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# APPENDIX D

BIOLOGY

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*Planning for Success.*

October 31, 2017

Todd Bodem  
City Administrator  
City of Sand City  
1 Sylvan Park  
Sand City, CA 93955

**Re: Focused Plant Survey Report for South of Tioga Avenue Mixed Use Project**

Dear Todd,

EMC Planning Group conducted focused presence/absence surveys for special-status plants at the South of Tioga Avenue Mixed Use project site. It is located adjacent to California Avenue and Tioga Avenue, just east of State Route 1, in the City of Sand City, Monterey County, California (see Figure 1, Location Map). The proposed project would demolish existing buildings on the site and construct new residential and business buildings and infrastructure. The most sensitive biological resources are located within disturbed coastal dune scrub in the western portion of the site; the vast majority of this habitat area will be avoided by the proposed project and preserved in perpetuity to minimize anticipated impacts.

## **EXISTING CONDITIONS**

The project site is positioned on the Seaside U.S. Geological Survey (USGS) 7.5-minute quadrangle map. Elevation on the site ranges from approximately 35 to 70 feet. No riparian habitat or wetlands/waterways are present on the site. Within the 10.6-acre project boundary, the impact area is approximately 9.7 acres, with the remaining 0.9 acre of highest quality habitat being proposed for preservation. As shown on Figure 2, Habitat Map, the site contains mainly developed and disturbed areas; however disturbed coastal dune scrub (0.9 acre), disturbed maritime chaparral mixed with coastal

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A LAND USE PLANNING & DESIGN FIRM

dune scrub (0.3 acre), non-native grassland mixed with disturbed areas (1.0 acre), and non-native grassland mixed with ornamental areas (0.5 acre) are also present.

Coastal dune scrub on the site is disturbed by the patchy presence of non-native iceplant [sea fig (*Carpobrotus chilensis*)/hottentot fig (*Carpobrotus edulis*)] and non-native grasses. This plant community contains a mixture of native species including coastal sagewort (*Artemisia pycnocephala*), pink sand-verbena (*Abronia umbellata*), beach evening primrose (*Camissonia cheiranthifolia*), seaside daisy (*Erigeron glaucus*), sea pink (*Armeria maritima* ssp. *californica*), silver beach lupine (*Lupinus chamissonis*), mock heather (*Ericameria ericoides*), deerweed (*Acemison glaber*), and coast buckwheat (*Eriogonum latifolium*).

Undeveloped portions of the project site contain sandy substrates including dune land (fine sand with quartz and feldspar eolian sands parent material) and baywood sand (sand with stabilized sandy eolian sands parent material) [USDA NRCS 2017]. Monterey received 24.2 inches of rainfall over the past water year (October 2016 through September 2017); this is 152 percent of the average annual precipitation for this weather station (California Department of Water Resources 2017). This rainfall amount was more than adequate to create valid plant survey conditions during 2017.

## **METHODS**

Prior to the surveys, special-status plant occurrence records were reviewed for the project vicinity including the U.S. Fish and Wildlife Service *Endangered Species Program* (USFWS 2017), California Department of Fish and Wildlife *California Natural Diversity Database* (CDFW 2017), and California Native Plant Society *Inventory of Rare and Endangered Plants* (CNPS 2017).

Federally listed Threatened and CNPS Rare Plant Rank 1B Monterey spineflower (*Chorizanthe pungens* var. *pungens*) was known to occur in dense clusters on the western portion of the project site based on 2016 biological reconnaissance surveys. Special-status Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*) had moderate to low potential to occur on the site; other special-status plants with low to very low potential to occur on the site included: beach layia (*Layia carnosa*); coastal dunes milk-vetch (*Astragalus tener* var. *titi*); Eastwood's goldenbush (*Ericameria fasciculata*); Menzies' wallflower (*Erysimum menziesii*); Monterey gilia (*Gilia tenuiflora* ssp. *arenaria*); northern curly-leaved monardella (*Monardella sinuata* ssp. *nigrescens*); pink Johnny-nip (*Castilleja*

*ambigua* var. *insalutata*); robust spineflower (*Chorizanthe robusta* var. *robusta*); sand-loving wallflower (*Erysimum ammophilum*); sandmat manzanita (*Arctostaphylos pumila*); seaside bird's-beak (*Cordylanthus rigidus* ssp. *littoralis*); Tidestrom's lupine (*Lupinus tidestromii*); and Yadon's rein orchid (*Piperia yadonii*).

Given the existing on-site habitat disturbances, specific project location, biological reconnaissance survey observations from July 13, 2016, and number of special-status plants having only low or very low potential to occur, available reference populations were only checked for those species with at least moderate potential to occur to confirm that the species were observable and in peak blooming condition. However, surveys were timed to cover the overlapping peak blooming periods for all special-status species with any level of occurrence potential at the project site. The on-site Monterey spineflower population was monitored to determine the optimal time for the first focused plant survey, and a known reference population for Congdon's tarplant located along State Route 68 about six miles from the project site was last checked on September 12, 2017 to determine the optimal time for the second focused plant survey.

Due to a project-related email from CDFW environmental scientist Brandon Sanderson expressing special concern for possible occurrence of Monterey gilia, local botanical expert David Styer was contacted. He confirmed that he had recorded this species blooming in the project vicinity at four locations on former Fort Ord during its spring survey period, with one observation noted on May 1, 2017. He also confirmed based on his records from 2004 through 2014 that a few Monterey gilia local reference populations fully bloom in April, but most reach full blooming condition during the month of May.

EMC Planning Group biologists Andrea Edwards and Emily Malkauskas conducted focused plant surveys for the project site on May 17 and September 14, 2017, in accordance with CDFW (2009), CNPS (2001), and USFWS (2000) rare plant survey protocols. All undeveloped portions of the project site were systematically surveyed, and plant species observed were recorded in field notes. Plant species were identified in the field or collected for subsequent identification.

## **RESULTS**

As noted above, all undeveloped portions of the project site were systematically surveyed. Federally listed Threatened and CNPS Rare Plant Rank 1B Monterey

spineflower occurs in dense clusters on the western portion of the project site; however, the site is not located within USFWS-designated Critical Habitat for this species.

Figure 3, Special-Status Plant Locations, shows the locations and extent of the Monterey spineflower on-site occurrence; and Figure 4, Special-Status Plant Photographs, contains representative images of the special-status plant occurrence.

Monterey spineflower occurrence data was mapped at three observed density levels: low density = up to 1 plant per square meter, medium density = 2-4 plants per square meter, and high density = 5 or more plants per square meter. This population is limited to approximately 0.9 acre within the disturbed coastal dune scrub plant community. By calculating the plant density levels for each occurrence polygon, it is estimated that the project site in May 2017 contained about 4,200 plants; of these, only about 200 (less than 5 percent) were positioned within the proposed impact area, with the great majority of the plants positioned within the area proposed for preservation.

Attachment 1, Plant Species Observed, presents the list of plant species that were observed on the project site during 2017 focused plant surveys. Details on the Monterey spineflower occurrence are contained in Attachment 2, California Native Species Field Survey Form; this form will be submitted to the CDFW for inclusion in the *California Natural Diversity Database*.

Because the site also contains suitable habitat for federally listed Endangered Smith's blue butterfly (*Euphilotes enoptes smithi*) and there are no other federal agencies involved to facilitate informal consultation, the project will require a USFWS Incidental Take Permit through the Section 10 consultation process and Habitat Conservation Plan (HCP) approval. The HCP will also address the anticipated project impacts to Monterey spineflower. Preparation of the HCP and negotiation with the USFWS will determine the final mitigation strategy; however mitigation would likely include monitoring and habitat protection measures during construction, and restoration and long-term protection of the proposed preservation area shown on Figure 2.

Note that although no special-status Monterey gilia was present on the site, a closely related subspecies - slender-flowered gilia (*Gilia tenuiflora* ssp. *tenuiflora*) - was present on the site in very small numbers at a roadside non-native grassland location (not in the disturbed coastal dune scrub habitat). This identification was carefully confirmed using a dichotomous key developed for Monterey County including multiple plant

characteristics: plant height, leaf placement, corolla size, and length of stigma/style and stamens (Matthews and Mitchell 2015). Although Monterey gilia is typically found on coastal sand dunes while slender-flowered gilia is more common further inland, herbarium collections exist for the common slender-flowered gilia at sandy coastal locations in the project vicinity including Salinas River State Beach and multiple sites at former Fort Ord (Jepson Flora Project 2017).

## CONCLUSION

As detailed above, in 2017 approximately 4,200 Monterey spineflower plants were observed on approximately 0.9 acre of the 10.6-acre project site. No other special-status plant species were observed. These results are valid for three years from the survey date. Please contact us with any questions concerning this report.

Sincerely,

*Andrea Edwards*

Andrea Edwards  
Senior Biologist

*Emily Malkauskas*

Emily Malkauskas  
Assistant Biologist

Encl: Figure 1 – Location Map  
Figure 2 – Habitat Map  
Figure 3 – Special-Status Plant Locations  
Figure 4 – Special-Status Plant Photographs  
Attachment 1 – Plant Species Observed  
Attachment 2 – California Native Species Field Survey Form

### Sources:

California Department of Fish and Wildlife (CDFW). 2017. *California Natural Diversity Database*. Records of occurrence for Marina, Salinas, Monterey, Seaside, Spreckels, Soberanes Point, Mount Carmel, and Carmel Valley quadrangle maps. <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>

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California Department of Water Resources. 2017. *Executive Update: Hydrologic Conditions in California (08/31/2017)*. California Data Exchange Center.  
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California Native Plant Society (CNPS). 2017. *Inventory of Rare and Endangered Plants*. Records of occurrence for Marina, Salinas, Monterey, Seaside, Spreckels, Soberanes Point, Mount Carmel, and Carmel Valley quadrangle maps.  
<http://www.cnps.org/inventory>

California Native Plant Society (CNPS). 2001. *CNPS Botanical Survey Guidelines*.  
[http://www.cnps.org/cnps/rareplants/pdf/cnps\\_survey\\_guidelines.pdf](http://www.cnps.org/cnps/rareplants/pdf/cnps_survey_guidelines.pdf)

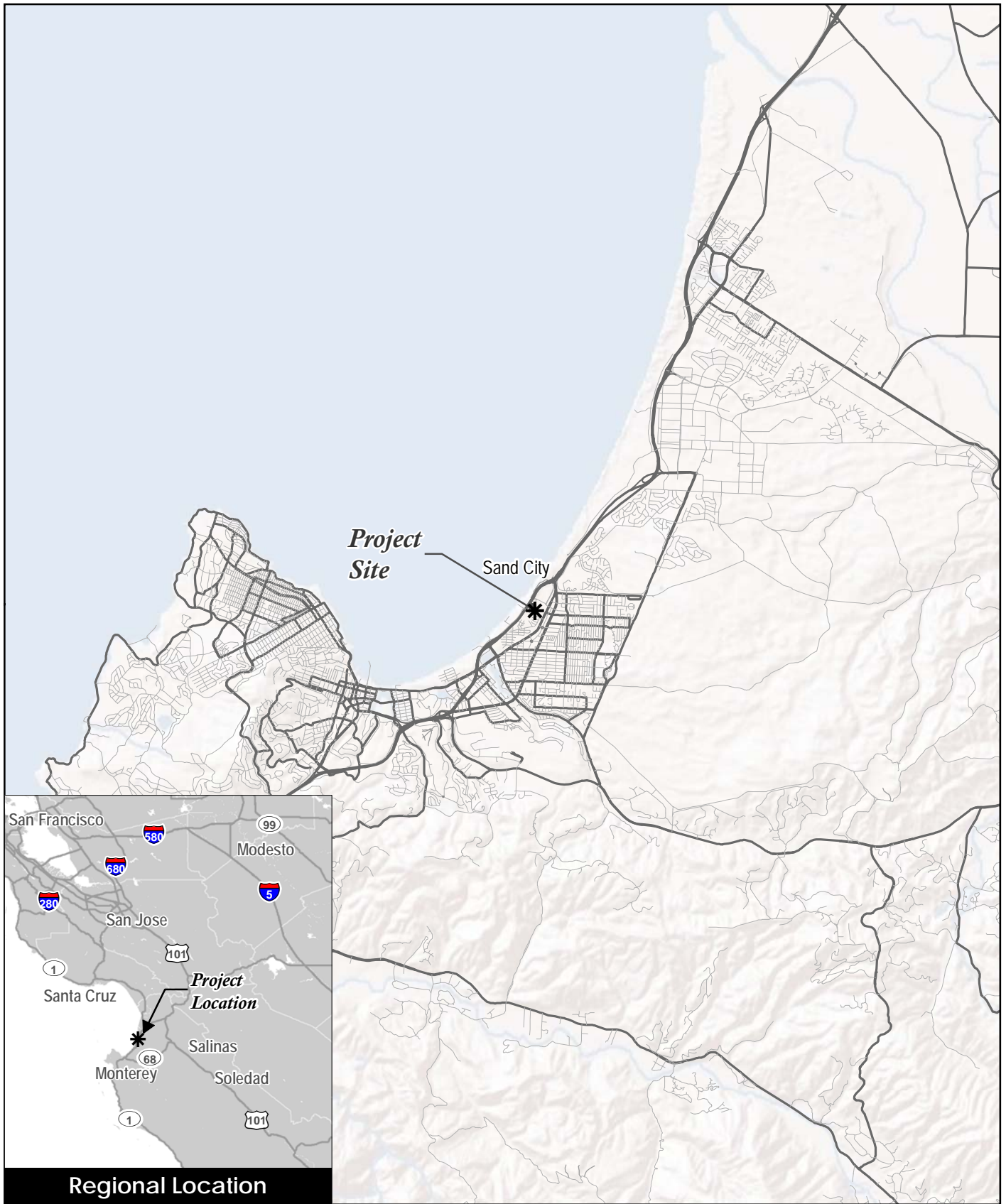
Jepson Flora Project. 2017. *The Jepson Online Interchange: California Floristics*. Regents of the University of California. <http://ucjeps.berkeley.edu/interchange.html>

Matthews, Mary Ann and Michael Mitchell. 2015. *The Plants of Monterey County: An Illustrated Field Key (Second Edition)*. Sacramento, CA.

U.S. Department of Agriculture – Natural Resources Conservation Service (USDA NRCS). 2017. *Web Soil Survey: Monterey County, California (CA053)*.  
<https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>

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U.S. Fish and Wildlife Service (USFWS). 2000. *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants*.  
<http://www.fws.gov/ventura/docs/species/protocols/botanicalinventories.pdf>



Source: Esri 2014

Figure 1

# Location Map

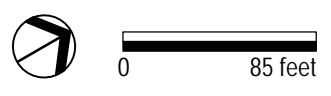






**Legend**

- Project Site
- Area Proposed for Preservation
- Disturbed Coastal Dune Scrub
- Disturbed Maritime Chaparral / Coastal Dune Scrub
- Non-Native Grassland / Disturbed
- Non-Native Grassland / Ornamental

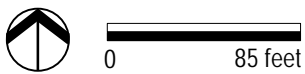
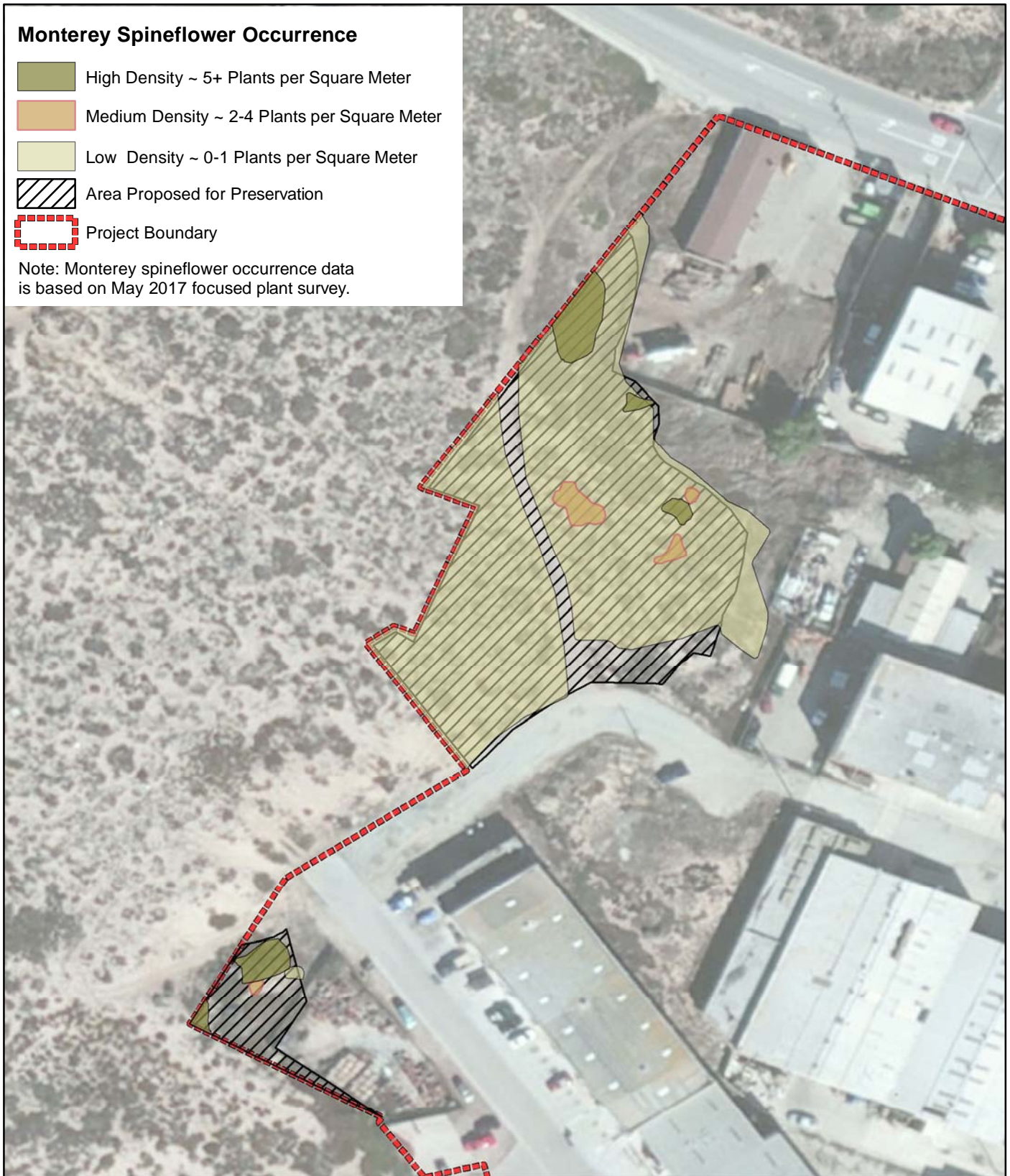


Note: Areas not labeled as habitats are currently disturbed/developed.

Sources: Google 2016, EMC Planning Group 2017



Figure 2  
Habitat Map



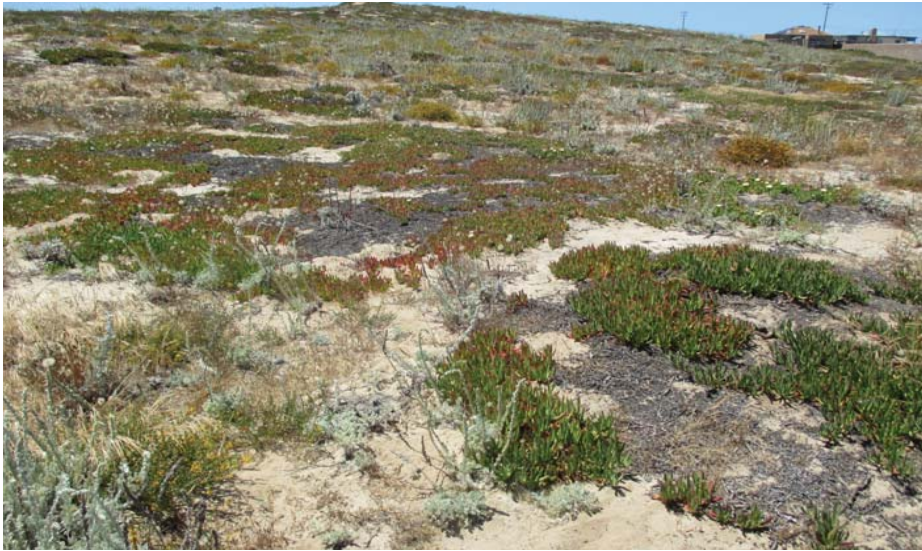
Source: ESRI 2017

Figure 3

## Special-Status Plant Locations

South of Tioga Avenue Mixed Use: Focused Plant Survey Report





① Disturbed coastal dune scrub supporting Monterey spineflower



② Close-up view of flowering annual Monterey spineflower on the site



③ Monterey spineflower plants thrive in local disturbed sandy areas



④ High density occurrence cluster of Monterey spineflower in full bloom

Photographs: EMC Planning Group 5/2017

Figure 4

## Special-Status Plant Photographs

South of Tioga Avenue Mixed Use: Focused Plant Survey Report

## Attachment 1: Plant Species Observed

<b>PTERIDOPHYTA - FERNS AND ALLIES</b>	
<b>GYMNOSPERMAE - GYMNOSPERMS</b>	
<b>CUPRESSACEAE - CYPRESS FAMILY</b>	
<i>Hesperocyparis macrocarpa</i> [ <i>Cupressus macrocarpa</i> ] (planted)	Monterey cypress
<b>ANGIOSPERMAE - FLOWERING PLANTS</b>	
<b>DICOTYLEDONES - DICOTS</b>	
<b>AIZOACEAE - FIG-MARIGOLD FAMILY</b>	
<i>Carpobrotus chilensis</i> *	sea fig
<i>Carpobrotus edulis</i> *	hottentot fig
<i>Conicosia pugioniformis</i> *	narrow-leaved ice plant
<i>Tetragonia tetragonioides</i> *	New Zealand spinach
<b>ANACARDIACEAE - SUMAC FAMILY</b>	
<i>Toxicodendron diversilobum</i>	western poison oak
<b>ARALIACEAE - GINSENG FAMILY</b>	
<i>Hedera helix</i> *	English ivy
<b>ASTERACEAE (COMPOSITAE) - SUNFLOWER FAMILY</b>	
<i>Artemisia pycnocephala</i>	coastal sagewort
<i>Baccharis pilularis</i>	coyote brush
<i>Bellis perennis</i> *	English daisy
<i>Carduus pycnocephalus</i> var. <i>pycnocephalus</i> *	Italian thistle
<i>Corethrogyne filaginifolia</i> [ <i>Lessingia filaginifolia</i> ]	California-aster
<i>Ericameria ericoides</i>	mock heather
<i>Erigeron bonariensis</i> [ <i>Conyza bonariensis</i> ]*	flax-leaved horseweed
<i>Erigeron canadensis</i> [ <i>Conyza canadensis</i> ]	common horseweed
<i>Erigeron glaucus</i>	seaside daisy
<i>Heterotheca grandiflora</i>	telegraph weed
<i>Hypochaeris glabra</i> *	smooth cat's-ear
<i>Lactuca serriola</i> *	prickly lettuce
<i>Lessingia pectinata</i> var. <i>pectinata</i>	common lessingia
<i>Logfia gallica</i> [ <i>Filago gallica</i> ]*	daggerleaf cottonrose
<i>Matricaria discoidea</i> [ <i>Chamomilla suaveolens</i> ]*	pineapple weed
<i>Pseudognaphalium luteoalbum</i> [ <i>Gnaphalium luteoalbum</i> ] *	weedy cudweed
<i>Pseudognaphalium stramineum</i> [ <i>Gnaphalium stramineum</i> ]	cotton-batting plant
<i>Senecio vulgaris</i> *	common groundsel
<i>Sonchus asper</i> ssp. <i>asper</i> *	prickly sow thistle
<i>Sonchus oleraceus</i> *	common sow thistle
<b>BORAGINACEAE - BORAGE FAMILY</b>	
<i>Cryptantha leiocarpa</i>	beach / coast cryptantha
<i>Echium candicans</i> *	pride of Madera
<i>Phacelia ramosissima</i>	branching phacelia
<b>BRASSICACEAE (CRUCIFERAE) - MUSTARD FAMILY</b>	
<i>Capsella bursa-pastoris</i> *	shepherd's purse
<i>Hirschfeldia incana</i> *	shortpod mustard
<i>Lepidium</i> sp.	peppergrass

<i>Lobularia maritima</i> *	sweet alyssum
<i>Raphanus sativus</i> *	radish
<i>Sisymbrium irio</i> *	London rocket
<i>CARYOPHYLLACEAE</i> - PINK FAMILY	
<i>Cardionema ramosissimum</i>	sand mat
<i>Cerastium glomeratum</i> *	sticky mouse-ear chickweed
<i>Polycarpon tetraphyllum</i> ssp. <i>tetraphyllum</i> *	four-leaved allseed
<i>Silene gallica</i> *	small-flower catchfly
<i>Spergula arvensis</i> *	stickwort
<i>Spergularia macrotheca</i>	sticky sand-spurrey
<i>CHENOPODIACEAE</i> - GOOSEFOOT FAMILY	
<i>Chenopodium album</i> *	lamb's quarters
<i>Chenopodium berlandieri</i>	pitseed goosefoot
<i>Chenopodium murale</i> *	nettle-leaved goosefoot
<i>CONVOLVULACEAE</i> - MORNING-GLORY FAMILY	
<i>Convolvulus arvensis</i> *	bindweed
<i>Cuscuta</i> sp.	dodder
<i>CRASSULACEAE</i> - STONECROP FAMILY	
<i>Dudleya caespitosa</i>	sea lettuce
<i>CUCURBITACEAE</i> - GOURD FAMILY	
<i>Marah fabacea</i>	California man-root
<i>ERICACEAE</i> - HEATH FAMILY	
<i>Arctostaphylos tomentosa</i> ssp. <i>tomentosa</i>	shaggy-barked manzanita
<i>EUPHORBIACEAE</i> - SPURGE FAMILY	
<i>Euphorbia peplus</i> *	petty spurge
<i>FABACEAE (LEGUMINOSAE)</i> - LEGUME FAMILY	
<i>Acacia</i> sp.*	acacia
<i>Acmispon strigosus</i> [ <i>Lotus strigosus</i> ]	strigose lotus
<i>Acmispon glaber</i> [ <i>Lotus scoparius</i> ]	deerweed
<i>Genista monspessulana</i> *	French broom
<i>Lupinus chamissonis</i>	silver beach lupine
<i>Lupinus nanus</i>	sky lupine
<i>Medicago polymorpha</i> *	California burclover
<i>Melilotus alba</i> *	white sweetclover
<i>Melilotus indica</i> *	sourclover
<i>Trifolium dubium</i> *	little hop clover
<i>Trifolium variegatum</i> var. <i>variegatum</i>	white-tipped clover
<i>FAGACEAE</i> - OAK / BEECH FAMILY	
<i>Quercus agrifolia</i>	coast live oak
<i>GERANIACEAE</i> - GERANIUM FAMILY	
<i>Erodium botrys</i> *	long-beaked filaree
<i>Erodium cicutarium</i> *	red-stemmed filaree
<i>Erodium moschatum</i> *	white-stemmed filaree
<i>Geranium molle</i> *	dove's foot geranium
<i>LYTHRACEAE</i> - LOOSESTRIFE FAMILY	
<i>Lythrum hyssopifolia</i> *	grass poly / hyssop-leaved loosestrife

<i>MALVACEAE</i> - MALLOW FAMILY	
<i>Malva parviflora</i> *	cheeseweed
<i>MONTIACEAE</i> - MONTIA FAMILY	
<i>Claytonia</i> sp.	miner's-lettuce
<i>SCROPHULARIACEAE</i> - FIGWORT FAMILY [ <i>MYOPORACEAE</i> - MYOPORUM FAMILY]	
<i>Myoporum laetum</i>	myoporum
<i>MYRSINACEAE</i> - MYRSINE FAMILY	
<i>Anagallis arvensis</i> *	scarlet pimpernel
<i>MYRTACEAE</i> - MYRTLE FAMILY	
<i>Callistemon</i> sp.*	bottle-brush
<i>NYCTAGINACEAE</i> - FOUR-O'CLOCK FAMILY	
<i>Abronia umbellata</i> var. <i>umbellata</i>	beach sand-verbena
<i>ONAGRACEAE</i> - EVENING PRIMROSE FAMILY	
<i>Camissonia cheiranthifolia</i>	beach evening primrose
<i>OROBANCHACEAE</i> - BROOMRAPE FAMILY	
<i>Orobanche fasciculata</i>	clustered broomrape
<i>OXALIDACEAE</i> - WOOD-SORREL FAMILY	
<i>Oxalis pes-caprae</i> *	Bermuda buttercup / sour grass
<i>PAPAVERACEAE</i> - POPPY FAMILY	
<i>Eschscholzia californica</i>	California poppy
<i>PLANTAGINACEAE</i> - PLANTAIN FAMILY	
<i>Plantago coronopus</i> *	cut-leaved plantain
<i>Plantago erecta</i>	dwarf plantain / California plantain
<i>PLUMBAGINACEAE</i> - LEADWORT FAMILY	
<i>Armeria maritima</i> ssp. <i>californica</i>	sea pink
<i>POLEMONIACEAE</i> - PHLOX FAMILY	
<i>Gilia tenuiflora</i> ssp. <i>tenuiflora</i>	slender-flowered gilia
<i>POLYGONACEAE</i> - BUCKWHEAT FAMILY	
<b><i>Chorizanthe pungens</i> var. <i>pungens</i></b>	<b>Monterey spineflower</b>
<i>Eriogonum latifolium</i>	coast buckwheat
<i>Eriogonum parvifolium</i>	seacliff buckwheat
<i>Polygonum aviculare</i> ssp. <i>depressum</i> [ <i>Polygonum arenastrum</i> ]*	common knotweed
<i>RHAMNACEAE</i> - BUCKTHORN FAMILY	
<i>Frangula californica</i> [ <i>Rhamnus californica</i> ]	California coffee berry
<i>ROSACEAE</i> - ROSE FAMILY	
<i>Adenostoma fasciculatum</i>	chamise
<i>RUBIACEAE</i> - MADDER FAMILY	
<i>Galium californicum</i> ssp. <i>californicum</i>	California bedstraw
<i>SALICACEAE</i> - WILLOW FAMILY	
<i>Salix lasiolepis</i>	arroyo willow
<i>SOLANACEAE</i> - NIGHTSHADE FAMILY	
<i>Nicotiana glauca</i> *	tree tobacco
<i>Solanum americanum</i>	white nightshade
<i>URTICACEAE</i> - NETTLE FAMILY	
<i>Urtica urens</i> *	dwarf nettle

**MONOCOTYLEDONES - MONOCOTS****JUNCACEAE - RUSH FAMILY**

<i>Juncus bufonius</i>	toad rush
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**POACEAE [GRAMINEAE] - GRASS FAMILY**

<i>Avena barbata</i> *	slender wild oat
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<i>Briza maxima</i> *	large quaking-grass
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<i>Bromus catharticus</i> *	rescue grass
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<i>Bromus diandrus</i> *	rippgut grass
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<i>Cortaderia</i> sp.*	pampas grass
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<i>Digitaria</i> sp.*	crab grass
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<i>Ehrharta erecta</i> *	panic veldtgrass
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<i>Festuca myuros</i> [ <i>Vulpia myuros</i> ]*	foxtail fescue
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<i>Festuca perennis</i> [ <i>Lolium</i> spp.]*	rye grass
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<i>Hordeum murinum</i> *	barley
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<i>Poa annua</i> *	annual bluegrass
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<i>Polypogon monspeliensis</i> *	annual beard grass
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<i>Polypogon viridis</i> *	water beard grass
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* non-native species	
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Mail to:  
 California Natural Diversity Database  
 California Dept. of Fish & Wildlife  
 1416 9th Street, Suite 1266  
 Sacramento, CA 95814  
 Fax: (916) 324-0475 email: CNDDDB@wildlife.ca.gov

For Office Use Only	
Source Code: _____	Quad Code: _____
Elm Code: _____	Occ No.: _____
EO Index: _____	Map Index: _____

**Date of Field Work (mm/dd/yyyy):** \_\_\_\_\_

## California Native Species Field Survey Form

**Scientific Name:** \_\_\_\_\_

**Common Name:** \_\_\_\_\_

<p><b>Species Found?</b></p> <p>Yes No _____ If not found, why? _____</p> <p>Total No. Individuals: _____ Subsequent Visit? Yes No</p> <p><b>Is this an existing NDDDB occurrence?</b> _____ No Unk.          Yes, Occ. # _____</p> <p>Collection? If yes: _____          Number _____ Museum / Herbarium _____</p>	<p><b>Reporter:</b> _____</p> <p><b>Address:</b> _____</p> <p><b>E-mail Address:</b> _____</p> <p><b>Phone:</b> _____</p>
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Plant Information	Animal Information
<p>Phenology:</p> <p>_____ # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown _____</p> <p>_____ wintering _____ breeding _____ nesting _____ rookery _____ burrow site _____ lek _____ other _____</p> <p>% vegetative _____ % flowering _____ % fruiting _____</p>	

**Location Description (please attach map AND/OR fill out your choice of coordinates, below)**

County: \_\_\_\_\_ Landowner / Mgr: \_\_\_\_\_

Quad Name: \_\_\_\_\_ Elevation: \_\_\_\_\_

T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ 1/4 of \_\_\_\_\_ 1/4, Meridian: H M S Source of Coordinates (GPS, topo. map & type): \_\_\_\_\_

T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ 1/4 of \_\_\_\_\_ 1/4, Meridian: H M S GPS Make & Model: \_\_\_\_\_

**DATUM:** NAD27 NAD83 WGS84 Horizontal Accuracy: \_\_\_\_\_ meters/feet

Coordinate System: UTM Zone 10 UTM Zone 11 **OR** Geographic (Latitude & Longitude)

Coordinates: \_\_\_\_\_

**Habitat Description (plants & animals)** plant communities, dominants, associates, substrates/soils, aspects/slope:

**Animal Behavior** (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Please fill out separate form for other rare taxa seen at this site.

**Site Information** Overall site/occurrence quality/viability (site + population): Excellent Good Fair Poor

Immediate AND surrounding land use: \_\_\_\_\_

Visible disturbances: \_\_\_\_\_

Threats: \_\_\_\_\_

Comments: \_\_\_\_\_

<p><b>Determination:</b> (check one or more, and fill in blanks)</p> <p>Keyed (cite reference): _____</p> <p>Compared with specimen housed at: _____</p> <p>Compared with photo / drawing in: _____</p> <p>By another person (name): _____</p> <p>Other: _____</p>	<p><b>Photographs:</b> (check one or more) Slide Print Digital</p> <p>Plant / animal _____</p> <p>Habitat _____</p> <p>Diagnostic feature _____</p> <p>May we obtain duplicates at our expense? yes no</p>
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*Planning for Success.*

October 11, 2017

Todd Bodem  
City Administrator  
City of Sand City  
1 Sylvan Park  
Sand City, CA 93955

**Re: Revised Biological Constraints Analysis for South of Tioga Avenue Mixed Use Project**

Dear Todd,

EMC Planning Group conducted a biological constraints analysis for the South of Tioga Avenue Mixed Use project area adjacent to California Avenue and Tioga Avenue, just east of State Route 1, in the City of Sand City, Monterey County, California (see Figure 1). An aerial showing on-site habitat areas is shown in Figure 2, and representative photographs are presented in Figure 3. This analysis was conducted in preparation for the project, which proposes to demolish the existing buildings on the site and construct new businesses and infrastructure.

This biological constraints analysis includes a discussion of existing plant communities and wildlife habitats observed, and the potential for special-status biological resources to occur on the project site. It also provides recommendations for avoiding and/or minimizing impacts to special-status biological resources that may require discretionary permit oversight from the California Department of Fish and Wildlife (CDFW) and/or U.S. Fish and Wildlife Service (USFWS). The most sensitive biological resources present on the site are located within the disturbed coastal dune scrub in the western portion of the site; the majority of this area will be avoided by the proposed project and preserved in perpetuity.

EMC PLANNING GROUP INC.  
A LAND USE PLANNING & DESIGN FIRM

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## **METHODS**

Site maps, aerial photographs, natural resource database accounts, and other relevant scientific literature were reviewed for the project vicinity. This included review of the USFWS *Endangered Species Program* (USFWS 2017), CDFW *California Natural Diversity Database* (CDFW 2017), and California Native Plant Society (CNPS) *Inventory of Rare and Endangered Plants* (CNPS 2017) to identify special-status plants, wildlife, and habitats known to occur in the vicinity of the project site.

EMC Planning Group biologists Andrea Edwards and Emily Malkauskas conducted the reconnaissance-level biological surveys on July 13, 2016 and May 17, 2017. All species observed were recorded in field notes, along with information on plant communities and wildlife habitats. Qualitative observations of plant cover, structure, and species composition were used to determine plant communities and wildlife habitats. Plant species were identified in the field or collected for subsequent identification. Searches for reptiles and amphibians were performed by overturning and then replacing rocks and debris. Birds were identified by visual and/or auditory recognition; mammals were identified by observing diagnostic signs.

## **EXISTING CONDITIONS**

The project site is positioned on the Seaside U.S. Geological Survey (USGS) 7.5-minute quadrangle map. Elevation on the site ranges from approximately 35 to 70 feet. No riparian habitat or wetlands/waterways are present on the site. Within the 10.6-acre project boundary, the impact area is approximately 9.7 acres, with the remaining 0.9 acre of highest quality habitat being proposed for preservation. The site contains mainly developed and disturbed areas as illustrated on Figure 2, Habitat Map; however disturbed coastal dune scrub (0.9 acre), disturbed maritime chaparral mixed with coastal dune scrub (0.3 acre), non-native grassland mixed with disturbed areas (1.0 acre), and non-native grassland mixed with ornamental areas (0.5 acre) are also present.

Coastal dune scrub on the site is notable as a sensitive natural community, though disturbed by the patchy presence of non-native iceplant [sea fig (*Carpobrotus chilensis*)/hottentot fig (*Carpobrotus edulis*)] and non-native grasses. This plant community contains a mixture of native species including coastal sagewort (*Artemisia pycnocephala*), pink sand-verbena (*Abronia umbellata*), beach evening primrose (*Camissonia cheiranthifolia*), seaside daisy (*Erigeron glaucus*), sea pink (*Armeria maritima* ssp.

*californica*), silver beach lupine (*Lupinus chamissonis*), mock heather (*Ericameria ericoides*), deerweed (*Acmispon glaber*), and coast buckwheat (*Eriogonum latifolium*).

The coastal dune scrub vegetation provides high quality wildlife habitat, including foraging and nesting opportunities for many common bird species including California gull (*Larus californicus*), killdeer (*Charadrius vociferous*), Brewer's blackbird (*Euphagus cyanocephalus*), and white-crowned sparrow (*Zonotrichia leucophrys*). Small mammals expected to occur include California ground squirrel (*Spermophilus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), and deer mouse (*Peromyscus maniculatus*). Common reptile species that may occur include western fence lizard (*Sceloporus occidentalis*), northern alligator lizard (*Gerrhonotus coeruleus*), and gopher snake (*Pituophis melanoleucus*).

## **SPECIAL-STATUS PLANTS**

Federally listed Threatened and CNPS Rare Plant Rank 1B Monterey spineflower (*Chorizanthe pungens* var. *pungens*) occurs in dense clusters on the western portion of the project site. Other plants also considered Rare, Threatened, or Endangered by the USFWS, CDFW, and/or CNPS that have low potential to occur on the site include: beach layia (*Layia carnosa*); coastal dunes milk-vetch (*Astragalus tener* var. *titi*); Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*); Eastwood's goldenbush (*Ericameria fasciculata*); Menzies' wallflower (*Erysimum menziesii*); Monterey gilia (*Gilia tenuiflora* ssp. *arenaria*); northern curly-leaved monardella (*Monardella sinuata* ssp. *nigrescens*); pink Johnny-nip (*Castilleja ambigua* var. *insalutata*); robust spineflower (*Chorizanthe robusta* var. *robusta*); sand-loving wallflower (*Erysimum ammophilum*); sandmat manzanita (*Arctostaphylos pumila*); seaside bird's-beak (*Cordylanthus rigidus* ssp. *littoralis*); Tidestrom's lupine (*Lupinus tidestromii*); and Yadon's rein orchid (*Piperia yadonii*). However, focused plant surveys were conducted in 2017 and no other special-status plants were observed on the site.

## **SPECIAL-STATUS WILDLIFE**

Federally listed Endangered Smith's blue butterfly (*Euphilotes enoptes smithi*; SBB) has potential to occur on portions of the project site that contain its specific host plants, seacliff buckwheat (*Eriogonum parvifolium*) and coast buckwheat (*Eriogonum latifolium*). Adult SBB emerge for a single flight season from mid-June through early September.

They rely on their buckwheat host plants during all life stages in order to feed, deposit their eggs, and pupate during the larval stage. Pupae of this species overwinter on or beneath their buckwheat host plants before emerging as adults during the following flight season. Therefore, impacts to SBB can occur year-round (USFWS 2006).

Current and historic records of SBB indicate that this species occurs within dune habitats along Monterey Bay, from the Salinas River south to the City of Monterey, as well as along the coast of Monterey and northern San Luis Obispo counties, from the Carmel River area south to San Carpoforo Creek. Within the northern portion of its range along the Monterey Bay coast, which includes the project site, SBB is limited to the use of dune habitat areas. The quality of these areas can fluctuate readily, in part due to the establishment of non-native plants, which compete with coast buckwheat and seacliff buckwheat host plants. The sensitivity of SBB and buckwheat host plants therefore requires consideration when planning development projects within their habitat areas (USFWS 2006).

Dr. Richard Arnold, Ph.D., entomologist and local expert on SBB, was contacted on July 18, 2016 to discuss potential SBB presence at the project site. Based on his knowledge of habitat at the project site and vicinity, and the dynamics of SBB activity in the area, current presence of SBB can be assumed at the project site. According to Dr. Arnold, SBB individuals have been observed on the project site in the past. They have also been observed on nearby parcels located within the known dispersal range of the species.

Based on the presence of suitable habitat, the project site also has the potential to support special-status wildlife including:

- Black legless lizard (*Anniella pulchra nigra*), state Species of Special Concern;
- Silvery legless lizard (*Anniella pulchra pulchra*), state Species of Special Concern;
- Coast horned lizard (*Phrynosoma blainvillii*), state Species of Special Concern;
- Burrowing owl (*Athene cunicularia*), state Species of Special Concern; and
- Townsend's big-eared bat (*Corynorhinus townsendii*), state Species of Special Concern.

Vegetation on the project site provides suitable nesting habitat for a variety of birds. Native nesting birds (including raptors) are protected during the nesting bird season (February 1 to September 15) under the federal Migratory Bird Treaty Act and California Fish and Game Code.

## **SENSITIVE NATURAL COMMUNITIES**

Sensitive natural communities are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of development. These communities are listed and monitored by the CDFW and may or may not contain special-status species or their habitats. Coastal dune scrub is a sensitive natural community that occurs on the project site, though in a disturbed condition due to the presence of non-native and invasive plant species. About 90 percent of this on-site habitat, the portions contiguous with existing open space areas, will be avoided by the project and permanently protected within the 0.9-acre preservation area.

## **REGULATED TREES**

On-site trees include a few native coast live oaks (*Quercus agrifolia*), planted Monterey cypresses (*Hesperocyparis macrocarpa*), and various non-native ornamental species. Per Chapter 16.12 of the City municipal code, a significant tree is defined as any tree with a diameter at breast height (DBH) of 10 inches or more. Several on-site trees have a diameter large enough to satisfy the significant tree definition. Removal of such trees would require a Significant Tree Removal Permit from the Sand City Director of Community Development, and replacement plantings may be needed, though not necessarily of the same species.

## **RECOMMENDATIONS**

The most important biological resource impacts of the proposed project would be to federally listed Threatened Monterey spineflower (present) and SBB (assumed present), along with loss of a very small amount (approximately 0.1 acre) of coastal dune scrub, a sensitive natural community. Overall, EMC Planning Group recommends the following measures to avoid or minimize potential project impacts to special-status biological resources:

- Due to the presence of suitable habitat for SBB and the occurrence of Monterey spineflower, the project will require a permit from the USFWS. Mitigation for proposed impacts to Monterey spineflower will be included in the federal permitting process discussed below.
- The site contains suitable habitat (including appropriate buckwheat host plants) for federally listed Endangered SBB, and the species is known to occur in the immediate project vicinity. We therefore recommend assuming presence of SBB and obtaining a USFWS Incidental Take Permit to address anticipated project impacts to SBB (and to Monterey spineflower) through the Section 10 consultation process and Habitat Conservation Plan (HCP) approval. Preparation of the HCP and negotiation with the USFWS will determine the final mitigation strategy; however mitigation would likely include monitoring and protection measures during construction, and restoration and long-term protection of the preservation area shown on Figure 2. Because the project will only impact a small amount of disturbed coastal dune scrub and disturbed maritime chaparral/coastal dune scrub (which provide low quality habitat for SBB and few/smaller buckwheat host plants), project impacts to SBB are considered minimal and may qualify for a streamlined “low effect” HCP permitting pathway. The determination of whether the project qualifies for the low effect process will be determined during preliminary consultation with the USFWS.
- During construction, direct a qualified biologist to conduct biological construction monitoring during initial vegetation removal and ground disturbance. The monitor will identify and delineate impact avoidance areas around all host plants for SBB, and ensure that these areas remain clearly delineated throughout the construction period. If any state Species of Special Concern reptiles (such as black legless lizard, silvery legless lizard, and coast horned lizard) are present within the work areas during construction and will not vacate the areas on their own, the monitoring biologist may need to relocate individuals to adjacent habitat in coordination with the CDFW. If deemed necessary by the CDFW, a project Memorandum of Understanding (MOU) will be obtained to allow the monitoring biologist to handle state Species of Special Concern reptiles in order to safely relocate them out of active construction areas to adjacent habitat outside the impact areas.
- Prior to construction, direct a qualified biologist to conduct pre-construction surveys for burrowing owl following the guidelines in the Staff Report on

Burrowing Owl Mitigation (CDFW 2012) to determine the presence or absence of the species. If these surveys locate occupied burrows in or near the construction area, then consultation with the CDFW would be required to interpret survey results and develop a project-specific avoidance and minimization approach.

- Prior to construction, direct a qualified biologist to conduct a focused survey for Townsend's big-eared bat and potential roosting sites within buildings to be demolished and within 250 feet of the proposed development area. These surveys shall be conducted no more than 15 days prior to the start of construction. If no bat roosting sites are found, a survey letter report will be sent to the City of Sand City and no further mitigation will be required. If bat roosting sites are found, a survey letter report will be provided to the City of Sand City and appropriate avoidance and minimization measures will be taken prior to and during construction at the discretion of a qualified biologist.
- Prior to construction, direct a qualified biologist to conduct pre-construction surveys for protected nesting birds if construction activities, vegetation removal, or other site disturbance occur during the nesting bird season (February 1 to September 15). Any protected active bird nests must be avoided until fledglings have left the nest. This survey can be conducted concurrently with those undertaken for burrowing owl.
- As mentioned earlier, USFWS permitting will require mitigation for impacts to Monterey spineflower and SBB. Minimal project impacts to the coastal dune scrub sensitive natural community (loss of approximately 0.1 acre), which is the same habitat that will be addressed in the USFWS permitting, are expected to be mitigated through the spineflower/butterfly mitigation requirements.
- Direct a certified arborist to survey all significant trees on the project site (those with a DBH of 10 inches or more). For proposed tree removals, obtain the necessary permit from the Sand City Community Development Director that may require replacement plantings, but not necessarily of the same species.

With implementation of these recommendations, potential project impacts to special-status biological resources would be avoided, minimized, or mitigated. Please contact us with any questions concerning this report.

Sincerely,

*Andrea Edwards*

Andrea Edwards  
Senior Biologist

*Emily Malkauskas*

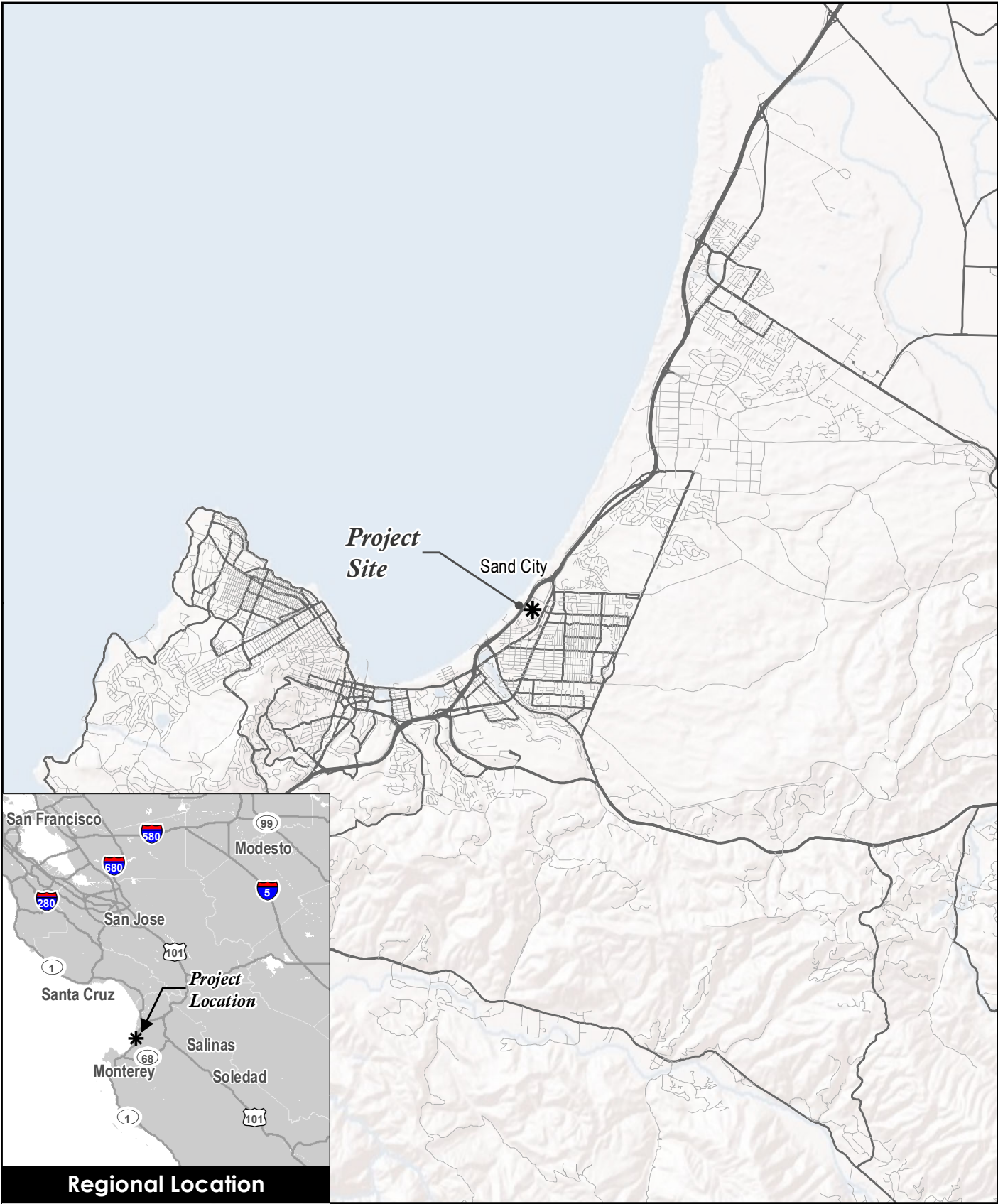
Emily Malkauskas  
Assistant Biologist

Attachments:           Figure 1 – Location Map  
                              Figure 2 – Habitat Map  
                              Figure 3 – Site Photographs

Sources:

- California Department of Fish and Wildlife (CDFW). 2017. *California Natural Diversity Database*. Records of occurrence for Marina, Salinas, Monterey, Seaside, Spreckels, Soberanes Point, Mount Carmel, and Carmel Valley quadrangle maps. Sacramento, CA. <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>.
- California Department of Fish and Wildlife (CDFW). 2012. *Staff Report on Burrowing Owl Mitigation*. Sacramento, CA.  
<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83843&inline=true>.
- California Native Plant Society (CNPS). 2017. *Inventory of Rare and Endangered Plants*. Records of occurrence for Marina, Salinas, Monterey, Seaside, Spreckels, Soberanes Point, Mount Carmel, and Carmel Valley quadrangle maps. Sacramento, CA. <http://www.cnps.org/inventory>.
- U.S. Fish and Wildlife Service (USFWS). 2017. *Endangered Species Program*. Species list for Monterey County. Washington, D.C. <http://www.fws.gov/endangered/>.
- U.S. Fish and Wildlife Service (USFWS). 2006. *5-Year Review, Summary and Evaluation: Smith's blue butterfly (Euphilotes enoptes smithi)*. Ventura Fish and Wildlife Office. Ventura, CA. <https://www.fws.gov/cno/es/Smith's%20blue%20butterfly%205-year%20review.FINAL.pdf>.










Source: Esri 2014

Figure 1


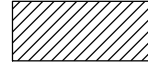



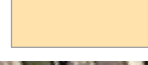
# Location Map

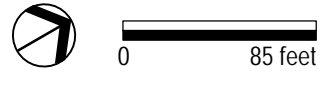
South of Tioga Avenue Mixed Use: Biological Constraints Analysis



**Legend**

-  Project Site
-  Area Proposed for Preservation
-  Disturbed Coastal Dune Scrub
-  Disturbed Maritime Chaparral / Coastal Dune Scrub
-  Non-Native Grassland / Disturbed
-  Non-Native Grassland / Ornamental



Note: Areas not labeled as habitats are currently disturbed/developed.

Sources: Google 2016, EMC Planning Group 2017



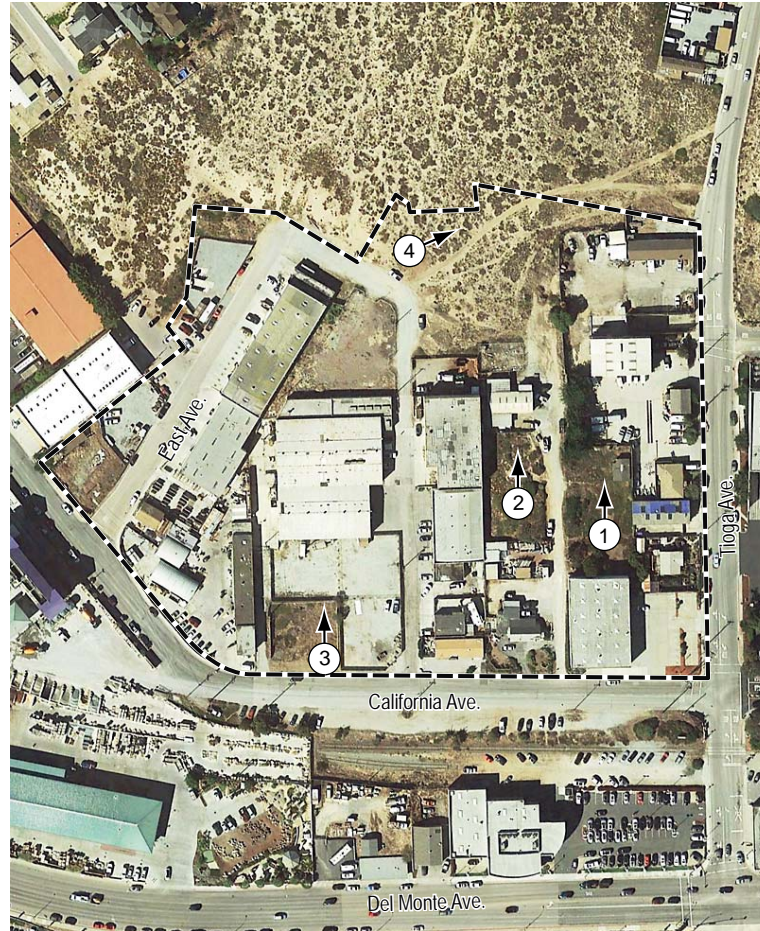
Figure 2  
Habitat Map



① Non-native grassland and ornamental vegetation



② Isolated patch of disturbed maritime chaparral/coastal dune scrub



Project Site

Source: Google Earth 2016  
Photographs: EMC Planning Group 5/2017



③ Non-native grassland with ruderal weedy plants



④ Disturbed coastal dune scrub with existing trail