Rare Plant Survey Report

AT DUBLIN DEVELOPMENT PROJECT (APNs: 985-52-25, 985-52-24, 985-51-6, 985-51-5)
DUBLIN, ALAMEDA COUNTY, CALIFORNIA

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EXECUTIVE SUMMARY

WRA, Inc. (WRA) conducted floristic-in-nature, protocol-level rare plant surveys within the AT Dublin Development Project (Project Area) on December 7, 2017, and March 19, 2018. Prior to the most recent field survey effort, WRA reviewed the California Native Plant Society (CNPS), the United States Fish and Wildlife Service (USFWS), and the California Natural Diversity Database (CNDDB) lists to determine which species have been documented in the vicinity of the Project Area. Based on the site visits, a review of CNDDB occurrence records, and a comparison of species habitat requirements with Project Area conditions, it was determined that one rare plant species was present and two other rare plants have potential to occur within the Project Area.

Surveys were conducted by trained botanists familiar with the flora of Northern California. The surveys were conducted using meandering transects and were floristic in nature (i.e., all plants observed were identified to the lowest taxonomic rank possible to determine rarity; often to the rank of subspecies or variety). Protocol-level surveys were conducted in December 2017 and March 2018. A total of 87 species were observed by WRA in the Project Area during the 2017 and 2018 surveys, including only one CNPS-ranked species, Congdon's tarplant (*Centromadia parryi* ssp. congdonii, Rank 1B.1). Approximately 371 individuals of Congdon's tarplant were observed in the Project Area. One potentially sensitive biological community, seasonal wetland (0.66 acre), was identified within the Project Area.

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LIST OF PREPARERS

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1.0 INTRODUCTION

WRA, Inc. (WRA) conducted floristic-in-nature, protocol-level rare plant surveys on behalf of Kimley-Horn for the AT Dublin Development Project (project). The approximately 76.9-acre Project Area (APNs: 985-52-25, 985-52-24, 985-51-6, 985-51-5) consists of four vacant lots located between Tassajara Road, Brannigan Street, and Northside Drive in the City of Dublin, Alameda County, California (Figure 1). Surveys were conducted on two dates: December 7, 2017, and March 19, 2018.

In addition, a site constraints assessment was conducted simultaneously with the December 7, 2017, site visit. This site visit, provided an initial assessment of the conditions and resources present at the site and informed the future rare plant survey dates. The results of this survey are presented in a separate report (WRA 2018).

1.1 Project Area Description

1.1.1 Location

The approximate 76.9-acre project site is located in the City of Dublin, Alameda County, north of Interstate 580 and between Tassajara Road and Brannigan Street. The project site is located within the Livermore, California, United States Geological Survey (USGS) 7.5-minute topographic quadrangle in Township 2S, Range 1E, Section 33 (northern portion) and in Township 3S, Range 1E, Section 4 (southern portion).

1.1.2 Existing Setting

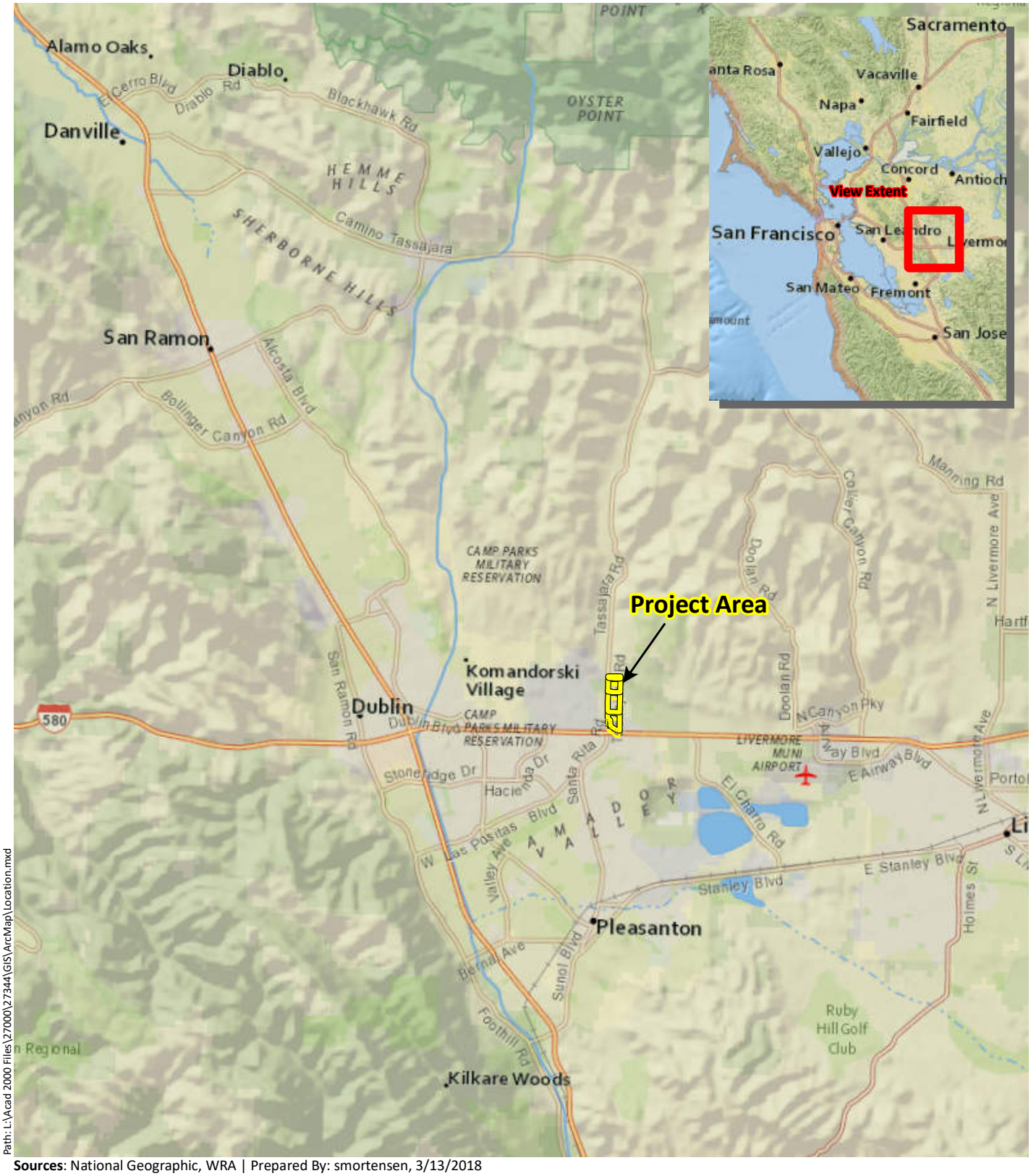
The project site contains vacant land and is generally flat with a slight slope from a higher elevation at the northerly boundary to a slightly lower elevation towards the southerly boundary. At one time, the property was used for agricultural purposes and has since remained vacant (except for temporary seasonal uses) with low lying native and non-native grasses turned periodically for the purposes of weed abatement. A small group of trees and shrubs is located near the corner of Tassajara Road and Central Parkway. No grading for development purposes has occurred to date.

1.1.3 Surrounding Land Uses

The site is surrounded by commercial uses to the southwest and southeast and residential uses to the northwest and northeast. Single family medium density residential uses are located to the north. A broad mix of land uses are located to the east including multi-family residential, general commercial, and a vacant parcel at the southeast corner of Dublin Boulevard and Brannigan Street. Interstate 580 and the City of Pleasanton are located south of the project site. Medium density residential, parks/public recreation, general commercial, and campus office uses are located to the west.

1.1.4 Biological Communities

Two biological communities occur in the Project Area. Biological communities are described in detail below and are shown in Figure 2.



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Sources: National Geographic, WRA | Prepared By: smortensen, 3/13/2018

Figure 1. Project Area Location

AT Dublin Development Project,
Dublin, Alameda County, California

0 1 2 Miles N

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Sources: National Geographic, SSURGO, WRA | Prepared By: smortensen, 3/21/2018

Figure 2. Biological Communities Located within the Project Area

AT Dublin Development Project,
Dublin, Alameda County, California

0 250 500 Feet

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Ruderal

Ruderal habitats include areas that have been heavily altered by humans and may contain built structures, gravel roads, paved areas, or other non-natural surfaces. The Project Area is composed of approximately 76.24 acres ruderal habitat, comprised primarily of disced and mowed vegetation. Ruderal habitat in the Project Area is primarily composed of ruderal herbaceous vegetation, dominated by non-native annual species, such as slim oat (*Avena barbata*), ripgut brome *(Bromus diandrus)*, soft chess (*B. hordeaceus*), and black mustard (*Brassica nigra*). Native species, such as common fiddleneck (*Amsinckia intermedia*) and tarweed fiddleneck (*A. lycopsoides*), are also present. The majority of the Project Area is disced for fuel reduction purposes but small margins of intact ruderal vegetation occur along the margins and areas southwest of Northside Drive.

Seasonal wetland

Seasonal wetlands comprise approximately 0.66 acre of the Project Area and occur as five separate topographic depressions and one flat-to-sloping area, where seasonal inundation and/or saturation occurs during the rainy season. Four of these features have been subjected to varying levels of apparent regular disturbance, including discing and use as a parking area for vehicles. Vegetation within the seasonal wetlands was often sparse, and dominated by a mixture of predominantly non-native grasses and forbs, all of which are adapted to high levels of disturbance. Commonly observed species included Italian ryegrass (*Festuca perennis*), hyssop loosestrife (*Lythrum hyssopifolia*), and curly dock (*Rumex crispus*). Given the highly altered and regularly disturbed nature of the site, as well as the lack of a dominance by or characteristic presence of species associated with vernal pools, wetlands within the Project Area were classified as seasonal wetlands rather than vernal pools.

1.1.5 Soils

The online soil survey of the Project Area (California Soil Resources Lab [CSRL] 2018) indicates that the Project Area contains five native soil mapping units (Figure 3). The soil series for these mapping units are described below.

Clear Lake Series. The Clear Lake series consists of very deep, poorly drained soils located on plains and flat basins, which formed in alluvium derived from sandstone and shale. A representative profile for the series consists of a very dark gray (N 3/0) clay layer 39 inches thick with few faint redoximorphic concentrations in the upper 13 inches. Below this layer to a depth of about 60 inches is a light olive brown (2.5Y 5/4) clay layer with light yellowish brown (10YR 6/4) masses of iron accumulations. This soil is a very hard, firm, and very sticky clay. This soil type is listed as hydric (USDA 2018b), but the two soil mapping units in this series that are present within the Project Area are drained (Clear Lake clay, drained, 3 to 7 percent slopes, and Clear Lake clay, drained, 0 to 2 percent slopes, MLRA 14), and any hydric soil indicators observed within these mapping units may be relict.

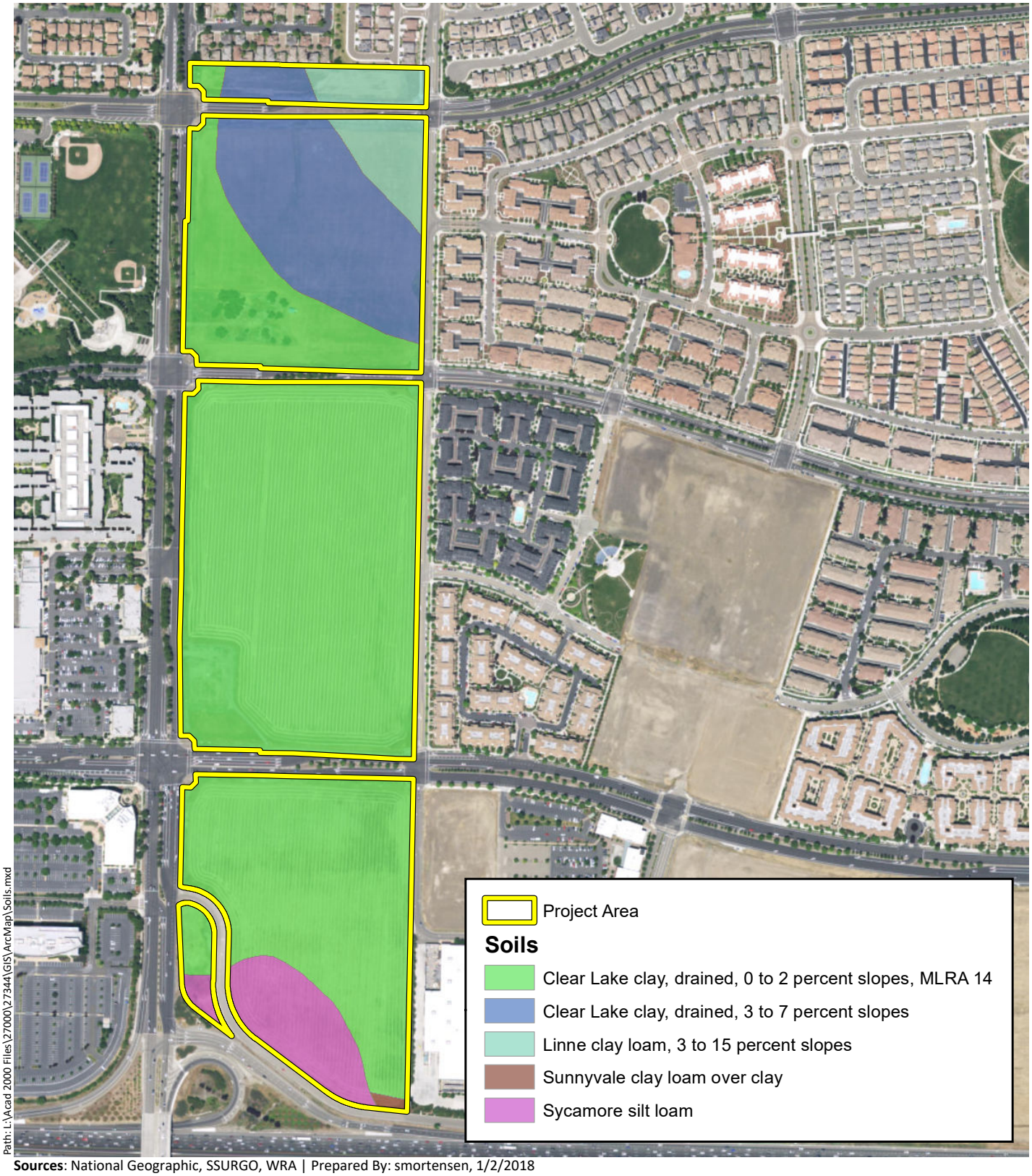
Sycamore Series. The Sycamore series consists of poorly drained soils that formed in alluvium from sedimentary rock on floodplains. Typically, Sycamore soils have grayish brown (2.5Y 5/2), slightly acid, slightly clay loam A horizons, 15 inches thick; grayish brown and light brownish gray (2.5Y 4/4), distinctly mottled, mildly to moderately alkaline, silt loam B horizons that extend to a depth of 27 inches; and stratified light brownish gray and pale brown (10YR 6/3) mottled loam, fine sandy loam and loamy fine sand calcareous C horizons. This soil type is listed as hydric (USDA 2018a).

Linne Series. The Linne series consists of moderately deep, well drained soils on hills with slopes of 5 to 75 percent. They formed in material weathered from fairly soft shale and sandstone and have medium to very rapid runoff and moderately slow permeability. In a typical profile, the surface layer is composed of black (10YR 2/1), moderately alkaline clay loam to 9 inches in depth. This is underlain by black to very dark gray (10YR 3/1), moderately alkaline clay loam to 29 inches. From 29 to 32 inches, the soil is composed of gray and light brownish gray (10YR 5/1 and 6/2), moderately alkaline sandy clay loam. From 32 to 36 inches, the soil is composed of very pale brown and white (10YR 7/2 and 8/2) moderately alkaline fine sandy loam. And from 36 to 51 inches, the soil is comprised of light gray and pale yellow (2.5Y 7/2 and 8/4) moderately alkaline mudstone. This soil type is listed as hydric (USDA 2018a).

Sunnyvale Series. The Sunnyvale series consists of poorly drained, calcareous soils on nearly level valley floors north of Pleasanton. The surface soil is gray, granular, slightly calcareous, heavy clay loam. Sunnyvale soils are often used for irrigated row crops, for pasture, and for dry-farmed grain. A representative profile for the Sunnyvale series consists of an Ap horizon from 0 to 6 inches with dark gray to very dark grey (N4/ - N3/) silty clay. Similar colors are seen in an Alc2 horizon of silty clay from 6 to 14 inches. A Clca horizon extends from 14 to 34 inches, with light grey to dark grey (N7/ - N3/) silty clay. This soil type is listed as hydric (USDA 2018a).

1.2 Survey Information

Protocol-level rare plant surveys should be conducted in a manner that will locate any rare plants species that may be present. The CNPS's guidelines (CNPS 2001) state that surveys should be conducted "at the proper time of year when rare, threatened, or endangered species are both evident and identifiable." Usually, this is when the subject plants are in bloom; however, there are species that are identifiable outside of the blooming period because non-floral structures (e.g., leaves, roots) are sufficient to make a species determination and/or because floral structures (e.g., fruits, buds) are necessary to be in a state of maturity beyond or prior to the documented blooming period. When rare plants are known to occur in the type(s) of habitat present in the project area, nearby accessible occurrences of the plant (reference sites) should be observed to determine that the plants are identifiable at the time of the survey. In addition, the California Department of Fish and Game (CDFG; CDFG 2009) and the USFWS (1996) give detailed instructions pertaining to the adequacy of surveys and results. The following section provides details related to precipitation and other conditions that may affect survey results and includes detailed information about the results of previous surveys conducted in the Project Area.



Sources: National Geographic, SSURGO, WRA | Prepared By: smortensen, 1/2/2018

Figure 3. Soils Located within the Project Area

AT Dublin Development Project,
Dublin, Alameda County, California

0 250 500 Feet

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1.2.1 Precipitation

The Livermore Municipal Airport Station climate station (GHCND:USW00023285; NOAA 2018) has been active since 1903 and is located approximately 5.5 miles east of the Project Area. According to a WETS analysis (USDA 1995) for the Livermore station, the average annual precipitation is 14.64 inches, with the majority (11.98 inches) occurring during the typical wet season from November to March (USDA 2018b).

Rainfall was normal during the 3-month period prior to the December 7, 2017 rare plant survey (normal in September, below normal in October, and normal in November). Rainfall was below normal during the 3-month period prior to the March 19, 2018 survey (below normal in December, normal in January, below normal in February). For a detailed WETS analysis, see Table 1 -- WETS Analysis for 2016-2017 Water Year Prior to the Survey Dates.

Table 1. WETS Analysis for 2017-2018 Water Year Prior to the Survey Dates.

Month	WETS			2017-2018 Water Year		
	Below	Average	Above	Precipitation	Above/Below	Percent of Average
October	0.28	0.82	0.92	0.13	Below	16%
November	0.54	1.75	2.08	1.83	Normal	105%
December	1.02	2.04	2.49	0.03	Below	1%
January	1.41	3.02	3.69	3.26	Normal	108%
February	1.28	2.75	3.34	0.48	Below	17%
March*	1.00	2.44	2.97	2.9	Normal	119%
Total		*14.64*		*8.63*		

*through March 18

1.2.2 Conditions Affecting Results

The California Department of Fish and Wildlife (CDFW) plant survey guidelines (CDFG 2009) state that "adverse conditions may prevent investigators from determining the presence of, or accurately identifying, some species in potential habitat of target species. Disease, drought, predation, or herbivory may preclude the presence or identification of target species in any given year." WRA did not observe any signs of disease or herbivory that would preclude the presence or identification of target species during the December 7, 2017 and March 19, 2018 surveys. Precipitation during the 3-month period preceding the March 19, 2018 survey was below normal (see precipitation data in section 1.2.2), which could potentially have affected the germination and growth of the target species.

The CDFW plant survey guidelines (CDFG 2009) also state that "the failure to locate a known rare plant occurrence during one field season does not constitute evidence that this plant occurrence no longer exists at this location, particularly if adverse conditions are present. For example, surveys over a number of years may be necessary if the species is an annual plant having a persistent, long-lived seed bank and is known not to germinate every year. To further substantiate negative findings for a known occurrence, a visit to a nearby reference site may ensure that the timing of the survey was appropriate." Because Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*) was observed within the Project Area (see Section 3.0 for further detail), a reference site visit was not needed. Two special-status plant species have moderate potential to occur within the Project Area: San Joaquin spearscale (*Extriplex joaquinana*) and saline clover (*Trifolium hydrophilum*). No nearby reference sites for San Joaquin spearscale and saline clover were accessible prior to the March 19 survey. However, one of the surveyors has seen both species in situ, and both surveyors were familiar with photographs of these species.

1.2.3 Surveyor Qualifications

Both individuals who conducted the surveys have formal training in botany, and the survey lead has extensive experience working in Northern California. The December 7, 2017, and March 19, 2018, surveys were conducted by two biologists and were led by a biologist that has. The qualifications of the team leader is summarized below.

Scott Batiuk, BS, Plant Biologist. Scott received a Bachelor of Science degree in Forest Resources from the University of Washington, where his studies focused on forest ecology. He has worked in a wide variety of habitats in California, the Pacific Northwest, Nevada, and Uruguay. His experience includes rare plant surveys, plant community mapping, invasive species management, forest plot mapping, post-fire recovery monitoring, native seed collection, restoration planting, and mitigation land monitoring. Before joining WRA, Scott worked for a variety of non-profit, academic, private, and government organizations including the CNPS. At WRA, Scott's work includes protocol level rare plant monitoring, vernal pool vegetation and hydrology monitoring, vegetation type mapping, and wetland delineation.

2.0 METHODS

2.1 Background Data

Rare plants include: (1) all plants that are federal- or state-listed as rare, threatened or endangered, (2) all federal and state candidates for listing, (3) all plants included in Ranks 1 through 4 of the CNPS Inventory of Rare, Threated, and Endangered Plants of California (Inventory; CNPS 2018a), and (4) plants that qualify under the definition of "rare" in the California Environmental Quality Act (CEQA), section 15380.

A background information search was conducted to identify potential rare plant species that may occur in the Project Area vicinity. A table of these species, which summarizes their protection status, habitat requirements, and likelihood to occur in the Project Area, is provided in Appendix A. Database searches were conducted for known occurrences of rare plant species in the Livermore USGS 7.5-minute quadrangle and in the eight surrounding quadrangles (USGS 2015a-i). Sources included:

- California Natural Diversity Database (CNDDB; CDFW 2018)
- CNPS Inventory (CNPS 2018a)
- USFWS IPAC Report (USFWS 2018)
- Consortium of California Herbaria (CCH 2018)

All rare plant species documented within the vicinity of the Project Area were then assessed based on associated vegetation communities, soil affinity, associated species, topographic position, shade tolerance, disturbance tolerance, elevation, and population distribution to determine the potential for these species to occur in the Project Area (Appendix A).

Locally rare plant species

Rare, Unusual and Significant Plants of Alameda and Contra Costa Counties (web application) (Lake 2018) is a database produced by the East Bay Chapter of the CNPS that lists plant taxa which are considered locally rare, unusual, or significant in Alameda and Contra Costa counties. Species that occur in two or fewer regions in Alameda and Contra Costa counties are ranked

"A1." Species that occur in five or fewer regions in the two counties, or are otherwise threatened, are ranked "A2." Species that are only known from the area historically and are presumed to have been extirpated from the East Bay during the last 100 years are ranked "A1x." A-ranked species receive consideration under sections 15380 and 15125(c) of the CEQA and are considered "locally rare" for the purposes of this report. Any locally rare species observed in the Project Area are discussed in this report. See Table 2 – Description of East Bay CNPS Rare Plant Rankings.

Table 2. Description of East Bay CNPS Rare Plant Rankings

Rank	Description
A1	Locally Rare Species. Species occurring in two or fewer regions in Alameda and Contra Costa counties
A1x	Locally Rare Species. Species presumed extirpated from Alameda and Contra Costa counties
A1?	Locally Rare Species. Species possibly occurring in Alameda and Contra Costa counties. Identification or location is uncertain
A2	Locally Rare Species. Plants occurring in three to five regions or are otherwise threatened in Alameda and Contra Costa counties.
B	High Priority Watch List. Plants occurring in six to nine regions in Alameda and Contra Costa counties.
C	Second Priority Watch List. Plants occurring in ten to fifteen regions in Alameda and Contra Costa counties.

*Ranks preceded by an asterisk (e.g., "*A1") also have a statewide rarity ranking
*Species on the watch lists (ranks B and C) are not considered to be special-status based on CEQA guidelines.

2.2 Field Survey

2.2.1 Rare Plant Surveys

Floristic-in-nature, protocol-level rare plant surveys were conducted on December 7, 2017, and March 19, 2018. The surveys entailed using meandering transects across the entirety of the Project Area, with a disproportionate focus in areas thought to be suitable for rare species and sensitive natural communities. The December 7, 2017 survey was conducted after the peak bloom period of Congdon's tarplant but during a period of time when the species was still identifiable. The March 19, 2018 survey was conducted earlier than the peak bloom period of the target species, but this was done deliberately to ensure that any potential atypical phenological events caused by below normal precipitation were observed.

The surveys followed the protocol for plant surveys described in recommended resource agency guidelines (CNPS 2001, CDFG 2000, CDFG 2009, USFWS 1996). All plants were identified using Jepson eFlora (Jepson Flora Project 2018), to the taxonomic level necessary to determine whether or not they were rare. Nomenclature provided adheres to that of the Jepson Flora Project (2018). Sensitive natural communities were identified using *A Manual of California Vegetation, Online Edition* (CNPS 2018b), the California Fish and Game Code, or other applicable regulations (such as the Clean Water Act). Plant surveys were floristic in nature, as all observed species were recorded, and included a species list (provided in Appendix B). All rare plant populations and sensitive natural communities were mapped using a combination of handheld Global Positioning System equipment with sub-meter accuracy and recent aerial imagery signatures (Google Earth 2018), which were ground-truthed in the field.

3.0 RESULTS

3.1 Background Data Search Results

Based on a review of the resource databases listed in Section 3.2.1, 62 statewide rare plant species have been documented in the vicinity of the Project Area, which was defined to include the Livermore USGS 7.5-minute quadrangle and eight surrounding quadrangles (Appendix B), an area encompassing approximately 335,757 acres and extending up to 33 miles from the Project Area boundary. Of these, nine species have been documented in the CNDDB (CDFW 2018a) as occurring within a 5-mile radius of the Project Area (Figure 4).

One statewide rare plant species, Congdon's tarplant, was observed in the Project Area during the December 7, 2017 site visit. Details pertaining to this observation and a description of this species are provided below. Two other statewide rare plant species have a moderate potential to occur within the Project Area, and are discussed below. In addition, locally rare species observed in the Project Area are also discussed below.

Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*). Rank 1B.1. Present. Congdon's tarplant is an annual herb in the composite family (Asteraceae) that blooms from May to October (November). It typically occurs on alkaline soils, sometimes described as heavy white clay, in valley and foothill grassland habitats ranging from 0 to 755 feet (0 to 230 meters) in elevation (CDFW 2018, CNPS 2018a). Known associated species include hyssop loosestrife, coyote thistle (*Eryngium* sp.), annual beard grass (*Polypogon monspeliensis*), and Bermuda grass (*Cynodon dactylon*) (CDFW 2018).

Congdon's tarplant has a high potential to occur in the Project Area due to the presence of Clear Lake Clay soil located throughout the Project Area and due to a known occurrence of the species within the Project Area. The previous occurrence of this species on the Project Area was recorded in October 1998 (CDFW 2018) and was mapped along the northern and northwestern boundaries of the Project Area (CNDDB occurrence number 42). The 2008 occurrence notes that Congdon's tarplant individuals were observed in grazed, partially disced annual grassland on clay soil.

San Joaquin spearscale (*Extriplex joaquinana*). Rank 1B.2. Moderate Potential. San Joaquin spearscale is an annual herb in the goosefoot family (Chenopodiaceae) that blooms from April to October. It typically occurs in seasonal alkali sink scrub and wetlands in chenopod scrub, alkali meadow, and valley and foothill grassland habitat at elevations ranging from 0 to 2,740 feet in elevation (CDFW 2018a, CNPS 2018b). Known associated species include salt grass (*Distichlis spicata*), alkali heath (*Frankenia salina*), Mediterranean barley (*Hordeum marinum*), Italian rye grass, bird's-foot trefoil (*Lotus corniculatus*), docks (*Rumex crispus, R. pulcher*), tarplants (*Centromadia parryi, C. pungens*), pickleweed (*Salicornia pacifica*), and fat hen (*Atriplex triangularis*) (CDFW 2018a).

San Joaquin spearscale is known from 48 USGS 7.5-minute quadrangles in Alameda, Contra Costa, Colusa, Fresno, Glenn, Merced, Monterey, Napa, San Benito, Santa Clara, San Joaquin, San Luis Obispo, Solano, Tulare, and Yolo Counties (CNPS 2018b). There are 36 CNDDB (CDFW 2018a) records within the greater vicinity of the Project Area and 17 CCH (2018) records from Alameda County. The nearest documented occurrence is from May 2002 and is centered on the Project Area; however, the location is vague and is "mapped by CNDDB as best guess" (CDFW 2018a). The most recent documented occurrence is from August 2012 near Tassajara

Road, approximately 6 miles north of the Project Area (CDFW 2018a). San Joaquin spearscale has a moderate potential to occur in the Project Area due to the presence of mesic areas and alkaline substrate and the fact that this species has been documented near the Project Area in disced conditions (CDFW 2018a).

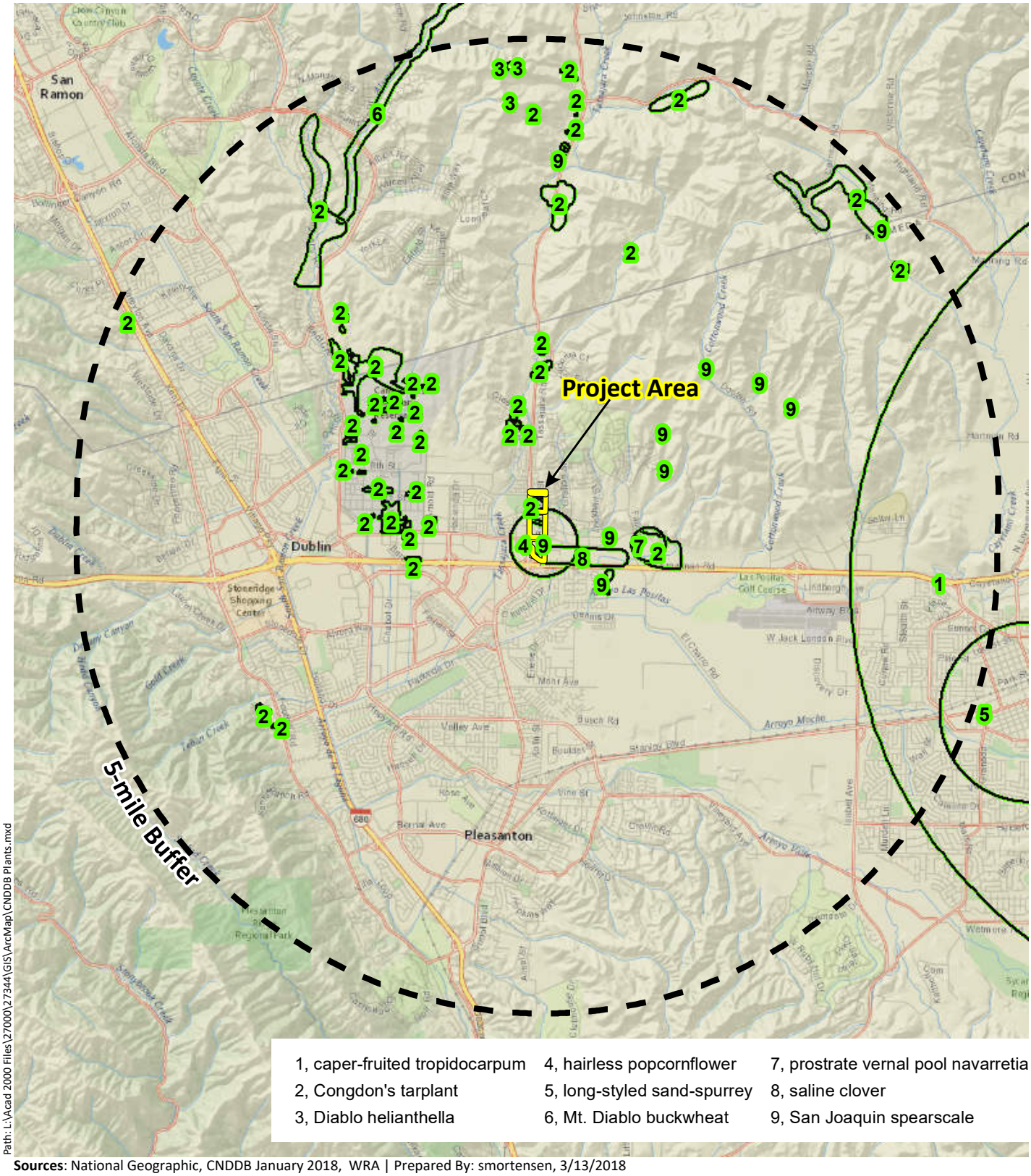
Saline clover (*Trifolium hydrophilum*). Rank 1B.2. Moderate Potential. Saline clover is an annual herb in the pea family (Fabaceae) that blooms from April to June. It typically occurs in mesic, alkali sites in marsh, swamp, valley and foothill grassland, and vernal pool habitat at elevations ranging from 0 to 980 feet (0 to 300 meters) in elevation (CDFW 2018a, CNPS 2018b). Known associated species include semaphore grass (*Pleuropogon californicus*), salt grass, Italian rye grass, brass buttons (*Cotula coronopifolia*), calico flowers (*Downingia* spp.), Congdon's tarplant, hyssop loosestrife, toad rush (*Juncus bufonius*), California oat grass (*Danthonia californica*), purslane speedwell (*Veronica peregrina* ssp. *xalapensis*), meadow barley (*Hordeum brachyantherum*), clovers (*Trifolium microdon*, *T. wormskioldii*, *T. fucatum*), and sand spurry (*Spergularia macrotheca*) (CDFW 2018a).

Saline clover is known from 41 USGS 7.5-minute quadrangles in Alameda, Contra Costa, Colusa, Lake, Monterey, Napa, Sacramento, San Benito, Santa Clara, Santa Cruz, San Joaquin, San Luis Obispo, San Mateo, Solano, Sonoma, and Yolo counties (CNPS 2018b). There are two CNDDB (CDFW 2018a) records in the greater vicinity of the Project Area, and five CCH (2018) records in Alameda County. The nearest known occurrence is from May 2002, approximately 0.5 mile east of the Project Area, which may now be extirpated (CDFW 2018a). The most recent documented occurrence is from April 2006, in the Springtown area, approximately 7.25 miles east of the Project Area. Saline clover has a moderate potential to occur in the Project Area due to the presence of seasonally inundated depressions and alkaline substrate and the fact that this species has been documented near the Project Area in disced conditions (CDFW 2018a).

3.2 Field Survey Results

3.2.1 Rare Plant Species

Eighty-seven plant species were observed within the Project Area during the 2017 and 2018 site visits. One rare plant species was observed in the Project Area: Congdon's tarplant. Approximately 371 individuals of Congdon's tarplant were observed in the Project Area in the large seasonal wetland in the southeastern corner, as well as in scattered locations in mesic, upland areas along the eastern boundary (Figure 5). Observed associated species in the Project Area included hyssop loosestrife, alkali mallow (*Malvella leprosa*), Italian ryegrass, smooth boisduvalia, and annual beardgrass. Photographs of Congdon's tarplant were taken during the December survey and are included in Appendix C. No other statewide rare plant species were observed within the Project Area. However, because the March survey was conducted prior to the peak bloom period of San Joaquin spearscale and saline clover, there is still a moderate potential for these species to occur on-site.



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Sources: National Geographic, CNDDB January 2018, WRA | Prepared By: smortensen, 3/13/2018

Figure 4. Special-Status Plant Species Documented in the CNDDB within 5 Miles of the Project Area

AT Dublin Development Project,
Dublin, Alameda County, California

0 1 2 Miles N

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Path: L:\Acad 2000 Files\27000\27344\GIS\ArcMap\CongdonsTarplant.mxd

Sources: National Geographic, CNDDB January 2018, WRA | Prepared By: smortensen, 3/23/2018

Figure 5. Congdon's Tarplant Locations within the Project Area

AT Dublin Development Project,
Dublin, Alameda County, California

0 250 500 Feet N

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3.2.2 Locally Rare Species

Two locally rare species were observed in the Project Area:

- Congdon's tarplant (*A2)
- Northern California black walnut (*Juglans hindsii*; *A2)

Congdon's tarplant is discussed above. Only native populations of Northern California black walnut are considered specials-status, and the Northern California black walnut individuals within the Project Area are remnant ornamental plantings, and are therefore not considered special-status species.

3.2.3 Sensitive Natural Communities

One sensitive natural community was observed in the Project Area: seasonal wetland. This community is described in section 1.1.2.

Seasonal wetland

Although not described by the CNPS (2018b), seasonal wetlands are potentially jurisdictional by the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act and the California Regional Water Quality Control Board under Section 401 of the Clean Water Act and the Porter-Cologne Water Quality Control Act. A total of 0.66 acre of seasonal wetland occurs in the Project Area.

4.0 SUMMARY

Based on a review of literature and site assessments, one statewide rare plant species (which is also a locally rare species), Congdon's tarplant, is determined to be present in the Project Area. Additionally, the Project Area is potentially suitable for two statewide rare plant species, San Joaquin spearscale and saline clover. Protocol-level surveys were conducted in December 2017 and March 2018. A total of 87 species were observed by WRA in the Project Area during the 2017 and 2018 surveys, including a population of 371 individuals of Congdon's tarplant, a CNPS-ranked 1B.1 rare species. In addition, one sensitive natural community was observed in the Project Area: seasonal wetland.

5.0 REFERENCES

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APPENDIX A.

POTENTIAL FOR RARE PLANT SPECIES TO OCCUR IN THE PROJECT AREA

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Appendix A. Potential for special-status plant species to occur in the Project Area. List compiled from U.S. Fish and Wildlife Service IPaC Trust Report (USFWS 2018), a search of the California Department of Fish and Wildlife Natural Diversity Database (CDFW 2018) and the California Native Plant Society Inventory of Rare and Endangered Plants (CNPS 2018a) for the Dublin USGS 7.5' quadrangle and eight surrounding quadrangles (USGS 2015a-i).

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Plants				
Santa Clara thorn-mint *Acanthomintha lanceolata*	Rank 4.2	Chaparral (often serpentine), cismontane woodland, coastal scrub. Elevation ranges from 260 to 3935 feet (80 to 1200 meters). Blooms Mar-Jun.	**No Potential.** The Project Area does not contain chaparral, cismontane woodland, or coastal scrub habitats or serpentine substrate.	No further actions are recommended for this species.
large-flowered fiddleneck *Amsinckia grandiflora*	FE, SE, Rank 1B.1	Cismontane woodland, valley and foothill grassland. Elevation ranges from 885 to 1805 feet (270 to 550 meters). Blooms (Mar)Apr-May.	**Unlikely.** The highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
bent-flowered fiddleneck *Amsinckia lunaris*	Rank 1B.2	Coastal bluff scrub, cismontane woodland, valley and foothill grassland. Elevation ranges from 5 to 1640 feet (3 to 500 meters). Blooms Mar-Jun.	**Unlikely.** The highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.
California androsace *Androsace elongata ssp. acuta*	Rank 4.2	Chaparral, cismontane woodland, coastal scrub, meadows and seeps, pinyon and juniper woodland, valley and foothill grassland. Elevation ranges from 490 to 4280 feet (150 to 1305 meters). Blooms Mar-Jun.	**Unlikely.** The highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
slender silver moss *Anomobryum julaceum*	Rank 4.2	Broadleafed upland forest, lower montane coniferous forest, north coast coniferous forest. Elevation ranges from 325 to 3280 feet (100 to 1000 meters).	**No Potential.** The Project Area does not contain broadleafed upland forest, lower montane coniferous forest, or North Coast coniferous forest habitats. In addition, the Project Area is highly disturbed as a result of historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use, and this species is not known to occur in such conditions.	No further actions are recommended for this species.
Mt. Diablo manzanita *Arctostaphylos auriculata*	Rank 1B.3	Chaparral (sandstone), cismontane woodland. Elevation ranges from 440 to 2135 feet (135 to 650 meters). Blooms Jan-Mar.	**No Potential.** The Project Area does not contain chaparral or cismontane woodland habitat.	No further actions are recommended for this species.
Contra Costa manzanita *Arctostaphylos manzanita ssp. laevigata*	Rank 1B.2	Chaparral (rocky). Elevation ranges from 1410 to 3610 feet (430 to 1100 meters). Blooms Jan-Mar(Apr).	**No Potential.** The Project Area does not contain chaparral habitat or rocky substrate.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
alkali milk-vetch *Astragalus tener var. tener*	Rank 1B.2	Playas, valley and foothill grassland (adobe clay), vernal pools. Elevation ranges from 0 to 195 feet (1 to 60 meters). Blooms Mar-Jun.	**Unlikely.** The Project Area contains mesic areas and seasonally inundated depressions and alkaline substrate, but the highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.
heartscale *Atriplex cordulata var. cordulata*	Rank 1B.2	Chenopod scrub, meadows and seeps, valley and foothill grassland (sandy). Elevation ranges from 0 to 1835 feet (0 to 560 meters). Blooms Apr-Oct.	**Unlikely.** The Project Area does not contain chenopod scrub or meadows and seeps habitat or sandy substrate.	No further actions are recommended for this species.
crownscale *Atriplex coronata var. coronata*	Rank 4.2	Chenopod scrub, valley and foothill grassland, vernal pools. Elevation ranges from 0 to 1935 feet (1 to 590 meters). Blooms Mar-Oct.	**Unlikely.** The Project Area contains alkaline, clay soils, but the highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
brittlescale *Atriplex depressa*	Rank 1B.2	Chenopod scrub, meadows and seeps, playas, valley and foothill grassland, vernal pools. Elevation ranges from 0 to 1050 feet (1 to 320 meters). Blooms Apr-Oct.	**Unlikely.** The Project Area contains alkaline, clay soils, but the highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.
lesser saltscale *Atriplex minuscula*	Rank 1B.1	Chenopod scrub, playas, valley and foothill grassland. Elevation ranges from 45 to 655 feet (15 to 200 meters). Blooms May-Oct.	**Unlikely.** The Project Area contains alkaline, soils, but the highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions. In addition, this species is known from sandy soils (CDFW 2018), which are not present within the Project Area.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
big-scale balsamroot *Balsamorhiza macrolepis*	Rank 1B.2	Chaparral, cismontane woodland, valley and foothill grassland. Elevation ranges from 145 to 5100 feet (45 to 1555 meters). Blooms Mar-Jun.	**Unlikely.** The highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.
big tarplant *Blepharizonia plumosa*	Rank 1B.1	Valley and foothill grassland. Elevation ranges from 95 to 1655 feet (30 to 505 meters). Blooms Jul-Oct.	**Unlikely.** The highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions. In addition, no individuals or possible remnants of individuals of this species were observed during the December 7, 2017, site visit.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Mt. Diablo fairy-lantern *Calochortus pulchellus*	Rank 1B.2	Chaparral, cismontane woodland, riparian woodland, valley and foothill grassland. Elevation ranges from 95 to 2755 feet (30 to 840 meters). Blooms Apr-Jun.	**Unlikely.** The highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.
Oakland star-tulip *Calochortus umbellatus*	Rank 4.2	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland. Elevation ranges from 325 to 2295 feet (100 to 700 meters). Blooms Mar-May.	**Unlikely.** The highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.
chaparral harebell *Campanula exigua*	Rank 1B.2	Chaparral (rocky, usually serpentine). Elevation ranges from 900 to 4100 feet (275 to 1250 meters). Blooms May-Jun.	**No Potential.** The Project Area does not contain chaparral habitat or rocky or serpentine substrate.	No further actions are recommended for this species.
Congdon's tarplant *Centromadia parryi ssp. congdonii*	Rank 1B.1	Valley and foothill grassland (alkaline). Elevation ranges from 0 to 755 feet (0 to 230 meters). Blooms May-Oct(Nov).	**Present.** This species was observed in seasonal wetland and mesic ruderal areas near the eastern boundary of the Project Area.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
hispid bird's-beak *Chloropyron molle ssp. hispidum*	Rank 1B.1	Meadows and seeps, playas, valley and foothill grassland. Elevation ranges from 0 to 510 feet (1 to 155 meters). Blooms Jun-Sep.	**Unlikely.** The Project Area contains mesic alkaline soils, but the highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.
palmate-bracted bird's-beak *Chloropyron palmatum*	FE, SE, Rank 1B.1	Chenopod scrub, valley and foothill grassland. Elevation ranges from 15 to 510 feet (5 to 155 meters). Blooms May-Oct.	**Unlikely**. The Project Area does not contain chenopod scrub. The highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions. In addition, this species usually occurs on Pescadero silty clay (CDFW 2018), which is not mapped within the Project Area.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Santa Clara red ribbons *Clarkia concinna ssp. automixa*	Rank 4.3	Chaparral, cismontane woodland. Elevation ranges from 295 to 4920 feet (90 to 1500 meters). Blooms (Apr)May-Jun(Jul).	**No Potential.** The Project Area does not contain chaparral or cismontane woodland habitat.	No further actions are recommended for this species.
small-flowered morning-glory *Convolvulus simulans*	Rank 4.2	Chaparral (openings), coastal scrub, valley and foothill grassland. Elevation ranges from 95 to 2430 feet (30 to 740 meters). Blooms Mar-Jul.	**Unlikely.** The Project Area does not contain chaparral or coastal scrub habitats. The highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions. In addition, this species is sometimes known from serpentine substrate (CDFW 2018), which is not present within the Project Area.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Livermore tarplant *Deinandra bacigalupii*	SE, Rank 1B.1	Meadows and seeps (alkaline). Elevation ranges from 490 to 605 feet (150 to 185 meters). Blooms Jun-Oct.	**Unlikely.** The Project Area does not contain meadow and seep habitat, and the highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions. In addition, no individuals or possible remnants of individuals of this species were observed during the December 2017 site visit.	No further actions are recommended for this species.
Hospital Canyon larkspur *Delphinium californicum ssp. interius*	Rank 1B.2	Chaparral (openings), cismontane woodland (mesic), coastal scrub. Elevation ranges from 635 to 3595 feet (195 to 1095 meters). Blooms Apr-Jun.	**No Potential.** The Project Area does not contain chaparral, cismontane woodland, or coastal scrub habitat.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
recurved larkspur *Delphinium recurvatum*	Rank 1B.2	Chenopod scrub, cismontane woodland, valley and foothill grassland. Elevation ranges from 5 to 2590 feet (3 to 790 meters). Blooms Mar-Jun.	**Unlikely.** The Project Area does not contain chenopod scrub or cismontance woodland habitats. The highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.
western leatherwood *Dirca occidentalis*	Rank 1B.2	Broadleafed upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, north coast coniferous forest, riparian forest, riparian woodland. Elevation ranges from 80 to 1395 feet (25 to 425 meters). Blooms Jan-Mar(Apr).	**No Potential.** The Project Area does not contain broadleafed upland forest, closed-cone coniferous forest, chaparral, cimsontane woodland, North Coast coniferous forest, or riparian habitat.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Mt. Diablo buckwheat *Eriogonum truncatum*	Rank 1B.1	Chaparral, coastal scrub, valley and foothill grassland. Elevation ranges from 5 to 1150 feet (3 to 350 meters). Blooms Apr-Sep(Nov-Dec).	**Unlikely.** The Project Area does not contain chaparral or coastal scrub habitats. The highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.
Jepson's woolly sunflower *Eriophyllum jepsonii*	Rank 4.3	Chaparral, cismontane woodland, coastal scrub. Elevation ranges from 655 to 3365 feet (200 to 1025 meters). Blooms Apr-Jun.	**No Potential.** The Project Area does not contain chaparral, cismontane woodland, or coastal scrub habitat.	No further actions are recommended for this species.
Jepson's coyote thistle *Eryngium jepsonii*	Rank 1B.2	Valley and foothill grassland, vernal pools. Elevation ranges from 5 to 985 feet (3 to 300 meters). Blooms Apr-Aug.	**Unlikely.** The Proejct Area contains seasonally inundated habitat, but the highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
spiny-sepaled button-celery *Eryngium spinosepalum*	Rank 1B.2	Valley and foothill grassland, vernal pools. Elevation ranges from 260 to 3200 feet (80 to 975 meters). Blooms Apr-Jun.	**Unlikely.** The Proejct Area contains seasonally inundated habitat, but the highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.
diamond-petaled California poppy *Eschscholzia rhombipetala*	Rank 1B.1	Valley and foothill grassland (alkaline, clay). Elevation ranges from 0 to 3200 feet (0 to 975 meters). Blooms Mar-Apr.	**Unlikely.** The Project Area contains alkaline clay substrate, but the highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.
San Joaquin spearscale *Extriplex joaquinana*	Rank 1B.2	Chenopod scrub, meadows and seeps, playas, valley and foothill grassland. Elevation ranges from 0 to 2740 feet (1 to 835 meters). Blooms Apr-Oct.	**Moderate.** The Project Area contains potentially suitable mesic, alkaline habitat, and this species has been documented in disced conditions in the vicinity of the Project Area.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
stinkbells *Fritillaria agrestis*	Rank 4.2	Chaparral, cismontane woodland, pinyon and juniper woodland, valley and foothill grassland. Elevation ranges from 30 to 5100 feet (10 to 1555 meters). Blooms Mar-Jun.	**Unlikely.** The Project Area does not contain chaparral, cismontane woodland, or pinyon and juniper woodland habitats. The highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions. In addition, this species is sometimes found on serpentine substrate (CDFW 2018), which is not present within the Project Area.	No further actions are recommended for this species.
fragrant fritillary *Fritillaria liliacea*	Rank 1B.2	Cismontane woodland, coastal prairie, coastal scrub, valley and foothill grassland. Elevation ranges from 5 to 1345 feet (3 to 410 meters). Blooms Feb-Apr.	**Unlikely.** The highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Diablo helianthella *Helianthella castanea*	Rank 1B.2	Broadleafed upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland. Elevation ranges from 195 to 4265 feet (60 to 1300 meters). Blooms Mar-Jun.	**Unlikely.** The highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.
hogwallow starfish *Hesperevax caulescens*	Rank 4.2	Valley and foothill grassland (mesic, clay), vernal pools (shallow). Elevation ranges from 0 to 1655 feet (0 to 505 meters). Blooms Mar-Jun.	**Unlikely.** The Project Area contains mesic habitat and clay substrate, but the highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Brewer's western flax *Hesperolinon breweri*	Rank 1B.2	Chaparral, cismontane woodland, valley and foothill grassland. Elevation ranges from 95 to 3100 feet (30 to 945 meters). Blooms May-Jul.	**Unlikely.** The highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions. In addition, the Project Area does not contain serpentine substrate.	No further actions are recommended for this species.
Contra Costa goldfields *Lasthenia conjugens*	FE, Rank 1B.1	Cismontane woodland, playas (alkaline), valley and foothill grassland, vernal pools. Elevation ranges from 0 to 1540 feet (0 to 470 meters). Blooms Mar-Jun.	**Unlikely.** The Project Area contains alkaline, mesic and seasonally inundated depressions, but the highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
legenere *Legenere limosa*	Rank 1B.1	Vernal pools. Elevation ranges from 0 to 2885 feet (1 to 880 meters). Blooms Apr-Jun.	**Unlikely.** The Project Area contains seasonally inundated depressions, but the highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.
bristly leptosiphon *Leptosiphon acicularis*	Rank 4.2	Chaparral, cismontane woodland, coastal prairie, valley and foothill grassland. Elevation ranges from 180 to 4920 feet (55 to 1500 meters). Blooms Apr-Jul.	**Unlikely.** The highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions. In addition, the Project Area does not contain serpentine substrate.	No further actions are recommended for this species.
serpentine leptosiphon *Leptosiphon ambiguus*	Rank 4.2	Cismontane woodland, coastal scrub, valley and foothill grassland. Elevation ranges from 390 to 3705 feet (120 to 1130 meters). Blooms Mar-Jun.	**No Potential.** This species is known from serpentine substrate (CDFW 2018), which is not present in the Project Areaa.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Mt. Hamilton coreopsis *Leptosyne hamiltonii*	Rank 1B.2	Cismontane woodland (rocky). Elevation ranges from 1800 to 4265 feet (550 to 1300 meters). Blooms Mar-May.	**No Potential.** The Project Area does not contain cismontane woodland habitat or rocky substrate.	No further actions are recommended for this species.
Hall's bush-mallow *Malacothamnus hallii*	Rank 1B.2	Chaparral, coastal scrub. Elevation ranges from 30 to 2495 feet (10 to 760 meters). Blooms (Apr)May-Sep(Oct).	**No Potential.** The Project Area does not contain chaparral or coastal scrub habitat.	No further actions are recommended for this species.
San Antonio Hills monardella *Monardella antonina ssp. antonina*	Rank 3	Chaparral, cismontane woodland. Elevation ranges from 1045 to 3280 feet (320 to 1000 meters). Blooms Jun-Aug.	**No Potential.** The Project Area does not contain chaparral or cismontane woodland habitat.	No further actions are recommended for this species.
woodland woolythreads *Monolopia gracilens*	Rank 1B.2	Broadleafed upland forest (openings), chaparral (openings), cismontane woodland, north coast coniferous forest (openings), valley and foothill grassland. Elevation ranges from 325 to 3935 feet (100 to 1200 meters). Blooms (Feb)Mar-Jul.	**Unlikely.** The highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions. In addition, ths species is known from sandy to rocky and sometimes on serpentine substrate, which are not present in the Project Area.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
little mousetail *Myosurus minimus ssp. apus*	Rank 3.1	Valley and foothill grassland, vernal pools (alkaline). Elevation ranges from 65 to 2100 feet (20 to 640 meters). Blooms Mar-Jun.	**Unlikely.** The Project Area contains mesic, alkaline soils, but the highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.
adobe navarretia *Navarretia nigelliformis ssp. nigelliformis*	Rank 4.2	Valley and foothill grassland vernally mesic, vernal pools sometimes. Elevation ranges from 325 to 3280 feet (100 to 1000 meters). Blooms Apr-Jun.	**Unlikely.** The Project Area contains mesic, clay soils, but the highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions. In addition, this species is sometimes known from serpentine substrate, which is not present within the Project Area.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
shining navarretia *Navarretia nigelliformis ssp. radians*	Rank 1B.2	Cismontane woodland, valley and foothill grassland, vernal pools. Elevation ranges from 210 to 3280 feet (65 to 1000 meters). Blooms (Mar)Apr-Jul.	**Unlikely.** The Project Area contains mesic, clay soils, but the highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.
prostrate vernal pool navarretia *Navarretia prostrata*	Rank 1B.1	Coastal scrub, meadows and seeps, valley and foothill grassland (alkaline), vernal pools. Elevation ranges from 5 to 3970 feet (3 to 1210 meters). Blooms Apr-Jul.	**Unlikely.** The Project Area contains mesic and seasonally inundated depressions and alkaline substrate, but the highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.
Mt. Diablo phacelia *Phacelia phacelioides*	Rank 1B.2	Chaparral, cismontane woodland. Elevation ranges from 1640 to 4495 feet (500 to 1370 meters). Blooms Apr-May.	**No Potential.** The Project Area does not contain chaparral or cismontane woodland habitat.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
hairless popcornflower *Plagiobothrys glaber*	Rank 1A	Meadows and seeps (alkaline), marshes and swamps (coastal salt). Elevation ranges from 45 to 590 feet (15 to 180 meters). Blooms Mar-May.	**Unlikely.** The Project Area does not contain marsh or swamp habitats. Mesic, alkaline substrate is present, but the highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.
Oregon polemonium *Polemonium carneum*	Rank 2B.2	Coastal prairie, coastal scrub, lower montane coniferous forest. Elevation ranges from 0 to 6005 feet (0 to 1830 meters). Blooms Apr-Sep.	**No Potential.** The Project Area does not contain coastal prairie, coastal scrub, or lower montane coniferous forest.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
California alkali grass *Puccinellia simplex*	Rank 1B.2	Chenopod scrub, meadows and seeps, valley and foothill grassland, vernal pools. Elevation ranges from 5 to 3050 feet (2 to 930 meters). Blooms Mar-May.	**Unlikely.** The Project Area contains mesic areas and seasonally inundated depressions, but the highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.
rock sanicle *Sanicula saxatilis*	SR, Rank 1B.2	Broadleafed upland forest, chaparral, valley and foothill grassland. Elevation ranges from 2030 to 3855 feet (620 to 1175 meters). Blooms Apr-May.	**No Potential.** This species is known from bedrock outcrops and talus slopes (CDFW 2018), which are not present in the Project Area.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
chaparral ragwort *Senecio aphanactis*	Rank 2B.2	Chaparral, cismontane woodland, coastal scrub. Elevation ranges from 45 to 2625 feet (15 to 800 meters). Blooms Jan-Apr(May).	**Unlikely.** The Project Area does not contain chaparral, cismontane woodland, or coastal scrub habitats. This species is known from "drying, alkaline flats" (CDFW 2018), and while the Project Area contains mesic areas and seasonally inundated depressions and alkaline substrate, the highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.
most beautiful jewelflower *Streptanthus albidus ssp. peramoenus*	Rank 1B.2	Chaparral, cismontane woodland, valley and foothill grassland. Elevation ranges from 310 to 3280 feet (95 to 1000 meters). Blooms (Mar)Apr-Sep(Oct).	**No Potential.** This species is known from serpentine substrate (CDFW 2018), which is not present in the Project Area.	No further actions are recommended for this species.
Mt. Diablo jewelflower *Streptanthus hispidus*	Rank 1B.3	Chaparral, valley and foothill grassland. Elevation ranges from 1195 to 3935 feet (365 to 1200 meters). Blooms Mar-Jun.	**No Potential.** This species is known from talus or rocky outcrops (CDFW 2018), which are not present in the Project Area.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
slender-leaved pondweed *Stuckenia filiformis ssp. alpina*	Rank 2B.2	Marshes and swamps (assorted shallow freshwater). Elevation ranges from 980 to 7055 feet (300 to 2150 meters). Blooms May-Jul.	**No Potential.** The Project Area does not conain marsh or swamp habitat.	No further actions are recommended for this species.
saline clover *Trifolium hydrophilum*	Rank 1B.2	Marshes and swamps, valley and foothill grassland (mesic, alkaline), vernal pools. Elevation ranges from 0 to 985 feet (0 to 300 meters). Blooms Apr-Jun.	**Moderate Potential.** The Project Area contains potentially suitable mesic areas and sesonally inundated depressions and alkaline substrate, and this species has been observed in the disced conditions in the vicinity of the Project Area.	No further actions are recommended for this species.
coastal triquetrella *Triquetrella californica*	Rank 1B.2	Coastal bluff scrub, coastal scrub. Elevation ranges from 30 to 330 feet (10 to 100 meters).	**No Potentia**l. The Project Area does not contain coastal blufff scrub or coastal scrub habitat.	No further actions are recommended for this species.
caper-fruited tropidocarpum *Tropidocarpum capparideum*	Rank 1B.1	Valley and foothill grassland (alkaline hills). Elevation ranges from 0 to 1495 feet (1 to 455 meters). Blooms Mar-Apr.	**Unlikely.** Although alkaline clay substrate is present, the highly disturbed nature of the Project Area resulting from historic agriculture and landscaping and modern discing, construction equipment storage, and Christmas tree lot use provides poor-quality habitat, and this species is not known to occur in such conditions.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
oval-leaved viburnum *Viburnum ellipticum*	Rank 2B.3	Chaparral, cismontane woodland, lower montane coniferous forest. Elevation ranges from 705 to 4595 feet (215 to 1400 meters). Blooms May-Jun.	**No Potential.** The Project Area does not contain chaparral, cismontane woodland, or lower montane coniferous forest habitat.	No further actions are recommended for this species.

*** Key to status codes:**

FE	Federal Endangered
SE	State Endangered
SR	State Rare
Rank 1A	California Native Plant Society Rank 1A: Plants presumed extirpated in California and rare or extinct elsewhere
Rank 1B.1	California Native Plant Society Rank 1B.1: Plants rare, threatened or endangered in California and elsewhere (seriously threatened in California)
Rank 1B.2	California Native Plant Society Rank 1B.2: Plants rare, threatened, or endangered in California and elsewhere (moderately threatened in California)
Rank 2B.2	California Native Plant Society Rank 2B.2: Plants rare, threatened, or endangered in California, but more common elsewhere (moderately threatened in California)
Rank 3	California Native Plant Society Rank 3: Plants about which more information is needed (a review list).
Rank 4.3	California Rare Plant Rank 4.3: Plants of Limited Distribution - A Watch List (not very threatened in California)

****Potential species occurrence definitions:**

Present. Species was observed on the site during site visits or has been recorded (i.e. CNDDB, other reports) on the site recently.

High Potential. All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.

Moderate Potential. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.

Unlikely. Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species has a low probability of being found on the site.

No Potential. Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).

APPENDIX B

LIST OF PLANT SPECIES OBSERVED IN THE PROJECT AREA

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Appendix B. List of Plant Species Observed in the Project Area on December 7, 2017 and February 22 and March 19, 2018.

Family	Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL-IPC Status[2]	Wetland Status[3]	East Bay Rare and Unusual[4]
Anacardiaceae	*Pistacia chinensis*	Chinese pistache	non-native	tree	-	-	-	-
Apiaceae	*Foeniculum vulgare*	Fennel	non-native (invasive)	perennial herb	-	High	-	-
Apiaceae	*Torilis arvensis*	Field hedge parsley	non-native (invasive)	annual herb	-	Moderate	-	-
Arecaceae	*Washingtonia robusta*	Washington fan palm	non-native (invasive)	tree	-	Moderate	FACW	-
Asteraceae	*Baccharis pilularis* ssp. *consanguinea*	Coyote brush	native	shrub	-	-	-	-
Asteraceae	*Carduus pycnocephalus* ssp. *pycnocephalus*	Italian thistle	non-native (invasive)	annual herb	-	Moderate	-	-
Asteraceae	*Centaurea solstitialis*	Yellow starthistle	non-native (invasive)	annual herb	-	High	-	-
Asteraceae	*Centromadia parryi* ssp. *congdonii*	Congdon's tarplant	native	annual herb	Rank 1B.1	-	FACW	*A2
Asteraceae	*Cirsium vulgare*	Bullthistle	non-native (invasive)	perennial herb	-	Moderate	FACU	-

Family	Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL-IPC Status[2]	Wetland Status[3]	East Bay Rare and Unusual[4]
Asteraceae	*Dittrichia graveolens*	Stinkwort	non-native (invasive)	annual herb	-	Moderate	-	-
Asteraceae	*Erigeron bonariensis*	Flax-leaved horseweed	non-native	annual herb	-	-	FACU	-
Asteraceae	*Erigeron canadensis*	Canada horseweed	native	annual herb	-	-	FACU	-
Asteraceae	*Helminthotheca echioides*	Bristly ox-tongue	non-native (invasive)	annual, perennial herb	-	Limited	FAC	-
Asteraceae	*Lactuca serriola*	Prickly lettuce	non-native	annual herb	-	-	FACU	-
Asteraceae	*Psilocarphus oregonus*	Woolly marbles	native	annual herb	-	-	OBL	B
Asteraceae	*Senecio vulgaris*	Common groundsel	non-native	annual herb	-	-	FACU	-
Asteraceae	*Silybum marianum*	Milk thistle	non-native (invasive)	annual, perennial herb	-	Limited	-	-
Asteraceae	*Soliva sessilis*	South american soliva	non-native	annual herb	-	-	FACU	-
Asteraceae	*Sonchus asper* ssp. *asper*	Sow thistle	non-native	annual herb	-	-	FAC	-

Family	Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL-IPC Status[2]	Wetland Status[3]	East Bay Rare and Unusual[4]
Asteraceae	*Sonchus oleraceus*	Sow thistle	non-native	annual herb	-	-	UPL	-
Asteraceae	*Tragopogon porrifolius*	Salsify	non-native	perennial herb	-	-	-	-
Boraginaceae	*Amsinckia intermedia*	Common fiddleneck	native	annual herb	-	-	-	-
Boraginaceae	*Amsinckia lycopsoides*	Tarweed fiddleneck	native	annual herb	-	-	-	B
Boraginaceae	*Plagiobothrys stipitatus* var. *micranthus*	Common stipitate popcornflower	native	annual herb	-	-	FACW	-
Boraginaceae	*Plagiobothrys stipitatus* var. *stipitatus*	Stipitate popcornflower	native	annual herb	-	-	FACW	C
Brassicaceae	*Brassica nigra*	Black mustard	non-native (invasive)	annual herb	-	Moderate	-	-
Brassicaceae	*Capsella bursa-pastoris*	Shepherd's purse	non-native	annual herb	-	-	FACU	-
Brassicaceae	*Hirschfeldia incana*	Short-podded mustard	non-native (invasive)	perennial herb	-	Moderate	-	-
Brassicaceae	*Lepidium nitidum*	Shining pepper grass	native	annual herb	-	-	FAC	-

Family	Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL-IPC Status[2]	Wetland Status[3]	East Bay Rare and Unusual[4]
Brassicaceae	*Raphanus sativus*	Radish	non-native (invasive)	annual, biennial herb	-	Limited	-	-
Chenopodiaceae	*Salsola australis*	Russian thistle	non-native	annual herb	-	-	-	-
Convolvulaceae	*Convolvulus arvensis*	Field bindweed	non-native	perennial herb, vine	-	-	-	-
Convolvulaceae	*Cressa truxillensis*	Alkali weed	native	perennial herb	-	-	FACW	-
Cyperaceae	*Cyperus eragrostis*	Tall cyperus	native	perennial grasslike herb	-	-	FACW	-
Euphorbiaceae	*Croton setiger*	Turkey-mullein	native	perennial herb	-	-	-	-
Euphorbiaceae	*Euphorbia* sp.	Spurge	non-native	annual herb	-	-	-	-
Fabaceae	*Acacia melanoxylon*	Blackwood acacia	non-native (invasive)	tree	-	Limited	-	-
Fabaceae	*Lupinus bicolor*	Lupine	native	annual, perennial herb	-	-	-	-

Family	Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL-IPC Status[2]	Wetland Status[3]	East Bay Rare and Unusual[4]
Fabaceae	*Medicago polymorpha*	California burclover	non-native (invasive)	annual herb	-	Limited	FACU	-
Fabaceae	*Trifolium hirtum*	Rose clover	non-native (invasive)	annual herb	-	Limited	-	-
Fabaceae	*Vicia sativa*	Spring vetch	non-native	annual herb, vine	-	-	FACU	-
Fagaceae	*Quercus agrifolia* var. *agrifolia*	Coast live oak	native	tree	-	-	-	-
Frankeniaceae	*Frankenia salina*	Alkali heath	native	perennial herb	-	-	FACW	-
Geraniaceae	*Erodium botrys*	Big heron bill	non-native	annual herb	-	-	FACU	-
Geraniaceae	*Erodium cicutarium*	Coastal heron's bill	non-native (invasive)	annual herb	-	Limited	-	-
Geraniaceae	*Erodium moschatum*	Whitestem filaree	non-native	annual herb	-	-	-	-
Geraniaceae	*Geranium dissectum*	Wild geranium	non-native (invasive)	annual herb	-	Limited	-	-

Family	Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL-IPC Status[2]	Wetland Status[3]	East Bay Rare and Unusual[4]
Geraniaceae	*Geranium molle*	Crane's bill geranium	non-native	annual, perennial herb	-	-	-	-
Juglandaceae	*Juglans hindsii*	Northern california black walnut	native	tree	Rank 1B.1	-	FAC	*A2
Lamiaceae	*Lamium amplexicaule*	Henbit	non-native	annual herb	-	-	-	-
Lythraceae	*Lythrum hyssopifolia*	Hyssop loosestrife	non-native (invasive)	annual, perennial herb	-	Limited	OBL	-
Lythraceae	*Punica granatum*	Pomegranate	non-native	shrub	-	-	-	-
Malvaceae	*Malvella leprosa*	Alkali mallow	native	perennial herb	-	-	FACU	-
Montiaceae	*Calandrinia menziesii*	Red maids	native	annual herb	-	-	FACU	-
Moraceae	*Ficus carica*	Common fig	non-native (invasive)	tree	-	Moderate	FACU	-
Myrsinaceae	*Lysimachia arvensis*	Scarlet pimpernel	non-native	annual herb	-	-	FAC	-
Oleaceae	*Ligustrum* sp.	Privet	non-native	tree, shrub	-	-	-	-

Family	Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL-IPC Status[2]	Wetland Status[3]	East Bay Rare and Unusual[4]
Oleaceae	*Olea europaea*	Olive	non-native (invasive)	tree, shrub	-	Limited	-	-
Onagraceae	*Epilobium brachycarpum*	Willow herb	native	annual herb	-	-	-	-
Onagraceae	*Epilobium campestre*	Smooth boisduvalia	native	annual herb	-	-	OBL	B
Onagraceae	*Epilobium ciliatum*	Slender willow herb	native	perennial herb	-	-	FACW	-
Onagraceae	*Oenothera cf. elata*	Evening-primrose	native	perennial herb	-	-	FACW	-
Oxalidaceae	*Oxalis pes-caprae*	Bermuda buttercup	non-native (invasive)	perennial herb	-	Moderate	-	-
Plantaginaceae	*Kickxia spuria*	Fluellin	non-native	perennial herb	-	-	-	-
Plantaginaceae	*Plantago lanceolata*	Ribwort	non-native (invasive)	perennial herb	-	Limited	FAC	-
Plantaginaceae	*Veronica persica*	Bird's eye speedwell	non-native	annual herb	-	-	-	-
Poaceae	*Avena barbata*	Slim oat	non-native (invasive)	annual, perennial grass	-	Moderate	-	-

Family	Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL-IPC Status[2]	Wetland Status[3]	East Bay Rare and Unusual[4]
Poaceae	*Bromus diandrus*	Ripgut brome	non-native (invasive)	annual grass	-	Moderate	-	-
Poaceae	*Bromus hordeaceus*	Soft chess	non-native (invasive)	annual grass	-	Limited	FACU	-
Poaceae	*Cynodon dactylon*	Bermuda grass	non-native (invasive)	perennial grass	-	Moderate	FACU	-
Poaceae	*Elymus glaucus*	Blue wildrye	native	perennial grass	-	-	FACU	-
Poaceae	*Elymus triticoides*	Beardless wild rye	native	perennial grass	-	-	FAC	-
Poaceae	*Festuca bromoides*	Brome fescue	non-native	annual grass	-	-	FACU	-
Poaceae	*Festuca myuros*	Rattail sixweeks grass	non-native (invasive)	annual grass	-	Moderate	FACU	-
Poaceae	*Festuca perennis*	Italian rye grass	non-native (invasive)	annual, perennial grass	-	Moderate	FAC	-
Poaceae	*Hordeum marinum* ssp. *gussoneanum*	Barley	non-native (invasive)	annual grass	-	Moderate	FAC	-
Poaceae	*Hordeum murinum*	Foxtail barley	non-native (invasive)	annual grass	-	Moderate	FACU	-

Family	Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL-IPC Status[2]	Wetland Status[3]	East Bay Rare and Unusual[4]
Poaceae	*Phalaris aquatica*	Harding grass	non-native (invasive)	perennial grass	-	Moderate	FACU	-
Poaceae	*Poa annua*	Annual blue grass	non-native	annual grass	-	-	FAC	-
Poaceae	*Polypogon monspeliensis*	Annual beard grass	non-native (invasive)	annual grass	-	Limited	FACW	-
Polygonaceae	*Polygonum aviculare*	Prostrate knotweed	non-native	annual, perennial herb	-	-	FAC	-
Rosaceae	*Cotoneaster* sp.	Cotoneaster	non-native	shrub	-	-	-	-
Rosaceae	*Prunus cerasifera*	Cherry plum	non-native (invasive)	tree	-	Limited	-	-
Rosaceae	*Prunus dulcis*	Almond	non-native	tree	-	-	-	-
Tamaricaceae	*Tamarix cf. ramosissima*	Tamarisk	non-native	tree, shrub	-	High	FAC	-
Ulmaceae	*Ulmus* sp.	-	-	-	-	-	-	-
Vitaceae	*Vitis vinifera*	Cultivated grape	non-native	vine, shrub	-	-	-	-

- All species identified using the *Jepson eFlora* [Jepson Flora Project (eds.) 2018]; nomenclature follows *Jepson eFlora* [Jepson Flora Project (eds.) 2018]

*Special-status only at native occurrences. The Project Area does not contain a native occurrence of this species.

[1]Rarity Status: The CNPS Inventory of Rare and Endangered Plants (CNPS 2018a)

FE: Federal Endangered
FT: Federal Threatened
SE: State Endangered
ST: State Threatened
SR: State Rare
Rank 1A: Plants presumed extinct in California
Rank 1B: Plants rare, threatened, or endangered in California and elsewhere
Rank 2: Plants rare, threatened, or endangered in California, but more common elsewhere
Rank 3: Plants about which we need more information – a review list
Rank 4: Plants of limited distribution – a watch list

[2]Invasive Status: California Invasive Plant Inventory (Cal-IPC 2018)

High: Severe ecological impacts; high rates of dispersal and establishment; most are widely distributed ecologically.
Moderate: Substantial and apparent ecological impacts; moderate-high rates of dispersal, establishment dependent on disturbance; limited-moderate distribution ecologically
Limited: Minor or not well documented ecological impacts; low-moderate rate of invasiveness; limited distribution ecologically
Assessed: Assessed by Cal-IPC and determined to not be an existing current threat

[3]Wetland Status: National List of Plant Species that Occur in Wetlands, California – Arid West (Lichvar et al. 2016)

OBL: Almost always found in wetlands; >99% frequency
FACW: Usually found in wetlands; 67-99% frequency
FAC: Equally found in wetlands and uplands; 34-66% frequency
FACU: Usually not found in wetlands; 1-33% frequency
UPL: Almost never found in wetlands; >1% frequency
NL: Not listed, assumed almost never found in wetlands; >1% frequency
NI: No information; not factored during wetland delineation

[4]East Bay Rare and Unusual: Rare, Unusual, and Significant Plants of Alameda and Contra Costa Counties (web application) (Lake 2018)

A1: Locally Rare Species. Species occurring in two or fewer regions in Alameda and Contra Costa counties
A1x: Locally Rare Species. Species presumed extirpated from Alameda and Contra Costa counties
A1?: Locally Rare Species. Species possibly occurring in Alameda and Contra Costa counties. Identification or location is uncertain
A2: Locally Rare Species. Plants occurring in three to five regions or are otherwise threatened in Alameda and Contra Costa counties.
B: High Priority Watch List. Plants occurring in six to nine regions in Alameda and Contra Costa counties.
C: Second Priority Watch List. Plants occurring in ten to fifteen regions in Alameda and Contra Costa counties.
*: Ranks preceded by an asterisk (e.g. "*A1") also have a statewide rarity ranking

APPENDIX C

REPRESENTATIVE PHOTOGRAPHS OF THE PROJECT AREA

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Photograph 1. Image shows the seasonal wetland at the southeast boundary of the Project Area. View facing south. Photograph taken December 7, 2017.

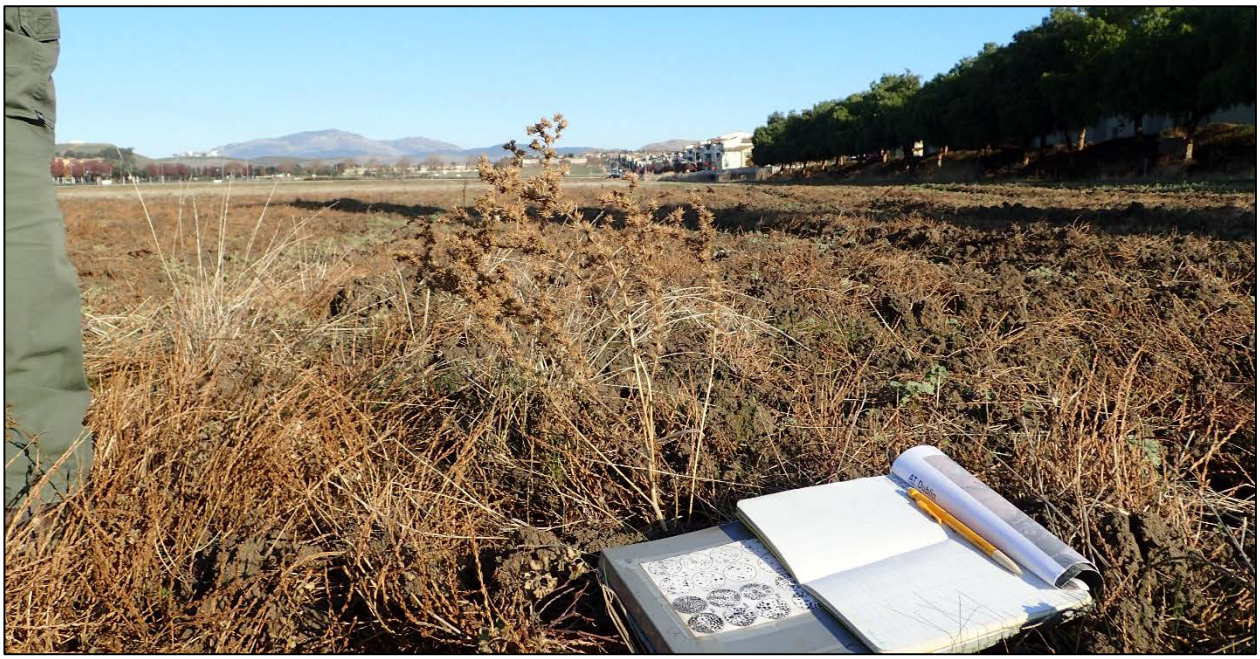
Photograph 2. Image shows the seasonal wetland and surrounding disced ruderal habitat in the far northern portion of the Project Area. View facing west. Photograph taken December 7, 2017.

Photograph 3. Image shows a seasonal wetland in the portion of the Project Area west and south of Northside Drive. View facing east. Photograph taken February 22, 2018.

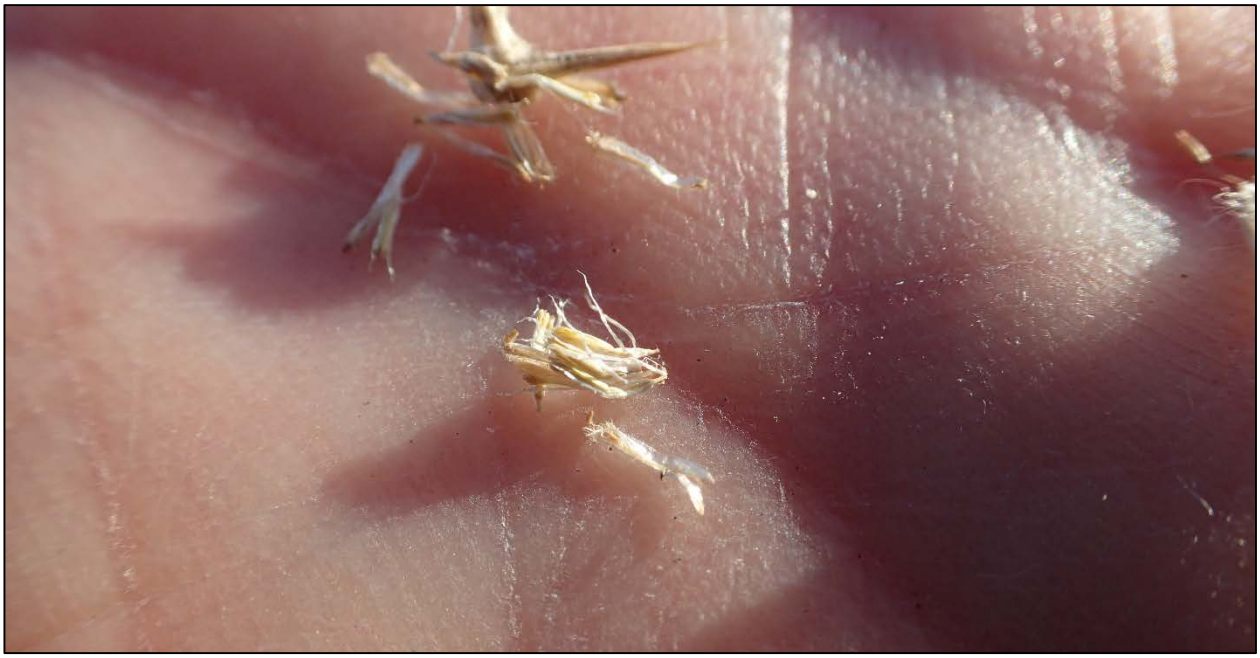
Photograph 4. Image shows representative ruderal habitat in the southern portion of the Project Area. View facing northeast. Photograph taken December 7, 2017.

Photograph 5. Image shows the abandoned homestead site in the northern portion of the Project Area. View facing west. Photograph taken December 7, 2017.

Photograph 6. Image shows the Christmas tree lot in the central portion of the Project Area. View facing northeast. Photograph taken December 7, 2017.



Photograph 7. Image shows a Congdon's tarplant individual in the seasonal wetland in the southeastern portion of the Project Area. View facing north. Photograph taken December 7, 2017.



Photograph 8. Image shows a close up of the pappus on disk flowers of Congdon's tarplant. Photograph taken December 7, 2017.

Photograph 9. Image shows a close-up of a flower head as well as peduncle bracts that are not coarsely glandular. Photograph taken December 7, 2017.

Photograph 10. Image shows the coarsely hairy and scabrous-puberulent leaves of Congdon's tarplant. Photograph taken December 7, 2017.