

APPENDIX E

Rare Plant Survey



ENVIRONMENTAL CONSULTANTS

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TECHNICAL MEMORANDUM

To: Summer Burlison, County of San Mateo Planning and Building Department

From: Jessica Henderson-McBean, SWCA Environmental Consultants

Date: July 23, 2019

Re: Rare Plant Survey Results for the Canyon Lane Roadway Improvements Development Project, San Mateo County, California / SWCA Project No. 50073

INTRODUCTION

SWCA Environmental Consultants (SWCA) has prepared this memorandum for San Mateo County (County) in support of the Canyon Lane Roadway Improvements Development Project (project) located in San Mateo County, California. The purpose of this memorandum is to document the results of focused rare plant surveys conducted by SWCA biologists Jessica Henderson-McBean and Rachel Stump on May 21 and June 13, 2019.

These seasonally timed rare plant surveys were conducted as a follow up to the reconnaissance-level surveys performed on January 22 and February 6, 2019, in support of the preparation of the project Environmental Impact Report (EIR).

SURVEY METHODS

SWCA conducted a literature review prior to the reconnaissance-level surveys performed in January and February 2019. The literature review included queries of the California Natural Diversity Database (CNDDDB)¹, the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC)² report for the study area, and the California Native Plant Society (CNPS)³ Rare Plant Inventory.

Two special-status species were determined to have potential to occur within the project area: San Mateo woolly sunflower (*Eriophyllum latilobum*; federally endangered and state endangered, CNPS 1B.1), and bent-flowered fiddleneck (*Amsinckia lunaris*; CNPS 1B.2). Six special-status species were determined to have limited potential to occur within the project area: woodland woollythreads (*Monolopia gracilens*; CNPS 1B.2), Oakland star tulip (*Calochortus umbellatus*; CNPS 4.2), California bottle-brush grass (*Elymus californicus*; CNPS 4.3), bristly leptosiphon (*Leptosiphon acicularis*; CNPS 4.2), serpentine

¹ California Department of Fish and Wildlife (CDFW). 2019. California Natural Diversity Database (CNDDDB). California Department of Fish and Game, Sacramento, CA.

² U.S. Fish and Wildlife Service (USFWS). 2019. Official species lists online. U.S. Fish and Wildlife Service, Sacramento District.

³ California Native Plant Society (CNPS). 2019. Inventory of Rare and Endangered Plants. Online Edition. California Native Plant Society. Sacramento, CA.

leptosiphon (*Leptosiphon ambiguous*; CNPS 4.2), and Michael's rein orchid (*Piperia michaelii*; CNPS 4.2).

Rare plant surveys focused primarily on San Mateo woolly sunflower and bent-flowered fiddleneck as impacts to these species were determined to be potentially significant in the preparation of the EIR due to their potential to occur. The biologists visited reference sites for San Mateo woolly sunflower and bent-flowered fiddleneck prior to each round of surveys in order to determine the bloom status and to calibrate the field team to identifying these species (additional information on the reference sites can be found in Attachment A).

The biological survey area included areas identified as the proposed Canyon Lane road expansion area, the proposed utility installation area, the single-family residence development, and 11 future development parcels. The biological survey area was surveyed by walking meandering transects throughout the survey area to identify potential special-status species. The surveyors referred to The Jepson Manual⁴ to verify plant identification.

RESULTS

No special-status plants were observed within the survey area during the 2019 surveys. Surveys were conducted in May and June following a season of good rainfall (approximately 114% of the normal)⁵, providing optimal conditions for the detection of rare plants. The surveys were conducted over a range of bloom periods to capture the flowering period of all special-status plants with a likelihood for occurrence in the biological survey area. A complete inventory of all plant species observed within the survey area is included as Attachment B.

⁴ Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken (eds.) 2012. *The Jepson Manual: Vascular Plants of California*. 2nd Edition. University of California Press, Berkeley.

⁵ National Oceanic and Atmospheric Administration (NOAA). 2019. Climate Station Precipitation Summary. Available at: <https://www.cnrfc.noaa.gov/awipsProducts/RNOWRKCLI.php>. Accessed July 2019.

ATTACHMENT A
Photo Documentation

Reference Site for Bent-Flowered Fiddleneck (*Amsinckia lunaris*)



Photo A-1: Reference site visited on May 20, 2019, by SWCA Biologist Ms. Henderson-McBean. More than 15 individuals observed at this location. Location: Marin County



Photo A-2: Reference site visited on May 20, 2019, by SWCA Biologist Ms. Henderson-McBean. More than 15 individuals observed at this location. Location: Marin County



Photo A-3: Reference site visited on June 12, 2019, by SWCA Biologist Ms. Henderson-McBean. Individuals that were previously observed were no longer flowering, but approximately 10 individuals were identifiable and flowering during the June 2019 visit. Location: Marin County



Photo A-4: Reference site visited on June 12, 2019, by SWCA Biologist Ms. Henderson-McBean. Individuals that were previously observed were no longer flowering, but approximately 10 individuals were identifiable and flowering during the June 2019 visit. Location: Marin County

Reference Sites for San Mateo Woolly Sunflower (*Eriophyllum latilobum*)



Photo A-5: Reference site visited on May 21, 2019, by SWCA Biologists Ms. Henderson-McBean and Ms. Stump. Approximately 10 individuals were easily identifiable and flowering. Location: San Mateo County



Photo A-6: Reference site visited on May 21, 2019, by SWCA Biologists Ms. Henderson-McBean and Ms. Stump. Approximately 10 individuals were easily identifiable and flowering. Location: San Mateo County



Photo A-7: Reference site visited on June 13, 2019, by SWCA Biologists Ms. Henderson-McBean and Ms. Stump. Approximately 15 plants observed. Location: San Mateo County



Photo A-8: Reference site visited on June 13, 2019, by SWCA Biologists Ms. Henderson-McBean and Ms. Stump. Approximately 15 plants observed. Location: San Mateo County

ATTACHMENT B

Floral Compendium

Table B-1. Floral Compendium

Scientific Name	Common Name
Angiosperms (Eudicots)	
Anacardiaceae	Cashew family
<i>Toxicodendron diversilobum</i>	poison oak
Apiaceae	Umbellifers
<i>Daucus carota</i>	wild carrot
<i>Sanicula crassicaulis</i>	Pacific sanicle
<i>Torilis arvensis</i>	common hedgeparsley
Apocynaceae	Dogbane family
<i>Asclepias fascicularis</i>	narrowleaf milkweed
Araliaceae	Ginseng family
<i>Hedera helix</i>	English ivy
Asteraceae	Daisy family
<i>Achillea millefolium</i>	yarrow
<i>Artemisia douglasiana</i>	mugwort
<i>Baccharis pilularis</i>	coyote brush
<i>Carduus pycnocephalus</i>	Italian thistle
<i>Cichorium intybus</i>	common chicory
<i>Cotula australis</i>	Australian brass buttons
<i>Cynara cardunculus</i>	artichoke
<i>Hemizonia congesta</i>	hayfield tarweed
<i>Hypochaeris radicata</i>	rough cat's ear
<i>Tragopogon porrifolius</i>	salsify
Buxaceae	Box family
<i>Buxus sempervirens</i>	common box
Cactaceae	Cactus family
<i>Opuntia</i> spp	prickly pear cactus
Caprifoliaceae	Honeysuckle family
<i>Symphoricarpos albus</i>	snowberry
Euphorbiaceae	Spurge family
<i>Euphorbia spathulata</i>	reticulate-seeded spurge
Fabaceae	Legumes
<i>Acacia dealbata</i>	silver wattle
<i>Genista monspessulana</i>	French broom
<i>Lathyrus latifolius</i>	sweet pea
<i>Trifolium angustifolium</i>	narrow leaved clover
<i>Vicia sativa</i>	common vetch
Fagaceae	Beech family
<i>Quercus agrifolia</i>	coast live oak

Scientific Name	Common Name
<i>Quercus obata</i>	valley oak
<i>Quercus velutina</i>	black oak
Gentianaceae	Gentian family
<i>Zeltnera muehlenbergii</i>	Muhlenberg's centaury
Geraniaceae	Geranium family
<i>Geranium molle</i>	cranesbill geranium
Grossulariaceae	Currant family
<i>Ribes californicum</i>	hillside gooseberry
Lamiaceae	Mint family
<i>Stachys rigida</i>	rough hedgenettle
Lauraceae	Laurel family
<i>Umbellularia californica</i>	California bay laurel
Malvaceae	Mallow family
<i>Malva parviflora</i>	cheeseweed mallow
Montiaceae	Portulaca family
<i>Claytonia perfoliata</i>	Miner's lettuce
Myrsinaceae	Myrsine family
<i>Lysimachia arvensis</i>	scarlet pimpernel
Myrtaceae	Myrtle family
<i>Eucalyptus globulus</i>	Tasmanian blue gum
Oleaceae	Olive family
<i>Olea europaea</i>	olive
Oxalidaceae	Wood sorrels
<i>Oxalis pes-caprae</i>	Bermuda buttercup
Phrymaceae	Lopseed family
<i>Diplacus aurantiacus</i>	sticky monkeyflower
Polygonaceae	Buckwheat family
<i>Rumex maritimus</i>	golden dock
Proteaceae	Grevillea family
<i>Grevillea robusta</i>	silkoak
Rosaceae	Rose family
<i>Cotoneaster franchetii</i>	Cotoneaster
<i>Heteromeles arbutifolia</i>	toyon
<i>Prunus cerasifera</i>	cherry plum
<i>Rosa Californica</i>	California wild rose
<i>Rubus armeniacus</i>	Armenian blackberry
Rubiaceae	Coffee family
<i>Galium aparine</i>	common bedstraw
Sapindaceae	Soapberry family
<i>Aesculus californica</i>	California buckeye

Scientific Name	Common Name
Salicaceae	Willow family
<i>Poplar alba</i>	white poplar
<i>Salix lasiolepis</i>	Arroyo willow
Scrophulariaceae	Figworts
<i>Scrophularia californica</i>	California bee plant
Angiosperms (Monocots)	
Asparagaceae	Asparagus family
<i>Agave americana</i>	agave
<i>Chlorogalum pomeridianum</i>	wavy-leafed soap plant
Asphodelaceae	Aloe family
<i>Aloe maculata</i>	aloe
Cyperaceae	Sedge family
<i>Cyperus eragrostis</i>	tall flatsedge
Iridaceae	Iris family
<i>Iris spp</i>	iris
<i>Sisyrinchium bellum</i>	blue eyed grass
Liliaceae	Lillies
<i>Calochortus albus</i>	white fairy lantern
<i>Dichelostemma capitatum</i>	blue dicks
<i>Fritillaria affinis</i>	checker lily
Melianthaceae	Honey bush family
<i>Melianthus major</i>	Cape honey flower
Poaceae	Grasses
<i>Avena fatua</i>	wild oat
<i>Lolium multiflorum</i>	Italian rye grass
<i>Briza maxima</i>	rattlesnake grass
<i>Bromus carinatus</i>	California brome
<i>Bromus diandrus</i>	ripgut brome
<i>Bromus rubens</i>	red brome
<i>Cynosurus echinatus</i>	hedgehog dogtail
<i>Ehrharta erecta</i>	panic veldt-grass
<i>Elymus glaucus</i>	blue wild rye
<i>Phalaris aquatica</i>	harding grass
Gymnosperms	
Cupressaceae	Cypress family
<i>Cupressus spp.</i>	unknown cypress
<i>Sequoia sempervirens</i>	redwood
Ferns	
Dennstaedtiaceae	Bracken family
<i>Pteridium aquilinum</i>	western brackenfern

Scientific Name	Common Name
Dryopteridaceae	Leptosporangiate ferns
<i>Polystichum munitum</i>	western swordfern
Pteridaceae	Pteridophyte family
<i>Adiantum jordanii</i>	maidenhair fern