apply to the proposed project. The proposed project would remain on or adjacent to existing roads and residential structures. Fuel management activities would not impact any structures. Therefore, no impact to historical structures would occur.

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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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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.

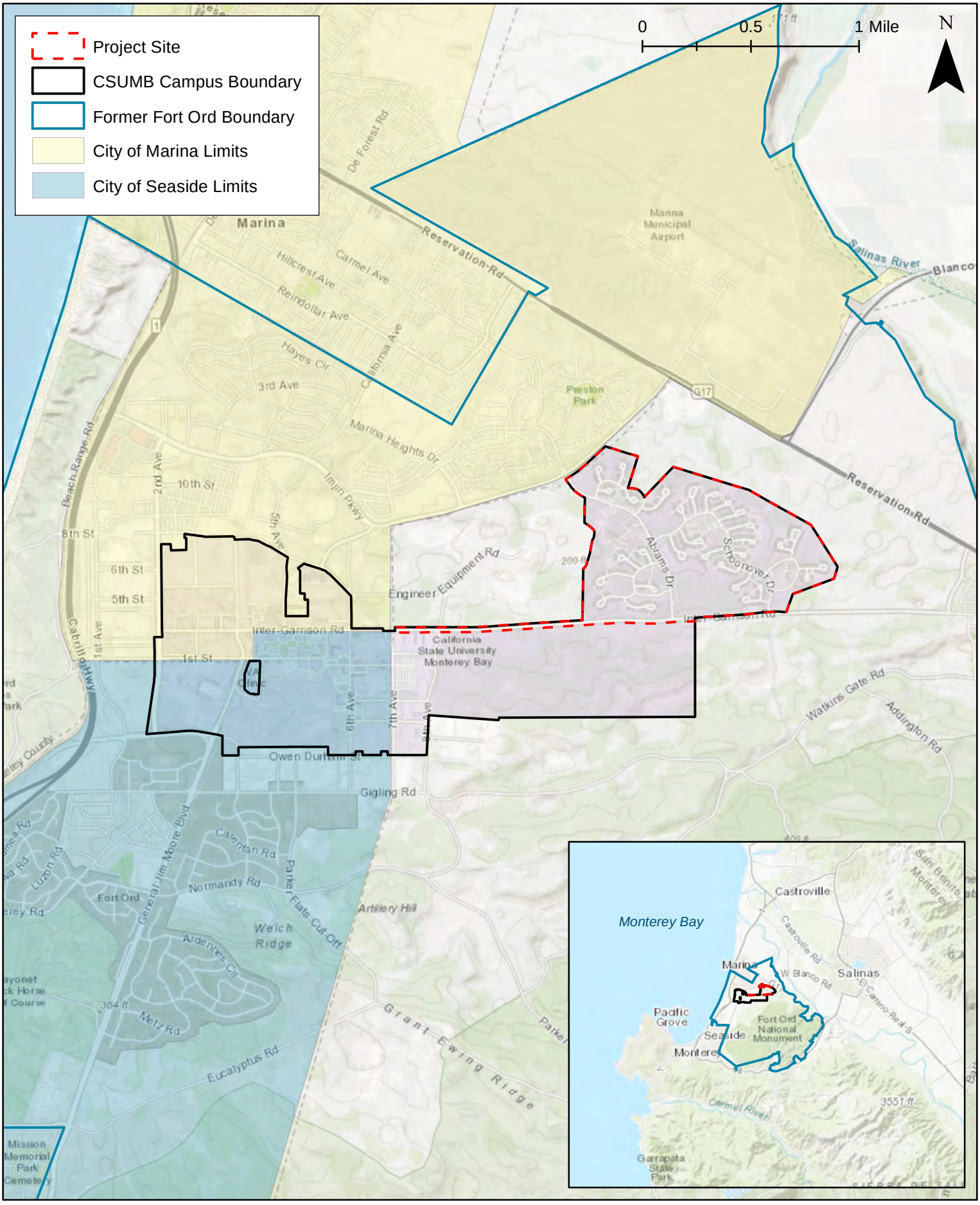
This Biological Resources Report describes the existing biological resources within and adjacent to the project site, including any special-status species or sensitive habitats which occur or have the potential to occur within and adjacent to the site. This report also assesses the potential impacts 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	Figure
1/28/2022	1
Scale: 1 in = 3,000 ft	

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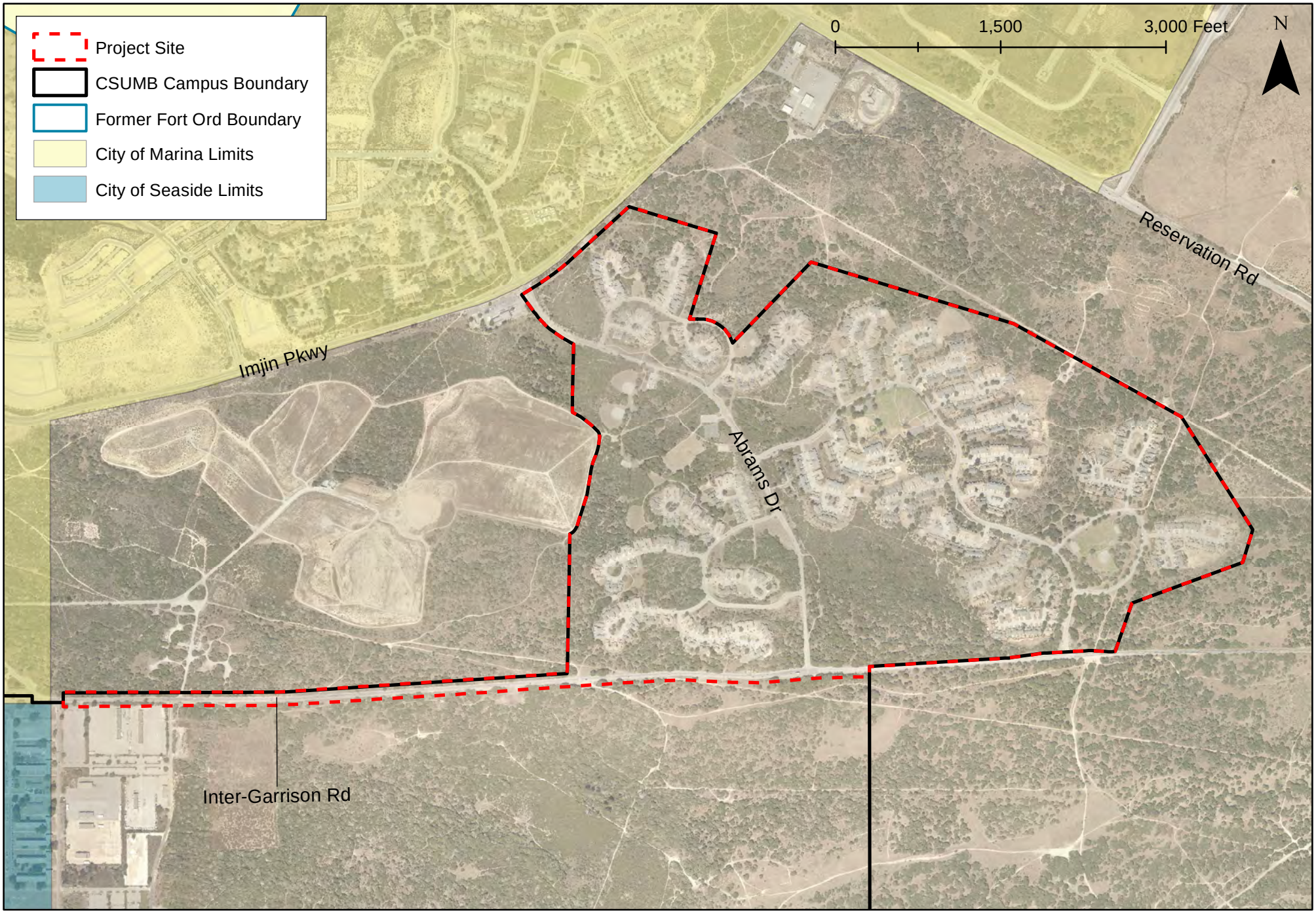

Project Location

Date
1/28/2022

Scale
1 in = 1,000 ft

Denise Duffy & Associates, Inc.
Planning and Environmental Consulting

Figure
2

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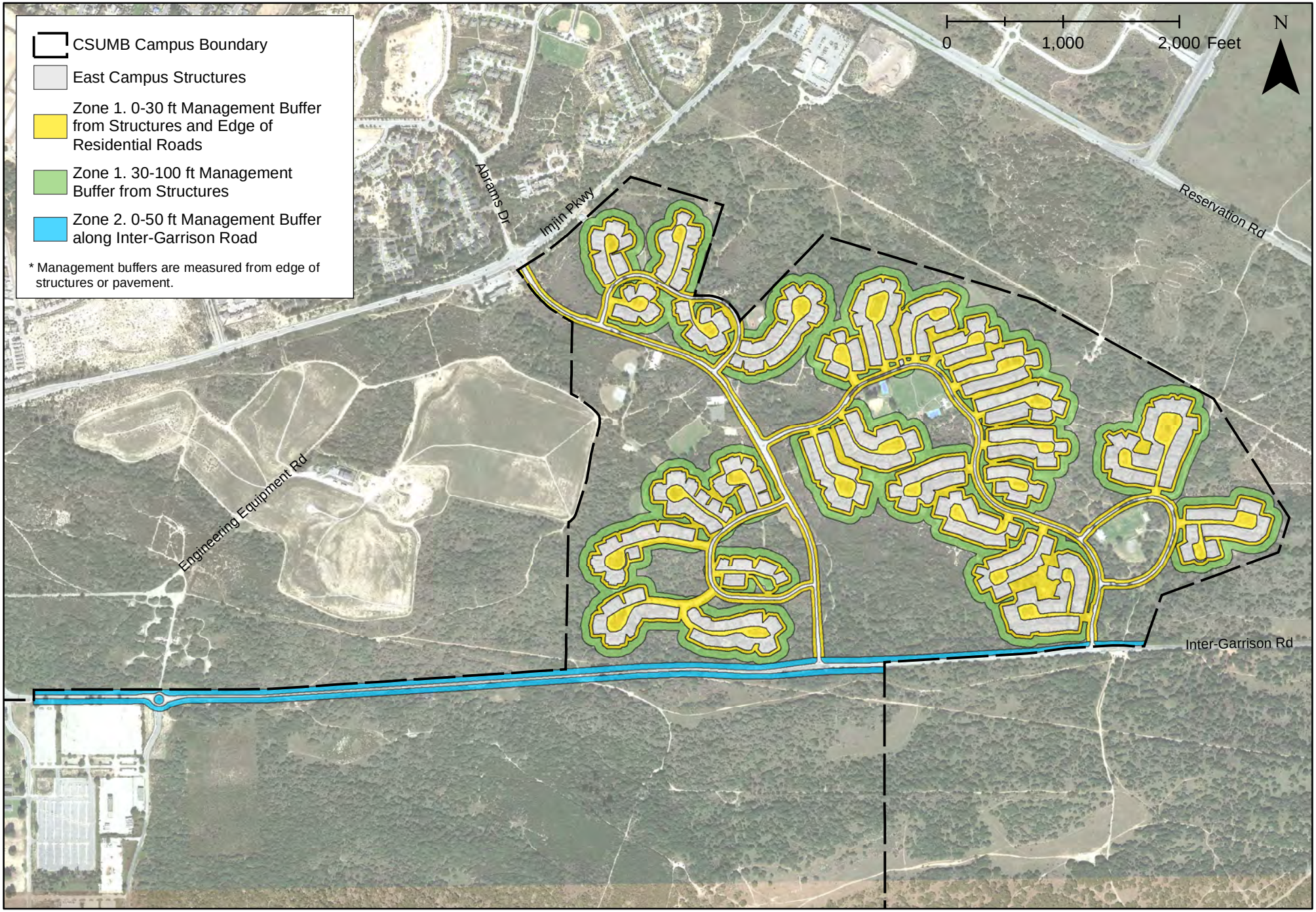
The proposed project consists of the implementation of the Draft FMP, which involves the implementation of fuel management and reduction strategies and protective measures within designated treatment areas in the East Campus Housing Area and along Inter-Garrison Road as a component of, and in accordance 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

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- 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 8th 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 (CNDDB) 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 CNDDB "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

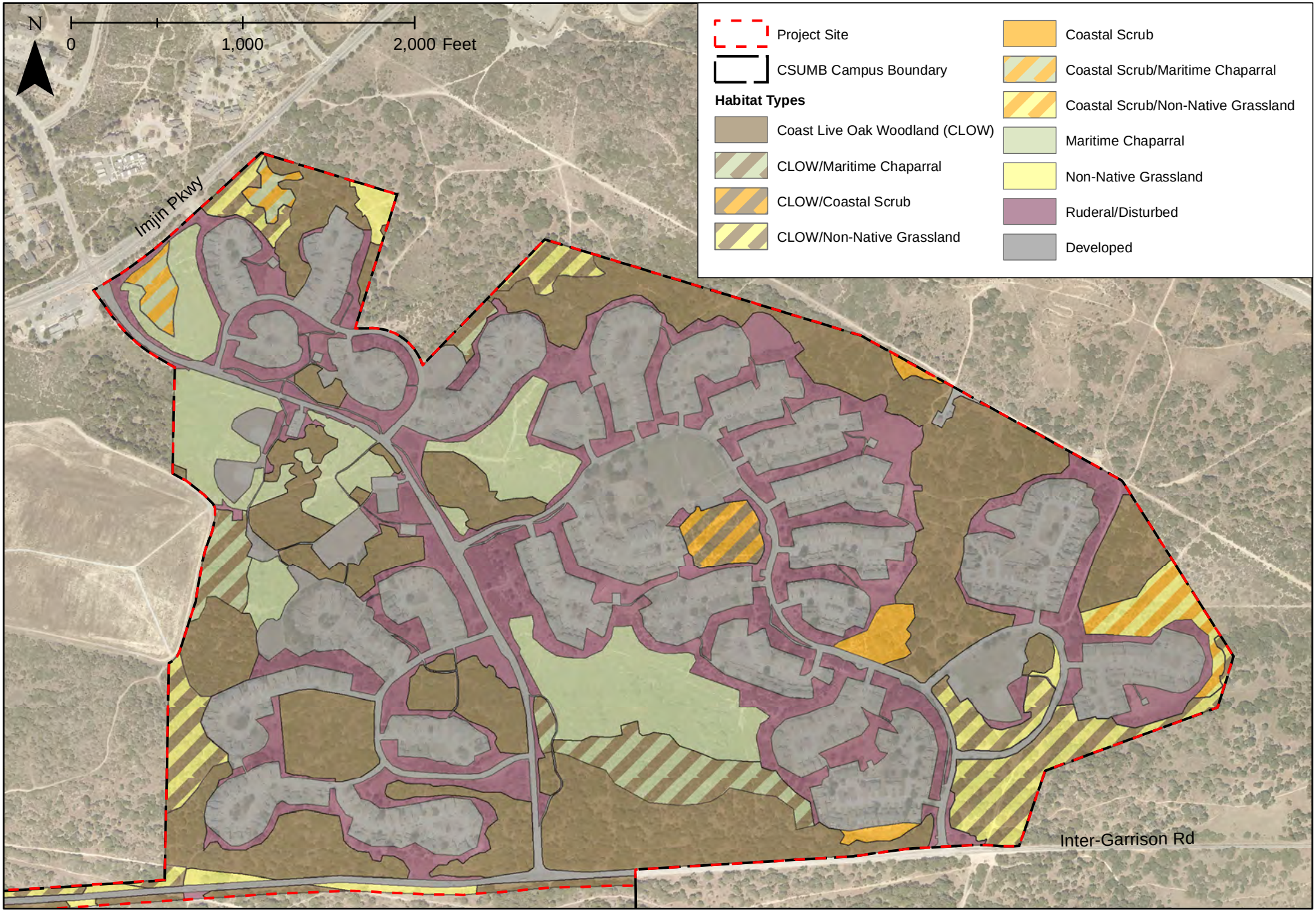
Vegetation Types	Total Area (ac)
Coast Live Oak Woodland	103.3
Ruderal/Disturbed	84.0
Central Maritime Chaparral[1]	**38.5**
Coast Live Oak Woodland/Non-Native Grassland Mix	23.7
Central Maritime Chaparral*/Coast Live Oak Woodland Mix*	**12.9**
Central Coastal Scrub/Non-Native Grassland Mix	4.6
Central Coastal Scrub	3.4
Coast Live Oak Woodland/Central Coastal Scrub Mix	3.4
Central Maritime Chaparral*/Central Coastal Scrub Mix*	**3.1**
Non-Native Grassland	3.6
Developed	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

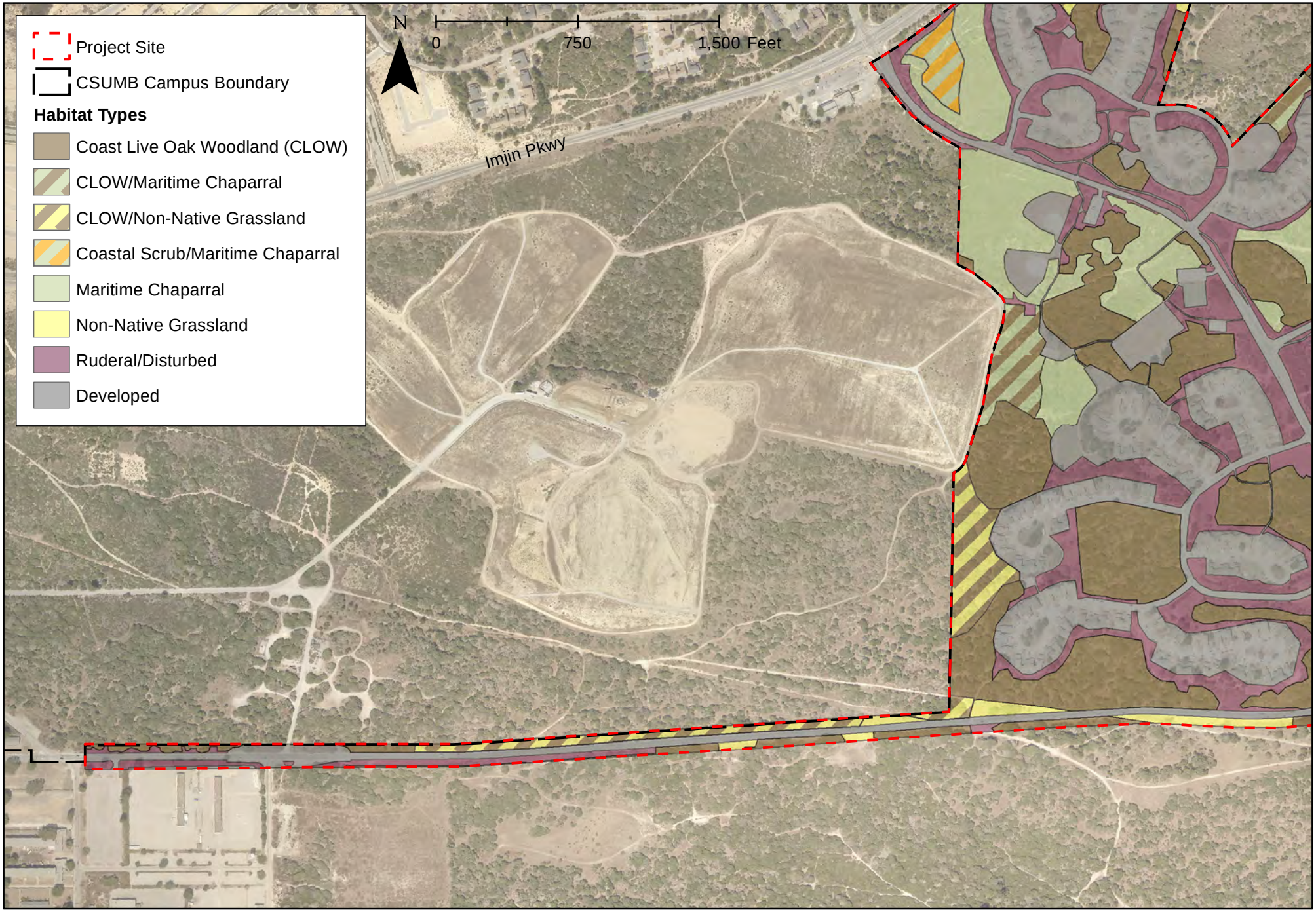
Date
1/28/2022

Scale
1 in = 700 ft

Denise Duffy & Associates, Inc.
Planning and Environmental Consulting

Figure
4a

Path: D:\GIS\GIS_Projects\2019-51 CSUMB Fire Clearance\Final\Bio Report\Fig 4a - Habitat Types.mxd



Habitat Types

Date
1/28/2022

Scale
1 in = 700 ft

Denise Duffy & Associates, Inc.
Planning and Environmental Consulting

Figure
4b

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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 (*Zenaida 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 (*Melozone 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 (*Polioptila 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 sandwhicheneis*), 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 CNDDB 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 CNDDB 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 CNDDB 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 CNDDB 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.

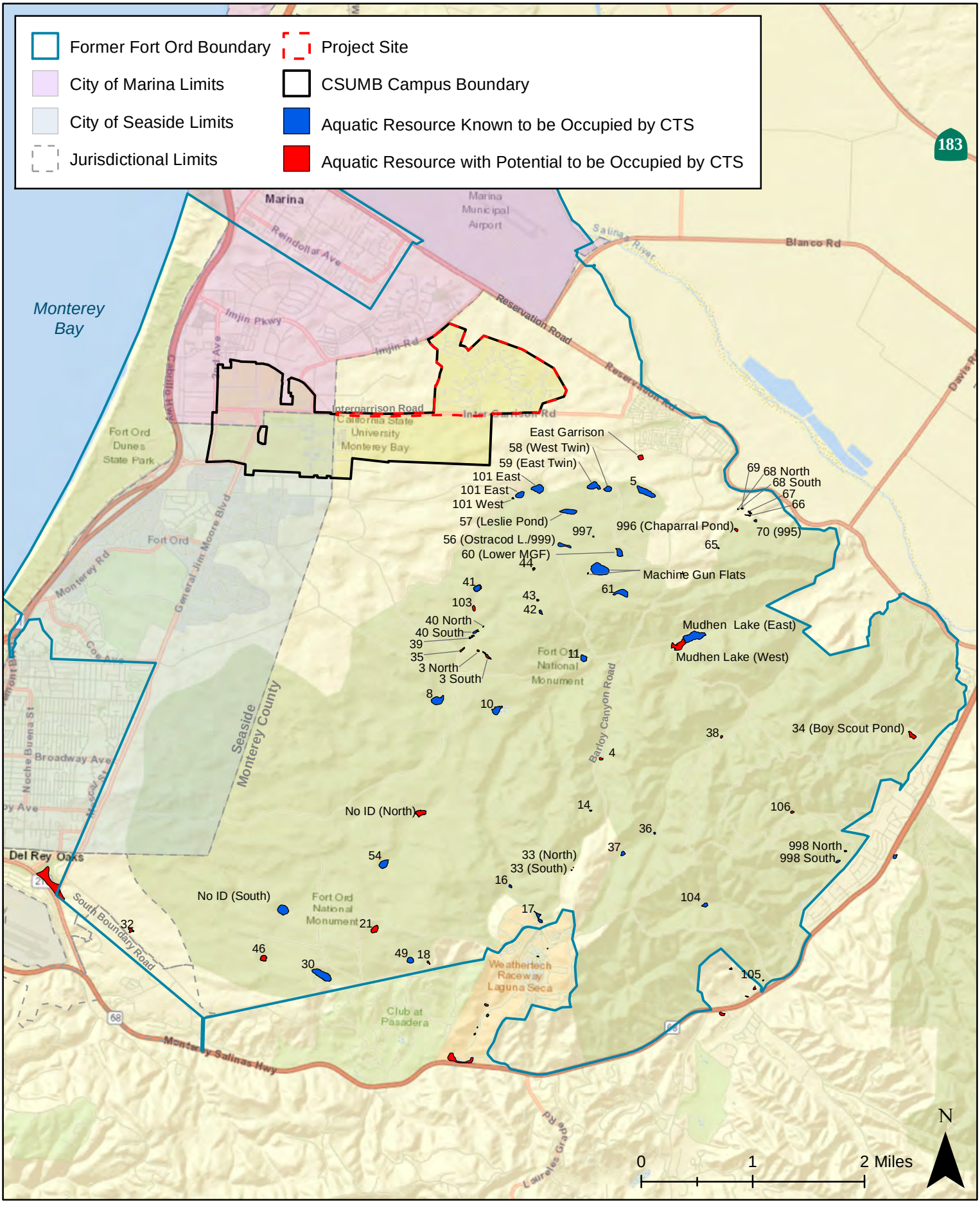
The CTS is a large, stocky salamander most commonly found in annual grassland habitat, but also occurring in the grassy understory of valley-foothill hardwood and chaparral habitats, and uncommonly along stream courses in valley-foothill riparian habitats (Service, 2004). Adults spend most of their lives 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 CNDDB 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 CNDDB 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 Aquatic Resources within the Former Fort Ord

Date: 2/2/2022

Scale: 1 in = 6,000 ft

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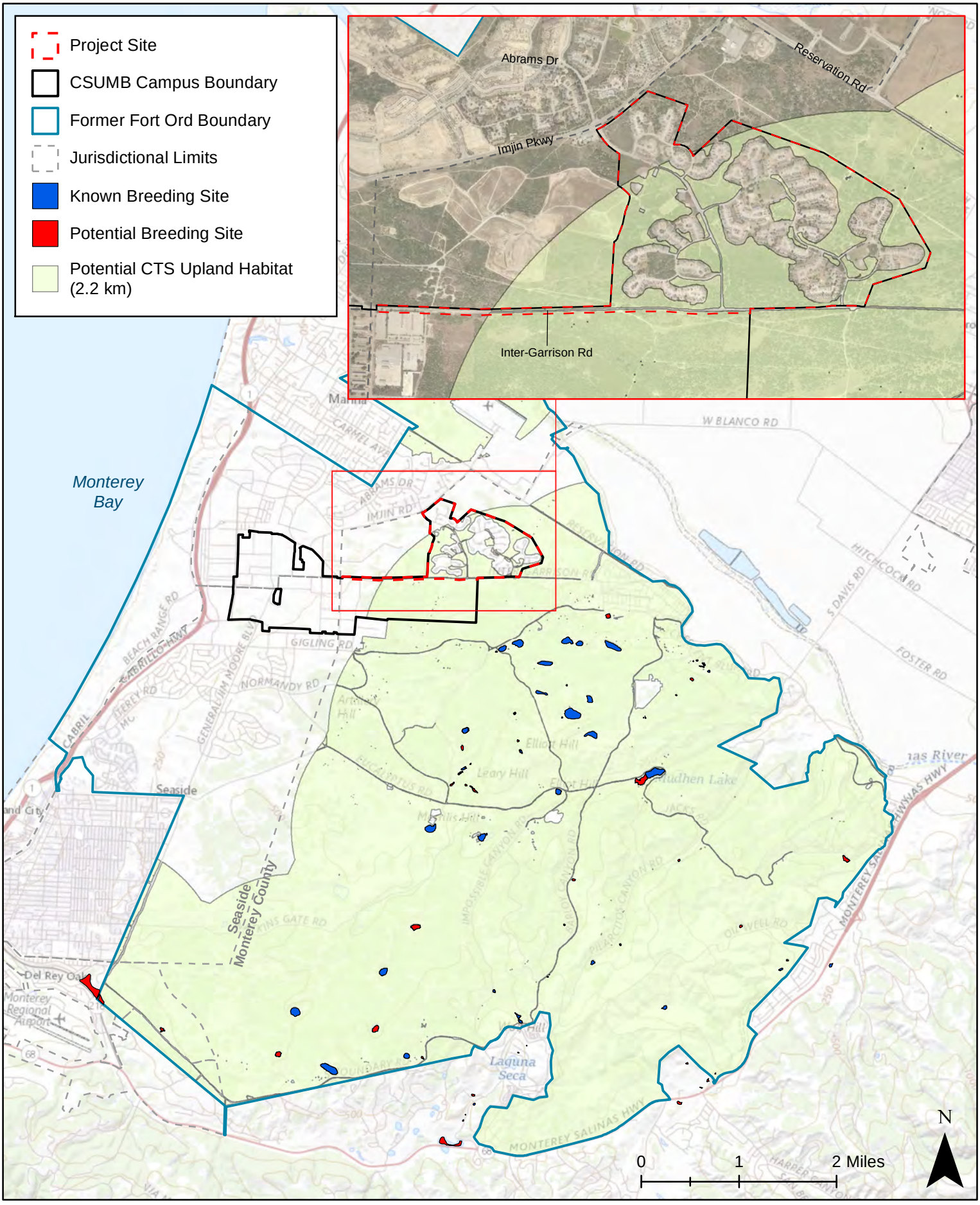
Figure 5

Path: D:\GIS\GIS_Projects\2019-51 CSUMB Fire Clearance\Final\Bio Report\Fig 5 - CTS Aquatic Resources.mxd



Potential CTS Upland Habitat within the Former Fort Ord

Date
2/2/2022

Scale
1 in = 7,000 ft

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Figure
6

Path: D:\GIS\GIS_Projects\2019-51 CSUMB Fire Clearance\Final\Bio Report\Fig 6 - CTS Upland Habitat 1-28-22.mxd

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 CNDDB reports 56 occurrences of this species within the quadrangles reviewed, including a 2014 occurrence within the project site . An additional CNDDB 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 CNDDB 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 CNDDB 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*

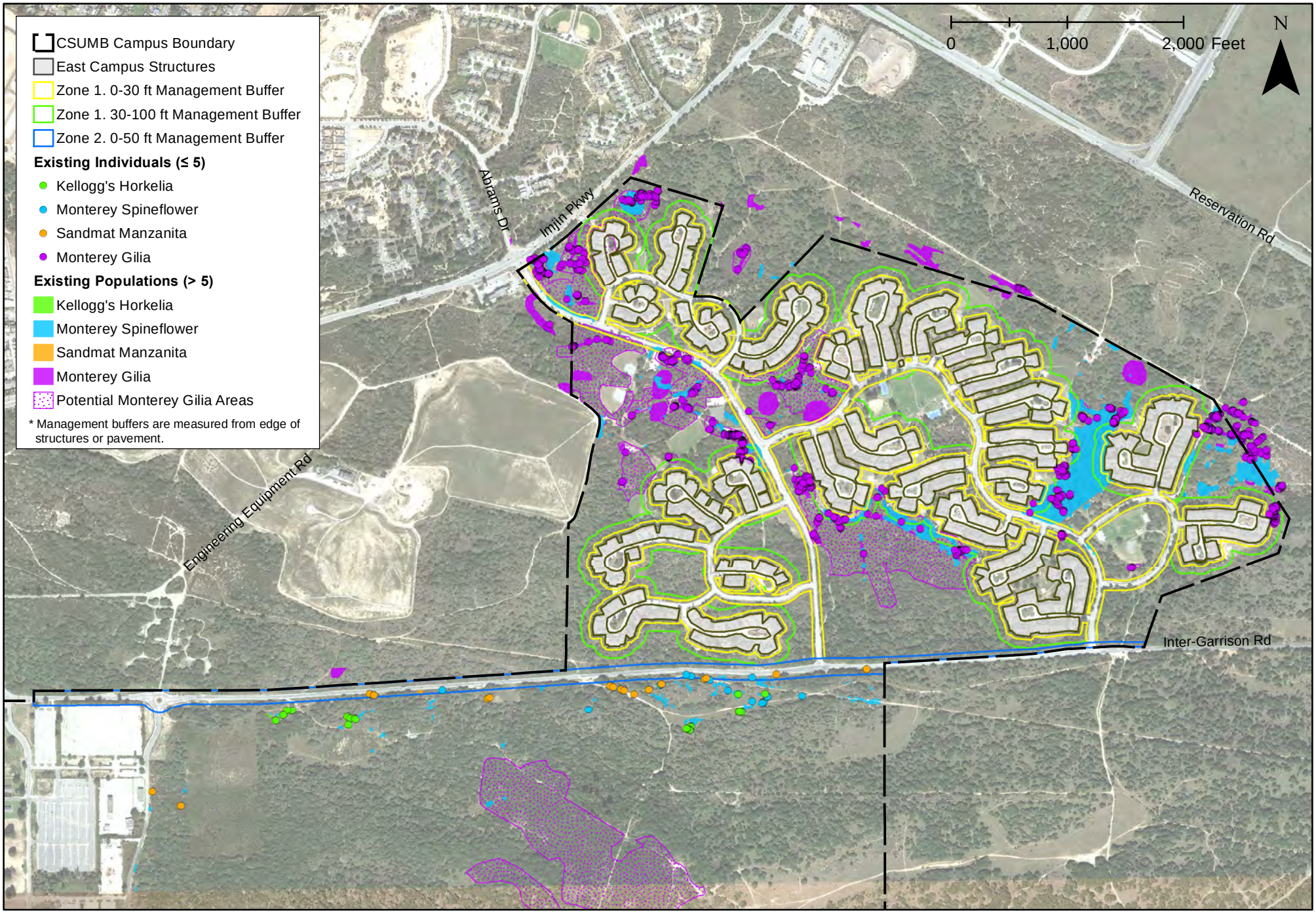
ludoviciana), savannah sparrow, ash-throated fly catcher (*Myiarchus cinerascens*), and violet-green swallow (*Tachycineta thalassina*).

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

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Figure
7

Path: D:\GIS\GIS_Projects\2019-51 CSUMB Fire Clearance\Final\Bio Report\Fig 7 - Special-Status Plants 2-7-23.mxd

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 Site[5]

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 CNDDB 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 CNDDB 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 CNDDB 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 CNDDB 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 CNDDB 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 CNDDB 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 CNDDB 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 CNDDB 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 CNDDB 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 CNDDB 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 CNDDB 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 CNDDB 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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APPENDIX A.

Draft East Campus Wildfire Fuel Management Plan

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California State University Monterey Bay
DRAFT
Fuel Management Plan for the East Campus Housing Area
Pursuant to California Public Resources Code Chapter 3. Section 4291

FUEL[1] REDUCTION[2] AND DEFENSIBLE SPACE PRESCRIPTIONS WITHIN ZONES 0, 1, AND 2

ZONE 0 – Ember Resistant Zone

Location: Extends 5 feet from buildings, structures, decks, etc.[3]

Strategy: Implement CAL FIRE Defensible Space as described in:

- CAL FIRE Defensible Space Website https://www.fire.ca.gov/programs/communications/defensible-space-prc-4291/

An ember-resistant zone is now required by law (AB 3074) beginning January 1, 2023. This zone includes the area under and around all attached decks, and requires the most stringent wildfire fuel reduction. The ember-resistant zone is designed to keep fire or embers from igniting materials that can spread the fire to the home. The following provides guidance for this zone, which may change based on the regulations developed by the Board of Forestry and Fire Protection.

Worker qualifications and roles: To ensure compliance with the following Fuel Reduction and Defensible Space Prescriptions and the Best Management Practices[4] for Fuel Reduction and Defensible Space Activities (BMP) (Appendix E), work will be:

- At all times overseen and supervised by a professional biologist
- Tree work will be directed by a certified arborist under the direction of the biologist
- Tree work will be performed in accordance with American National Safety Institute (ANSI) A300 Pruning Standards
- Tree work will be performed by tree care workers that comply with California Public Resources Code Chapter 3. Mountainous, Forest-, Brush-, and Grass-Covered Lands, Section 4291[5]
- All workers will complete the munitions training in advance of performing work found at https://www.fortordsafety.com/

Fuel Reduction and Defensible Space Prescriptions

1. Use hardscape like gravel, pavers, concrete, and other noncombustible mulch materials. No combustible bark or mulch.
2. Remove[6] all dead and dying weeds, grass, plants, shrubs, trees, branches, and vegetative debris (leaves, needles, cones, bark, etc.). Check roofs, gutters, decks, porches, stairways, etc.

[1] "Fuel" means any combustible material, including petroleum-based products, cultivated landscape plants, grasses, and weeds, and wildland vegetation.

California State University Monterey Bay
DRAFT
Fuel Management Plan for the East Campus Housing Area
Pursuant to California Public Resources Code Chapter 3. Section 4291

FUEL[1] REDUCTION[2] AND DEFENSIBLE SPACE PRESCRIPTIONS WITHIN ZONES 0, 1, AND 2
3. Remove all branches within 10 feet of any chimney or stovepipe outlet. 4. Limit plants in this area to low growing, nonwoody, properly maintained plants. 5. Limit combustible items (outdoor furniture, planters, etc.) on top of decks. 6. Relocate firewood and lumber to Zone 2. 7. Replace combustible fencing, gates, and arbors attach to the home with noncombustible alternatives. 8. Consider relocating garbage and recycling containers outside this zone. 9. Consider relocating boats, RVs, vehicles, and other combustible items outside this zone.
ZONE 1 – Lean, Clean, and Green Zone **Location:** East Campus Housing and Inter-Garrison Road Fuel Management Buffers (Figures 1a and 1b) • 0-30 feet Management Buffer from Structures, Fences, and Road Edges[7, 8] • 0-50 feet Management Buffer from Inter-Garrison Road Edge (where CSUMB is the property owner**). Due to munitions restrictions, no digging is permitted on property south of Inter-Garrison Road.** **Strategy:** Implement CAL FIRE Defensible Space Requirements as described in: • CAL FIRE Defensible Space Website https://www.fire.ca.gov/programs/communications/defensible-space-prc-4291/

[2] Fuel Reduction: reduce vegetation or fuel load to lessen the threat of wildfire.
[3] Zone 0 not shown in figures due to scale. Zone 0 is currently not required by law and is voluntary responsibility of the homeowner or rental housing company.
[4] The Best Management Practices document provides special status species and biological avoidance measures as well as specific tree pruning requirements.
[5] https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=4291.&lawCode=PRC
[6] "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.
[7] Management buffers are measured from edge of structures/fences or road edges. A road edge is where the road ends and/or curb and sidewalk begin.
[8] Backyards are considered Zone 0.

FUEL[1] REDUCTION[2] AND DEFENSIBLE SPACE PRESCRIPTIONS WITHIN ZONES 0, 1, AND 2

- CAL FIRE Defensible Space Flyer (Attachment A)

Worker qualifications and roles: To ensure compliance with the following Fuel Reduction[9] and Defensible Space Prescriptions and the Best Management Practices[10] (BMP) (Appendix E), work will be:

- At all times overseen and supervised by a professional biologist
- Tree work will be directed by a certified arborist under the direction of the biologist
- Tree work will be performed in accordance with American National Safety Institute (ANSI) A300 Pruning Standards
- Tree work will be performed by tree care workers that comply with California Public Resources Code Chapter 3. Mountainous, Forest-, Brush-, and Grass-Covered Lands, Section 4291[11]
- All workers will complete the munitions training in advance of performing work found at https://www.fortordsafety.com/

Fuel Reduction and Defensible Space Prescriptions

1. Dead vegetation removal
    a. Remove all dead plants, grass, weeds, and other vegetation (Attachment A).
    b. Remove dead or dry leaves and pine needles from yards, roofs, and rain gutters (Attachment A).
2. Tree, shrub, and other vegetation trimming
    a. Remove tree branches that hang over roof and keep branches 10 feet away from chimneys (Attachment A).
    b. Trim trees regularly to keep branches a minimum of 10 feet from other trees (Attachment A).
    c. Remove or prune flammable plants and shrubs near windows.

[9] "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.
[10] The Best Management Practices document provides special status species and biological avoidance measures as well as specific tree pruning requirements.
[11] https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=4291.&lawCode=PRC

FUEL[1] REDUCTION[2] AND DEFENSIBLE SPACE PRESCRIPTIONS WITHIN ZONES 0, 1, AND 2

d. Remove vegetation and items that could catch fire from around and under decks, balconies, and stairs.

e. Create a separation between trees, shrubs, and items that could catch fire, such as patio furniture, wood piles, swing sets, etc. (recommend minimum of 10 feet of separation).

3. Tree removal size and replacement

   a. Do not remove healthy trees greater than 6 inches diameter measured at breast height (diameter at breast height [DBH], 4.5 feet above natural grade).

   b. Remove trees less than 6 inches DBH if within 10 feet of structures or fence lines. Replacement of trees greater than 4 inches DBH shall be documented by the biologist and replanted via CSUMB Habitat Restoration Program administered through Campus Planning and Development.

4. Mowing

   a. Cut and mow annual grass and herbaceous plants down to a height of 4 inches.

   b. Mow before 10 a.m.

   c. Only mow outside of special-status species areas (Figures 2a, 2a-1, and 2b) unless a Project Biologist has determined permissible.

   d. Avoid removing all vegetation to bare soil, as this may cause erosion.

   e. Do not mow ice plant.

5. Equipment

   a. Equipment shall be pressure washed prior to entering the project site, cleaned of mud or other debris that may contain invasive plants and/or seeds, and inspected to reduce the potential of spreading noxious weeds. If found, invasive species shall be removed and placed in a trash (not yard waste) dumpster and taken to the landfill.

   b. Equipment and personnel can access vegetated nonpaved areas if work is compliant with the species-specific BMP avoidance measures (Appendix E) and or CSUMB Fuel Reduction and Defensible Space Activity Timetable (Attachment D)

FUEL[1] REDUCTION[2] AND DEFENSIBLE SPACE PRESCRIPTIONS WITHIN ZONES 0, 1, AND 2

6. Branches and chipping placement and relocation
    a. Relocate dead and downed wood (fuels) outside of Zones 1 and 2 and only to areas where special-status species have not been identified (refer to Figures 2a, 2a-1, and 2b) prior to relocation of vegetation as directed by a qualified biologist.
    b. If chipping small wood is most practicable, relocate chipping material to areas where special-status species have not been identified (refer to Figures 2a, 2a-1, and 2b prior to relocation of vegetation). Chips shall be spread so that no chip piles are left on-site or reused within the campus in coordination with the Project Biologist.
    c. Relocate non-chipped branches off site in accordance with federal, state, and local regulations.
    d. Biologist to estimate and report the weight or volume to Campus Planning and Development for annual waste/reuse report to CalRecycle.
7. Street signs & hydrants
    a. Reduce vegetation to a maximum height of 4 inches within a minimum of 3 feet in all directions surrounding all street signs and fire hydrants so that emergency personnel can easily locate and access.
8. Timing
    a. To avoid impacts to special status species, Fuel Reduction and Defensible Space Prescriptions in this section shall comply with Attachment D, *CSUMB Fuel Reduction and Defensible Space Activity Timetable*.

ZONE 2 – Reduce Fuel Zone

Location: East Campus Housing Fuel Management Buffers (Figure 1a)

- 30-100 feet Management Buffer from Zone 1

Strategy: Implement CAL FIRE Defensible Space Requirements as described in:

- CAL FIRE Defensible Space Website https://www.fire.ca.gov/programs/communications/defensible-space-prc-4291/
- CAL FIRE Defensible Space Flyer (Attachment A)

FUEL[1] REDUCTION[2] AND DEFENSIBLE SPACE PRESCRIPTIONS WITHIN ZONES 0, 1, AND 2

- CAL FIRE Vertical Plant and Tree Spacing (Attachment B**)**
- CAL FIRE Horizontal Plant and Tree Spacing (Attachment C)

Worker qualifications and roles: To ensure compliance with the following Fuel Reduction[12] and Defensible Space Prescriptions and the Best Management Practices[13] (BMP) (Appendix E), work will be:

- At all times overseen and supervised by a professional biologist
- Tree work will be directed by a certified arborist under the direction of the biologist
- Tree work will be performed in accordance with American National Safety Institute (ANSI) A300 Pruning Standards
- Tree work will be performed by tree care workers that comply with California Public Resources Code Chapter 3. Mountainous, Forest-, Brush-, and Grass-Covered Lands, Section 4291[14]
- All workers will complete the munitions training in advance of performing work found at https://www.fortordsafety.com/

Fuel Reduction and Defensible Space Prescriptions

1. Vertical Spacing – Tree, shrub, and grass trimming
    a. Large trees do not need to be cut and removed as long as all of the plants beneath them are managed, reducing the vertical fuel ladder as described in Attachment A.
    b. Remove tree branches 10 feet from structures or other trees (Attachment A).
    c. Limb up healthy tree branches 6 feet from the ground (Attachment B)
    d. To create vertical spacing and reduce fuel ladders created by shrubs under trees (Attachment B).
        i. limb up tree branches 3x the height of the shrub

[12] "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.
[13] The Best Management Practices document provides special status species and biological avoidance measures as well as specific tree pruning requirements.
[14] https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=4291.&lawCode=PRC

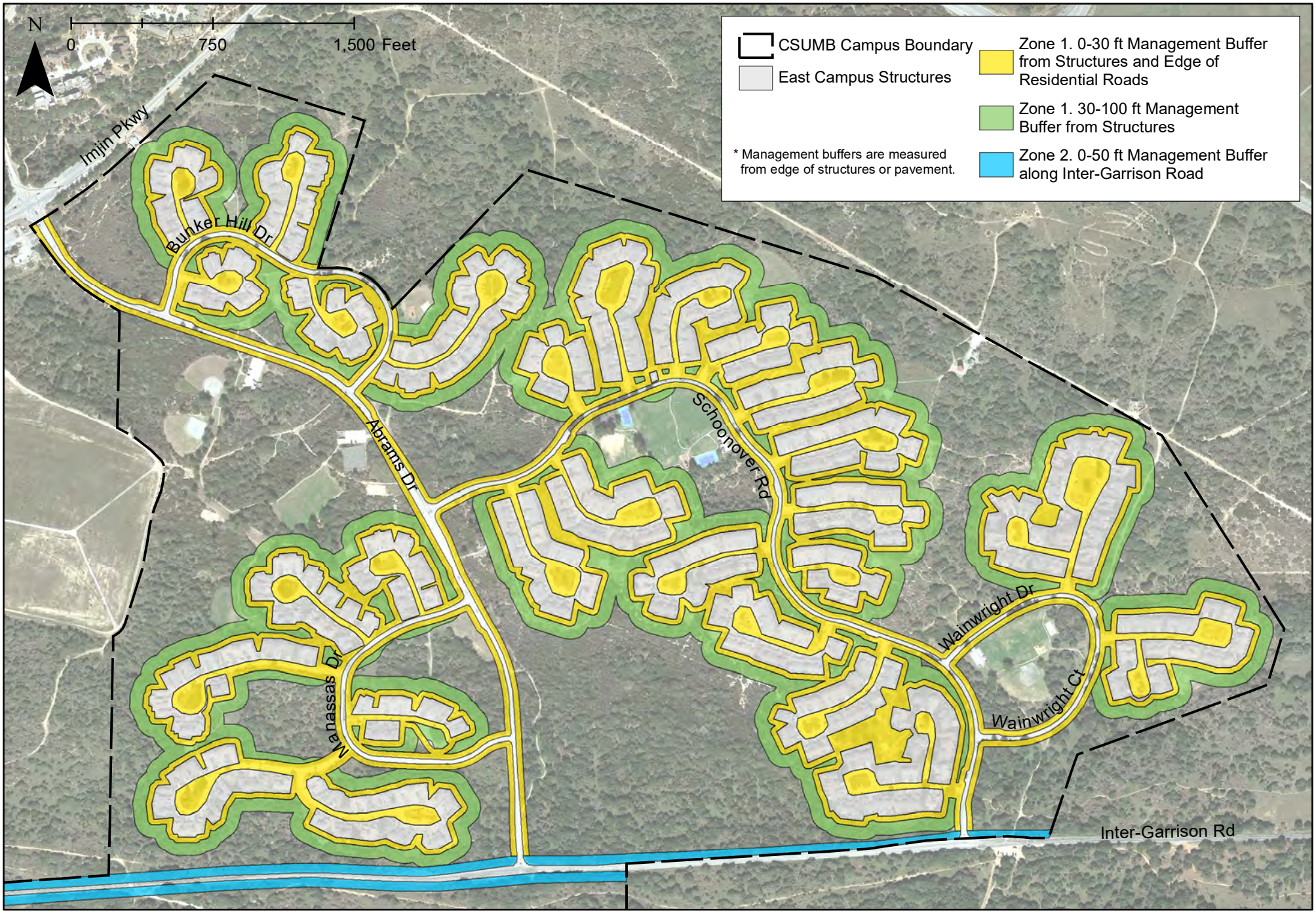
FUEL[1] REDUCTION[2] AND DEFENSIBLE SPACE PRESCRIPTIONS WITHIN ZONES 0, 1, AND 2

2. Horizontal spacing (as defined in Attachment C)
    i. Flat to mild slopes (less than 20%)
        1. Create a horizontal space between shrubs equal to 2x the height of the shrubs by removing trees and shrubs.
        2. Create a horizontal space of 10 feet between trees by removing trees under 6 inches DBH and shrubs.
    ii. Mild to moderate slopes (20%-40%)
        1. Create a horizontal space between shrubs equal to 4x the height of the shrubs by removing trees and shrubs.
        2. Create a horizontal space of 20 feet between trees by removing trees under 6 inches DBH and shrubs.
    iii. Moderate to steep slopes (greater than 40%)
        1. Shrubs shall create a horizontal space between shrubs equal to 6x the height of the shrubs
        2. Create a horizontal space of 30 feet between trees by removing trees under 6 inches DBH and shrubs.
3. Tree removal size and replacement
    a. Replacement of trees greater than 4 inches DBH shall be documented by the biologist and replanted via CSUMB Habitat Restoration Program administered through Campus Planning and Development.
    b. Except as required by the vertical and horizontal spacing requirements described above, do not remove trees greater than 6 inches DBH.
    c. Only remove trees under 6 inches DBH if they are within 10 feet of trees greater than 6 inches DBH.
4. Dead vegetation removal
    a. Remove fallen leaves, needles, twigs, bark, cones, and small branches as directed by the Project Biologist as these may be permissible to a depth of 3 inches if determined appropriate by the Project Biologist.

FUEL[1] REDUCTION[2] AND DEFENSIBLE SPACE PRESCRIPTIONS WITHIN ZONES 0, 1, AND 2

5. Tree snag (standing dead trees) removal
    a. Limit removal of snags within non-native grasslands or ruderal/disturbed habitats as snags create habitat for various native wildlife species (Figures 3a and 3b) as directed by the Project Biologist.
6. Mowing
    a. Cut and mow annual grass and herbaceous plants down to a height of 4 inches.
    b. Mow before 10 a.m.
    c. Only mow outside of special-status species areas (Figures 2a, 2a-1, and 2b) unless a Project Biologist has determined permissible.
    d. Avoid removing all vegetation to bare soil, as this may cause erosion.
    e. Do not mow ice plant.
7. Equipment
    a. Equipment shall be pressure washed prior to entering the project site, cleaned of mud or other debris that may contain invasive plants and/or seeds, and inspected to reduce the potential of spreading noxious weeds. If found, invasive species shall be removed and placed in a trash (not yard waste) dumpster and taken to the landfill.
    b. Equipment can drive in habitat area if work is compliant with the species-specific BMP avoidance measures (Appendix E) and or CSUMB Fuel Reduction and Defensible Space Activity Timetable (Attachment D)
8. Street signs & hydrants
    a. Reduce vegetation to a maximum height of 4 inches within a minimum of 3 feet in all directions surrounding all street signs and fire hydrants so that emergency personnel can easily locate and access.

FUEL[1] REDUCTION[2] AND DEFENSIBLE SPACE PRESCRIPTIONS WITHIN ZONES 0, 1, AND 2
9. Timing a. To avoid impacts to special status species, Fuel Reduction and Defensible Space Prescriptions in this section shall comply with Attachment D, *CSUMB Fuel Reduction and Defensible Space Activity Timetable*.



CSUMB Fuel Management Plan – East Campus Housing Area
Fuel Management Buffers

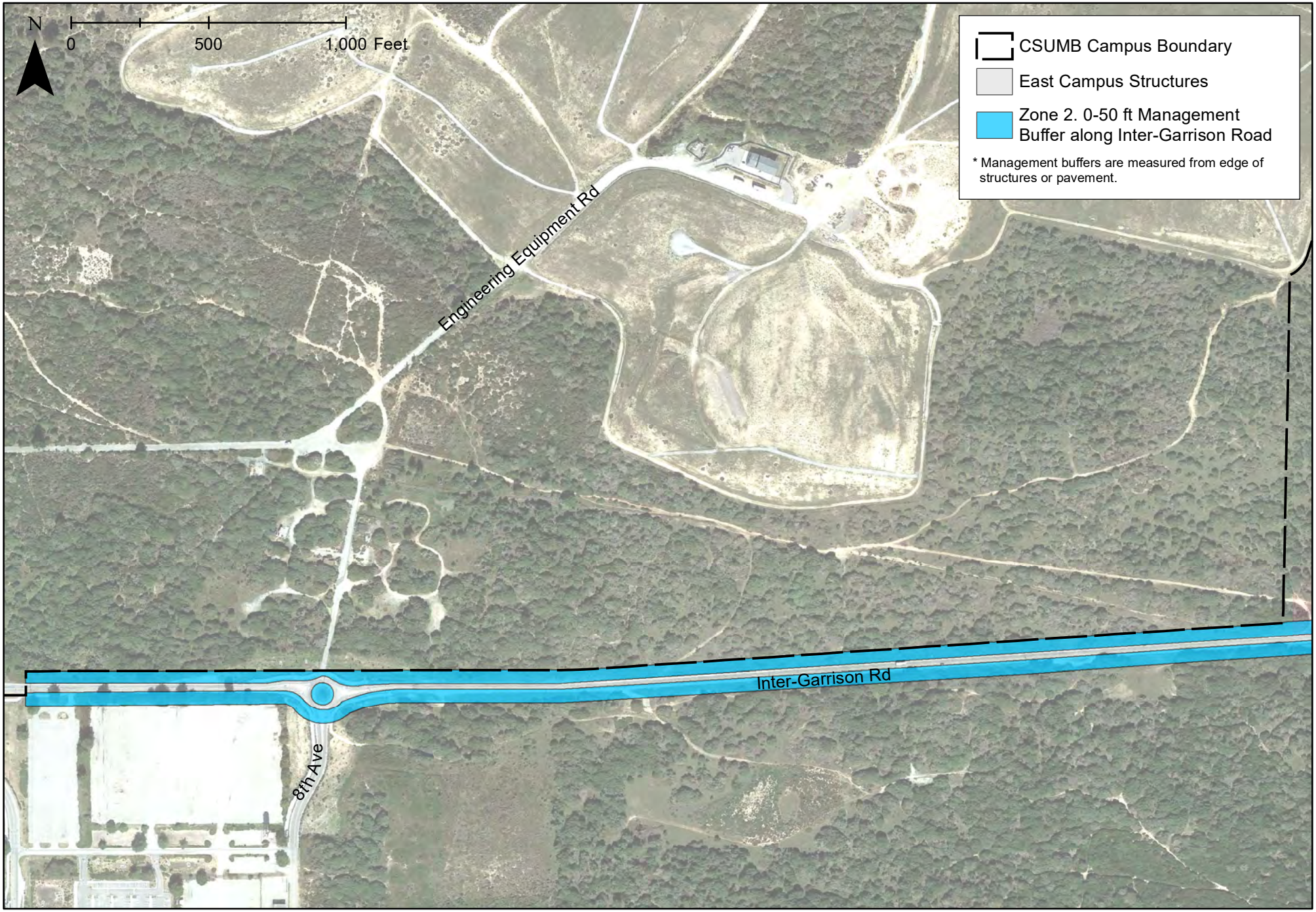
Date
8/23/2022

Scale
1 in = 700 ft

Denise Duffy & Associates, Inc.
Planning and Environmental Consulting

Figure
1a

Path: D:\GIS\GIS_Projects\2019-51 CSUMB Fire Clearance\Final\Fuel Management Plan\Fig 1a - Fuel Management Buffers.mxd



CSUMB Fuel Management Plan – East Campus Housing Area
Fuel Management Buffers

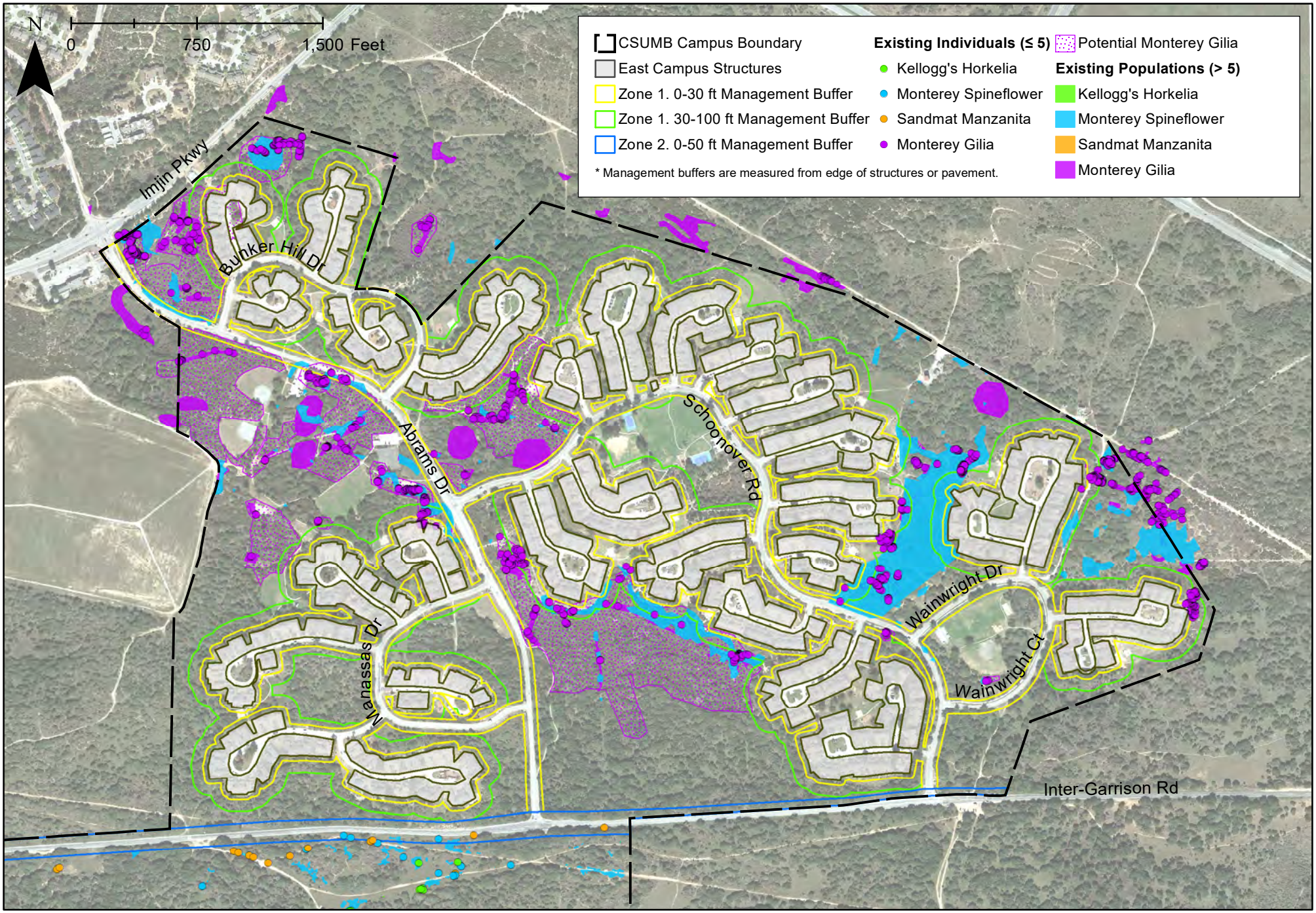
Date
8/23/2022

Scale
1 in = 500 ft

Denise Duffy & Associates, Inc.
Planning and Environmental Consulting

Figure
1b

Path: D:\GIS\GIS_Projects\2019-51 CSUMB Fire Clearance\Final\Fuel Management Plan\Fig 1b - Fuel Management Buffers.mxd



CSUMB Fuel Management Plan – East Campus Housing Area
Special-Status Plant Species Occurrences

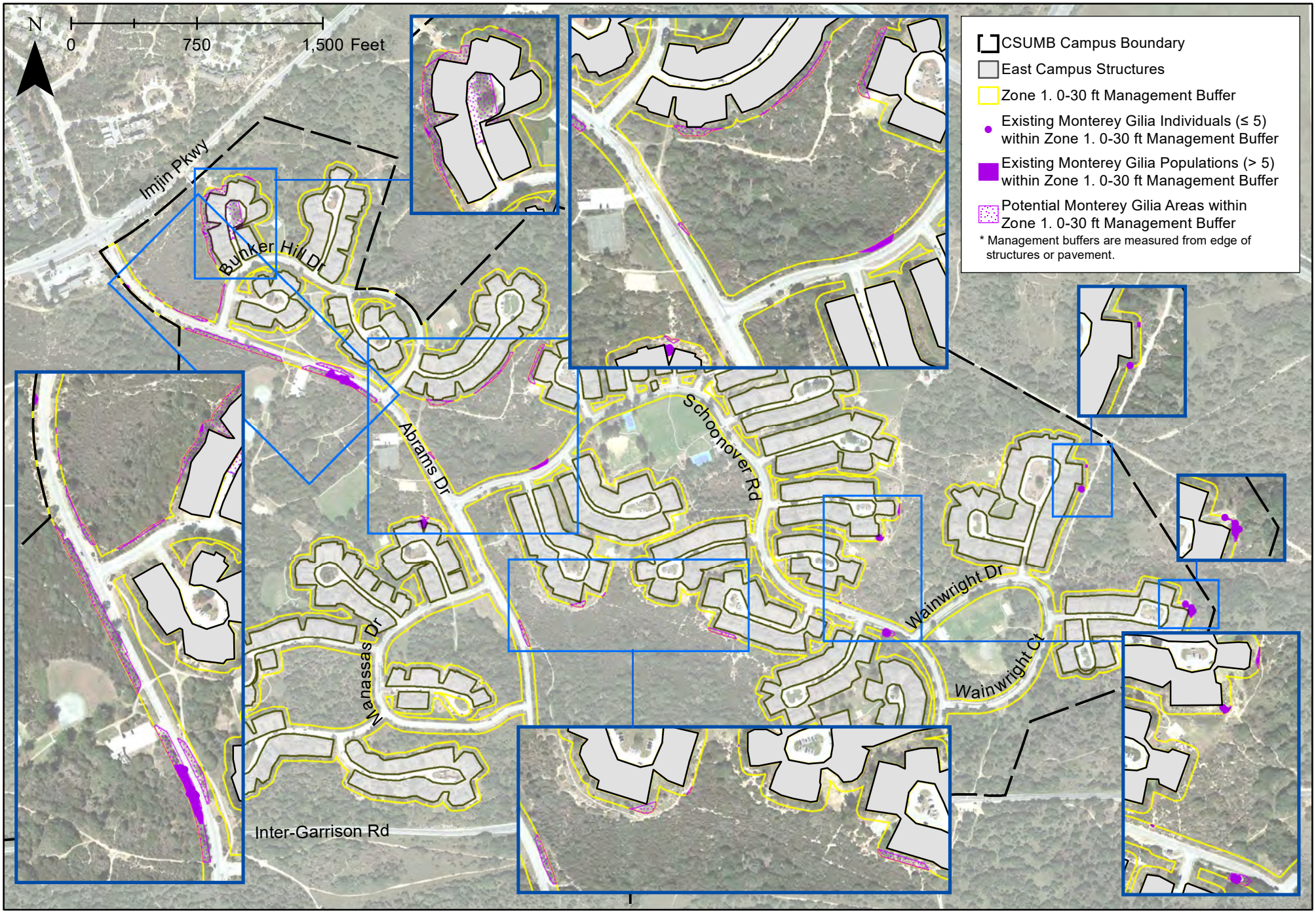
Date: 8/23/2022

Scale: 1 in = 800 ft

Denise Duffy & Associates, Inc.
Planning and Environmental Consulting

Figure 2a

Path: D:\GIS\GIS_Projects\2019-51 CSUMB Fire Clearance\Final\Fuel Management Plan\Fig 2a - Special-Status Plants.mxd



CSUMB Fuel Management Plan – East Campus Housing Area
Monterey Gilia Occurrences within Zone 1. 0-30 ft Management Buffer

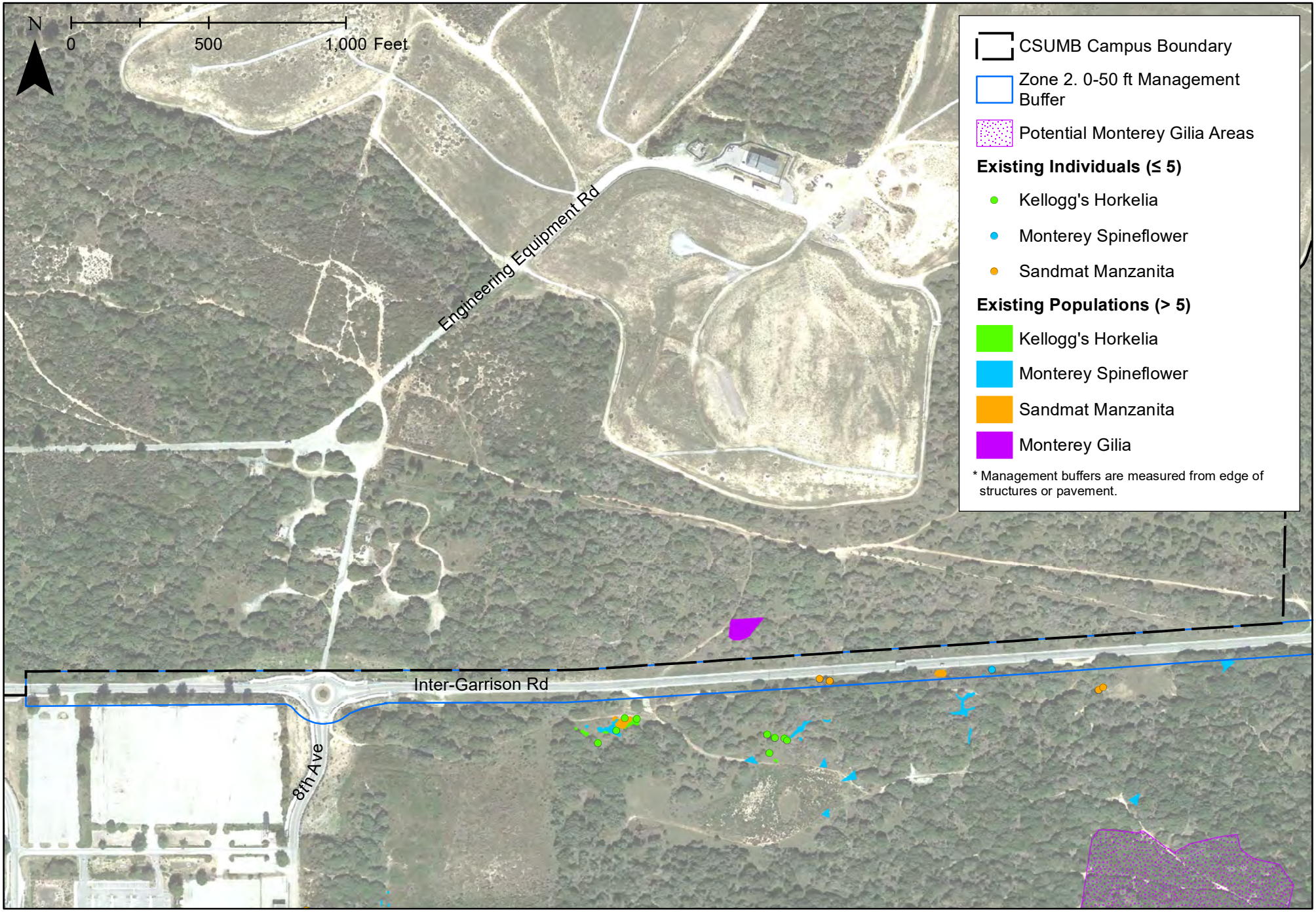
Date: 8/23/2022

Scale: 1 in = 800 ft

Denise Duffy & Associates, Inc.
Planning and Environmental Consulting

Figure 2a-1

Path: D:\GIS\GIS_Projects\2019-51 CSUMB Fire Clearance\Final\Fuel Management Plan\Fig 2a-1 - Sand Gilia within 30 ft Buffer.mxd



CSUMB Fuel Management Plan – East Campus Housing Area
Special-Status Plant Species Occurrences

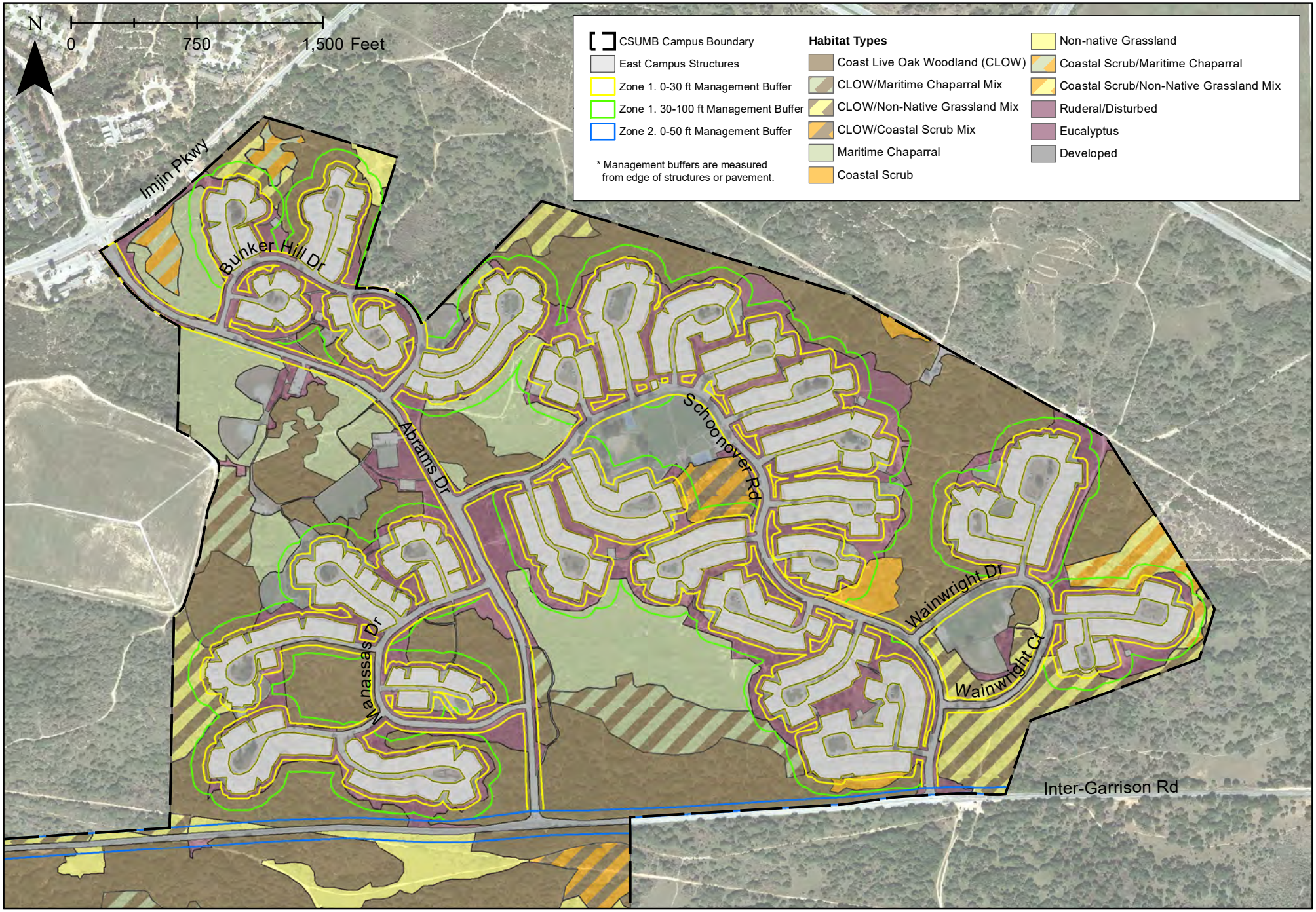
Date
8/23/2022

Scale
1 in = 500 ft

Denise Duffy & Associates, Inc.
Planning and Environmental Consulting

Figure
2b

Path: D:\GIS\GIS_Projects\2019-51 CSUMB Fire Clearance\Final\Fuel Management Plan\Fig 2b - Special-Status Plants.mxd



CSUMB Fuel Management Plan – East Campus Housing Area
Habitat Types

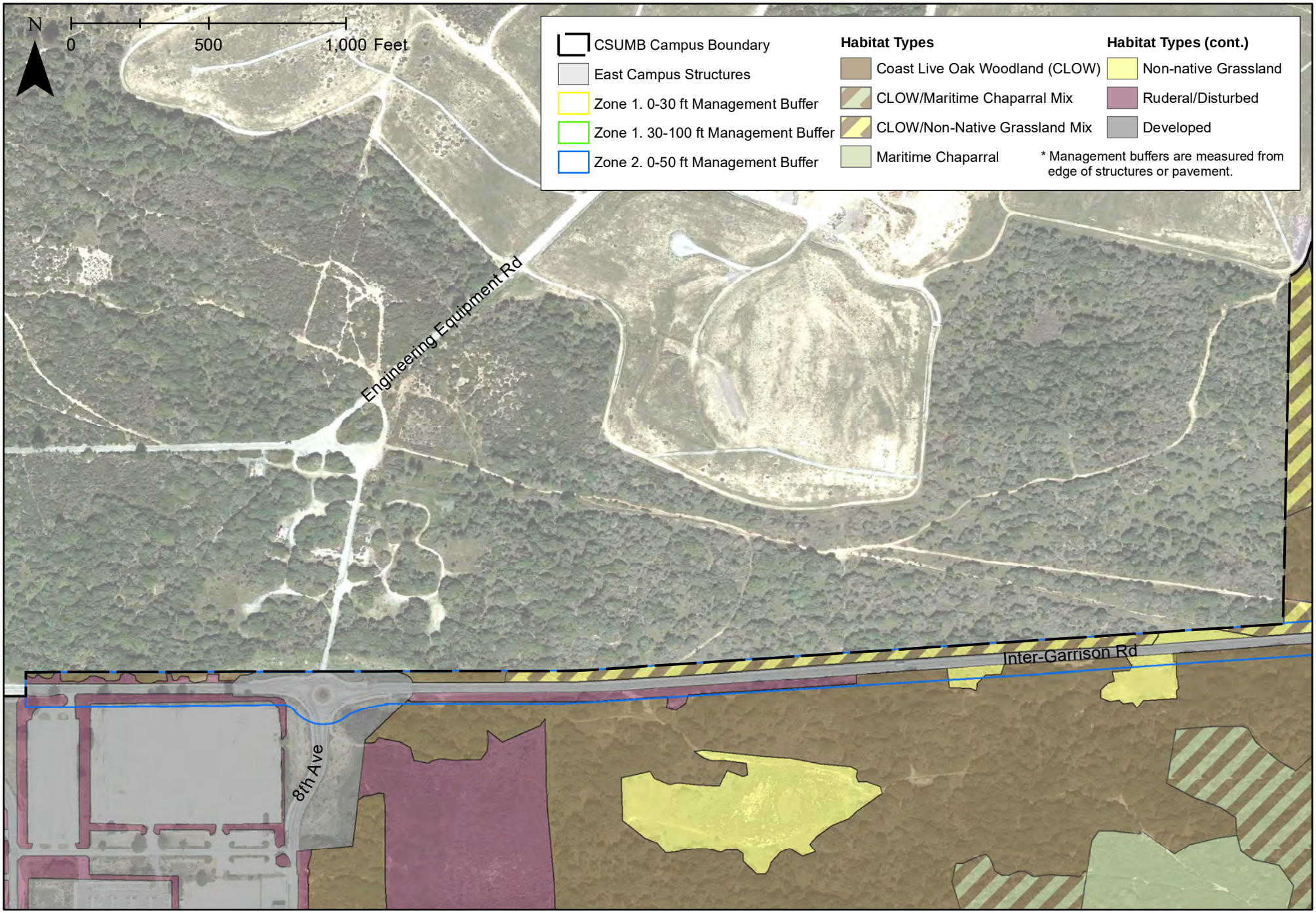
Date
8/23/2022

Scale
1 in = 800 ft

Denise Duffy & Associates, Inc.
Planning and Environmental Consulting

Figure
3a

Path: D:\GIS\GIS_Projects\2019-51 CSUMB Fire Clearance\Final\Fuel Management Plan\Fig 3a - Habitat Types.mxd



CSUMB Fuel Management Plan – East Campus Housing Area
Habitat Types

Date
8/23/2022

Scale
1 in = 500 ft

Denise Duffy & Associates, Inc.
Planning and Environmental Consulting

Figure
3b

Path: D:\GIS\GIS_Projects\2019-51 CSUMB Fire Clearance\Final\Fuel Management Plan\Fig 3b - Habitat Types.mxd

WILDFIRE IS COMING.
ARE YOU READY?

Defensible Space is your property's front line defense against wildfire. Creating and maintaining defensible space around your home can dramatically increase your home's chance of surviving a wildfire and improves the safety of firefighters defending your property. 100 feet of defensible space is required by law.*

ONE LESS SPARK ONE LESS WILDFIRE

*For more information on creating defensible space and legal requirements visit
READYFORWILDFIRE.ORG

TWO ZONES MAKE UP THE REQUIRED 100 FEET OF DEFENSIBLE SPACE:

ZONE 1: 30 feet of Lean, Clean & Green

1. Remove all dead plants, grass and weeds.
2. Remove dead or dry leaves and pine needles from your yard, roof and rain gutters.
3. Keep tree branches 10 feet away from your chimney and other trees.

ZONE 2: 30–100 feet of Reduced Fuel

4. Cut or mow annual grass down to a maximum height of 4 inches.
5. Create horizontal spacing between shrubs and trees.
6. Create vertical spacing between grass, shrubs and trees.

Use Equipment Properly to Keep from Sparking a Wildfire

7. Mow before 10 a.m., and never on a hot or windy day. String trimmers are a safer option (vs. lawnmowers) for clearing vegetation.

VERTICAL SPACING

Large trees do not have to be cut and removed as long as all of the plants beneath them are removed. This eliminates a vertical "fire ladder."

HORIZONTAL SPACING

Create horizontal and vertical spacing between plants, the amount of spacing will depend on how steep the slope is and the size of the plants.

https://www.readyforwildfire.org/prepare-for-wildfire/get-ready/defensible-space/

Attachment A. Calfire Defensible Space Flyer

PLANT AND TREE SPACING

The spacing between grass, shrubs, and trees is crucial to reduce the spread of wildfire. The spacing needed is determined by the type and size of the shrubs and trees, as well as the slope of the land. For example, a property on a steep slope with larger plant life will require greater spacing between trees and shrubs than a level property that has small, sparse vegetation.

VERTICAL SPACING

Remove all tree branches at least 6 feet from the ground.

If shrubs are under trees, additional vertical space is needed. Lack of vertical space can allow a fire to move from the ground to the shrubs to the treetops like a ladder.

FIRE-SAFE LANDSCAPING

Fire-safe landscaping isn't necessarily the same thing as a well-maintained yard. Fire-safe landscaping uses fire-resistant plants that are strategically planted to resist the spread of fire to your home.

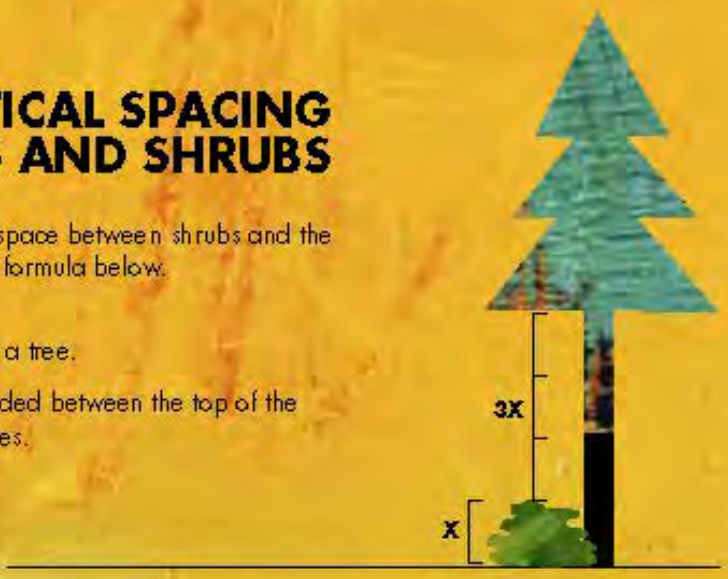
The good news is that you don't need to spend a lot of money to make your landscape fire-safe. And fire-safe landscaping can increase your property value and conserve water while beautifying your home. For more information on fire-safe landscaping, visit: **ReadyForWildfire.org/landscaping**.

MINIMUM VERTICAL SPACING BETWEEN TREES AND SHRUBS

To determine the proper vertical space between shrubs and the lowest branches of trees, use the formula below.

Example:
A five-foot shrub is growing near a tree.

3 x 5 = 15 feet of clearance needed between the top of the shrub and the lowest tree branches.



https://www.readyforwildfire.org/prepare-for-wildfire/get-ready/defensible-space/

Attachment B. Calfire Vertical Plant and Tree Spacing

MINIMUM HORIZONTAL SPACING FOR TREES AND SHRUBS

Horizontal spacing depends on the slope of the land and the height of the shrubs or trees. Check the diagrams below to determine spacing distance.

FLAT TO MILD SLOPE (LESS THAN 20%)

MILD TO MODERATE SLOPE (20%–40%)

MODERATE TO STEEP SLOPE (GREATER THAN 40%)

https://www.readyforwildfire.org/prepare-for-wildfire/get-ready/defensible-space/

Attachment C. Calfire Horizontal Plant and Tree Spacing

Attachment D. CSUMB Fuel Reduction and Defensible Space Activity Timetable

Biological Resource	Habitat Area[1]	Recommended Work Windows for Conducting Fuel Reduction and Defensible Space Activities[2]																							
		Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
Plant Species																									
Monterey spineflower *(Chorizanthe pungens* var. *pungens*)	Maritime chaparral, cismontane woodland, coastal dunes, coastal scrub, and valley and foothill grassland on sandy soils.																								
Fort Ord spineflower (*Chorizanthe minutiflora*)	Sandy openings of maritime chaparral and coastal scrub.																								
Monterey gilia *(Gilia tenuiflora* ssp. *arenaria)*	Openings in maritime chaparral, cismontane woodland, coastal dunes, and coastal scrub on sandy soils.																								
Kellogg's horkelia *(Horkelia cuneata* var. *sericea)*	Openings of closed-cone coniferous forests, maritime chaparral, coastal dunes, and coastal scrub on sandy or gravelly soils.																								
Point Reyes horkelia *(Horkelia marinensis)*	Coastal dunes, coastal prairie, and coastal scrub on sandy soils.																								
Coast wallflower *(Erysimum ammophilum)*	Openings in maritime chaparral, coastal dunes, and coastal scrub on sandy soils.																								
Marsh microseris *(Microseris paludosa)*	Closed-cone coniferous forest, cismontane woodland, coastal scrub, and valley and foothill grassland.																								
Seaside bird's-beak *(Cordylanthus rigidus* ssp. *littoralis)*	Closed-cone coniferous forests, maritime chaparral, cismontane woodlands, coastal dunes, and coastal scrub on sandy soils, often on disturbed sites.																								
Northern curly-leaved monardella *(Monardella sinuata* ssp. *nigrescens)*	Chaparral, coastal dunes, coastal scrub, and lower montane coniferous forest (ponderosa pine sandhills).																								
Yadon's piperia *(Piperia yadonii)*	Sandy soils in coastal bluff scrub, closed-cone coniferous forest, and maritime chaparral.																								
Toro manzanita *(Arctostaphylos montereyensis)*	Maritime chaparral, cismontane woodland, and coastal scrub on sandy soils.																								
Sandmat manzanita *(Arctostaphylos pumila)*	Openings of closed-cone coniferous forests, maritime chaparral, cismontane woodland, coastal dunes, and coastal scrub on sandy soils.																								
Hooker's manzanita *(Arctostaphylos hookeri* ssp. *hookeri)*	Closed-cone coniferous forest, chaparral, cismontane woodland, and coastal scrub on sandy soils.																								
Pajaro manzanita *(Arctostaphylos pajaroensis)*	Chaparral on sandy soils.																								
Eastwood's goldenbush *(Ericameria fasciculata)*	Openings in closed-cone coniferous forest, maritime chaparral, coastal dunes, and coastal scrub on sandy soils.																								
Monterey ceanothus *(Ceanothus rigidus)*	Closed cone coniferous forest, chaparral, and coastal scrub on sandy soils.																								

[1] See Figures 3a and Figure 3b for habitat locations and Figures 2a, 2a-1, and 2b for mapped populations.

[2] Please note that these recommended work windows are generated from species characteristics and life histories and may vary seasonally and annually. Therefore, work may be conducted outside these recommended work windows, but only with written authorization from a qualified biologist.

Biological Resource	Habitat Area[1]	Recommended Work Windows for Conducting Fuel Reduction and Defensible Space Activities[2]
		Jan. / Feb. / Mar. / Apr. / May / June / July / Aug. / Sept. / Oct. / Nov. / Dec.
Trees, including but not limited to: coast live oak, Monterey pine, Monterey cypress	Trees and coast live oak woodland occur throughout the CSUMB property.	
Wildlife Species		
Monterey dusky-footed woodrat *(Neotoma macrotis luciana)*	Forest, oak woodland, and chaparral habitats of moderate canopy with moderate to dense understory.	
California tiger salamander *(Ambystoma californiense)*	Annual grassland and grassy understory of valley-foothill hardwood habitats in central and northern California. Need underground refuges and vernal pools or other seasonal water sources.	
Smith's blue butterfly *(Euphilotes enoptes smithi)*	Most commonly associated with coastal dunes and coastal sage scrub plant communities in Monterey and Santa Cruz Counties. Plant hosts are *Eriogonum latifolium* and *E. parvifolium.*	
Nesting avian species	All areas and habitats in work areas. Stands of live oak, riparian deciduous, or other forest habitats, as well as open grasslands, are used most frequently for nesting.	
Special-status bat species	Rural and urban settings from inland deserts to coastal redwoods, oak woodland, grassland and low- to mid-elevation mixed coniferous habitats.	
Other special-status wildlife species with potential to occur, including but not limited to Monterey ornate shrew (*Sorex ornatus salarius*), American badger (*Taxidea taxus)*, northern California legless lizard (*Anniella pulchra*), and coast horned lizard (*Phrynosoma blainvillii*)	Various; please refer to Appendix C (Special-Status Species Table) of the project's Biological Resources Report.	

LEGEND:

Special-status herbaceous plant species have gone to seed; fuel reduction and defensible space activities and maintenance of vegetation are acceptable within this timeframe.

Boundaries of special-status herbaceous plant species shall be delineated with staking and flagging and shall be avoided until plants have gone to seed.

Special-status shrub and tree species shall be avoided to the greatest extent feasible throughout the year; however, activities may occur during this timeframe with implementation of the BMPs identified in CSUMB Best Management Practices Required for Fuel Reduction and Defensible Space Activities.

Most beneficial time to trim and remove trees.

Monterey dusky-footed woodrat surveys shall be conducted in suitable habitat three days prior to implementing activities.

Conduct nesting bird surveys prior to fuel reduction activities in all areas plan for vegetation maintenance.

While the reproductive season is generally March 1 through September 15, special-status bat species could be present and active at any time of year and surveys are required prior to fuel reduction activities in all areas plan for vegetation maintenance year-round.

No nesting bird surveys shall be required during this timeframe.

Ideal time to work in/near habitat for this species. Protection measures identified in the BMPs must be implemented.

If feasible, work in/near habitat should be avoided. If work is required during this time, protection measures identified in the BMPs must be implemented.

Activities may be conducted year-round. Implementation of the protection measures identified in the BMPs is required year-round.

ATTACHMENT E
California State University Monterey Bay
DRAFT
Best Management Practices Required for Fuel Reduction and Defensible Space Activities
(California Public Resources Code Chapter 3. Section 4291)

SPECIAL-STATUS SPECIES AVOIDANCE AND MINIMIZATION MEASURES REQUIRED WITHIN ZONES 0, 1, AND 2

The following recommendations have been developed to avoid and minimize potential impacts to the special-status species and sensitive habitats within and adjacent to the fuel reduction site to a less-than-significant level in accordance with the California Environmental Quality Act (CEQA). 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 the federal Endangered Species Act (ESA) or the California Endangered Species Act (CESA).

Species	General Habitat/Description	Best Management Practices (BMPs)	Recommended Work Windows for Conducting Fuel Reduction and Defensible Space Activities[1] (Also Refer to Attachment D)
WORKER REQUIREMENTS			
ALL	**ALL**	**Worker qualifications and roles:** To ensure compliance with the Fuel Management Plan (FMP) and these Best Management Practices[2] Required for Fuel Reduction and Defensible Space Activities (BMP), work will be: • At all times overseen and supervised by a professional biologist • Figures 2a, 2a-1, and 2b will be consulted as a basis for avoiding special-status species • Tree work will be directed by a certified arborist under the direction of the biologist • Tree work will be performed in accordance with American National Safety Institute (ANSI) A300 Pruning Standards • Tree work will be performed by tree care workers that comply with California Public Resources Code Chapter 3. Mountainous, Forest-, Brush-, and Grass-Covered Lands, Section 4291.[3] • All workers will complete the munitions training in advance of performing work found at https://www.fortordsafety.com/	Year-round
ALL	**ALL**	**Employee Education Program**: A qualified biologist shall conduct an Employee Education Program for the workers prior to the implementation of any fuel management activities. The qualified biologist shall meet with the fuel management workers (crews) at the onset of work at the project site to educate them on the following: 1) the appropriate access route(s) in and out of the construction area and review project boundaries; 2) how a biological monitor will examine the area and agree upon a method which will ensure the safety of the monitor during such activities, 3) the identification of special-status species that may be present; 4) the specific mitigation measures that will be incorporated into the work effort; 5) the general provisions and protections afforded; and 6) the proper procedures if a special-status species is encountered within the project site to avoid impacts.	Year-round
PLANTS			
Monterey gilia *(Gilia tenuiflora* ssp. *arenaria)*	Openings in maritime chaparral, cismontane woodland, coastal dunes, and coastal scrub on sandy soils at elevations of 0-45 meters. Annual herb in the Polemoniaceae family; typically blooms April-June.	• Activities shall only occur in areas known to support Monterey gilia from approximately June 1 to September 30 (see Figures 2a, 2a-1, and 2b). • Vehicle traffic in areas known to support Monterey gilia is strictly prohibited at any time. • Piling of any cut vegetation or other debris within areas known to support Monterey gilia is strictly prohibited at any time. • Areas known to support Monterey gilia shall be avoided from October 1 to May 31. Boundaries of Monterey gilia populations shall be staked and flagged prior to implementing any activities to avoid impacts to the populations. The flagged areas shall be avoided from October 1 to May 31.	June 1 – September 30
Seaside bird's-beak *(Cordylanthus rigidus* ssp. *littoralis)*	Closed-cone coniferous forests, maritime chaparral, cismontane woodlands, coastal dunes, and coastal scrub on sandy soils, often on disturbed sites, at elevations of 0-425 meters. Annual hemi-parasitic herb in the Orobanchaceae family; typically blooms April-October.	• Prior to initiating fuel reduction and defensible space activities, a qualified biologist shall survey the work area for seaside bird's-beak during the appropriate blooming period of this species. • Activities shall only occur in areas known to support seaside bird's-beak from approximately October 1 to January 31. • Vehicle traffic in areas known to support seaside bird's-beak is strictly prohibited at any time. • Piling of any cut vegetation or other debris within areas known to support seaside bird's-beak is strictly prohibited at any time. • Areas known to support seaside bird's-beak shall be avoided from February 1 to September 30. Boundaries seaside bird's-beak shall be staked and flagged prior to implementing any activities to avoid impacts to the populations. The flagged areas shall be avoided from February 1 to May 31.	October 1 – January 31

[1] Please note that these recommended work windows (Attachment D) are generated from species characteristics and life histories and may vary seasonally and annually. Therefore, work may be conducted outside these recommended work windows with implementation of specific avoidance measures. Avoidance is required for species that would be detrimentally affected by activities without the implementation of specific measures identified herein and are protected by federal and/or law, but only with written authorization from a qualified biologist.
[2] This Best Management Practices document (Attachment E) provides special-status species and sensitive habitat avoidance and minimization measures, as well as specific tree pruning requirements.
[3] https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=4291.&lawCode=PRC

ATTACHMENT E
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(California Public Resources Code Chapter 3. Section 4291)

SPECIAL-STATUS SPECIES AVOIDANCE AND MINIMIZATION MEASURES REQUIRED WITHIN ZONES 0, 1, AND 2

The following recommendations have been developed to avoid and minimize potential impacts to the special-status species and sensitive habitats within and adjacent to the fuel reduction site to a less-than-significant level in accordance with the California Environmental Quality Act (CEQA). 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 the federal Endangered Species Act (ESA) or the California Endangered Species Act (CESA).

Species	General Habitat/Description	Best Management Practices (BMPs)	Recommended Work Windows for Conducting Fuel Reduction and Defensible Space Activities[1] (Also Refer to Attachment D)
Northern curly-leaved monardella *(Monardella sinuata* ssp. *nigrescens)*	Chaparral, coastal dunes, coastal scrub, and lower montane coniferous forest (ponderosa pine sandhills) on sandy soils at elevations of 0-300 meters. Annual herb in the Lamiaceae family; typically blooms April-September.	• Prior to initiating fuel reduction and defensible space activities, a qualified biologist shall survey the work area for northern curly-leaved monardella during the appropriate blooming period of this species. • Activities shall only occur in areas known to support northern curly-leaved monardella from approximately September 1 to January 31. • Vehicle traffic in areas known to support northern curly-leaved monardella is strictly prohibited at any time. • Piling of any cut vegetation or other debris within areas known to support northern curly-leaved monardella is strictly prohibited at any time. • Areas known to support northern curly-leaved monardella shall be avoided from February 1 to August 31. Boundaries of northern curly-leaved monardella shall be staked and flagged prior to implementing any activities to avoid impacts to the populations. The flagged areas shall be avoided from February 1 to August 31.	September 1 – January 31
Yadon's piperia *(Piperia yadonii)*	Sandy soils in coastal bluff scrub, closed-cone coniferous forest, and maritime chaparral at elevations of 10-510 meters. Annual herb in the Orchidaceae family; blooms February-August.	• Prior to initiating fuel reduction and defensible space activities, a qualified biologist shall survey the work area for Yadon's piperia during the appropriate blooming period of this species. • Fuel reduction and defensible space activities (collectively referred to herein as “activities”) shall only occur in areas known to support Yadon's piperia, as determined by the field survey, from approximately September 1 to January 31. • Vehicle traffic in areas known to support Yadon's piperia is strictly prohibited at any time. • Piling of any cut vegetation or other debris within areas known to support Yadon's piperia is strictly prohibited at any time. • Areas known to support Yadon's piperia populations shall be avoided from February 1 to August 31. Boundaries of Yadon's piperia populations shall be staked and flagged prior to implementing any activities to avoid impacts to the populations. The flagged areas shall be avoided from February 1 to August 31.	September 1 – January 31
Monterey spineflower *(Chorizanthe pungens* var. *pungens*)	Maritime chaparral, cismontane woodland, coastal dunes, coastal scrub, and valley and foothill grassland on sandy soils at elevations of 3-450 meters. Annual herb in the Polygonaceae family; typically blooms April-July.	• Fuel reduction and defensible space activities (collectively referred to herein as “activities”) shall only occur in areas known to support Monterey spineflower from approximately June 1 to January 31 (see Figures 2a and 2b). • Vehicle traffic in areas known to support Monterey spineflower is strictly prohibited at any time. • Piling of any cut vegetation or other debris within areas known to support Monterey spineflower is strictly prohibited at any time. • Areas known to support Monterey spineflower populations shall be avoided from February 1 to May 31. Boundaries of Monterey spineflower populations shall be staked and flagged prior to implementing any activities to avoid impacts to the populations. The flagged areas shall be avoided from February 1 to May 31.	June 1 – January 31
Fort Ord spineflower (*Chorizanthe minutiflora*)	Sandy openings of maritime chaparral and coastal scrub at elevations of 55-150 meters. Only known occurrences on Fort Ord National Monument. Annual herb in the Polygonaceae family; blooms April-July.	• Prior to initiating fuel reduction and defensible space activities, a qualified biologist shall survey the work area for Fort Ord spineflower during the appropriate blooming period of this species. • Fuel reduction and defensible space activities (collectively referred to herein as “activities”) shall only occur in areas known to support Fort Ord spineflower, as determined by the field survey, from approximately June 1 to January 31. • Vehicle traffic in areas known to support Fort Ord spineflower is strictly prohibited at any time. • Piling of any cut vegetation or other debris within areas known to support Fort Ord spineflower is strictly prohibited at any time.	June 1 – January 31

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Species	General Habitat/Description	Best Management Practices (BMPs)	Recommended Work Windows for Conducting Fuel Reduction and Defensible Space Activities[1] (Also Refer to Attachment D)
		• Areas known to support Fort Ord spineflower populations shall be avoided from February 1 to May 31. Boundaries of Fort Ord spineflower populations shall be staked and flagged prior to implementing any activities to avoid impacts to the populations. The flagged areas shall be avoided from February 1 to May 31.	
Coast wallflower *(Erysimum ammophilum)*	Openings in maritime chaparral, coastal dunes, and coastal scrub on sandy soils at elevations of 0-60 meters. Perennial herb in the Brassicaceae family; typically blooms February-June.	• Prior to initiating fuel reduction and defensible space activities, a qualified biologist shall survey the work area for coast wallflower during the appropriate blooming period of this species. • Activities shall only occur in areas known to support coast wallflower from approximately June 1 to January 31. • Vehicle traffic in areas known to support coast wallflower is strictly prohibited at any time. • Piling of any cut vegetation or other debris within areas known to support coast wallflower is strictly prohibited at any time. • Areas known to support coast wallflower shall be avoided from February 1 to May 31. Boundaries of coast wallflower populations shall be staked and flagged prior to implementing any activities to avoid impacts to the populations. The flagged areas shall be avoided from February 1 to May 31.	June 1 – January 31
Marsh microseris *(Microseris paludosa)*	Closed-cone coniferous forest, cismontane woodland, coastal scrub, and valley and foothill grassland at elevations of 5-300 meters. Perennial herb in the Asteraceae family; blooms April-July.	• Prior to initiating fuel reduction and defensible space activities, a qualified biologist shall survey the work area for marsh microseris during the appropriate blooming period of this species. • Fuel reduction and defensible space activities (collectively referred to herein as “activities”) shall only occur in areas known to support marsh microseris, as determined by the field survey, from approximately June 1 to January 31. • Vehicle traffic in areas known to support marsh microseris is strictly prohibited at any time. • Piling of any cut vegetation or other debris within areas known to support marsh microseris is strictly prohibited at any time. • Areas known to support Marsh microseris populations shall be avoided from February 1 to May 31. Boundaries of marsh microseris populations shall be staked and flagged prior to implementing any activities to avoid impacts to the populations. The flagged areas shall be avoided from February 1 to May 31.	June 1 – January 31
Kellogg’s horkelia *(Horkelia cuneate* var. *sericea)*	Openings of closed-cone coniferous forests, maritime chaparral, coastal dunes, and coastal scrub on sandy or gravelly soils at elevations of 10-200 meters. Perennial herb in the Rosaceae family; typically blooms April-September.	• Prior to initiating fuel reduction and defensible space activities, a qualified biologist shall survey the work area for Kellogg's horkelia during the appropriate blooming period of this species. • Activities shall only occur in areas known to support Kellogg’s horkelia from approximately June 1 to January 31 (see Figures 2a and 2b). • Vehicle traffic in areas known to support Kellogg’s horkelia is strictly prohibited at any time. • Piling of any cut vegetation or other debris within areas known to support Kellogg’s horkelia is strictly prohibited at any time. • Areas known to support Kellogg’s horkelia shall be avoided from February 1 to May 31. Boundaries of Kellogg’s horkelia populations shall be staked and flagged prior to implementing any activities to avoid impacts to the populations. The flagged areas shall be avoided from February 1 to May 31.	June 1 – January 31

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SPECIAL-STATUS SPECIES AVOIDANCE AND MINIMIZATION MEASURES REQUIRED WITHIN ZONES 0, 1, AND 2

The following recommendations have been developed to avoid and minimize potential impacts to the special-status species and sensitive habitats within and adjacent to the fuel reduction site to a less-than-significant level in accordance with the California Environmental Quality Act (CEQA). 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 the federal Endangered Species Act (ESA) or the California Endangered Species Act (CESA).

Species	General Habitat/Description	Best Management Practices (BMPs)	Recommended Work Windows for Conducting Fuel Reduction and Defensible Space Activities[1] (Also Refer to Attachment D)
Point Reyes horkelia *(Horkelia marinensis)*	Coastal dunes, coastal prairie, and coastal scrub on sandy soils at elevations of 5-350 meters. Perennial herb in the Rosaceae family; blooms May-September.	• Prior to initiating fuel reduction and defensible space activities, a qualified biologist shall survey the work area for Point Reyes horkelia during the appropriate blooming period of this species. • Activities shall only occur in areas known to support Point Reyes horkelia from approximately June 1 to January 31 (see Figures 2a and 2b). • Vehicle traffic in areas known to support Point Reyes horkelia is strictly prohibited at any time. • Piling of any cut vegetation or other debris within areas known to support Point Reyes horkelia is strictly prohibited at any time. • Areas known to support Point Reyes horkelia shall be avoided from February 1 to May 31. Boundaries of Point Reyes horkelia populations shall be staked and flagged prior to implementing any activities to avoid impacts to the populations. The flagged areas shall be avoided from February 1 to May 31.	June 1 – January 31
Hooker's manzanita *(Arctostaphylos hookeri* ssp. *hookeri)*	Closed-cone coniferous forest, chaparral, cismontane woodland, and coastal scrub on sandy soils at elevations of 85-536 meters. Evergreen shrub in the Ericaceae family; blooms January-June.	• Prior to initiating fuel reduction and defensible space activities, a qualified biologist shall survey the work area for Hooker's. • Hooker's manzanita shall be avoided year-round to the greatest extent feasible during activities due to its slow growth pattern. • Vehicle traffic in areas known to support Hooker's manzanita is strictly prohibited at any time. • Piling of any cut vegetation or other debris within areas known to support Hooker's manzanita is strictly prohibited at any time.	Year-round
Pajaro manzanita *(Arctostaphylos pajaroensis)*	Chaparral on sandy soils at elevations of 30-760 meters. Evergreen shrub in the Ericaceae family; blooms December-March.	• Prior to initiating fuel reduction and defensible space activities, a qualified biologist shall survey the work area for Pajaro manzanita. • Pajaro manzanita individuals shall be retained at approximately 50-foot intervals. Hand crews shall receive additional training from the Project Biologist in Pajaro manzanita identification. • Vehicle traffic in areas known to support Pajaro manzanita is strictly prohibited at any time. • Piling of any cut vegetation or other debris within areas known to support Pajaro manzanita is strictly prohibited at any time.	Year-round
Sandmat manzanita *(Arctostaphylos pumila)*	Openings of closed-cone coniferous forests, maritime chaparral, cismontane woodland, coastal dunes, and coastal scrub on sandy soils at elevations of 3-205 meters. Evergreen shrub in the Ericaceae family; typically blooms February-May.	• Prior to initiating fuel reduction and defensible space activities, a qualified biologist shall survey the work area for sandmat manzanita. • Sandmat manzanita shall be avoided year-round to the greatest extent feasible during activities due to its slow growth pattern. • Vehicle traffic in areas known to support sandmat manzanita is strictly prohibited at any time. • Piling of any cut vegetation or other debris within areas known to support sandmat manzanita is strictly prohibited at any time. • Figures 2a and 2b shall be referenced to recognize boundaries of sandmat manzanita for avoidance.	Year-round
Toro manzanita *(Arctostaphylos montereyensis)*	Maritime chaparral, cismontane woodland, and coastal scrub on sandy soils at elevations of 30-730 meters. Evergreen shrub in the Ericaceae family; typically blooms February-March.	• Prior to initiating fuel reduction and defensible space activities, a qualified biologist shall survey the work area for Toro manzanita. • Toro manzanita individuals shall be retained at approximately 50-foot intervals. Hand crews shall receive additional training from the Project Biologist in Toro manzanita identification. • Vehicle traffic in areas known to support Toro manzanita is strictly prohibited at any time.	Year-round

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The following recommendations have been developed to avoid and minimize potential impacts to the special-status species and sensitive habitats within and adjacent to the fuel reduction site to a less-than-significant level in accordance with the California Environmental Quality Act (CEQA). 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 the federal Endangered Species Act (ESA) or the California Endangered Species Act (CESA).

Species	General Habitat/Description	Best Management Practices (BMPs)	Recommended Work Windows for Conducting Fuel Reduction and Defensible Space Activities[1] (Also Refer to Attachment D)
		• Piling of any cut vegetation or other debris within areas known to support Toro manzanita is strictly prohibited at any time.	
Eastwood's goldenbush *(Ericameria fasciculata)*	Openings in closed-cone coniferous forest, maritime chaparral, coastal dunes, and coastal scrub on sandy soils at elevations of 30-275 meters. Evergreen shrub in the Asteraceae family; typically blooms July-October.	• Prior to initiating fuel reduction and defensible space activities, a qualified biologist shall survey the work area for Eastwood's goldenbush. • Eastwood's goldenbush shall be avoided to the greatest extent feasible during activities due to its slow growth pattern. • Vehicle traffic in areas known to support Eastwood's goldenbush is strictly prohibited at any time. • Piling of any cut vegetation or other debris within areas known to support Eastwood's goldenbush is strictly prohibited at any time.	Year-round
Monterey ceanothus *(Ceanothus rigidus)*	Closed cone coniferous forest, chaparral, and coastal scrub on sandy soils at elevations of 3-550 meters. Evergreen shrub in the Rhamnaceae family, blooms February-June.	• Prior to initiating fuel reduction and defensible space activities, a qualified biologist shall survey the work area for Monterey ceanothus. • Monterey ceanothus shall be avoided year-round to the greatest extent feasible during activities due to its slow growth pattern. • Vehicle traffic in areas known to support Monterey ceanothus is strictly prohibited at any time. • Piling of any cut vegetation or other debris within areas known to support Monterey ceanothus is strictly prohibited at any time.	Year-round
Trees, including but not limited to: coast live oak, Monterey pine, and Monterey cypress	The CSUMB Tree Restoration Program was established to mitigation for impacts to coast live oak trees and other trees resulting from projects that occur on campus. This program replants two coast live oak trees for every tree greater than 4" diameter breast height (DBH) removed within an identified restoration area on campus. CSUMB Master Plan Project Design Feature (PDF) OS-4 provides for continuation and expansion of the CSUMB tree restoration program and management project to maximize the health and stability of existing and replacement trees. This includes, but is not limited to, Campus Planning approving and directing major trimming (over 30 percent) and replacement of all removed trees over 4 inches DBH at a minimum 2:1 ratio.	• Removal of trees greater than 4" in diameter shall be avoided to the greatest extent feasible unless they are determined a safety and/or fire hazard. • Branches larger than 4" shall not be cut from existing trees to the greatest extent feasible unless they are determined to be a safety and/or fire hazard. • The Project Biologist shall inventory and track removal of trees greater than 4" DBH that are determined a safety and/or fire hazard and must be removed or pruning of more than 30% of any tree. CSUMB shall review documents and coordinate this effort with its Tree Restoration Program and replace removed trees as determined feasible. • Pruning shall be conducted to avoid unnecessary injuries to trees. General principles of pruning (ANSI A300 Pruning Standards) include placing cuts immediately beyond the branch collar, making clean cuts by scoring the underside of the branch first, and, for coast live oak, pruning is recommended from May 1 to January 31.	May 1 – January 31
Invasive plant species (i.e., *Genista* sp., *Acacia* sp., iceplant, etc.)	Per CSUMB Master Plan, PDF-OS-3: Remove invasive species using best management practices during construction, demolition, and landscape projects.	• Equipment shall be pressure washed prior to entering the project site, cleaned of mud or other debris that may contain invasive plants and/or seeds, and inspected to reduce the potential of spreading noxious weeds. Equipment shall also be pressure washed and cleared of debris prior to exiting the project site to limit the spread of noxious weeds. • If found, invasive species shall be removed and placed in a trash (not green yard waste intended for reuse) dumpster and taken to the landfill.	Year-round

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Species	General Habitat/Description	Best Management Practices (BMPs)	Recommended Work Windows for Conducting Fuel Reduction and Defensible Space Activities[1] (Also Refer to Attachment D)
WILDLIFE			
Monterey dusky-footed woodrat *(Neotoma macrotis luciana)*	Forest and oak woodland habitats of moderate canopy with moderate to dense understory. Also occurs in chaparral habitats.	• To avoid and reduce impacts to the Monterey dusky-footed woodrat, a qualified biologist shall conduct surveys for woodrat nests in suitable habitat proposed for fuel reduction, ground disturbance, or staging activities within three days prior to the implementation of activities within the project area and within a buffer zone of 100 feet from the limit of disturbance. All woodrat nests shall be flagged for avoidance from impacts that may result from activities and for protection during activities, where feasible. Nests that cannot be avoided shall be manually deconstructed prior to implementing activities to allow animals to escape harm. If a litter of young is found or suspected, nest material shall be replaced, and the nest left alone for 2-3 weeks before a re-check to verify that young are capable of independent survival before proceeding with nest dismantling.	Year-round
California tiger salamander *(Ambystoma californiense)*	Annual grassland and grassy understory of valley-foothill hardwood habitats in central and northern California. Need underground refuges and vernal pools or other seasonal water sources.	• A qualified biologist will survey the proposed project area and immediately adjacent areas 48 hours before and the morning of the onset of work activities for the presence of CTS. If any life stage of CTS is observed, project activities will not commence until the Service and CDFW are consulted and appropriate actions are taken to allow project activities to begin. • A qualified biologist shall survey appropriate areas of the site daily before the onset of work activities for the presence of CTS. The qualified biologist shall remain on site until all ground disturbing activities are completed. If any life stage of CTS is found and these individuals are likely to be killed or injured by work activities, work shall stop and the Service and CDFW shall be contacted. Activities will not resume until the Service and CDFW are consulted and appropriate actions are taken to allow project activities to continue. • The qualified biologist shall complete a daily log summarizing activities and environmental compliance throughout the duration of the proposed project. • Only tightly woven fiber netting or similar material may be used for erosion control at the project site. Coconut coir matting is an acceptable erosion control material. No plastic mono-filament matting will be used for erosion control, as this material may ensnare wildlife, including CTS. • Because dusk and dawn are often the times when CTS are most actively foraging and dispersing, all project activities should cease one half hour before sunset and should not begin prior to one half hour after sunrise. • All trash that may attract predators shall be properly contained, removed from the work site, and disposed of regularly. Following completion of work activities, all trash and construction debris shall be removed from work areas.	April 15 – October 15
Smith's blue butterfly *(Euphilotes enoptes smithi)*	Most commonly associated with coastal dunes and coastal sage scrub plant communities in Monterey and Santa Cruz Counties. Plant hosts are *Eriogonum latifolium* and *E. parvifolium*.	• Prior to project activities, CSUMB shall retain a qualified biologist to conduct a survey for SBB habitat (i.e., its host plants, *E. latifolium* and *E. parvifolium*) within the project site. If found, SBB habitat shall be avoided. • Areas known to support SBB habitat shall be flagged, and activities within those areas shall only occur from approximately June 1 to January 31, or at the discretion of the qualified biologist. • Vehicle traffic in areas known to support SBB habitat shall be strictly prohibited at all times. • Piling of any cut vegetation or other debris within areas known to support SBB habitat shall be strictly prohibited at all times.	September 1 – January 31
Nesting Avian Species and other protected Avian Species, including but not limited to burrowing owl (*Athene cunicularia*) and white-tailed kite (*Elanus leucurus*)	Stands of live oak, riparian deciduous, or other forest habitats, as well as open grasslands, are used most frequently for nesting.	• In compliance with CDFW Code and standard professional practice, activities that may directly (e.g., vegetation removal) or indirectly (e.g., noise/ground disturbance) affect protected nesting avian species shall be timed to avoid the breeding and nesting season (January 15 – September 15). Specifically, vegetation and/or tree removal should be scheduled between September 16 and January 14. • Alternatively, if activities during the breeding and nesting season cannot be avoided, a qualified biologist shall conduct pre-activity surveys for nesting raptors and other protected avian species within the site and within a suitable buffer area (recommended buffer distances are 500 feet for birds of prey and 250 feet for other passerine species) if activities commences between January 15 and September 15. Pre-activity surveys shall	September 16 – January 14

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Species	General Habitat/Description	Best Management Practices (BMPs)	Recommended Work Windows for Conducting Fuel Reduction and Defensible Space Activities[1] (Also Refer to Attachment D)
		be conducted no more than 14 days prior to the start of fuel reduction activities during the early part of the breeding season (January through April) and no more than 30 days prior to the initiation of these activities during the late part of the breeding season (May through September). Because some bird species nest early in spring and others nest later in summer, surveys for nesting birds may be required to continue during fuel reduction activities to address new arrivals, and because some species breed multiple times in a season. The necessity and timing of these continued surveys shall be determined by the qualified biologist based on review of fuel reduction schedule and buffer distances.	
Special-Status Bat Species, including but not limited to Townsend's big-eared bat (*Corynorhinus townsendii*)	Found in rural and urban settings from inland deserts to coastal redwoods, oak woodland, grassland and low to mid-elevation mixed coniferous-deciduous forests. Typically roost during the day in tree cavities, tree foliage, bark crevices, limestone caves, lava tubes, and mines, but can roost in buildings that offer suitable conditions. Night roosts are in more open settings and include bridges, rock crevices, and trees.	• To avoid and reduce impacts to special-status bat species, a qualified bat specialist or wildlife biologist shall conduct surveys during the reproductive season (March 1 through September 15) to characterize bat utilization of the project site and potential species present (techniques utilized to be determined by the biologist) prior to any tree or vegetation removal (or any other suitable roosting habitat). Surveys should also be conducted outside of the reproductive season, generally September 16-February 28 (or 29), as bats could be present and active any time of the year. • Surveys may include visual inspection during the day and emergence surveys aided by acoustics at sunset, and shall be conducted no more than 14 days prior to any tree or vegetation removal (or any other suitable roosting habitat) within 100 feet of vegetation removal limits. If, according to the bat specialist, no bats or bat signs are observed in the course of the surveys, tree and building removal may proceed. If bats and/or bat signs are observed during the surveys, the biologist shall determine if disturbance would jeopardize a maternity roost or another type of roost (i.e., foraging, day, or night). If avoidance is not possible then vegetation removal must be postponed until the end of the reproductive season. According to CDFW, maternity roosts cannot be moved or deliberately disturbed for any species of bat.	September 16 – February 28 (or February 29)
Other special-status wildlife species with potential to occur, including but not limited to Monterey ornate shrew (*Sorex ornatus salarius*), American badger (*Taxidea taxus)*, Northern California legless lizard (*Anniella pulchra*), and Coast horned lizard (*Phrynosoma blainvillii*)	Various; please refer to Appendix C (Special-Status Species Table) of the project's Biological Resources Report.	• A qualified biologist shall conduct an Employee Education Program for the workers prior to the implementation of any fuel management activities. The qualified biologist shall meet with the fuel management workers (crews) at the onset of work at the project site to educate them on the following: 1) the appropriate access route(s) in and out of the construction area and review project boundaries; 2) how a biological monitor will examine the area and agree upon a method which will ensure the safety of the monitor during such activities, 3) the identification of special-status species that may be present; 4) the specific mitigation measures that will be incorporated into the work effort; 5) the general provisions and protections afforded; and 6) the proper procedures if a special-status species is encountered within the project site to avoid impacts.	Year-round

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APPENDIX B.

California Natural Diversity Database Report

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Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Marina (3612167) OR Monterey (3612158) OR Moss Landing (3612177) OR Prunedale (3612176) OR Salinas (3612166) OR Seaside (3612157) OR Spreckels (3612156))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Threatened	G1G2	S1S2	SSC
Agrostis lacuna-vernalis vernal pool bent grass	PMPOA041N0	None	None	G1	S1	1B.1
Allium hickmanii Hickman's onion	PMLIL02140	None	None	G2	S2	1B.2
Ambystoma californiense pop. 1 California tiger salamander - central California DPS	AAAAA01181	Threatened	Threatened	G2G3	S3	WL
Ambystoma macrodactylum croceum Santa Cruz long-toed salamander	AAAAA01082	Endangered	Endangered	G5T1T2	S1S2	FP
Anniella pulchra Northern California legless lizard	ARACC01020	None	None	G3	S3	SSC
Arctostaphylos hookeri ssp. hookeri Hooker's manzanita	PDERI040J1	None	None	G3T2	S2	1B.2
Arctostaphylos montereyensis Toro manzanita	PDERI040R0	None	None	G2?	S2?	1B.2
Arctostaphylos pajaroensis Pajaro manzanita	PDERI04100	None	None	G1	S1	1B.1
Arctostaphylos pumila sandmat manzanita	PDERI04180	None	None	G1	S1	1B.2
Asio flammeus short-eared owl	ABNSB13040	None	None	G5	S3	SSC
Astragalus tener var. tener alkali milk-vetch	PDFAB0F8R1	None	None	G2T1	S1	1B.2
Astragalus tener var. titi coastal dunes milk-vetch	PDFAB0F8R2	Endangered	Endangered	G2T1	S1	1B.1
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Bombus caliginosus obscure bumble bee	IIHYM24380	None	None	G4?	S1S2	
Bombus crotchii Crotch bumble bee	IIHYM24480	None	None	G3G4	S1S2	
Bombus occidentalis western bumble bee	IIHYM24250	None	None	G2G3	S1	
Buteo regalis ferruginous hawk	ABNKC19120	None	None	G4	S3S4	WL
Castilleja ambigua var. insalutata pink Johnny-nip	PDSCR0D403	None	None	G4T2	S2	1B.1

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Central Dune Scrub	CTT21320CA	None	None	G2	S2.2	
Central Dune Scrub						
Central Maritime Chaparral	CTT37C20CA	None	None	G2	S2.2	
Central Maritime Chaparral						
Centromadia parryi ssp. congdonii	PDAST4R0P1	None	None	G3T1T2	S1S2	1B.1
Congdon's tarplant						
Charadrius nivosus nivosus	ABNNB03031	Threatened	None	G3T3	S2	SSC
western snowy plover						
Chorizanthe minutiflora	PDPGN04100	None	None	G1	S1	1B.2
Fort Ord spineflower						
Chorizanthe pungens var. pungens	PDPGN040M2	Threatened	None	G2T2	S2	1B.2
Monterey spineflower						
Chorizanthe robusta var. robusta	PDPGN040Q2	Endangered	None	G2T1	S1	1B.1
robust spineflower						
Clarkia jolonensis	PDONA050L0	None	None	G2	S2	1B.2
Jolon clarkia						
Coastal and Valley Freshwater Marsh	CTT52410CA	None	None	G3	S2.1	
Coastal and Valley Freshwater Marsh						
Coastal Brackish Marsh	CTT52200CA	None	None	G2	S2.1	
Coastal Brackish Marsh						
Coelus globosus	IICOL4A010	None	None	G1G2	S1S2	
globose dune beetle						
Collinsia multicolor	PDSCR0H0B0	None	None	G2	S2	1B.2
San Francisco collinsia						
Cordylanthus rigidus ssp. littoralis	PDSCR0J0P2	None	Endangered	G5T2	S2	1B.1
seaside bird's-beak						
Corynorhinus townsendii	AMACC08010	None	None	G4	S2	SSC
Townsend's big-eared bat						
Coturnicops noveboracensis	ABNME01010	None	None	G4	S1S2	SSC
yellow rail						
Cypseloides niger	ABNUA01010	None	None	G4	S2	SSC
black swift						
Danaus plexippus pop. 1	IILEPP2012	Candidate	None	G4T2T3	S2S3	
monarch - California overwintering population						
Delphinium californicum ssp. interius	PDRAN0B0A2	None	None	G3T3	S3	1B.2
Hospital Canyon larkspur						
Delphinium hutchinsoniae	PDRAN0B0V0	None	None	G2	S2	1B.2
Hutchinson's larkspur						
Delphinium umbraculorum	PDRAN0B1W0	None	None	G3	S3	1B.3
umbrella larkspur						
Elanus leucurus	ABNKC06010	None	None	G5	S3S4	FP
white-tailed kite						

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Eremophila alpestris actia California horned lark	ABPAT02011	None	None	G5T4Q	S4	WL
Ericameria fasciculata Eastwood's goldenbush	PDAST3L080	None	None	G2	S2	1B.1
Eriogonum nortonii Pinnacles buckwheat	PDPGN08470	None	None	G2	S2	1B.3
Erysimum ammophilum sand-loving wallflower	PDBRA16010	None	None	G2	S2	1B.2
Erysimum menziesii Menzies' wallflower	PDBRA160R0	Endangered	Endangered	G1	S1	1B.1
Eucyclogobius newberryi tidewater goby	AFCQN04010	Endangered	None	G3	S3	
Eumetopias jubatus Steller (=northern) sea-lion	AMAJC03010	Delisted	None	G3	S2	
Euphilotes enoptes smithi Smith's blue butterfly	IILEPG2026	Endangered	None	G5T1T2	S1	
Falco mexicanus prairie falcon	ABNKD06090	None	None	G5	S4	WL
Falco peregrinus anatum American peregrine falcon	ABNKD06071	Delisted	Delisted	G4T4	S3S4	FP
Fritillaria liliacea fragrant fritillary	PMLIL0V0C0	None	None	G2	S2	1B.2
Gilia tenuiflora ssp. arenaria Monterey gilia	PDPLM041P2	Endangered	Threatened	G3G4T2	S2	1B.2
Hesperocyparis goveniana Gowen cypress	PGCUP04031	Threatened	None	G1	S1	1B.2
Hesperocyparis macrocarpa Monterey cypress	PGCUP04060	None	None	G1	S1	1B.2
Holocarpha macradenia Santa Cruz tarplant	PDAST4X020	Threatened	Endangered	G1	S1	1B.1
Horkelia cuneata var. sericea Kellogg's horkelia	PDROS0W043	None	None	G4T1?	S1?	1B.1
Horkelia marinensis Point Reyes horkelia	PDROS0W0B0	None	None	G2	S2	1B.2
Lasiurus cinereus hoary bat	AMACC05030	None	None	G3G4	S4	
Lasthenia conjugens Contra Costa goldfields	PDAST5L040	Endangered	None	G1	S1	1B.1
Laterallus jamaicensis coturniculus California black rail	ABNME03041	None	Threatened	G3G4T1	S1	FP

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Lavinia exilicauda harengus Monterey hitch	AFCJB19013	None	None	G4T2T4	S3	SSC
Layia carnosa beach layia	PDAST5N010	Endangered	Endangered	G2	S2	1B.1
Legenere limosa legenere	PDCAM0C010	None	None	G2	S2	1B.1
Linderiella occidentalis California linderiella	ICBRA06010	None	None	G2G3	S2S3	
Lupinus tidestromii Tidestrom's lupine	PDFAB2B3Y0	Endangered	Endangered	G1	S1	1B.1
Malacothamnus palmeri var. involucratus Carmel Valley bush-mallow	PDMAL0Q0B1	None	None	G3T2Q	S2	1B.2
Malacothrix saxatilis var. arachnoidea Carmel Valley malacothrix	PDAST660C2	None	None	G5T2	S2	1B.2
Meconella oregana Oregon meconella	PDPAP0G030	None	None	G2G3	S2	1B.1
Microseris paludosa marsh microseris	PDAST6E0D0	None	None	G2	S2	1B.2
Monardella sinuata ssp. nigrescens northern curly-leaved monardella	PDLAM18162	None	None	G3T2	S2	1B.2
Monolopia gracilens woodland woollythreads	PDAST6G010	None	None	G3	S3	1B.2
Monterey Cypress Forest Monterey Cypress Forest	CTT83150CA	None	None	G1	S1.2	
Monterey Pine Forest Monterey Pine Forest	CTT83130CA	None	None	G1	S1.1	
Monterey Pygmy Cypress Forest Monterey Pygmy Cypress Forest	CTT83162CA	None	None	G1	S1.1	
Neotoma macrotis luciana Monterey dusky-footed woodrat	AMAFF08083	None	None	G5T3	S3	SSC
Northern Bishop Pine Forest Northern Bishop Pine Forest	CTT83121CA	None	None	G2	S2.2	
Northern Coastal Salt Marsh Northern Coastal Salt Marsh	CTT52110CA	None	None	G3	S3.2	
Oncorhynchus mykiss irideus pop. 9 steelhead - south-central California coast DPS	AFCHA0209H	Threatened	None	G5T2Q	S2	
Pelecanus occidentalis californicus California brown pelican	ABNFC01021	Delisted	Delisted	G4T3T4	S3	FP
Phrynosoma blainvillii coast horned lizard	ARACF12100	None	None	G3G4	S3S4	SSC
Pinus radiata Monterey pine	PGPIN040V0	None	None	G1	S1	1B.1

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Piperia yadonii Yadon's rein orchid	PMORC1X070	Endangered	None	G1	S1	1B.1
Plagiobothrys chorisianus var. chorisianus Choris' popcornflower	PDBOR0V061	None	None	G3T1Q	S1	1B.2
Potentilla hickmanii Hickman's cinquefoil	PDROS1B370	Endangered	Endangered	G1	S1	1B.1
Rallus obsoletus obsoletus California Ridgway's rail	ABNME05011	Endangered	Endangered	G3T1	S1	FP
Ramalina thrausta angel's hair lichen	NLLEC3S340	None	None	G5?	S2S3	2B.1
Rana boylii foothill yellow-legged frog	AAABH01050	None	Endangered	G3	S3	SSC
Rana draytonii California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
Reithrodontomys megalotis distichlis Salinas harvest mouse	AMAFF02032	None	None	G5T1	S1	
Riparia riparia bank swallow	ABPAU08010	None	Threatened	G5	S2	
Rosa pinetorum pine rose	PDROS1J0W0	None	None	G2	S2	1B.2
Sidalcea malachroides maple-leaved checkerbloom	PDMAL110E0	None	None	G3	S3	4.2
Sorex ornatus salarius Monterey shrew	AMABA01105	None	None	G5T1T2	S1S2	SSC
Spea hammondii western spadefoot	AAABF02020	None	None	G2G3	S3	SSC
Spirinchus thaleichthys longfin smelt	AFCHB03010	Candidate	Threatened	G5	S1	
Stebbinsoseris decipiens Santa Cruz microseris	PDAST6E050	None	None	G2	S2	1B.2
Sulcaria spiralifera twisted horsehair lichen	NLT0042560	None	None	G3G4	S2	1B.2
Taricha torosa Coast Range newt	AAAAF02032	None	None	G4	S4	SSC
Taxidea taxus American badger	AMAJF04010	None	None	G5	S3	SSC
Thamnophis hammondii two-striped gartersnake	ARADB36160	None	None	G4	S3S4	SSC
Trifolium buckwestiorum Santa Cruz clover	PDFAB402W0	None	None	G2	S2	1B.1
Trifolium hydrophilum saline clover	PDFAB400R5	None	None	G2	S2	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Trifolium polyodon	PDFAB402H0	None	Rare	G1	S1	1B.1
Pacific Grove clover						
Trifolium trichocalyx	PDFAB402J0	Endangered	Endangered	G1	S1	1B.1
Monterey clover						
Tryonia imitator	IMGASJ7040	None	None	G2	S2	
mimic tryonia (=California brackishwater snail)						
Valley Needlegrass Grassland	CTT42110CA	None	None	G3	S3.1	
Valley Needlegrass Grassland						

Record Count: 107

APPENDIX C.

Information for Planning and Consultation Resource List

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IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Monterey County, California

Local office

Ventura Fish And Wildlife Office

(805) 644-1766
(805) 644-3958

2493 Portola Road, Suite B
Ventura, CA 93003-7726

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Birds

NAME	STATUS

California Condor Gymnogyps californianus — Endangered

There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/8193

California Least Tern Sterna antillarum browni — Endangered

Wherever found

No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/8104

Least Bell's Vireo Vireo bellii pusillus — Endangered

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/5945

Marbled Murrelet Brachyramphus marmoratus — Threatened

There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/4467

Southwestern Willow Flycatcher Empidonax traillii extimus — Endangered

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/6749

Western Snowy Plover Charadrius nivosus nivosus — Threatened

There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/8035

Amphibians

NAME	STATUS

California Red-legged Frog Rana draytonii — Threatened

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/2891

California Tiger Salamander Ambystoma californiense — Threatened

There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/2076

Santa Cruz Long-toed Salamander Ambystoma macrodactylum croceum — Endangered
Wherever found
There is **proposed** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/7405

Fishes

NAME	STATUS
Tidewater Goby Eucyclogobius newberryi	Endangered

Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/57

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus	Candidate

Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/9743

Smith's Blue Butterfly Euphilotes enoptes smithi	Endangered

Wherever found
There is **proposed** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/4418

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp Branchinecta lynchi	Threatened

Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/498

Flowering Plants

NAME	STATUS

Contra Costa Goldfields Lasthenia conjugens — Endangered
Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/7058

Marsh Sandwort Arenaria paludicola — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/2229

Menzies' Wallflower Erysimum menziesii — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/2935

Monterey Gilia Gilia tenuiflora ssp. arenaria — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/856

Monterey Spineflower Chorizanthe pungens var. pungens — Threatened
Wherever found
There is **final** critical habitat for this species. Your location overlaps the critical habitat.
https://ecos.fws.gov/ecp/species/396

Yadon's Piperia Piperia yadonii — Endangered
Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/4205

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

This location overlaps the critical habitat for the following species:

NAME	TYPE
Monterey Spineflower Chorizanthe pungens var. pungens https://ecos.fws.gov/ecp/species/396#crithab	Final

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES

THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)

Allen's Hummingbird Selasphorus sasin — Breeds Feb 1 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9637

Bald Eagle Haliaeetus leucocephalus — Breeds Jan 1 to Aug 31
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1626

Black Oystercatcher Haematopus bachmani — Breeds Apr 15 to Oct 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9591

Black Tern Chlidonias niger — Breeds May 15 to Aug 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3093

California Thrasher Toxostoma redivivum — Breeds Jan 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Clark's Grebe Aechmophorus clarkii — Breeds Jun 1 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Common Yellowthroat Geothlypis trichas sinuosa — Breeds May 20 to Jul 31
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/2084

Golden Eagle Aquila chrysaetos — Breeds Jan 1 to Aug 31
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Lawrence's Goldfinch Carduelis lawrencei — Breeds Mar 20 to Sep 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9464

Marbled Godwit Limosa fedoa — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9481

Nuttall's Woodpecker Picoides nuttallii — Breeds Apr 1 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9410

Oak Titmouse Baeolophus inornatus — Breeds Mar 15 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9656

Olive-sided Flycatcher Contopus cooperi — Breeds May 20 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3914

Scripps's Murrelet Synthliboramphus scrippsi — Breeds Feb 20 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Short-billed Dowitcher Limnodromus griseus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9480

Tricolored Blackbird Agelaius tricolor — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3910

Willet Tringa semipalmata — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Wrentit Chamaea fasciata — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Yellow-billed Magpie Pica nuttalli — Breeds Apr 1 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9726

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (▪)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

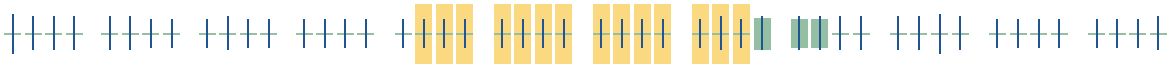
No Data (–)

A week is marked as having no data if there were no survey events for that week.

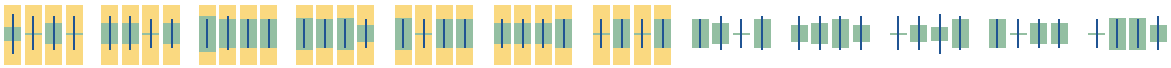
Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

Black Tern BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

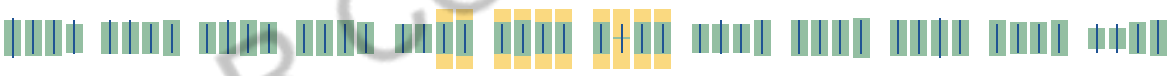


California Thrasher BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

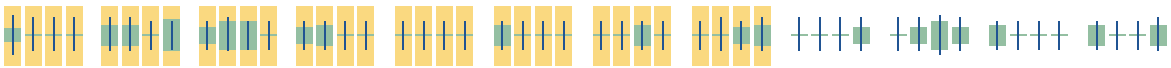


Clark's Grebe BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Common Yellowthroat BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



Golden Eagle Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)

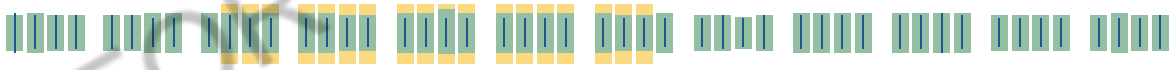


Lawrence's Goldfinch BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Marbled Godwit BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

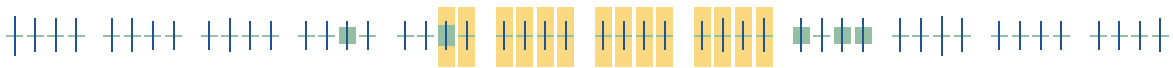
Nuttall's Woodpecker BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

Oak Titmouse BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

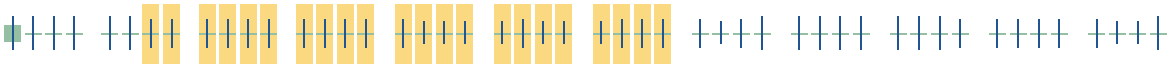


SPECIES JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

Olive-sided Flycatcher BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

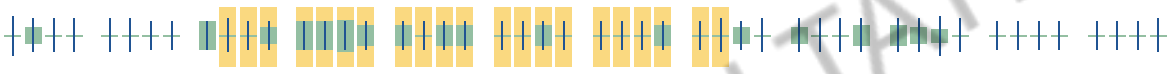


Scripps's Murrelet BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Short-billed Dowitcher BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

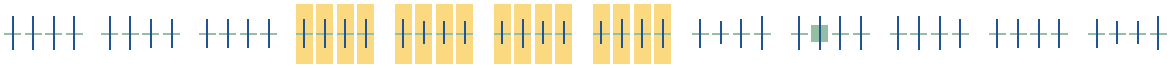
Tricolored Blackbird BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Willet BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Wrentit BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Yellow-billed Magpie BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER FORESTED/SHRUB WETLAND
PSSA

A full description for each wetland code can be found at the National Wetlands Inventory website

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

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APPENDIX D.

Special-Status Species Table

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Special-Status Species Table

Marina, Monterey, Moss Landing, Prunedale, Salinas, Seaside, and Spreckels Quadrangles

Species	Status (Service/CDFW/CNPS)	General Habitat	Potential Occurrence within Project Site
MAMMALS			
Corynorhinus townsendii Townsend's big-eared bat	-- / CSC / --	Found primarily in rural settings from inland deserts to coastal redwoods, oak woodland of the inner Coast Ranges and Sierra foothills, and low to mid-elevation mixed coniferous-deciduous forests. Typically roost during the day in limestone caves, lava tubes, and mines, but can roost in buildings that offer suitable conditions. Night roosts are in more open settings and include bridges, rock crevices, and trees.	**Moderate** Suitable habitat is present within the project site. The CNDDB reports one occurrence of this species within the quadrangles reviewed, located approximately 1.3 miles east of the project site.
Neotoma macrotis luciana Monterey dusky-footed woodrat	-- / CSC / --	Forest and oak woodland habitats of moderate canopy with moderate to dense understory. Also occurs in chaparral habitats.	**High** Suitable habitat is present within the project site. Nests of this species were observed within the site during biological surveys in 2016 and 2017. Therefore, this species has a high potential to occur within the project site.
Sorex ornatus salarius **Monterey ornate shrew**	-- / CSC / --	Mostly moist or riparian woodland habitats and within chaparral, grassland, and emergent wetland habitats where there is a thick duff or downed logs.	**High** Suitable habitat is present within project site. The CNDDB reports six (6) occurrences of this species within the quadrangles reviewed, the nearest located approximately 4.2 miles from the project site. The HMP identifies the project site as containing potential habitat for this species.
Taxidea taxus American badger	-- / CSC / --	Dry, open grasslands, fields, pastures savannas, and mountain meadows near timberline are preferred. The principal requirements seem to be sufficient food, friable soils, and relatively open, uncultivated grounds.	**Moderate** Suitable habitat is present within project site. The CNDDB reports eight (8) occurrences of this species within the quadrangles reviewed, including a 1992 occurrence which overlaps the project site.
BIRDS			
Agelaius tricolor Tricolored blackbird (nesting colony)	-- / SC&CSC / --	Nest in colonies in dense riparian vegetation, along rivers, lagoons, lakes, and ponds. Forages over grassland or aquatic habitats.	**Unlikely** No suitable habitat is present within project site.
Asio flammeus Short-eared owl (nesting)	-- / CSC / --	Usually found in open areas with few trees, such as annual and perennial grasslands, prairies, meadows, dunes, irrigated lands, and saline and freshwater emergent marshes. Dense vegetation is required for roosting and nesting cover. This includes tall grasses, brush, ditches, and wetlands. Open, treeless areas containing elevated sites for perching, such as fence posts or small mounds, are also needed. Some individuals breed in northern California.	**Unlikely** No suitable habitat is present within project site.

Species	Status (Service/CDFW/CNPS)	General Habitat	Potential Occurrence within Project Site
Athene cunicularia Burrowing owl (burrow sites & some wintering sites)	-- / CSC / --	Year-round resident of open, dry grassland and desert habitats, and in grass, forb and open shrub stages of pinyon-juniper and ponderosa pine habitats. Frequent open grasslands and shrublands with perches and burrows. Use rodent burrows (often California ground squirrel) for roosting and nesting cover. Pipes, culverts, and nest boxes may be substituted for burrows in areas where burrows are not available.	**Moderate** Suitable habitat is present within project site. The CNDDB reports nine (9) occurrences of this species within the quadrangles reviewed, the nearest located less than one (1) mile from the project site.
Brachyramphus marmoratus Marbled murrelet	FT / SE / --	Occur year-round in marine subtidal and pelagic habitats from the Oregon border to Point Sal. Partial to coastlines with stands of mature redwood and Douglas-fir. Requires dense mature forests of redwood and/or Douglas-fir for breeding and nesting.	**Unlikely** No suitable habitat is present within project site.
Charadrius alexandrinus nivosus Western snowy plover	FT / CSC / --	Sandy beaches on marine and estuarine shores, also salt pond levees and the shores of large alkali lakes. Requires sandy, gravelly or friable soil substrate for nesting.	**Unlikely** No suitable habitat within the project site.
Coturnicops noveboracensis Yellow rail	-- / CSC / --	Wet meadows and coastal tidal marshes. Occurs year round in California, but in two primary seasonal roles: as a very local breeder in the northeastern interior and as a winter visitor (early Oct to mid-Apr) on the coast and in the Suisun Marsh region	**Unlikely** No suitable habitat is present within project site.
Cypseloides niger Black swift	-- / CSC / --	Regularly nests in moist crevice or cave on sea cliffs above the surf, or on cliffs behind, or adjacent to, waterfalls in deep canyons. Forages widely over many habitats.	**Unlikely** No suitable habitat is present within project site.
Elanus leucurus White-tailed kite (nesting)	-- / CFP / --	Open groves, river valleys, marshes, and grasslands. Prefer such area with low roosts (fences etc.). Nest in shrubs and trees adjacent to grasslands.	**Moderate** Suitable habitat is present within the project site. The CNDDB reports one (1) occurrences of this species within the quadrangles reviewed, located approximately 10.5 miles from the project site.
Empidonax traillii extimus Southwestern willow flycatcher	FE / SE / --	Breeds in riparian habitat in areas ranging in elevation from sea level to over 2,600 meters. Builds nest in trees in densely vegetated areas. This species establishes nesting territories and builds, and forages in mosaics of relatively dense and expansive areas of trees and shrubs, near or adjacent to surface water or underlain by saturated soils. Not typically found nesting in areas without willows (*Salix sp*.), tamarisk (*Tamarix ramosissima*), or both.	**Unlikely** No suitable habitat is present within project site.
Falco peregrinus anatum American peregrine falcon (nesting)	-- / CFP / --	Forages for other birds over a variety of habitats. Breeds primarily on rocky cliffs.	**Unlikely** No suitable habitat is present within project site.

Species	Status (Service/CDFW/CNPS)	General Habitat	Potential Occurrence within Project Site
Gymnogyps californianus California condor	FE / SE /--	Roosting sites in isolated rocky cliffs, rugged chaparral, and pine covered mountains 2000-6000 feet above sea level. Foraging area removed from nesting/roosting site (includes rangeland and coastal area - up to 19 mile commute one way). Nest sites in cliffs, crevices, potholes.	**Unlikely** No suitable habitat is present within project site.
Laterallus jamaicensis coturniculus California black rail	-- / ST&CFP / --	Inhabits freshwater marshes, wet meadows & shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that does not fluctuate during the year & dense vegetation for nesting habitat.	**Unlikely** No suitable habitat is present within project site.
Pelecanus occidentalis californicus California brown pelican	-- / CFP / --	Found in estuarine, marine subtidal, and marine pelagic waters along the California coast. Usually rests on water or inaccessible rocks, but also uses mudflats, sandy beaches, wharfs, and jetties.	**Unlikely** No suitable habitat is present within project site.
Rallus obsoletus obsoletus California Ridgway's rail	FE / SE&CFP / --	Salt and brackish marshes.	**Unlikely** No suitable habitat is present within project site.
Riparia riparia Bank swallow (nesting)	-- / ST / --	Nest colonially in sand banks. Found near water; fields, marshes, streams, and lakes.	**Unlikely** No suitable habitat is present within project site.
Sterna antillarum browni California least tern	FE / SE / --	Prefers undisturbed nest sites on open, sandy/gravelly shores near shallow-water feeding areas in estuaries. Sea beaches, bays, large rivers, bars.	**Unlikely** No suitable habitat is present within project site.
Vireo bellii pusillus Least Bell's Vireo	FE / SE / --	Riparian areas and drainages. Breed in willow riparian forest supporting a dense, shrubby understory. Oak woodland with a willow riparian understory is also used in some areas, and individuals sometimes enter adjacent chaparral, coastal sage scrub, or desert scrub habitats to forage.	**Unlikely** No suitable habitat is present within project site.
REPTILES AND AMPHIBIANS			
Ambystoma californiense **California tiger salamander**	FT / ST /--	Annual grassland and grassy understory of valley-foothill hardwood habitats in central and northern California. Need underground refuges and vernal pools or other seasonal water sources.	**High** No suitable breeding habitat is present within the project site; however, suitable upland and dispersal habitat is present. The CNDDB reports 55 occurrences of this species within the quadrangles reviewed, including a 2005 occurrence within the project site. Therefore, this species has a high potential to occur within the project site.

Species	Status (Service/CDFW/CNPS)	General Habitat	Potential Occurrence within Project Site
Ambystoma macrodactylum croceum Santa Cruz long-toed salamander	FE / SE&CFP /--	Preferred habitats include ponderosa pine, montane hardwood-conifer, mixed conifer, montane riparian, red fir and wet meadows. Occurs in a small number of localities in Santa Cruz and Monterey Counties. Adults spend the majority of the time in underground burrows and beneath objects. Larvae prefer shallow water with clumps of vegetation.	**Unlikely** No suitable habitat is present within project site. The project site is outside the currently known range of this species.
Anniella pulchra **Northern California legless lizard**	-- / CSC / --	Requires moist, warm habitats with loose soil for burrowing and prostrate plant cover, often forages in leaf litter at plant bases; may be found on beaches, sandy washes, and in woodland, chaparral, and riparian areas.	**High** Suitable habitat is present within the project site. The CNDDB reports 56 occurrences of this species within the quadrangles reviewed, including a 2014 occurrence within the project site.
Emys marmorata Western pond turtle	-- / CSC / --	Associated with permanent or nearly permanent water in a wide variety of habitats including streams, lakes, ponds, irrigation ditches, etc. Require basking sites such as partially submerged logs, rocks, mats of vegetation, or open banks.	**Unlikely** No suitable habitat is present within project site.
Phrynosoma blainvillii Coast horned lizard	-- / CSC / --	Associated with open patches of sandy soils in washes, chaparral, scrub, and grasslands.	**High** Suitable habitat is present within the project site. The CNDDB reports five (5) occurrences of this species within the quadrangles reviewed, including a 1992 occurrence within the project site. Therefore, this species has a high potential to occur within the project site.
Rana boylii Foothill yellow-legged frog	-- / SC&CSC / --	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats, including hardwood, pine, and riparian forests, scrub, chaparral, and wet meadows. Rarely encountered far from permanent water.	**Unlikely** No suitable habitat is present within project site.
Rana draytonii **California red-legged frog**	FT / CSC / --	Lowlands and foothills in or near permanent or late-season sources of deep water with dense, shrubby, or emergent riparian vegetation. During late summer or fall adults are known to utilize a variety of upland habitats with leaf litter or mammal burrows.	**Unlikely** Suitable upland and dispersal habitat is present within the project site; however, the project site is outside of the known dispersal range of any known breeding resources.

Species	Status (Service/CDFW/CNPS)	General Habitat	Potential Occurrence within Project Site
Taricha torosa Coast Range newt	-- / CSC / --	Occurs mainly in valley-foothill hardwood, valley-foothill hardwood-conifer, coastal scrub, and mixed chaparral but is known to occur in grasslands and mixed conifer types. Seek cover under rocks and logs, in mammal burrows, rock fissures, or man-made structures such as wells. Breed in intermittent ponds, streams, lakes, and reservoirs.	**Unlikely** Suitable upland and dispersal habitat is present within the project site; however, the project site is outside of the known dispersal range of any known breeding resources.
Thamnophis hammondii Two-striped garter snake	-- / CSC / --	Associated with permanent or semi-permanent bodies of water bordered by dense vegetation in a variety of habitats from sea level to 2400m elevation.	**Unlikely** No suitable habitat is present within project site.
FISH			
Eucyclogobius newberryi Tidewater goby	FE / CSC / --	Brackish water habitats, found in shallow lagoons and lower stream reaches. Tidewater gobies appear to be naturally absent (now and historically) from three large stretches of coastline where lagoons or estuaries are absent and steep topography or swift currents may prevent tidewater gobies from dispersing between adjacent localities. The southernmost large, natural gap occurs between the Salinas River in Monterey County and Arroyo del Oso in San Luis Obispo County.	**Not Present** No suitable habitat is present within project site.
Oncorhynchus mykiss irideus Steelhead (south-central California coast DPS)	FT / -- / --	Cold headwaters, creeks, and small to large rivers and lakes; anadromous in coastal streams.	**Not Present** No suitable habitat is present within project site.
Spirinchus thaleichthys Longfin smelt	FC / ST&CSC / --	Euryhaline, nektonic & anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefers salinities of 15-30 PPT, but can be found in completely freshwater to almost pure seawater.	**Not Present** No suitable habitat is present within project site.
INVERTEBRATES			
Danaus plexippus Monarch butterfly	FC / -- / --	Overwinters in coastal California using colonial roosts generally found in Eucalyptus, pine and acacia trees. Overwintering habitat for this species within the Coastal Zone represents ESHA. Local ordinances often protect this species as well.	**Unlikely** No overwintering occurrences are known within the project site.
Branchinecta lynchi Vernal pool fairy shrimp	FT / -- / --	Require ephemeral pools with no flow. Associated with vernal pool/grasslands from near Red Bluff (Shasta County), through the central valley, and into the South Coast Mountains Region. Require ephemeral pools with no flow.	**Not Present** No suitable habitat is present within project site.

Species	Status (Service/CDFW/CNPS)	General Habitat	Potential Occurrence within Project Site
Euphilotes enoptes smithi **Smith's blue butterfly**	FE / -- / --	Most commonly associated with coastal dunes and coastal sage scrub plant communities in Monterey and Santa Cruz Counties. Plant hosts are *Eriogonum latifolium* and *E. parvifolium*.	**Moderate** Suitable habitat is present within the project site. The CNDDB reports 14 occurrences of this species within the project site, the nearest located approximately 1.9 miles west of the project site within Fort Ord Dunes State Park. 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.
Linderiella occidentalis **California linderiella (fairy shrimp)**	-- / -- / --	Ephemeral ponds with no flow. Generally associated with hardpans.	**Not Present** No suitable habitat within the project site.
PLANTS			
Agrostis lacuna-vernalis Vernal pool bent grass	-- / -- / 1B	Vernal pool Mima mounds at elevations of 115-145 meters. Annual herb in the Poaceae family; blooms April-May. Known only from Butterfly Valley and Machine Gun Flats of Ft. Ord National Monument.	**Unlikely** No suitable habitat within the project site.
Allium hickmanii Hickman's onion	-- / -- / 1B	Closed-cone coniferous forests, maritime chaparral, coastal prairie, coastal scrub, and valley and foothill grasslands at elevations of 5-200 meters. Bulbiferous perennial herb in the Alliaceae family; blooms March-May.	**Unlikely** No suitable habitat within the project site.
Arctostaphylos hookeri* ssp. *hookeri **Hooker's manzanita**	-- / -- / 1B	Closed-cone coniferous forest, chaparral, cismontane woodland, and coastal scrub on sandy soils at elevations of 85-536 meters. Evergreen shrub in the Ericaceae family; blooms January-June.	**Moderate** Suitable habitat is present within the project site. The CNDDB reports 19 occurrences of this species within the quadrangles reviewed, the nearest located approximately 0.5 miles from the project site. This species was not identified within the project site during 2016 botanical surveys; however, surveys were conducted more than three years ago and may not reflect current site conditions.
Arctostaphylos montereyensis **Toro manzanita**	-- / -- / 1B	Maritime chaparral, cismontane woodland, and coastal scrub on sandy soils at elevations of 30-730 meters. Evergreen shrub in the Ericaceae family; blooms February-March.	**Moderate** Suitable habitat is present within the project site. The CNDDB reports 16 occurrences of this species within the quadrangles reviewed, including an occurrence which overlaps the project site. This species was not identified within the project site during 2016 botanical surveys; however, surveys were conducted more than three years ago and may not reflect current site conditions.

Species	Status (Service/CDFW/CNPS)	General Habitat	Potential Occurrence within Project Site
Arctostaphylos pajaroensis Pajaro manzanita	-- / -- / 1B	Chaparral on sandy soils at elevations of 30-760 meters. Evergreen shrub in the Ericaceae family; blooms December-March.	**Moderate** Suitable habitat is present within the project site. The CNDDB reports 22 occurrences of this species within the quadrangles reviewed, the nearest located approximately 1.2 miles from the project site. This species was not identified within the project site during 2016 botanical surveys; however, surveys were conducted more than three years ago and may not reflect current site conditions.
Arctostaphylos pumila **Sandmat manzanita**	-- / -- / 1B	Openings of closed-cone coniferous forests, maritime chaparral, cismontane woodland, coastal dunes, and coastal scrub on sandy soils at elevations of 3-205 meters. Evergreen shrub in the Ericaceae family; blooms February-May.	**Present** Suitable habitat is present within the project site. This species was observed within the project site during 2016 botanical surveys.
Arenaria paludicola Marsh sandwort	FE / SE / 1B	Known from only two natural occurrences in Black Lake Canyon and at Oso Flaco Lake. Sandy openings of freshwater of brackish marshes and swamps at elevations of 3-170 meters. Stoloniferous perennial herb in the Caryophyllaceae family; blooms May-August.	**Unlikely** No suitable habitat within the project site. The project site is outside of the currently known range for this species.
Astragalus tener var. *tener* Alkali milk-vetch	-- / -- / 1B	Playas, valley and foothill grassland on adobe clay, and vernal pools on alkaline soils at elevations of 1-60 meters. Annual herb in the Fabaceae family; blooms March-June.	**Unlikely** No suitable habitat within the project site.
Astragalus tener var. *titi* Coastal dunes milk-vetch	FE / SE / 1B	Sandy soils in coastal bluff scrub, coastal dunes, coastal prairie (mesic); elevation 3-164 feet. Annual herb in the Fabaceae family; blooms March-May.	**Unlikely** No suitable habitat within the project site.
Bryoria spiralifera Twisted horsehair lichen	-- / -- / 1B	California North Coast coniferous forest at elevations of 0–30 meters. Often found on conifers, including *Picea sitchensis*, *Pinus contorta* var. *contorta*, *Pseudotsuga menziesii*, *Abies grandis*, and *Tsuga heterophylla*. Fruticose lichen in the Parmeliaceae family.	**Unlikely** No suitable habitat within the project site.
Castilleja ambigua var. insalutata Pink Johnny-nip	-- / -- / 1B	Coastal prairie and coastal scrub at elevations of 0-100 meters. Annual herb in the Orobanchaceae family; blooms May-August.	**Low** Low quality habitat is present within the coastal scrub habitat within the project site. The CNDDB reports a non-specific occurrence which overlaps the project site; however, the CNDDB identifies that the species was found in the “mima mounds” area of Fort Ord, which does not occur within the site.

Species	Status (Service/CDFW/CNPS)	General Habitat	Potential Occurrence within Project Site
Ceanothus rigidus **Monterey ceanothus**	-- / -- / --	Closed cone coniferous forest, chaparral, and coastal scrub on sandy soils at elevations of 3-550 meters. Evergreen shrub in the Rhamnaceae family, blooms February-June.	**Moderate** Suitable habitat is present within the project site. The CNDDB does not report any occurrences of this species within the quadrangles reviewed; however, this species is known to occur throughout the Former Fort Ord where suitable habitat is present. This species was not identified within the project site during 2016 botanical surveys; however, surveys were conducted more than three years ago and may not reflect current site conditions.
Centromadia parryi ssp. *congdonii* Congdon's tarplant	-- / -- / 1B	Valley and foothill grassland on heavy clay, saline, or alkaline soils at elevations of 0-230 meters. Annual herb in the Asteraceae family; blooms May-November.	**Unlikely** No suitable habitat within the project site.
Chorizanthe minutiflora Fort Ord spineflower	-- / -- / 1B	Sandy openings of maritime chaparral and coastal scrub at elevations of 55-150 meters. Only known occurrences on Fort Ord National Monument. Annual herb in the Polygonaceae family; blooms April-July.	**Moderate** Suitable habitat is present within the project site. The CNDDB reports five (5) occurrences of this species within the quadrangles reviewed, the nearest located approximately 0.7 miles from the project site. This species was not identified within the project site during 2016 botanical surveys; however, surveys were conducted more than three years ago and may not reflect current site conditions.
Chorizanthe pungens **var. *pungens*** **Monterey spineflower**	FT / -- / 1B	Maritime chaparral, cismontane woodland, coastal dunes, coastal scrub, and valley and foothill grassland on sandy soils at elevations of 3-450 meters. Annual herb in the Polygonaceae family; blooms April-July.	**Present** Suitable habitat is present within the project site. This species was observed within the project site during 2016 botanical surveys.
Chorizanthe robusta var. *robusta* Robust spineflower	FE / -- / 1B	Openings in cismontane woodland, coastal dunes, maritime chaparral, and coastal scrub on sandy or gravelly soils at elevations of 3-300 meters. Annual herb in the Polygonaceae family; blooms April-September.	**Unlikely** Suitable habitat is present within the project site; however, the project site is outside of the known distribution range of this species.
Clarkia jolonensis Jolon clarkia	-- / -- / 1B	Cismontane woodland, chaparral, riparian woodland, and coastal scrub at elevations of 20-660 meters. Annual herb in the Onagraceae family; blooms April-June.	**Low** Low quality habitat is present within the coast live oak woodland and coastal scrub habitats of the project site. No occurrences of this species are known on the Former Fort Ord.
Collinsia multicolor San Francisco collinsia	-- / -- / 1B	Closed-cone coniferous forest and coastal scrub, sometimes on serpentinite soils, at elevations of 30-250 meters. Annual herb in the Plantaginaceae family; blooms March-May.	**Low** Suitable habitat is present within coastal scrub habitats of the project site; however, no occurrences of this species are known on the Former Fort Ord.

Species	Status (Service/CDFW/CNPS)	General Habitat	Potential Occurrence within Project Site
Cordylanthus rigidus* ssp. *littoralis **Seaside bird's-beak**	-- / SE / 1B	Closed-cone coniferous forests, maritime chaparral, cismontane woodlands, coastal dunes, and coastal scrub on sandy soils, often on disturbed sites, at elevations of 0-425 meters. Annual hemi-parasitic herb in the Orobanchaceae family; blooms April-October.	**Moderate** Suitable habitat is present within the project site. The CNDDB reports 14 occurrences of this species within the quadrangles reviewed, the nearest located approximately 0.3 miles from the project site. This species was not identified within the project site during 2016 botanical surveys; however, surveys were conducted more than three years ago and may not reflect current site conditions.
Delphinium californicum ssp. *interius* Hospital Canyon larkspur	-- / -- / 1B	Openings in chaparral, coastal scrub, and mesic areas of cismontane woodland at elevations of 230-1095 meters. Perennial herb in the Ranunculaceae family; blooms April-June.	**Unlikely** Suitable habitat is present within the project site; however, the project site is outside the known elevation range of this species.
Delphinium hutchinsoniae Hutchinson's larkspur	-- / -- / 1B	Broadleaved upland forest, chaparral, coastal scrub, and coastal prairie at elevations of 0-427 meters. Perennial herb in the Ranunculaceae family; blooms March-June.	**Low** Suitable habitat is present within chaparral and coastal scrub habitats of the project site; however, no occurrences of this species are known on the Former Fort Ord.
Delphinium umbraculorum Umbrella larkspur	-- / -- / 1B	Cismontane woodland at elevations of 400-1600 meters. Perennial herb in the Ranunculaceae family; blooms April-June.	**Unlikely** Suitable habitat is present within the project site; however, the project site is outside the known elevation range of this species.
Ericameria fasciculata **Eastwood's goldenbush**	-- / -- / 1B	Openings in closed-cone coniferous forest, maritime chaparral, coastal dunes, and coastal scrub on sandy soils at elevations of 30-275 meters. Evergreen shrub in the Asteraceae family; blooms July-October.	**Moderate** Suitable habitat is present within the project site. The CNDDB reports 23 occurrences of this species within the quadrangles reviewed, including an occurrence which overlaps the project site. This species was not identified within the project site during 2016 botanical surveys; however, surveys were conducted more than three years ago and may not reflect current site conditions.
Eriogonum nortonii Pinnacles buckwheat	-- / -- / 1B	Chaparral and valley and foothill grassland on sandy soils, often on recent burns, at elevations of 300-975 meters. Annual herb in the Polygonaceae family; blooms May-September.	**Unlikely** Suitable habitat is present within the project site; however, the project site is outside the known elevation range of this species.

Species	Status (Service/CDFW/CNPS)	General Habitat	Potential Occurrence within Project Site
Erysimum ammophilum **Coast wallflower**	-- / -- / 1B	Openings in maritime chaparral, coastal dunes, and coastal scrub on sandy soils at elevations of 0-60 meters. Perennial herb in the Brassicaceae family; blooms February-June.	**Moderate** Suitable habitat is present within the project site. The CNDDB reports 21 occurrences of this species within the quadrangles reviewed, including an occurrence which overlaps the project site. This species was not identified within the project site during 2016 botanical surveys; however, surveys were conducted more than three years ago and may not reflect current site conditions.
Erysimum menziesii Menzies' wallflower	FE / SE / 1B	Coastal dunes at elevations of 0-35 meters. Perennial herb in the Brassicaceae family; blooms March-September.	**Unlikely** No suitable habitat within the project site.
Fritillaria liliacea Fragrant fritillary	-- / -- / 1B	Cismontane woodland, coastal prairie, coastal scrub, and valley and foothill grassland, often serpentinite, at elevations of 3-410 meters. Bulbiferous perennial herb in the Liliaceae family; blooms February-April.	**Low** Suitable habitat is present the project site; however, no occurrences of this species are known on the Former Fort Ord.
Gilia tenuiflora **ssp. *arenaria*** **Monterey gilia**	FE / ST / 1B	Openings in maritime chaparral, cismontane woodland, coastal dunes, and coastal scrub on sandy soils at elevations of 0-45 meters. Annual herb in the Polemoniaceae family; blooms April-June.	**Present** Suitable habitat is present within the project site. This species was observed within the project site during 2017 botanical surveys by Dr. Fred Watson.
Hesperocyparis goveniana Gowen cypress	FT / -- / 1B	Closed-cone coniferous forest and maritime chaparral at elevations of 30-300 meters. Evergreen tree in the Cupressaceae family. Natively occurring only at Point Lobos near Gibson Creek and the Huckleberry Hill Nature Preserve near Highway 68.	**Not Present** Not observed within the project site during 2016 botanical surveys.
Hesperocyparis macrocarpa Monterey cypress	-- / -- / 1B	Closed-cone coniferous forest at elevations of 10-30 meters. Evergreen tree in the Cupressaceae family. Natively occurring only at Cypress Point in Pebble Beach and Point Lobos State Park; widely planted and naturalized elsewhere.	**Not Present** The project site is outside of the currently known native range of this species. Any Monterey cypress trees within the site are from planted stock and are therefore not considered special-status species.
Holocarpha macradenia Santa Cruz tarplant	FT / SE / 1B	Coastal prairies and valley foothill grasslands, often clay or sandy soils, at elevations of 10-220 meters. Annual herb in the Asteraceae family; blooms June-October.	**Unlikely** No suitable habitat within the project site.

Species	Status (Service/CDFW/CNPS)	General Habitat	Potential Occurrence within Project Site
Horkelia cuneata ssp. *sericea* Kellogg's horkelia	-- / -- / 1B	Openings of closed-cone coniferous forests, maritime chaparral, coastal dunes, and coastal scrub on sandy or gravelly soils at elevations of 10-200 meters. Perennial herb in the Rosaceae family; blooms April-September.	**Moderate** Suitable habitat is present within the project site. The CNDDB reports 17 occurrences of this species within the quadrangles reviewed, including an occurrence which overlaps the project site. This species was not identified within the project site during 2016 botanical surveys; however, surveys were conducted more than three years ago and may not reflect current site conditions. In addition, this species was identified within other areas of the CSUMB campus during 2016 surveys.
Horkelia marinensis Point Reyes horkelia	-- / -- / 1B	Coastal dunes, coastal prairie, and coastal scrub on sandy soils at elevations of 5-350 meters. Perennial herb in the Rosaceae family; blooms May-September.	**Moderate** Suitable habitat is present within the project site. The CNDDB reports 21 occurrences of this species within the quadrangles reviewed, including an occurrence which overlaps the project site. This species was not identified within the project site during 2016 botanical surveys; however, surveys were conducted more than three years ago and may not reflect current site conditions.
Lasthenia conjugens Contra Costa goldfields	FE / -- / 1B	Mesic areas of valley and foothill grassland, alkaline playas, cismontane woodland, and vernal pools at elevations of 0-470 meters. Annual herb in the Asteraceae family; blooms March-June.	**Unlikely** No suitable habitat within the project site.
Layia carnosa Beach layia	FE / SE / 1B	Coastal dunes and coastal scrub on sandy soils at elevations of 0-60 meters. Annual herb in the Asteraceae family; blooms March-July.	**Unlikely** No suitable habitat within the project site.
Legenere limosa Legenere	-- / -- / 1B	Vernal pools and wetlands at elevations of 1-880 meters. Annual herb in the Campanulaceae family; blooms April- June.	**Unlikely** No suitable habitat within the project site.
Lupinus tidestromii Tidestrom's lupine	FE / SE / 1B	Coastal dunes at elevations of 0-100 meters. Perennial rhizomatous herb in the Fabaceae family; blooms April-June.	**Unlikely** No suitable habitat within the project site.
Malacothamnus palmeri var. *involucratus* Carmel Valley bush-mallow	-- / -- / 1B	Chaparral, cismontane woodland, and coastal scrub at elevations of 30-1100 meters. Perennial deciduous shrub in the Malvaceae family; blooms May-October.	**Unlikely** Suitable habitat is present the project site; however, no occurrences of this species are known on the Former Fort Ord and the project site is likely outside the dispersal range of this species.
Malacothrix saxatilis var. *arachnoidea* Carmel Valley malacothrix	-- / -- / 1B	Chaparral and coastal scrub on rocky soils at elevations of 25-1036 meters. Perennial rhizomatous herb in the Asteraceae family; blooms June-December.	**Unlikely** Suitable habitat is present the project site; however, no occurrences of this species are known on the Former Fort Ord and the project site is likely outside the dispersal range of this species.

Species	Status (Service/CDFW/CNPS)	General Habitat	Potential Occurrence within Project Site
Meconella oregana Oregon meconella	-- / -- / 1B	Coastal prairie and coastal scrub at elevations of 250-620 meters. Annual herb in the Papaveraceae Family; blooms March-April.	**Unlikely** Suitable habitat is present within the project site; however, the project site is outside the known elevation range of this species.
Microseris paludosa Marsh microseris	-- / -- / 1B	Closed-cone coniferous forest, cismontane woodland, coastal scrub, and valley and foothill grassland at elevations of 5-300 meters. Perennial herb in the Asteraceae family; blooms April-July.	**Moderate** Suitable habitat is present within the project site. The CNDDB reports 10 occurrences of this species within the quadrangles reviewed, the nearest located approximately 1.1 miles from the project site. This species was not identified within the project site during 2016 botanical surveys; however, surveys were conducted more than three years ago and may not reflect current site conditions.
Monardella sinuata ssp. *nigrescens* Northern curly-leaved monardella	-- / -- / 1B	Chaparral, coastal dunes, coastal scrub, and lower montane coniferous forest (ponderosa pine sandhills) on sandy soils at elevations of 0-300 meters. Annual herb in the Lamiaceae family; blooms April-September.	**Moderate** Suitable habitat is present within the project site. The CNDDB reports 10 occurrences of this species within the quadrangles reviewed, the nearest located approximately 300 feet from the project site. This species was not identified within the project site during 2016 botanical surveys; however, surveys were conducted more than three years ago and may not reflect current site conditions.
Monolopia gracilens Woodland wollythreads	-- / -- / 1B	Openings of broadleaved upland forest, chaparral, cismontane woodland, North Coast coniferous forest, and valley and foothill grassland on serpentinite soils at elevations of 100-1200 meters. Annual herb in the Asteraceae family; blooms February-July.	**Unlikely** Suitable habitat is present within the project site; however, the project site is outside the known elevation range of this species.
Pinus radiata Monterey pine	-- / -- / 1B	Closed-cone coniferous forest and cismontane woodland at elevations of 25-185 meters. Evergreen tree in the Pinaceae family. Only three native stands in CA at Ano Nuevo, Cambria, and the Monterey Peninsula; introduced in many areas.	**Not Present** The project site is outside of the currently known native range of this species. Any Monterey pine trees within the site are from planted stock and are therefore not considered special-status species.
Piperia yadonii **Yadon's rein orchid**	FE / -- / 1B	Sandy soils in coastal bluff scrub, closed-cone coniferous forest, and maritime chaparral at elevations of 10-510 meters. Annual herb in the Orchidaceae family; blooms February-August.	**Moderate** Suitable habitat is present within the project site. The CNDDB reports 24 occurrences of this species within the quadrangles reviewed, the nearest located approximately 1.6 miles from the project site. This species was not identified within the project site during 2016 botanical surveys; however, surveys were conducted more than three years ago and may not reflect current site conditions.

Species	Status (Service/CDFW/CNPS)	General Habitat	Potential Occurrence within Project Site
Plagiobothrys chorisianus var. *chorisianus* Choris' popcorn-flower	-- / -- / 1B	Mesic areas of chaparral, coastal prairie, and coastal scrub at elevations of 15-160 meters. Annual herb in the Boraginaceae family; blooms March-June.	**Unlikely** Marginally suitable habitat is present within the project site. However, this species is only known to occur within a few vernal pools on the Former Fort Ord.
Potentilla hickmanii Hickman's cinquefoil	FE / SE / 1B	Coastal bluff scrub, closed-cone coniferous forests, vernally mesic meadows and seeps, and freshwater marshes and swamps at elevations of 10-149 meters. Perennial herb in the Rosaceae family; blooms April-August.	**Unlikely** No suitable habitat within the project site.
Ramalina thrausta Angel's hair lichen	-- / -- / 2B	North coast coniferous forest on dead twigs and other lichens. Epiphytic fructose lichen in the Ramalinaceae family. In northern CA it is usually found on dead twigs, and has been found on *Alnus rubra*, *Calocedrus decurrens*, *Pseudotsuga menziesii*, *Quercus garryana*, and *Rubus spectabilis*. In Sonoma County it grows on and among dangling mats of *R. menziesii* and *Usnea* spp.	**Unlikely** No suitable habitat within the project site.
Rosa pinetorum Pine rose	-- / -- / 1B	Closed-cone coniferous forest at elevations of 2-300 meters. Perennial shrub in the Rosaceae family; blooms May-July. Possible hybrid of *R. spithamea*, *R. gymnocarpa*, or others; further study needed.	**Unlikely** No suitable habitat within the project site.
Stebbinsoseris decipiens Santa Cruz microseris	-- / -- / 1B	Broadleaved upland forest, closed-cone coniferous forest, chaparral, coastal prairie, coastal scrub, and openings in valley and foothill grassland, sometimes on serpentinite, at elevations of 10-500 meters. Annual herb in the Asteraceae family; blooms April-May.	**Low** Suitable habitat is present within the project site; however, no occurrences of this species are known on the former Fort Ord.
Trifolium buckwestiorum Santa Cruz clover	-- / -- / 1B	Gravelly margins of broadleaved upland forest, cismontane woodland, and coastal prairie at elevations of 105-610 meters. Annual herb in the Fabaceae family; blooms April-October.	**Unlikely** Suitable habitat is present within the project site; however, the project site is outside the known elevation range of this species.
Trifolium hydrophilum Saline clover	-- / -- / 1B	Marshes and swamps, mesic and alkaline valley and foothill grassland, and vernal pools at elevations of 0-300 meters. Annual herb in the Fabaceae family; blooms April-June.	**Unlikely** No suitable habitat within the project site.
Trifolium polyodon Pacific Grove clover	-- / SR / 1B	Mesic areas of closed-cone coniferous forest, coastal prairie, meadows and seeps, and valley and foothill grassland at elevations of 5-120 meters. Annual herb in the Fabaceae family; blooms April-July.	**Low** Only marginally suitable habitat is present within the project site. The CNDDB reports only one occurrence of this species within the former Fort Ord, located approximately 3.4 miles from the project site.

Species	Status (Service/CDFW/CNPS)	General Habitat	Potential Occurrence within Project Site
Trifolium trichocalyx Monterey clover	FE / SE / 1B	Sandy openings and burned areas of closed-cone coniferous forest at elevations of 30-240 meters. Annual herb in the Fabaceae family; blooms April-June.	**Unlikely** No suitable habitat within the project site.

STATUS DEFINITIONS

Federal

FE = listed as Endangered under the federal Endangered Species Act
FT = listed as Threatened under the federal Endangered Species Act
FC = Candidate for listing under the federal Endangered Species Act
-- = no listing

State

SE = listed as Endangered under the California Endangered Species Act
ST = listed as Threatened under the California Endangered Species Act
SC = Candidate for listing under California Endangered Species Act
SR = plants listed as Rare under the California Native Plant Protection Act
CFP = California Fully Protected Species
CSC = CDFW Species of Concern
-- = no listing

California Native Plant Society

1B = California Rare Plant Rank 1B species; plants rare, threatened, or endangered in California and elsewhere
-- = no listing

Former Fort Ord Habitat Management Plan (HMP)

Bold = Former Fort Ord HMP Species

POTENTIAL TO OCCUR

Present = known occurrence of species within the site; presence of suitable habitat conditions; or observed during field surveys
High = known occurrence of species in the vicinity from the CNDDB or other documentation; presence of suitable habitat conditions
Moderate = known occurrence of species in the vicinity from the CNDDB or other documentation; presence of marginal habitat conditions within the site
Low = species known to occur in the vicinity from the CNDDB or other documentation; lack of suitable habitat or poor quality
Unlikely = species not known to occur in the vicinity from the CNDDB or other documentation, no suitable habitat is present within the site
Not Present = species was not observed during surveys