BIOLOGICAL RESOURCES ASSESSMENT

BAY AREA RIDGE TRAIL- FREMONT TO GARIN

ALAMEDA COUNTY, CALIFORNIA

LSA

September 2018

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ALAMEDA COUNTY, CALIFORNIA

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LSA

September 2018

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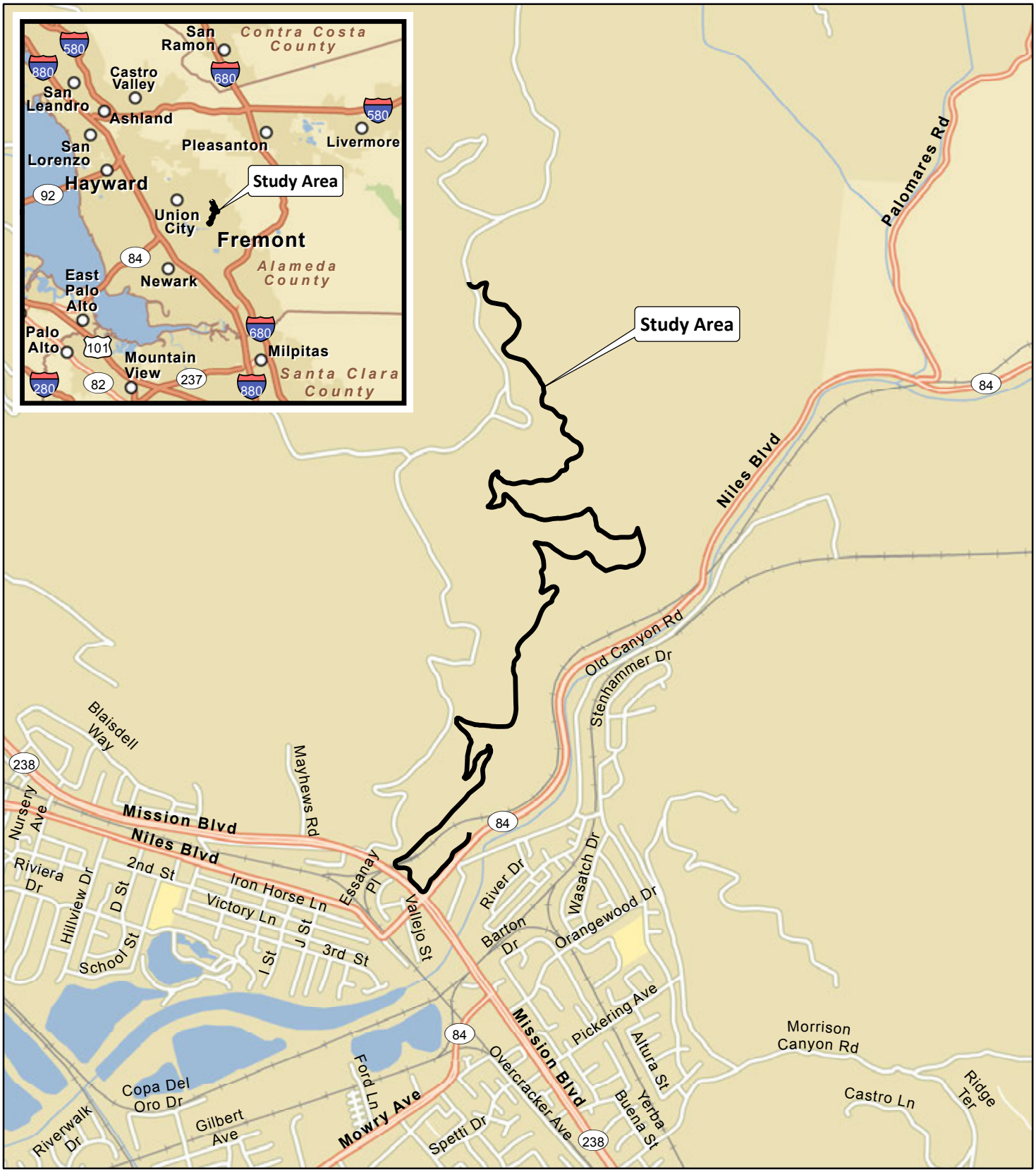
INTRODUCTION

This report presents the results of a biological resources assessment conducted by LSA on behalf of the East Bay Regional Park District (EBRPD) for a proposed segment of the Bay Ridge Trail to be constructed between Vallejo Mill Park in Fremont and Garin Regional Park in Union City, Alameda County (proposed project). The project location is shown in Figure 1, Regional Location, and Figure 2, Site Location and Topographic Map. This assessment was conducted to: 1) characterize the existing biological conditions; 2) assess sensitive plant communities and wildlife habitats; 3) evaluate the potential for occurrence of special-status plant and animal species; 4) delineate potentially jurisdictional wetlands and other waters of the U.S./State are present; and 5) assess potential impacts of development of the trail on the resources.



LSA

LEGEND

Study Area

FIGURE 1

N

0 1000 2000

FEET

Bay Area Ridge Trail – Fremont to Garin
Alameda County, California

Regional Location

SOURCE: ESRI StreetMap North America (2012).

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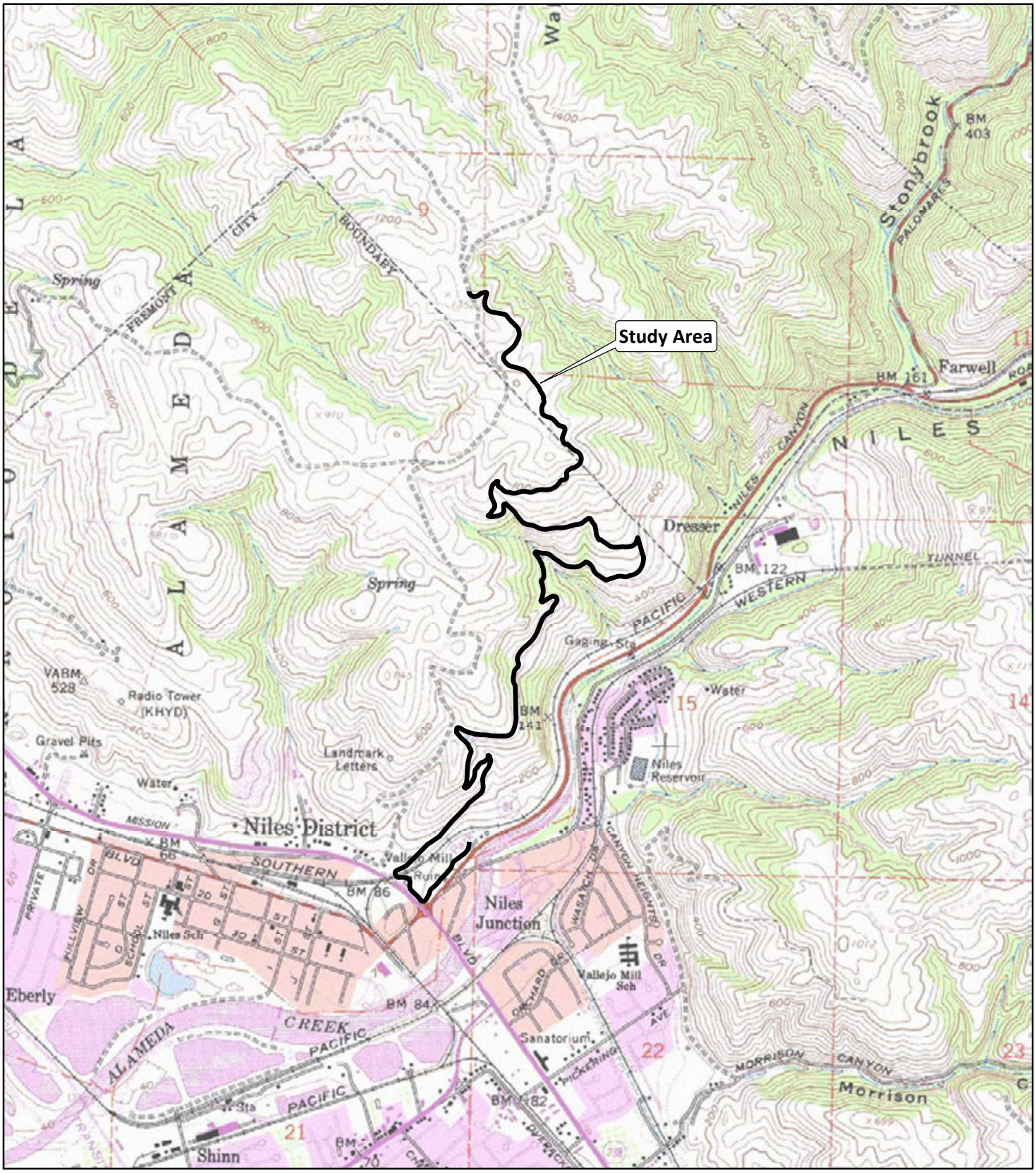

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LEGEND

Study Area

FIGURE 2

N

0 1000 2000

FEET

Bay Area Ridge Trail – Fremont to Garin
Alameda County, California

Site Location and Topographic Map

SOURCE: 7.5-minute Quad: *Niles, Calif.* (1980).

I:\EBR1701\GIS\Maps\Jurisdictional Delineation and Bio Assessment\Figure 2_Site Location and Topographic Map.mxd (3/21/2018)

METHODS

DATABASE SEARCH AND LITERATURE REVIEW

Prior to conducting fieldwork, LSA searched the California Natural Diversity Database (CNDDB) (CDFW 2017) for records of special-status plant and wildlife species and sensitive habitat occurrences within 5 miles of the project site.

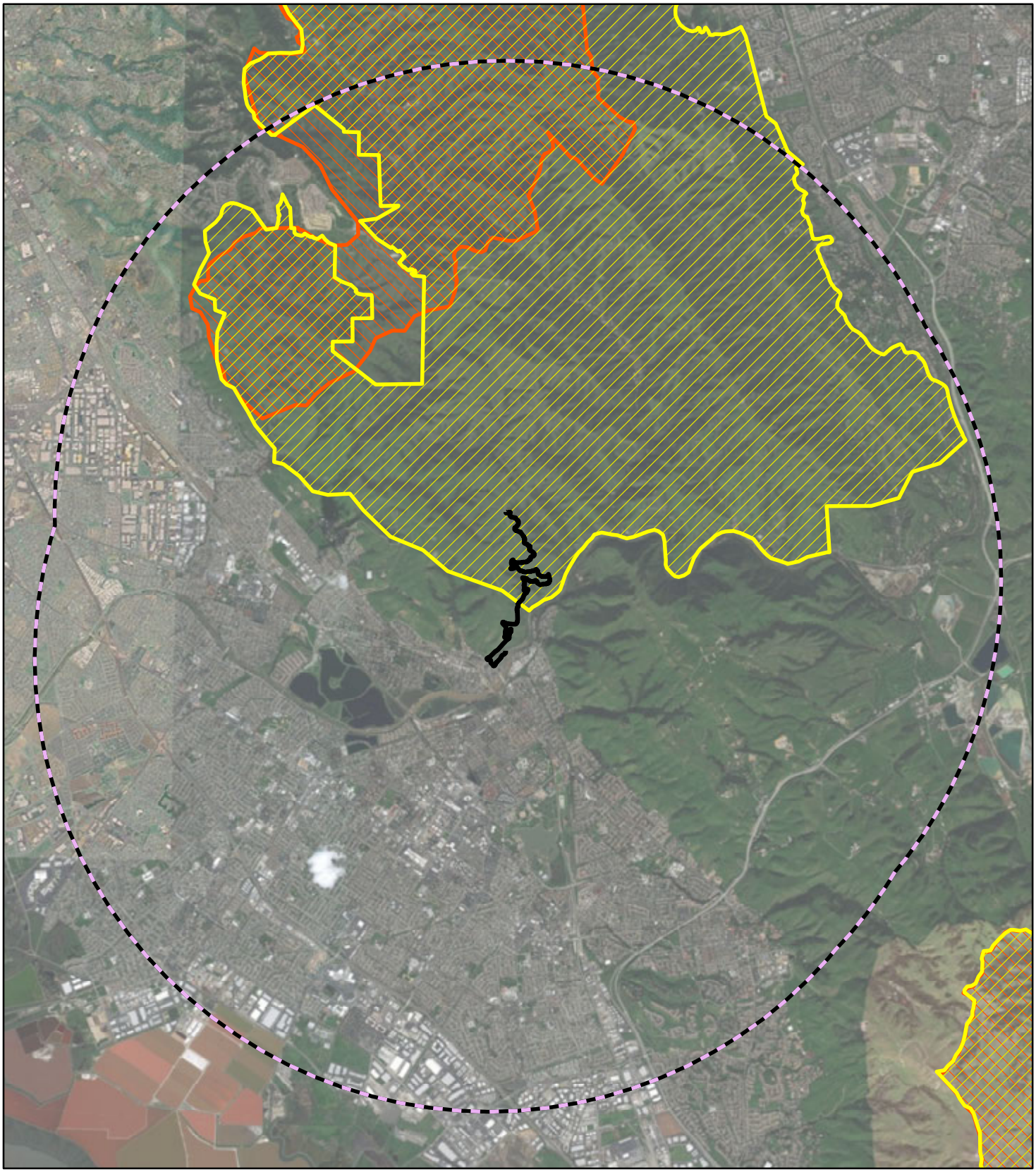
To supplement the CNDDB results, LSA searched the California Native Plant Society's (CNPS 2017) *Inventory of Rare and Endangered Plants of California* (8th edition) and the East Bay Chapter of the CNPS's *Rare, Unusual, and Significant Plants of Alameda and Contra Costa Counties* (local rare plant list, EB-CNPS 2010) for records of special-status (rare) plant species (Lake 2010)[1]. The plant-only searches were limited to the hilly regions of the Dublin, Hayward, La Costa Valley, Newark, and Niles USGS 7.5 minute quadrangles. Based on these outputs, LSA developed *Table A: Potentially Occurring Special-status Plant Species* (Table A) and *Table B: Sensitive Natural Communities Evaluated* (Table B). These tables were used as a target list for special-status plants and communities on the project site.

LSA also reviewed the United States Fish and Wildlife Service (USFWS) Critical Habitat Portal[2], current and historic Google Earth aerial images of the site, and the USFWS National Wetlands Inventory (NWI) map[3] for wetlands on and near the site. Critical habitat within 5 miles of the project site is depicted in Figure 3. LSA also obtained an official species list from the USFWS, which identifies threatened, endangered, proposed and candidate plant and wildlife species, as well as proposed and final designated critical habitat, that may occur within the boundary of the project site and/or may be affected by the project. Based on the wildlife research, LSA developed *Table C: Special-status Animal Species' Potential to Occur* (Table C).

FIELD SURVEYS

Focused rare plant surveys were conducted by LSA botanist Tim Milliken on April 3, June 22, and August 28, 2017. The pedestrian surveys allowed complete visual coverage of the entire project site. The surveys conformed to the survey guidelines and protocols for rare plants and plant communities

[1] Lake, Dianne. 2010. Rare, Unusual and Significant Plants of Alameda and Contra Costa Counties. Published by East Bay Chapter of the California Native Plant Society (EB-CNPS).
[2] USFWS. 2016. Critical Habitat Portal. http://ecos.fws.gov/crithab/.
[3] USFWS. 2016b. National Wetlands Inventory Mapper. October 2016. https://www.fws.gov/wetlands/data/google-earth.html.



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Proposed Trail Alignment

5 Mile Radius of Proposed Trail Alignment

Critical Habitat within 5 Miles of Project Site

Alameda whipsnake (=striped racer)

California red-legged frog

FIGURE 3

N

0 0.75 1.5

MILES

Bay Area Ridge Trail –
Fremont to Garin
Alameda County, California

Critical Habitat

SOURCE: CNDDB (06/2017); ESRI World Imagery (05/29/2016).

I:\EBR1701\GIS\Maps\Jurisdictional Delineation and Bio Assessment\Figure 3_Critical Habitat.mxd (3/21/2018)

Table A: Special-status Plant Species and Sensitive Natural Communities Evaluated

Species	Status* (Federal/State/RPR/Locally Rare)	Habitat/Blooming Period	Potential to Occur
Amsinckia lunaris Bent-flowered fiddleneck	--/--/1B.2/A2	Jepson Ecology: Gravelly slopes, grassland, openings in woodland, often serpentine. CNPS Habitat: • Coastal bluff scrub • Cismontane woodland • Valley and foothill grassland Elevation: 5--800 m. Blooms: Mar--Jun	None This species occurs in the general habitats that are present on the site, but has an affinity to grow on gravelly slopes and serpentine soils which are not present on the project site. This species was not observed during protocol-level botanical surveys.
Balsamorhiza macrolepis Big-scale balsamroot	--/--/1B.2/A1	Jepson Ecology: Open grassy or rocky slopes, valleys CNPS Habitats: Sometimes serpentinite. • Chaparral • Cismontane woodland • Valley and foothill grassland Elevation: generally <= 1400 m. Blooms: Mar--Jul	None Suitable cismontane woodland and valley and foothill grassland habitats are present on the project site. This species was not observed during protocol-level botanical surveys.
Calochortus umbellatus Oakland star-tulip	--/--/4.2/A2	Jepson Ecology: Open chaparral or woodland, generally on serpentine CNPS Habitats: Often serpentinite. • Broadleafed upland forest • Chaparral • Cismontane woodland • Lower montane coniferous forest • Valley and foothill grassland Elevation: 100--700 m. Blooms: Mar--May	None Suitable cismontane woodland, and valley and foothill grassland habitats are present on the project site. This species was not observed during protocol-level botanical surveys.

Species	Status* (Federal/State/RPR/Locally Rare)	Habitat/Blooming Period	Potential to Occur
Clarkia concinna subsp. *automixa* Santa Clara red ribbons	--/--/4.3/A1	Jepson Ecology: Woodland. CNPS Habitats: • Chaparral • Cismontane woodland Elevation: < 1500 m. Blooms: Apr--Jun	None Suitable cismontane woodland habitat is present on the project site. This species was not observed during protocol-level botanical surveys.
Dirca occidentalis Western leatherwood	--/--/1B.2/A2	Jepson Ecology: Generally north or northeast facing slopes, mixed-evergreen forest, chaparral, in fog belt. CNPS Habitats: Mesic. • Broadleafed upland forest • Closed-cone coniferous forest • Chaparral • Cismontane woodland • North Coast coniferous forest • Riparian forest • Riparian woodland Elevation: 50--400 m. Blooms: Nov--Mar	None Suitable cismontane woodland habitat is present on the project site. This species was not observed during protocol-level botanical surveys.
Helianthella castanea Diablo helianthella	--/--/1B.2/A2	Jepson Ecology: Open, grassy sites. CNPS Habitats: Usually rocky, axonal soils. Partial shade. • Broadleafed upland forest • Chaparral • Cismontane woodland • Coastal scrub • Riparian woodland • Valley and foothill grassland Elevation: 200--1300 m. Blooms: Apr--Jun	None Suitable cismontane woodland habitat is present on the project site. This species was not observed during protocol-level botanical surveys.

Species	Status* (Federal/State/RPR/Locally Rare)	Habitat/Blooming Period	Potential to Occur
Leptosiphon acicularis Bristly leptosiphon	--/--/4.2/A1	Jepson Ecology: Grassy areas, woodland, chaparral. CNPS Habitats: • Chaparral • Cismontane woodland • Coastal prairie • Valley and foothill grassland Elevation: < 700 m. Blooms: Apr--May	None Suitable cismontane woodland and valley and foothill grassland habitat is present on the project site. This species was not observed during protocol-level botanical surveys.
Monardella antonina subsp. *antonina* San Antonio Hills monardella	--/--/3.0/A1	Jepson Ecology: Rocky slopes, ephemeral drainages, oak woodland, chaparral, montane forest. CNPS Habitats: • Chaparral • Cismontane woodland Elevation: < 1300 m. Blooms: May--Aug	None Suitable cismontane woodland habitat is present on the project site. This species was not observed during protocol-level botanical surveys.
Piperia michaelii Michael's rein orchid	--/--/4.2/A2	Jepson Ecology: Generally dry sites, coastal scrub, woodland, mixed-evergreen or closed-cone-pine forest. CNPS Habitats: • Coastal bluff scrub • Closed-cone coniferous forest • Chaparral • Cismontane woodland • Coastal scrub • Lower montane coniferous forest Elevation: < 700 m. Blooms: Apr--Aug	None Suitable cismontane woodland habitat is present on the project site. This species was not observed during protocol-level botanical surveys.

Species	Status* (Federal/State/RPR/Locally Rare)	Habitat/Blooming Period	Potential to Occur
Ranunculus lobbii Lobb's aquatic buttercup	--/--/4.2/A2	Jepson Ecology: Ponds. CNPS Habitats: mesic. • Cismontane woodland • North Coast coniferous forest • Valley and foothill grassland • Vernal pools Elevation: 15--470 m. Blooms: Feb--May	None Suitable pond habitat occurs near but not on the project site. This species was not observed during protocol-level botanical surveys.
Stuckenia filiformis subsp. *alpina* Slender-leaved pondweed	--/--/2B.2/--	Jepson Ecology: Shallow, clear water of lakes, drainage channels. CNPS Habitats: • Marshes and swamps (assorted shallow freshwater) Elevation: 300--2150 m. Blooms: May--Jul	None Suitable pond habitat occurs near but not on the project site. This species was not observed during protocol-level botanical surveys.

Status:

Rare Plant Rank (RPR)

1B = California Rare Plant Rank 1B: Plant species rare, threatened, or endangered in California and elsewhere.
2B = California Rare Plant Rank 2B: Plant species rare, threatened or endangered in California, but more common elsewhere.
3 = California Rare Plant Rank 3: Plant species on a review list for plants which need more analysis to rank higher or to remove ranking.
4 = California Rare Plant Rank 4 – Plant species on a watch list, plants of limited distribution.

Locally Rare

A1 = Species known from 2 or less botanical regions in Alameda or Contra Costa Counties, either currently or historically.
A2 = Species currently known from 3 to 5 regions in Alameda or Contra Costa Counties, or, if more, meeting other criteria such as small populations, stressed or declining populations, small geographic range, limited or threatened habitat, etc.

Table B: Sensitive Natural Communities Evaluated

Sensitive Natural Communities/Habitats	Status*	Presence within project site	Discussion
Northern Coastal Salt Marsh	G3 S3.2	None within project site.	Habitat within search parameters, but not present on project site.
California Sycamore Woodland [Sycamore Alluvial Woodland]	G1 S1.1	Present within project site.	A stand of California sycamore woodland is present at the Vallejo Mills Historic Park trail head area of the project site.
Purple needle grass grassland [Valley Needle grass Grassland]	G3 S3.1	Present within project site.	Purple needle grass grassland is present in several locations in the project site.
Valley Sink Scrub	G1 S1.1	None within project site.	Habitat within search parameters, but not present on project site.

*Sensitive Natural Communities

G1 = Throughout its range, this natural community is critically imperiled and at a very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.

G3 = Throughout its range, this natural community is imperiled with a high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.

S1.1 = Within California, this vegetation alliance very threatened and is critically imperiled because of extreme rarity (often 5 or fewer populations) or because factor(s) such as very steep declines making it especially vulnerable to extirpation from the state.

S3.1 = Within California, this vegetation alliance is very threatened and is vulnerable due to restricted range, relatively few populations (often 80 or fewer),recent and widespread declines, or other factors making it vulnerable to extirpation from the state.

S3.3 = Within California, this vegetation alliance is threatened and is vulnerable due to restricted range, relatively few populations (often 80 or fewer),recent and widespread declines, or other factors making it vulnerable to extirpation from the state.

published by CNPS[4], CDFW[5], and USFWS[6]. Plant species encountered were sight-identified to species level and recorded in field notes. LSA biologists John Kunna and Yasmine Akky conducted a reconnaissance-level survey on July 27, 2017 to assess current habitat conditions and evaluate the potential for the site to support special-status wildlife species. The survey was conducted by walking the entire trail alignment and then returning to more thoroughly investigate areas of particular interest. In that way, both biologists were able to complete a visual overview of the property, as well as spend more time on foot in smaller areas (e.g., riparian areas) with a higher potential to support sensitive species. All wildlife and plant species observed were recorded in field notes, and vegetation communities occurring along the trail alignment were sketched on to an aerial photograph (i.e., oak woodland, grassland, or scrub).

LSA senior soil scientist Chip Bouril conducted a delineation of project area on July 27, 2017[7] to map potential jurisdictional waters of the U.S. The last significant rainfall had occurred in May of 2017. Potential jurisdictional boundaries were mapped using a global position system receiver with sub-meter accuracy. Boundaries were determined by following a combination of the limits of hydrophytic vegetation, the limits of observed wetland hydrology, topographic breaks, and aerial ortho-photo interpretation.

NOMENCLATURE

The scientific and vernacular nomenclature for plant species in this document are derived from Baldwin et al. (2012) and updates listed on the Jepson Herbarium website (Jepson Herbarium 2017).

Vegetation types identified within the project site were classified to the alliance level according to second addition of *A Manual of California Vegetation* (MCV2, Sawyer et al. 2009). These communities were classified to best align with the descriptions in the MCV2, if applicable; otherwise, the names of vegetation were selected based on the most prevalent form of vegetation present.

[4] CNPS. 2001. CNPS Botanical Survey Guidelines. Online. http://www.cnps.org/cnps/rareplants/pdf/cnps_survey_guidelines.pdf. Site visited March 2017.

[5] CDFW. 2009. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities. Online. https://www.dfg.ca.gov/biogeodata/cnddb/pdfs/Protocols_for_Surveying_and_Evaluating_Impacts.pdf. Site visited March 2017.

[6] USFWS. 2000. Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants. January 2000.

[7] LSA. 2017. Request for Verification of a Jurisdictional Delineation of the Bay Area Ridge Trail in Fremont Project, Cities of Fremont and Union City, Alameda County, California.

Common and scientific names for herpetofauna, birds, and mammals conform to Crother,[8] the American Ornithologists' Union (AOU) *Check-list of North American Birds* and supplements,[9] and Baker et al.,[10] respectively.

REGULATORY CONTEXT

Special-status species

For the purposes of this assessment, special-status species are defined as follows:

- Species that are listed, formally proposed, or designated as candidates for listing as threatened or endangered under the federal Endangered Species Act (ESA);
- Species that are listed, or designated as candidates for listing, as rare, threatened, or endangered under the California Endangered Species Act (CESA);
- Wildlife species designated as Species of Special Concern or Fully Protected by the California Department of Fish and Wildlife (CDFW);
- Species that meet the definition of rare, threatened, or endangered under Section 15380 of the California Environmental Quality Act (CEQA) guidelines; or
- Species that are considered a taxa of special concern by local agencies.

Other Statutes, Codes, and Policies addressed under California Environmental Quality Act (CEQA)

This section describes additional agency policies or designations that are relevant to the project site including California Rare Plant Ranks, CDFW Special-status Natural Communities, and the East Bay chapter of the CNPS's locally rare plant species.

California Rare Plant Ranks

Special-status plants in California are assigned to one of six "California Rare Plant Ranks" by a collaborative group of over 300 botanists in government, academia, non-governmental organizations, and the private sector. This effort is jointly managed by the CDFW and the CNPS. The CNDDB currently includes the following California Rare Plant Ranks (CRPR).

- CRPR 1A – Plants presumed extirpated in California and are either rare or extinct elsewhere.
- CRPR 1B – Plants rare, threatened, or endangered in California and elsewhere.

[8] Crother, B.I., ed., 2012. Scientific and standard English names of amphibians and reptiles of North America north of Mexico. *Society for the Study of Amphibians and Reptiles (SSAR) Herpetological Circular 39* and supplements.

[9] American Ornithologists' Union, 1998. *Checklist of North American Birds* and supplements. Seventh Edition. American Ornithologists' Union, Washington, D.C.

[10] Baker, R.J., et al., 2003. *Revised checklist of North American mammals north of Mexico, 2003*. Museum of Texas Tech University Occasional Papers 229.

- CRPR 2A – Plants presumed extirpated in California, but common elsewhere;
- CRPR 2B – Plants rare, threatened, or endangered in California but more common elsewhere;
- CRPR 3 – Plants about which more information is needed – a review list; and
- CRPR 4 – Plants of limited distribution – a watch list.

Impacts to CRPR 1A, 1B, 2A, 2B, and 3 plant species or their habitat are analyzed during preparation of environmental documents as they meet the definition of Rare or Endangered under California Environmental Quality Act (CEQA) Guidelines §15125 (c) and/or §15380. Substantial impacts to these species are typically considered significant.

CDFW Sensitive Natural Communities

The CDFW tracks the occurrences of natural plant communities that are of limited distribution Statewide, or within a county or region where they are often vulnerable to the effects of development projects. In the most recent list of vegetation alliances/natural communities recognized in California, alliances with a NatureServe State ranking code of S1 through S3 are considered to be "highly imperiled" and impacts to "high-quality occurrences" of these communities may be considered significant under CEQA. Whether a natural plant community is imperiled or not can be determined by checking MCV2 or CDFW's *List of Vegetation Alliances and Associations* (CDFW 2010). Some imperiled vegetation associations can be difficult to distinguish from common plant communities without a quantitative vegetation description. For example, patches of native grassland comprising at least 15 percent relative cover in a grassland area are considered a sensitive natural community by CDFW.

East Bay Chapter of CNPS – Locally Rare Plant Species

The East Bay Chapter of the California Native Plant Society (EB-CNPS) has compiled plant observations from many sources as well as field surveys. These observations informed an evaluation process to determine which plant species are rare or threatened at the local level, but possibly more common elsewhere. The EB-CNPS published this compilation and evaluation in *Rare, Unusual and Significant Plants of Alameda and Contra Costa Counties* (Lake 2010). Locally rare or unusual plant species are protected by CEQA in Sections 15380 or 15125(a) which address species of local concern and place special emphasis on environmental resources that are rare or unique to a region. Thus, they may be considered in local land planning and management issues. The locally rare or unusual plant ranks under consideration are:

- EB-CNPS A – Species in Alameda and Contra Costa Counties listed as rare, threatened, or endangered statewide by federal or state agencies, or by the state CNPS. Protected by CEQA.
- EB-CNPS A1 – Species know from 2 or less botanical regions in Alameda and Contra Costa Counties, either currently or historically. Protected by CEQA.
- EB-CNPS A1X – Species that once occurred in Alameda and Contra Costa Counties, but are now presumed to be extirpated in those counties. Protected by CEQA.

- EB-CNPS A2 – Species currently known from 3 to 5 regions in Alameda and Contra Costa Counties, or, if more, meeting other important criteria such as small populations, stressed or declining populations, small geographical range, limited or threatened habitat, etc. Protected by CEQA.

RESULTS

BIOLOGICAL SETTING

Vegetation

A list of all plant species observed during the surveys is included as Appendix A (Plant Species Observed within the Project Site). MCV2 classification of vegetation communities/land cover types within the project site are analogous to the alliances presented in MCV2.

Vegetation communities and associated wildlife habitats on the project site include grasslands (including non-native annual grassland and native grassland), scrublands (including California sagebrush scrub and coyote brush scrub), woodlands (including coast live oak woodlands, California bay woodland, remnant California sycamore woodland), and drainages. California sycamore woodland and purple needle grass grassland are considered sensitive natural communities (Refer to Figure 4 for locations within the project alignment). All of these communities are described below.

Grasslands

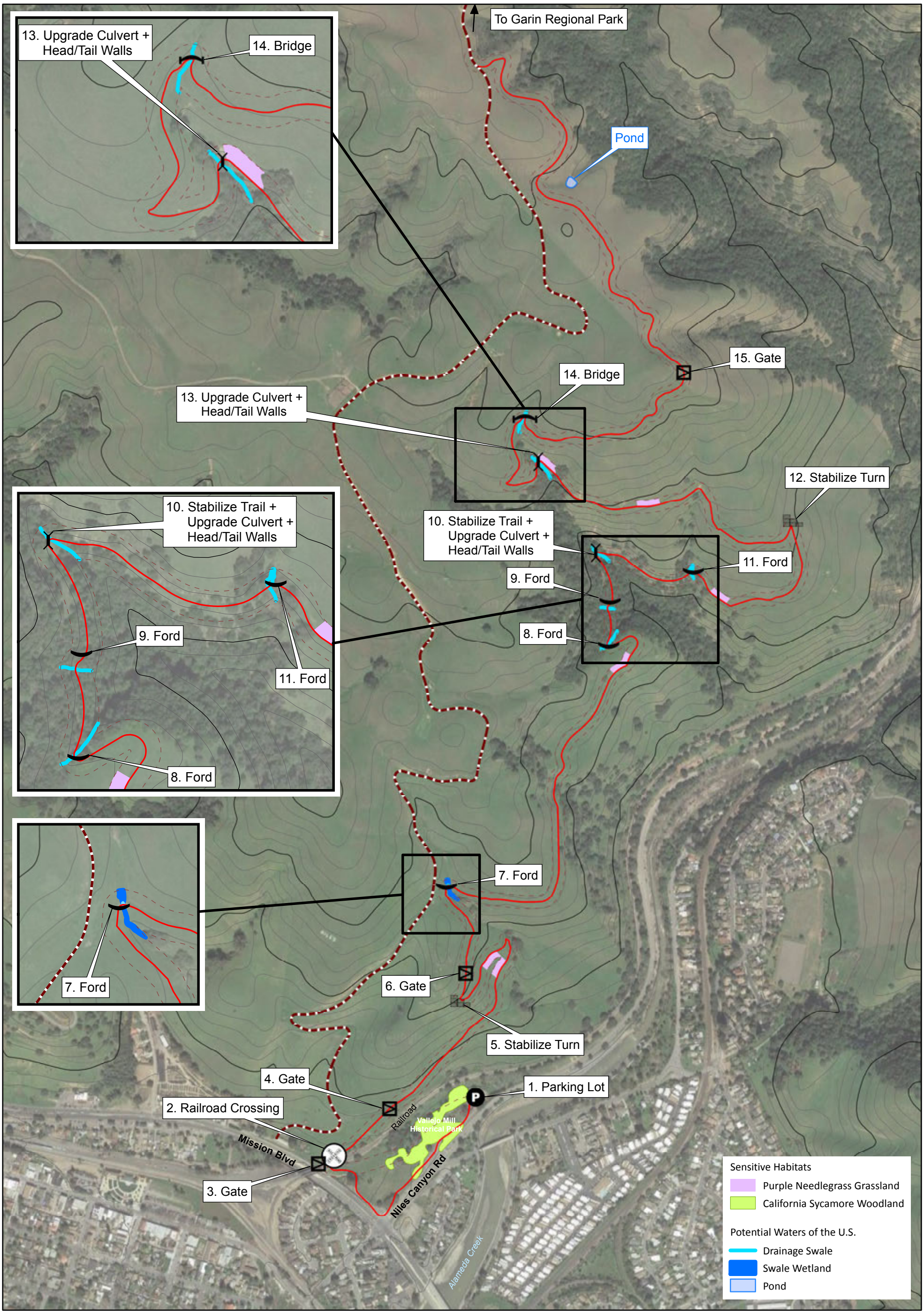
Grasslands on the project site consist of a mix of non-native and native grassland species. Non-native grassland (a combination of wild oats grassland [*Avena* sp. Herbaceous Semi-Natural Alliance] and annual brome grasslands [*Bromus* sp. Herbaceous Semi-Natural Alliance]) is the most prevalent vegetation type on the project site. Species indicative of the non-native grasslands include wild oats (*Avena fatua*), false brome (*Brachypodium distachyon*), ripgut brome (*Bromus diandrus*), and Italian thistle (*Carduus pycnocephalus*). Other non-native plant species observed include purple star-thistle (*Centaurea calcitrapa*), yellow star-thistle (*C. solstitialis*), cat's ear (*Hypochaeris glabra*), English plantain (*Plantago lanceolata*), and milk thistle (*Silybum marianum*).

Although non-native annual grasses dominate most of the grassland area on the project site, native purple needle grass grassland (*Stipa* [*Nassella*] *pulchra* Herbaceous Alliance) also occurs in patches where purple needle grass has a density of greater than 15 percent relative cover. Native plant species typically occur in both grassland types and include native grassland species, such as common yarrow (*Achillea millefolium*), common fiddleneck (*Amsinckia intermedia*), soap plant (*Chlorogalum pomeridianum*), California oat grass (*Danthonia californica*), blue dicks (*Dichelostemma capitatum*), California poppy (*Eschscholzia californica*), California buttercup (*Ranunculus californicus*), checker mallow (*Sidalcea malvaeflora*),blue-eyed grass (*Sisyrinchium bellum*), purple needle grass (*Stipa pulchra*), golden eggs (*Taraxia ovata*), Johnny-jump-up (*Viola pedunculata*), and narrow-leaved mule ears (*Wyethia angustifolia*).

Scrublands

Scrublands on the project site consist of a combination of California sagebrush scrub [*Artemisia californica* Alliance] and coyote brush scrub [*Baccharis pilularis* Alliance].

California sagebrush scrub occurs in rocky areas in scattered locations along the proposed trail alignment. The dominant species in this habitat are primarily perennial species including deerweed (*Acmispon glarber*), California sagebrush (*Artemisia californica*), coyote brush (*Baccharis pilularis*),



LSA

LEGEND

- Proposed Trail Alignment
- Existing Ranch Road/EVMA
- Elevation Contour (200-foot interval)
- Elevation Contour (40-foot interval)
- Gate
- Parking Lot
- Railroad Crossing
- Stabilize Turn
- Bridge
- Ford
- Culvert Work

0 350 700
FEET

SOURCE: Google Maps Satellite (2016).

FIGURE 4

Bay Area Ridge Trail – Fremont to Garin
Alameda County, California

Sensitive Natural Communities and Potential Waters of the U.S.

I:\EBR1701\GIS\Maps\Jurisdictional Delineation and Bio Assessment\Figure 4_Sensitive Natural Communities and Potential Waters of the U.S..mxd (3/20/2018)

morning glory (*Calystegia purpurata*), California fuchsia (*Epilobium canum*), bush monkeyflower (*Mimulus aurantiacus*), and poison oak (*Toxicodendron diversilobum*).

Coyote brush scrub also occurs in scattered locations along the trail alignment. This scrub community shares many of the same species of California sagebrush scrub, but is dominated by coyote brush. Other species present in this vegetation type include deerweed*,* soap plant (*Chlorogalum pomeridianum*), California sagebrush, western bracken fern (*Pteridium aquilinum*), wild cucumber (*Marah fabaceus*)*,* bush monkeyflower (*Mimulus aurantiacus*), California blackberry (*Rubus ursinus*), poison oak, and native and non-native grasses. Many of the species in this vegetation type area also found within the grassland community.

Woodlands

Woodlands on the project site consist of California bay/coast live oak woodland (a combination of nearly equal parts of *Umbellularia californica* Forest Alliance and *Quercus agrifolia* Woodland Alliance) and California sycamore woodland (*Platanus racemosa* Woodland Alliance).

California bay/coast live oak woodland is found along portions of the proposed trail alignment (generally near drainages) and is dominated by coast live oak (*Quercus agrifolia*) and California bay (*Umbellularia californica*). Plants in the understory include variety of ferns such as California maidenhair (*Adiantum jordanii*), California wood fern (*Dryopteris arguta*), goldenback fern (*Pentagramma triangularis*), California polypody (*Polypodium californicum*), and western sword fern (*Polystichum munitum*). Other plants observed within this vegetation type include white fairy lantern (*Calochortus albus*), miner's lettuce (*Claytonia perfoliata*), toyon (*Heteromeles arbutifolia*), California honeysuckle (*Lonicera hispidula*), and snowberry (*Symphoricarpos albus*). At one location near the northern end of the project site, where the trail alignment connects to the fire road, there were a few big leaf maples (*Acer macrophyllum*).

California sycamore woodland is found near the western end of the project site at the trail head location within Vallejo Mills Historic Park. The main vegetative feature of the park is a grove of large western sycamore (*Platanus racemosa*) trees. This woodland is typically associated with areas that are subject to high intensity flooding on terraces adjacent to creeks. This grove can be considered a remnant stand because of its un-natural separation from the flooding influence of Alameda Creek due to human development and the construction of Niles Canyon Road (State Route 84). Other trees observed at the trail head area include coast live oak, and some pines (*Pinus* spp.). The understory of consists of non-native weedy grasses and a maintained lawn.

Wetlands

The wetland delineation identified one area along the project alignment (site of proposed improvement No. 7, Ford, shown on Figure 4) containing hydrophytic vegetation including Baltic rush (*Juncus balticus* subsp. *ater*) and water cress *(Nasturtium officinale*). This potentially jurisdictional wetland swale is 1,510 square feet (0.035 acre) in size.

Special-Status Plant Species

Based on the results of the literature review, LSA developed a list of 22 special-status plant species that may occur in the project area. Of these 22 species, 11 were determined to have no potential to occur due to a total lack of suitable habitat within the project site (e.g., serpentine and alkaline soils, vernal pools, coastal habitats, etc.), or because they have not been found within the past 50 years and are therefore considered no longer present in Alameda County. The 11 species that were not included in Table A for these reasons include alkali milk-vetch (*Astragalus tener*), chaparral harebell (*Campanula exigua*), Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*), San Joaquin spearscale (*Extriplex joaquinana*), fragrant fritillary (*Fritillaria liliacea*), Contra Costa goldfields (*Lasthenia conjugens*), prostrate vernal pool navarretia (*Navarretia prostrata*), hairless popcornflower (*Plagiobothrys glaber*), Oregon polemonium (*Polemonium carneum*), most beautiful jewel-flower (*Streptanthus glandulosus* subsp. *glandulosus*), and saline clover (*Trifolium hydrophilum*). These 11 species are not further considered in this document.

The remaining 11 species have occurrence records within search the area parameters identified in the methods section and could potentially occur within the project site based on the presence of suitable habitat. These species are bent-flowered fiddleneck (*Amsinckia lunaris*, CRPR 1B.2, EBCNPS A2), big-scale balsamroot (*Balsamorhiza macrolepis*, CRPR 1B.2, EBCNPS A1), Oakland star-tulip (*Calochortus umbellatus,* CRPR 1B.2, EBCNPS A2), Santa Clara red ribbons (*Clarkia concinna* subsp. *automixa*, CRPR 4.3, EBCNPS A2), western leatherwood (*Dirca occidentalis*, CRPR 1B, EBCNPS A2), Diablo helianthella (*Helianthella castanea,* CRPR 1B, EBCNPS A2), bristly leptosiphon (*Leptosiphon acicularis*, CRPR 4.2, EBCNPS A1), San Antonio hills monardella (*Monardella antonina* subsp. *antonina,* CRPR 3.0, EBCNPS A1), Michael's rein orchid (*Piperia michaelii,* CRPR 4.2, EBCNPS A2), Lobb's aquatic buttercup (*Ranunculus lobbii,* CRPR 4.2, EBCNPS A2), and slender-leaved pondweed (*Stuckenia filiformis* subsp. *alpina*, CRPR 2B.2). The protocol-level rare plant surveys conducted in 2017 did not detect any of the special-status plant species on the project site. Because none of these special-status plant species were identified during protocol-level rare plant surveys, they are considered absent from the site and further evaluation is not warranted. Each of these species are discussed below in Table A.

Sensitive Natural Communities

Based on the results of the literature review, LSA developed a list of four sensitive natural communities occurring within a 5-mile radius of the project site: northern coastal salt marsh, sycamore alluvial woodland, valley needle grass grassland, and valley sink scrub. Of these four habitat types, two (northern coastal salt marsh and valley sink scrub) do not occur on or immediately adjacent to the project site. The remaining two sensitive natural communities (sycamore alluvial woodland and valley needle grass grassland) are present on the project site.

The California sycamore woodland and purple needle grass grassland communities identified on the project site are MCV2 analogs to the CNDDB designations of sycamore alluvial woodland and valley needle grass grassland respectively. To avoid confusion, the MCV2 classifications will be used in this report.

California sycamore woodland

California sycamore woodland is considered a sensitive natural community of high priority for inventory in the CNDDB. This vegetation type has a high concern for conservation with the CNDDB rarity ranking of G1 S1.1 (very threatened and critically imperiled throughout its range and within the state, CDFW 2017). A stand of California sycamore woodland is present at the Vallejo Mills Historic Park trailhead area of the project site as shown on Figure 4.

Purple needle grass grassland

Purple needle grass grassland is considered a sensitive natural community of high priority for inventory in the CNDDB. This vegetation type has a high concern for conservation with the CNDDB rarity ranking of G3 S3.1 (very threatened and vulnerable throughout its range and within the state, CDFW 2017). Purple needle grass grassland is present in several locations in the project site as shown on Figure 4.

No other sensitive natural communities were identified on the site during the biological surveys.

Potentially Jurisdictional Features

LSA conducted a jurisdictional delineation along the trail alignment in July 2017. The potential Section 404 waters of the United States within the project alignment are one wetland swale and several Other Waters of the U.S. The findings and conclusions, including the location and extent of wetlands and other waters subject to regulatory jurisdiction, represent the professional opinion of LSA. These findings and conclusions should be considered preliminary until verified by the Corps. A small man-made pond is present approximately 210 feet north of the trail alignment, near where the trail alignment connects to the fire road (see Figure 3). The pond has a maximum surface area of approximately 5,000 square feet. The pond appears to have been constructed in late 2013 to provide water for cattle. The pond had turbid water and lacked emergent vegetation. Due to the distance of the pond from the trail alignment, it was not delineated and no measurements were taken in the field.

Wildlife

Wildlife observed during the site visit included several common bird species. A California quail (*Callipepla californica*) nest with nestlings was located in an old cistern in the middle of the proposed trail alignment, which coincides with the location of a graded ranch road. A juvenile northern flicker (*Colaptes auratus*) was observed begging next to an adult northern flicker from a branch on a tree that supported a recently excavated nest cavity. This observation indicates that a northern flicker pair may have nested in that cavity during the 2017 breeding season. In addition, a northern harrier (*Circus cyaneus*), a California Species of Special Concern, was observed flying overhead during the field survey.

Other species seen included western fence lizards (*Sceloporus occidentalis*) and black-tailed deer (*Odocoileus hemionus*), and California slender salamander (*Batrachoseps attenuatus*). California ground squirrels (*Otospermophilus beecheyi*) were seen at lower elevations of the trail alignment.

No wildlife was observed in or near the pond. Other than the northern harrier, no special-status wildlife species were seen.

Special-Status Wildlife

A CNDDB search yielded 15 special-status animal species with occurrences within 5 miles of the site. The official USFWS species list had an additional ten federally listed species (San Joaquin kit fox, salt marsh harvest mouse, California least tern, Delta smelt, steelhead, San Bruno elfin butterfly, Bay checkerspot butterfly, Conservancy fairy shrimp, vernal pool fairy shrimp, and vernal pool tadpole shrimp) for which the CNDDB does not have occurrences within 5 miles of the site. One additional special status species, the ring-tailed cat (*Bassariscus astutus*), may occur near the site. The ring-tailed cat is not federally listed or tracked by the CNDDB, but it is a Fully Protected species.

A detailed analysis of each of these species is included in *Table C: Special-Status Animal Species' Potential to Occur*. For non-avian wildlife species, the potential to occur is based on the species likelihood to occupy the project site at any time of day, in any season.

For special-status bird species, the potential to occur refers only for the potential to nest on the project site, or within a buffer of the project site. The size of the buffer is species-specific and is based on agency guidelines.

Based upon analysis of the CNDDB occurrences, conditions observed during the surveys, and an analysis of habitat requirements for individual species, it was determined that eight of these species have some potential to occur: California tiger salamander (*Ambystoma californiense*), California red-legged frog (Rana draytonii), Alameda striped racer (*Coluber lateralis euryxanthus*), golden eagle (*Aquila chrysaetos*), burrowing owl (*Athene cunicularia*), American peregrine falcon (*Falco peregrinus anatum*), San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), and ring-tailed cat (*Bassariscus astutus*). A description of the habitat requirements and on-site habitat available for each of these eight species follows.

California Tiger Salamander

The California tiger salamander is State and federally listed as threatened. The California tiger salamander found in Alameda County belongs to the Central California Distinct Population Segment (DPS). There is no designated Critical Habitat for California tiger salamanders within 5 miles of the project site.

The California tiger salamander spends most of its life underground in burrows built by California ground squirrels and other small mammals in uplands contiguous with breeding ponds. The salamanders breed and lay eggs in vernal pools, as well as stockponds. The breeding ponds usually dry out each summer, but the salamanders will also breed in permanent waterbodies, provided they are free of predatory fish and invasive bullfrogs. At a minimum, the pond must hold water for approximately 12 consecutive weeks for the larvae to metamorphose. The juveniles then leave as the pond dries and move into burrows in the surrounding uplands. Generally, the breeding ponds are turbid and have no or little emergent vegetation.

Table C: Special-Status Animal Species' Potential to Occur

Species	Status* (Federal/State/ CDFW)	Habitat Requirements	Potential to Occur
Amphibians			
Ambystoma californiense California tiger salamander	FT/CT/--	Spends most of its life in underground burrows. Breeds in vernal pools and ponds, including cattle stock ponds. Breeds after the first rains in late fall and early winter, when the wet season allows the salamander to migrate to the nearest pond, a journey that may be over 1 mile and take several days. Lays eggs in small clusters or singly, which hatch after 14 to 21 days. The pools must hold water for a minimum of 12 weeks for the larvae to successfully metamorphose into their terrestrial form.	Low There are 13 CNDDB occurrences within 5 miles of the site. The pond may provide suitable breeding habitat. Few suitable burrows were seen in the trail alignment near the pond. Salamanders may move through the project site during rainy nights.
Rana draytonii California red-legged frog	FT/--/CSC	Inhabits permanent and temporary pools, streams, freshwater seeps, and marshes in lowlands and foothills. Uses adjacent upland habitat for foraging and refuge. Breeds during the wet season from December through March in slow parts of streams, lakes, reservoirs, ponds, and other waters with emergent vegetation. Lays 300 to 4,000 eggs in a large cluster, which is attached to plants near the water surface. Requires water for 4 to 7 months for tadpoles to complete metamorphosis.	Low There are 11 CNDDB occurrences within 5 miles of the site. The pond may provide suitable breeding habitat. Individual frogs migrating between ponds may move through the project site, especially on rainy nights.
Reptiles			
Actinemys (=Emys) marmorata Western pond turtle	--/--/CSC	Permanent or nearly permanent water (fresh to brackish) in a wide variety of habitat types. Requires basking sites such as steep banks, logs, or rocks. Upland areas with friable soils are required for egg laying.	None There are three CNDDB occurrences within 5 miles of the site, based on observation made in Alameda Creek and at Quarry Lakes Regional Park. The ephemeral drainages on the site are not suitable for turtles. It is unlikely a turtle would attempt to nest in the steep, hard-packed soils of the trail alignment.

Species	Status* (Federal/State/ CDFW)	Habitat Requirements	Potential to Occur
Coluber lateralis euryxanthus Alameda striped racer	FT/CT/--	Lives primarily in scrub and chaparral communities, but has also been observed in nearby grasslands and woodlands. Feeds primarily on lizards. Most active in the spring and fall. Retreats from hot temperatures in the summer and cold temperatures in the winter into burrows or other underground refuges.	Low Numerous CNDDB occurrences are within 5 miles of the site. There are no barriers between known populations and the project site. The site is contiguous with large expanses of suitable habitat. The dominance of nonnative annual grassland and lack of large patches of scrub or chaparral vegetation limits the likelihood.
Birds			
Athene cunicularia Burrowing owl	--/--/CSC	Nearly or quite level grassland, prairie, and desert floor with short or sparse vegetation. Subterranean nester that generally uses existing mammal burrows (especially of ground squirrels), but will also excavate its own burrows.	Moderate There are seven extant occurrences in CNDDB within 5 miles of the project site. The closest occurrence was documented in 2005 when three adults were observed at a winter burrow in Central Park, approximately 2 miles south of the project site. The vegetation is too tall throughout the majority of the trail alignment to support burrowing owls, and most of the site has steeper slopes than burrowing owls prefer. The lower elevation portions of the trail alignment have shorter vegetation and ground squirrel burrows that could be used by burrowing owls.
Circus cyaneus Northern harrier	--/--/CSC	Nests primarily in large expanses of grasslands including fallow agricultural fields, marshes, and meadows.	None A northern harrier was documented flying overhead during the reconnaissance-level field survey. While the project site provides large open fields suitable for foraging northern harriers, it does not support flat or wet areas, such as meadows and marshes, ideal for nesting harriers. As a result, northern harriers are likely to forage onsite, but not likely to nest.

Species	Status* (Federal/State/ CDFW)	Habitat Requirements	Potential to Occur
Melospiza melodia pusillula Alameda song sparrow	--/--/CSC	Found in tidal salt marshes on the fringes of south and central San Francisco Bay. Nests primarily in pickleweed and marsh gumplant.	None The CNDDB has only one presumed extant occurrence within 5 miles of the project. The occurrence is based on 4 specimens that were collected in 1919 along the edge of San Francisco Bay. Not expected to occur due to lack of tidal salt marsh.
Agelaius tricolor Tricolored blackbird	–/CA Candidate[11]/CSC	Breeds in large colonies near freshwater, preferably emergent wetland such as cattails and tules but also in thickets of willow and other shrubs. Requires nearby foraging areas with large numbers of insects.	None There are four CNDDB occurrences within 5 miles of the trail alignment. The closest extant occurrence was a breeding colony located on what is now Lake Elizabeth in Fremont, 1.73 miles south of the project site. However, this site is listed as possibly extirpated and tricolored blackbirds have not been documented at this location since before 1994. The other three occurrences are either possibly extirpated or have not been known to support tricolored blackbirds since 1997. The project site does not support large marshes with emergent vegetation. Based on the lack of current nearby occurrences and suitable breeding habitat, this species is not likely to occur.

[11] The tricolored blackbird is also a Candidate species for listing under CESA. The California Fish and Game Commission will determine whether listing is warranted during its October 11-12, 2017 meeting. Until that time it is protected as if it is listed.

Species	Status* (Federal/State/ CDFW)	Habitat Requirements	Potential to Occur
Aquila chrysaetos Golden eagle	--/-/FP	Hunts over rolling foothills and mountain areas. Nests in cliff-walled canyons or large trees in open areas.	Moderate There is no potential for golden eagles to nest within 50 feet of the trail alignment due to a lack of large trees, utility towers, and cliff walled canyons. However, there is a moderate potential for golden eagles to nest within 1 mile of the proposed trail alignment, due to the presence of large trees and electrical transmission towers. One large stick nest was observed in a eucalyptus tree approximately 530 feet west of the EVMA Road.
Falco peregrinus anatum American peregrine falcon	--/-/FP	Typically nests on cliffs. Will also nest on tall office buildings and bridges. Occasionally uses abandoned stick nests built by other raptors or ravens or electrical transmission towers as nest sites.	Low Few suitable nest sites for peregrine falcon are near the project site. There are three CNDDB occurrences within 5 miles of the site, all documented at a cliff nest located 4.64 miles west of the trail alignment. While peregrine falcons may occasionally nest on electrical transmission towers or use abandoned stick nests, the project site does not support ideal nesting habitat, such as tall buildings, cliffs, or bridges. Due to the lack of nearby occurrences and ideal nesting habitat, there is low potential for peregrine falcons to nest on the project site.
Sterna antillarum browni California least tern	FE/SE/CFP	Nest on the ground on sandy beaches, alkali flats, hard-pan surfaces (salt ponds).	None The CNDDB does not list any occurrences within 5 miles of the project. No habitat within the project area.

Species	Status* (Federal/State/ CDFW)	Habitat Requirements	Potential to Occur
Mammals			
Vulpes macrotis mutica San Joaquin kit fox	FE/CT/--	Found primarily in flat areas with short, sparse vegetation in the southern San Joaquin Valley. Feeds on kangaroo rats and other small rodent species, but will also consume insects, hares, mice, and lizards. Lives in dens that it either excavates itself or moves into atypical dens including manmade structures.	None There are no CNDDB occurrences are within 5 miles of the site. No nearby occurrences were recorded within the last 20 years. No areas with sparse vegetation are present on the site. No potential dens were seen during the biological surveys.
Neotoma fuscipes annectens San Francisco dusky-footed woodrat	--/--/CSC	Primarily found along riparian areas within chaparral and woodlands. Feeds mainly on woody plants but also eats acorns, grasses, and fungi. Builds conspicuous stick houses in trees and on the ground.	Low One CNDDB occurrence is within 5 miles of the site. It is based on an observation made in 2006 along Alameda Creek. Suitable habitat is present. May occur in wooded areas and drainages. No woodrat houses were observed during any of the site visits.
Reithrodontomys raviventris Salt marsh harvest mouse	FE/SE/CFP	Tidal salt marshes of San Francisco Bay and its tributaries. Requires tall, dense pickleweed (*Salicornia* spp.) for cover.	None No potential to occur due to lack of tidal salt marsh on or near the project site.
Corynorhinus townsendii Townsend's big-eared bat	--/--/CSC	This species distribution is limited by suitable roosting sites, which include caves, mines, tunnels, buildings, and other manmade structures. Feeds primarily upon moths.	None The CNDDB contains only one occurrence within 5 miles of the site. It is based on an observation made in 1943. No suitable roosting sites present near the trail alignment.
Antrozous pallidus Pallid bat	--/--/CSC	Roost in caves, tunnels, and occasionally buildings and hollow trees. Forages over a variety of habitats.	None The CNDDB contains no occurrences within 5 miles of the site. No suitable roosting sites present near the trail alignment.
Bassariscus astutus Ring-tailed cat	-/--/CFP	Found in a variety of vegetation types from Oregon to Mexico. During the day they sleep in dens in tree cavities or rock outcroppings.	Low May den in cavities in large old trees in ravines and drainages.

Species	Status* (Federal/State/ CDFW)	Habitat Requirements	Potential to Occur
Invertebrates			
Callophrys mossii bayensis San Bruno elfin butterfly	FE/–/–	Known to occur only on slopes of the coastal mountains in San Mateo County. Lays eggs on the larval host plant stonecrop (*Sedum spathulifolium*).	None The project site is outside the known range of the species and does not contain the host plant. There are no CNDDB records within 5 miles of the site.
Euphydryas editha bayensis Bay checkerspot butterfly	FT/–/–	Females lay eggs at the base of dwarf plantain (*Plantago erecta*). After the eggs hatch, the larvae feed on the host plant, or may feed on purple owl's clover (*Castilleja densiflora* or *C. exserta*). After metamorphosis the adult butterflies feed on the nectar of a variety of plants that grow in shallow, serpentine-derived soils.	None The project site is dominated by non-native annual grasses, which do not provide any food for larvae or adult butterflies. No dwarf plantain or purple owl's clover occur on the project site. There are no serpentine-derived soils on the project site.
Branchinecta conservation Conservancy fairy shrimp	FE/–/–	Found only in vernal pools in California's Central Valley and one population in Ventura County.	None The project site is outside the known range of the species. No vernal pools are present in the project site. There are no CNDDB records within 5 miles of the site.
Branchinecta lynchi Vernal pool fairy shrimp	FT/–/–	Inhabits vernal pools and swales during all stages of its life cycle.	None No vernal pools are present in the project site. There are no CNDDB records within 5 miles of the site.
Lepidurus packardi Vernal pool tadpole shrimp	FT/–/–	Inhabits a wide variety of seasonal aquatic habitats, including vernal pools, seasonal wetlands, ephemeral stock tanks, and manmade ditches. Reproduces by producing cysts which persist in the dried soil of the water feature until it refills during the rainy season.	None No vernal pools or other seasonal wetlands are present in the project site. There are no CNDDB records within 5 miles of the site.
Fish			
Hypomesus transpacificus Delta smelt	FT/CE/–	Only found in estuarine waters from the Sacramento-San Joaquin confluence to San Pablo Bay. Usually found in water with an average salinity concentration of 2 parts per thousand for much of its life cycle, but can tolerate a wide range of salinities and moves into river channels and tidally influenced backwater sloughs.	None There is no suitable habitat on or near the site. There are no CNDDB occurrences within 5 miles of the site.

Species	Status* (Federal/State/ CDFW)	Habitat Requirements	Potential to Occur
Oncorhynchus mykiss irideus Steelhead - northern California Distinct Population Segment	FT/–/–	Requires cool, swift moving perennial streams with clean, unsilted gravel beds for spawning and egg deposition.	None While steelhead are known to occur in Alameda Creek in the vicinity of the project site, no suitable perennial streams are located on the project site. No potential to occur.

*Status:

FT = Federally listed as threatened; FE = Federally listed as endangered
CT = California State listed as threatened; CSC = California species of special concern; CFP = California Fully Protected

The CNDDB contains 12 presumed extant and one possibly extirpated California tiger salamander occurrences within 5 miles of the project site. The nearest known breeding pond is located approximately 2.1 miles southeast of the project site.

The small man-made pond near the north end of the trail alignment could potentially be used for breeding. The pond had turbid water and lacked emergent vegetation. The pond likely holds water long enough in most normal-rainfall years for California tiger salamander larvae to successfully metamorphose. The lack of large California ground squirrel burrow complexes near the pond reduces, but does not eliminate its suitability for breeding. There are numerous burrows near the bottom of the trail alignment, within a suitable distance (1.24 miles) of the pond.

California Red-legged Frog

The California red-legged frog is a CDFW Species of Special Concern and is also federally listed as threatened. The project site is not within or adjacent to Critical Habitat for California red-legged frog. Critical Habitat Unit ALA-1B is located approximately 2.3 miles northwest of the trail alignment, as shown in Figure 3. There are no barriers to dispersal between this critical habitat unit and the project site. Although the site is not within designated Critical Habitat, the essential habitat elements the USFWS uses to define Critical Habitat are useful in characterizing the quality of habitat within the project site for California red-legged frogs.

The USFWS has defined the essential habitat elements for California red-legged frogs as: 1) Aquatic Breeding Habitat = standing bodies of fresh water (with salinities less than 4.5 parts per thousand), including natural and manmade (e.g., stock) ponds, slow-moving streams or pools within streams, and other ephemeral or permanent water bodies that typically become inundated during winter rains and hold water for a minimum of 20 weeks in all but the driest of years; 2) Aquatic Non-Breeding Habitat = freshwater pond and stream habitats that may not hold water long enough for the species to complete its aquatic life cycle but which provide for shelter, foraging, predator avoidance, and aquatic dispersal of juvenile and adult California red-legged frogs. Other wetland habitats considered to meet these criteria include, but are not limited to: plunge pools within intermittent creeks, seeps, quiet backwaters within streams during high water flows, and springs of

sufficient flow to provide mesic surface conditions during dry periods; 3) Upland Habitat = upland areas adjacent to or surrounding breeding and non-breeding aquatic and riparian habitat up to a distance of 1 mile (1.6 km) in most cases (i.e., depending on surrounding landscape and dispersal barriers) including various vegetation types such as grassland, woodland, forest, wetland, or riparian areas that provide shelter, forage, and predator avoidance for the California red-legged frog; and 4), Dispersal Habitat = accessible upland or riparian habitat within and between occupied or previously occupied sites that are located within 1 mile of each other, and that support movement between such sites.

The CNDDB contains 11 presumed extant California red-legged frog occurrences within 5 miles of the project site. The nearest known breeding pond is located approximately 1.5 miles east of the project site. Two more occurrences are located approximately 3.3 miles north-northwest of the project site in ponds in Garin Regional Park and associated with the Stonebrae development. There are no barriers to frog dispersal between these occurrences and the site.

Ideal California red-legged frog breeding ponds have some emergent vegetation to provide cover for adult frogs and tadpoles. Too much emergent vegetation, however, shades the water, preventing it from heating up to optimum temperatures for tadpole development. Ideal ponds have deeper areas (5 or more feet deep) where cattails cannot become established that also provide an area where adult frogs can escape from predators. Shallower areas where the water gets warmer are also required for the tadpoles to develop.

Due to the lack of emergent vegetation and deep water, the man-made pond near the northern part of the trail alignment currently provides marginal or very low quality breeding habitat for California red-legged frogs. In order for California red-legged frog tadpoles to successfully metamorphose, the pond would need to hold water through at least late July in most normal-rainfall years. The project site is not separated from surrounding occupied habitat, so California red-legged frogs may find and breed in the pond. There is some potential for nonbreeding California red-legged frogs to use the riparian areas that the proposed trail alignment crosses and to move through the project site.

Alameda Striped Racer

The Alameda striped racer is listed as a State and federally threatened species. The Alameda striped racer is a subspecies of the California striped racer. This subspecies is found in the Inner coast range, primarily in Alameda and Contra Costa Counties, with additional occurrence records in San Joaquin and Santa Clara Counties (Stebbins 2003, USFWS 2005).

The upper portion of the trail alignment is within Critical Habitat Unit 3 for the Alameda striped racer (USFWS 2006) as shown in Figure 3. The essential habitat features for Alameda striped racer are scrub dominated communities, including mixed chaparral, chamise-redshank chaparral, coastal scrub, and annual grassland and oak woodlands that lie adjacent to such scrub habitats (USFWS 2000; 2006). Also important are grasslands and various types of oak woodland when they are linked to scrub habitats by rock outcrops or river corridors. Specific habitat features needed by Alameda striped racers include, but are not limited to, small mammal burrows, rock outcrops, talus, and other forms of cover to provide temperature regulation, shelter from predators, egg laying sites, winter hibernaculum, and habitat for prey species such as lizards. The Alameda striped racer is active during the daytime, and maintains a high body temperature by basking in the sun. Radio telemetry data for six snakes tracked by Swaim (1994) indicated that their home ranges were centered on shrub or chaparral communities but that they also travelled into adjacent annual grasslands, oak savannas, and oak-bay woodlands. The snakes' activity was also correlated to areas with significant rock outcroppings or talus. Alameda striped racers are most likely to occur aboveground in the project site in the spring and fall when they are most active. There is less of a chance of encountering Alameda striped racers during the hottest parts of summer or during winter when they are less likely to leave deep burrows, rock crevices or other refuges.

LSA searched the California Natural Diversity Database (CNDDB 2017) and compiled recent sightings by biologists for occurrence records of Alameda striped racer within 5 miles of the site. The CNDDB contains 30 occurrences within 5 miles of the site. To protect the species from illegal collection, the exact localities are suppressed and kept confidential and are mapped to the extent of the general area where the observation was made.

The project site is completely within the current and historic range of the subspecies, and is surrounded by suitable habitat that is assumed to be occupied. The project site is contiguous with large undeveloped open areas, some of which are protected. Western fence lizards, a favored prey item, were seen on the site, and it is assumed other lizard species live on the site as well. Therefore, it is assumed that Alameda striped racers occupy the project site. However, it is highly unlikely any individual Alameda striped racers would be within the trail alignment during construction, because most of the proposed trail is located several hundred feet from scrub or chaparral communities, in grasslands with few burrows or rock outcroppings that would provide cover.

Golden Eagle

The Golden eagle is a California Fully Protected species and is also protected under the Bald and Golden Eagle Protection Act. In California, the golden eagle is a year-round resident inhabiting primarily hilly and mountainous terrain in open areas, including Alameda County. Hilly terrain is preferred over flat areas because updrafts support takeoff and soaring. Golden eagles nest primarily in large trees in California, but also utilize cliffs and transmission towers. Prey items include medium to large sized mammals and birds. Preferred habitat for golden eagles generally includes suitable nest sites and sufficient prey availability.

The CNDDB contains one presumed extant golden eagle occurrence within 5 miles of the project site. This record is based on a nest seen approximately 3.6 miles north of the project site.

The project site provides open, hilly terrain ideal for golden eagles. Several large trees were documented within 0.5 mile of the project site that could provide suitable nesting habitat. A large stick nest observed in a eucalyptus tree approximately 530 feet west of the emergency vehicle and maintenance (EVMA) road might have been built by golden eagles. California ground squirrels, a potential prey item, were documented within the project site.

Burrowing Owl

The burrowing owl (*Athene cunicularia*) is a CDFW Species of Special Concern. Burrowing owls use a variety of developed, natural, uncultivated, and agricultural habitats, any of which can support owls depending on the availability of burrows for cover, perching, nesting, and prey availability. Burrowing owls have also been known to use storm drains, areas under roadways, and other manmade features for nesting and cover. This species is commonly found in heavily used urban environments such as city parks, airports, and areas adjacent to road with heavy traffic.

The CNDDB contains seven presumed extant and one possibly extirpated burrowing owl occurrences within 5 miles of the project site. The nearest occurrence is approximately 2 miles south of the site, in Central Park in Fremont.

While the majority of the project site supports tall vegetation that is likely unsuitable for burrowing owl, active ground squirrel burrow complexes were seen near the bottom of the trail, north of the railroad track. This portion of the project site has shorter vegetation. There is some potential for burrowing owls to breed in these burrows or occupy them during the winter.

American Peregrine Falcon

The American peregrine falcon is a California Fully Protected species. The species was listed under both the California and federal Endangered Species Acts, but was delisted after populations had recovered after the use of DDT was banned. American peregrine falcons nest on cliff ledges and tall buildings. The birds do not build a nest, aside from scraping a small depression in the sand or gravel on the ledge. The nests are usually adjacent to open areas but in 2017, peregrine falcons nested in a tower on the University of California, Berkeley campus, approximately 25 miles northwest of the project site. Peregrine falcons also occasionally use large abandoned stick nests built by other raptors or ravens. Peregrine falcons feed almost entirely upon birds.

There are no large cliffs or tall buildings near the project site. However, there is at least one large stick nest in a eucalyptus tree approximately 530 feet west of the EVMA Road that could potentially be used by peregrine falcons.

San Francisco dusky-footed woodrat

The San Francisco dusky-footed woodrat is a CDFW Species of Special Concern. The species builds conspicuous houses out of sticks on the ground and also in large trees. The houses are generally located in areas with large amounts of trees and brush, and are often in riparian areas. San Francisco dusky-footed woodrats are omnivorous and feed both on the ground and in trees. They are nocturnal so they are rarely seen by people, even where their houses are numerous.

The CNDDB contains one presumed extant San Francisco dusky-footed woodrat occurrence within 5 miles of the project site. The record is based on woodrat houses seen along Alameda Creek approximately 3.2 miles east of the project site.

No woodrat houses were seen anywhere near the trail alignment. It is likely the species is in the general area, so it is possible that a house could be built between the time of the surveys and the start of trail construction.

Ring-tailed Cat

The ring-tailed cat is a CDFW Fully Protected species. The species is not listed under either the California or federal Endangered Species Acts. Ring-tailed cats are not tracked by the CNDDB. Ring-tailed cats are nocturnal and arboreal and therefore are rarely seen by people. Favored habitat consists of areas with many rock outcroppings or cliffs and large trees that have cavities. Ring-tailed cats are adept climbers and avoid moving through open grasslands where they would have difficulty escaping predators. During the day, ring-tailed cats sleep in dens such as tree hollows, rock crevices, and abandoned burrows created by other animals. A single ring-tailed cat will use several dens, and move between them regularly.

The trail alignment goes through a few riparian areas with large old trees, and there is some potential for ring-tailed cats to den in cavities in those trees.

ANALYSIS OF IMPACTS AND RECOMMENDED MEASURES TO AVOID, MINIMIZE, AND MITIGATE POTENTIAL IMPACTS

The potential for protected resources to be impacted by construction and operation of the proposed trail are a function of the likelihood the species is present when the trail is constructed, as well as the type and duration of construction activities. Another factor is the sensitivity of the species or resource to disturbance. For example, a San Francisco dusky-footed woodrat may not react at all to people working near its house during the day, whereas a raptor may abandon its nest if people are working 100 feet from it.

SPECIAL-STATUS PLANTS

As discussed previously, no special-status plants are expected to occur on the project site. Therefore, no impacts are expected and no mitigation measures are necessary.

SENSITIVE NATURAL COMMUNITIES

Two sensitive natural communities occur on the site; California sycamore woodland occurs at Vallejo Mills Historic Park and purple needle grass grassland occur within the trail alignment in the higher elevations of the project site, as shown on Figure 4. No impacts will occur to the California sycamore woodland habitat as a result of the project because ground disturbing improvements are not proposed within Vallejo Mill Park. Some needle grass grassland habitat would be impacted where the trail would be constructed across natural soils that have not previously been graded for existing ranch roads.

Construction activities associated with development of the trail could impact purple needle grass grassland, which is a sensitive natural community. One area of purple needle grass grassland would be impacted by construction of the trail where the trail alignment extends through natural soils that have not previously been graded for existing ranch roads. Implementation of mitigation measures would reduce the identified impacts to purple needle grass grassland to a less than significant level.

Mitigation Measure BIO-1: The loss of purple needle grass grassland shall be mitigated by restoring an equivalent amount purple needle grass grassland onsite. The District will reseed areas of purple needle grass grassland habitat that are disturbed by trail construction with an appropriate weed-free native seed mix that contains purple needlegrass seed.

Implementation of Mitigation Measure BIO-1 would result in restoration of an area equal to that lost due to the project. This mitigation measure will offset the loss of currently degraded purple needle grass grassland and ensure that potential impacts to special-status natural plant communities are reduced to a *less-than-significant* level.

JURISDICTIONAL FEATURES

Wetlands and drainages on the project site are likely subject to regulation under Section 404 of the federal Clean Water Act and California Porter-Cologne Water Quality Control Act. Trail construction activities could adversely affect these features through directly filling, or indirectly through increased erosion or sedimentation. Most of the drainage features have already been impacted

through the installation of culverts, roads, and water troughs or cisterns associated with ranching operations on the project site. Dilapidated culverts that will be replaced with new culverts will not adversely affect the function or values of jurisdictional waters. Furthermore, daylighting some of the culverts within the trail alignment by constructing articulated fords would result in a beneficial effect on drainages. Therefore, construction project may result in a net positive impact on jurisdictional features.

Mitigation Measure BIO-2: The District shall obtain required permits to impact jurisdictional features from the relevant regulatory agencies, including the Corps, CDFW, and Regional Water Quality Control Board. These permits will include conditions and Best Management Practices that the District shall implement during construction. Through implementation of the measures, impacts to jurisdictional features will be less than significant. These permits may also specify mitigation, which the District shall provide as specified by the agencies.

Wildlife could be directly impacted if they were killed by construction of the trail or recreational use of the trail. Wildlife deaths could result from motor vehicles operating on the EVMA road, existing ranch road, or while travelling overland. Wildlife could be disturbed by noise from construction-related vehicles, equipment, and personnel. Nocturnal wildlife species could alter their behavior in response to lights or noise from nighttime construction activities. Because the trail will not be open for recreation at night, operation of the trail will not impact nocturnal wildlife. Food-related trash left on the construction site could attract additional predators such as coyotes, ravens, or feral cats, leading to increased predation pressure on native wildlife species. Spills of oil or fuel from construction equipment and vehicles could degrade soil or water. Pet dogs running off leash could kill or disturb ground-nesting birds and other wildlife. Because the District has a policy for trail easements on private lands that requires trail users to keep dogs on a leash at all times, this potential impact will be avoided.

General Wildlife Protection Measures

Mitigation Measure BIO-3: Prior to the initiation of construction activities (including staging of equipment and clearing of vegetation) all personnel associated with project construction shall attend an Environmental Awareness Training. The training shall be prepared and conducted by a qualified biologist, to aid workers in recognizing special-status resources that may occur in the project area. The specifics of this program shall include identification of the special-status species and habitats, a description of the regulatory status, and review of the measures required to reduce impacts to biological resources on the project site. Each worker shall be given a handout with key points. At the end of the training, all workers shall sign to document their participation in the program and understanding of the measures.

Mitigation Measure BIO-4: During construction of the trail, no pets or firearms shall be allowed at the project site, with the exception of authorized law enforcement personnel.

Mitigation Measure BIO-5: All refueling, maintenance, and staging of equipment and vehicles shall occur at least 100 feet from any wetlands or waterbodies. Secondary containment shall be used during refueling.

Mitigation Measure BIO-6: All vehicles and equipment shall be maintained in good working condition and free of leaks.

Mitigation Measure BIO-7: Standard Best Management Practices (BMPs) shall be employed as necessary to avoid degradation of aquatic habitat by maintaining water quality and controlling erosion and sedimentation during construction.

Mitigation Measure BIO-8: To prevent the entanglement of wildlife, no erosion control devices containing plastic monofilament netting shall be used or stored on site.

Mitigation Measure BIO-9: Construction personnel shall not feed or otherwise attract wildlife in the project area. All food-related trash and garbage shall be placed in animal-proof containers which shall be emptied or removed from the construction site on a regular basis.

Mitigation Measure BIO-10: Construction activities shall be restricted to the daytime hours, from 30 minutes after sunrise to 30 minutes before sunset.

Mitigation Measure BIO-11: To reduce the potential for vehicle strikes, all construction related traffic shall not exceed 5 miles per hour on unpaved roads.

Mitigation Measure BIO-12: All burrows shall be avoided to the maximum extent possible. If a burrow has to be impacted, a qualified biologist shall use hand tools to excavate the burrow to inspect it for special-status species. If any special-status species are seen, work shall stop in the immediate area and the animal shall not be further disturbed.

Mitigation Measure BIO-13: In the unlikely event a special-status species is inadvertently killed or injured or if a special-status species is observed to be injured, dead, or entrapped, the construction crew will stop work and notify the USFWS and CDFW.

Mitigation Measure BIO-14: Upon completion of trail construction, temporarily impacted areas will be restored to pre-project grades and contours and stabilized to prevent erosion. A seed mix of native grass and forb species will be applied to all of the grassland areas disturbed by the project. The seed will be from sources that are regionally appropriate for the site.

Mammals

Ring-tailed cat

There is a low potential for a ring-tailed cat to be denning in an area that will be affected by trail construction activities. Because ring-tailed cats maintain multiple dens, the loss of one den would be a negligible impact. However, the loss of a natal or maternity den would be a significant impact. By implementing Mitigation Measure BIO-15, impacts to ring-tailed cat would be less than significant.

Mitigation Measure BIO-15: If vegetation removal or construction activities occur outside of the breeding season for ring-tailed cat (February 1 through May 1), no mitigation is necessary. If the breeding season cannot be completely avoided, a qualified biologist shall conduct a pre-construction

survey within two weeks prior to commencement of construction for potential natal or maternity den trees. If an active den is found, a qualified biologist, in consultation with CDFW, will determine a construction-free buffer zone to be established around the den until the young have left the den.

Reptiles

Alameda striped racer

Because Alameda striped racers occur in low densities and spend most of their time in chaparral communities that the trail has been designed to avoid, it is unlikely any will be encountered during trail construction. Potential direct effects on Alameda striped racer may result from crushing of individuals by construction equipment, vehicles, or crews while working within suitable habitat. Any Alameda racers that happened to be on the EVMA or proposed trail alignment would likely flee project personnel before they were in danger. Due to the small size of the construction area relative to the surrounding open space, the temporary disturbance during construction would be a negligible impact. There is only a negligible potential to affect racers that may be in the few burrows in grasslands within the trail alignment during the proposed trail construction. During operation of the trail, there is a negligible potential for a basking Alameda striped racer to be crushed by a pedestrian, equestrian, or cyclist. Alameda striped racers do occur in grasslands, but spend most of their time in large patches of chaparral, which are not present within the trail alignment. Furthermore, Alameda striped racers are very fast, and would almost certainly flee any large object moving toward them. By implementing the previously described measures and Mitigation Measures BIO-16 and -17 below, impacts to Alameda striped racer would be less than significant.

Mitigation Measure BIO–16: To reduce the potential of impacting Alameda striped racer, the proposed trail shall be routed to avoid rock outcroppings and chaparral or scrub vegetation to the maximum extent practical.

Mitigation Measure BIO–17: If it is necessary to remove rock outcroppings or chaparral or scrub vegetation, only hand tools shall be used. A qualified biologist shall monitor these activities.

Amphibians

California red-legged frog

The project will not impact any known or potential breeding habitat for the California red-legged frog. The frogs generally stay close to water, with some individuals primarily migrating at night. Because trail construction activities will occur during daylight hours as described in Mitigation Measure BIO-10. No impact on migrating individuals is expected. Potential impacts will be further reduced to a less-than-significant level with the implementation of Mitigation Measure BIO-3 through Mitigation Measure BIO-14 that are previously described.

California tiger salamander

The project will not impact any known or potential breeding habitat for the California tiger salamander. Because salamanders generally migrate at night during rain events and project activities will occur during daylight hours, no impact on migrating individuals is expected. There is only a negligible potential to affect salamanders that may be in deep burrows during the proposed

trail construction. There will be no anticipated impacts to California tiger salamanders during operation of the trail, because the adults live deep underground and only come to the surface on rainy nights. Potential impacts will be further reduced to a less-than-significant level with the implementation of Mitigation Measure BIO-3 through Mitigation Measure BIO-14 that are previously described.

Birds

Golden eagle and American peregrine falcon

There is the potential to impact breeding golden eagles and American peregrine falcons through general disturbance if work is conducted near a nest. Birds are most likely to leave nests early in the nest cycle. If the birds are forced to fledge early, they could be subject to predation or starvation, which could result in reproductive failure. Potential impacts will be reduced to a less-than-significant level through surveys and monitoring as described in Mitigation Measure BIO-18.

Mitigation Measure BIO-18: If construction activities take place during the raptor breeding season (January 1-August 31), a pre-construction survey for nests will be conducted no more than 1 month in advance of construction to establish whether golden eagles have occupied nests within a 0.5-mile buffer of the trail alignment. Pre-construction surveys will include all potential nesting habitat within 0.5-mile of the project site. Surveys will include observations of nests and golden eagle and peregrine falcon activity.

If an occupied nest is documented during the survey, the following will be implemented: No construction would occur within 0.5 mile of an active nest until the young have fledged. The size of the buffer may be decreased depending on site-specific conditions and verified by CDFW and USFWS. The nests will be monitored for activity and agitation. The monitoring schedule will be determined and readjusted according to the level of activity within the nest and as agreed to by CDFW.

Burrowing owl

There is the potential to impact breeding burrowing owls through general disturbance if work is conducted near an occupied burrow. Burrowing owls are most likely to leave nests early in the nest cycle. If the young owls are forced to fledge early, they could be subject to predation or starvation, which could result in reproductive failure. Potential impacts will be reduced to a less-than-significant level through surveys and monitoring as described in Mitigation Measure BIO-19.

Mitigation Measure BIO-19: A qualified biologist shall conduct a pre-construction/take avoidance survey for burrowing owls using the methods described in Appendix D of the CDFW *Staff Report on Burrowing Owl Mitigation* (Staff Report). Pre-construction surveys will be conducted in suitable habitat for this species within the trail alignment. If no burrowing owls are detected during the initial take avoidance survey, a final survey shall be conducted within 24 hours prior to ground disturbance to confirm that owls are still absent. If construction activities are delayed beyond 24 hours of the second take avoidance survey, an additional survey shall be required within 24 hours prior to the re-initiation of construction.

If burrowing owls are documented to occupy burrows within the project site either during the breeding season or overwintering, compensatory mitigation shall be required. Compensatory mitigation shall follow the guidelines outlined in the 2012 CDFW Staff Report. Occupied burrows shall be provided with protective buffers (year-round) within which construction activities shall be prohibited. Buffer sizes shall be determined by the qualified biologist in consultation with CDFW.

For burrows where avoidance is not feasible, owls shall be passively relocated. A Burrowing Owl Exclusion Plan shall be developed and approved by CDFW prior to the implementation of passive relocation. Any burrowing owls detected onsite shall be monitored prior to, during, and after exclusion to ensure that substantial adverse effects are avoided. If burrow exclusion will occur immediately after the end of the breeding season, daily monitoring shall be conducted for one week prior to the exclusion to confirm that any young have fledged.

Other Migratory Birds

There is the potential to impact breeding birds protected by the Migratory Bird Treaty Act and California Fish and Game code from noise or human presence during construction of the trail. Breeding seasons vary from year to year depending on the species, weather, and other conditions, but nesting birds could be disturbed anytime between January and August. Within the project area birds may nest in trees, shrubs, grasses, bare ground, and on manmade structures and equipment. Breeding birds are most likely to abandon nests early in the nest cycle. If the young birds are forced to fledge early, they could be subject to predation or starvation, which could result in reproductive failure. Potential impacts will be reduced to a less-than-significant level through surveys and monitoring as described in Mitigation Measure BIO – 20.

Mitigation Measure BIO-20: If work occurs during the migratory bird nesting season (March 1 through August 31), a qualified biologist will conduct surveys within 10 days prior to the start of construction. Pre-construction surveys will include the areas within a 250-foot buffer for passerine species and a 500-foot buffer for raptor species other than golden eagle, American peregrine falcon, and burrowing owl. Nest surveys will be repeated if construction lapses in a work area for 14 days between March and July. Nest surveys will follow standard biological survey methods, and survey effort will be tailored to detect specific species, with visits planned at appropriate timeframes/intervals to detect nesting activity. If nest are found, a qualified biologist shall establish an appropriate buffer to be in compliance with Migratory Bird Treaty Act and Fish and Game Code 3503. A qualified biologist shall perform at least two hours of pre-construction baseline monitoring of the nest to characterize “normal” bird behavior. The biologist shall monitor the nesting birds and shall increase the buffer if the project biologist determines the birds are showing signs of unusual or distressed behavior by project activities. Abnormal nesting behaviors which may cause reproductive harm include, but are not limited to, defensive flights/vocalizations directed towards project personnel, standing up from a brooding position, and flying away from the nest. The biologist shall have authority to halt work activities if the nesting birds exhibit abnormal behavior which may cause reproductive failure (nest abandonment and loss of eggs and/or young) until an appropriate buffer is established. To prevent encroachment, the buffer shall be clearly marked for avoidance. The established buffer shall remain in effect until the young have fledged or the nest has been abandoned as confirmed by the biologist. Signs of nest abandonment, as determined by the biologist, shall be reported to CDFW within 72 hours. Active nests (defined as the presence of chicks

and/or eggs) that occur in developed areas will be considered in the context of the surrounding residential development, ongoing activities, and access constraints. Nest detection and nest monitoring surveys will not occur within private property areas with access restrictions, or near private residences.

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APPENDIX A

LIST OF PLANTS OBSERVED

FAMILY/Species Name - scientific	FAMILY/ Common Name	Nativity
FERNS and FERN ALLIES		
BLECHNACEAE	DEER FERN FAMILY	
Woodwardia fimbriata	Giant chain fern	yes
DENNSTAEDTIACEAE	BRACKEN FAMILY	
Pteridium aquilinum	Bracken fern	yes
DRYOPTERACEAE	WOOD FERN FAMILY	
Dryopteris arguta	Wood fern	yes
Polystichum munitum	Sword fern	yes
POLYPODIACEAE	POLYPODY FAMILY	
Polypodium californicum	California polypody	yes
PTERIDACEAE	BRAKE FAMILY	
Adiantum jordanii	California maidenhair-fern	yes
Pentagramma triangularis	Gold-back fern	yes
MAGNOLIIDS		
LAURACEAE	LAUREL FAMILY	
Umbellularia californica	California laurel	yes
EUDICOTS		
ADOXACEAE	MUSKROOT FAMILY	
Sambucus nigra subsp. *caerulea*	Blue elderberry	yes
ANACARDIACEAE	SUMAC/CASHEW	
Toxicodendron diversilobum	Poison oak	yes
APIACEAE	CARROT	
Conium maculatum	Poison hemlock	no
Foeniculum vulgare	Fennel	no
Sanicula bipinnatifida	Purple sanicle	yes
Sanicula crassicaulis	Wood sanicle	yes
ASTERACEAE	SUNFLOWER FAMILY	
Achillea millefolium	Common yarrow	yes
Artemisia californica	California sagebrush	yes
Baccharis pilularis	Coyote brush	yes
Carduus pycnocephalus	Italian thistle	no
Centaurea calcitrapa	Purple star-thistle	no INVASIVE SPECIES
Centaurea solstitialis	Yellow star-thistle	no INVASIVE SPECIES
Hypochaeris glabra	Smooth cat's ear	no
Lactuca serriola	Prickly lettuce	no
Silybum marianum	Milk thistle	no

FAMILY/Species Name - scientific	FAMILY/ Common Name	Nativity
Sonchus asper	Sow thistle	no
Symphyotrichum lanceolatum var. *hesperium*	Western lance leaf aster	yes
Taraxacum officinale	Dandelion	no
Wyethia angustifolia	Narrow-leaved mule ears	yes
BORAGINACEAE	BORAGE FAMILY	
Amsinckia intermedia	Common fiddleneck	yes
BRASSICACEAE	MUSTARD FAMILY	
Brassica nigra	Black mustard	no
Raphanus sativus	Wild radish	no
CAPRIFOLIACEAE	HONEYSUCKLE FAMILY	
Lonicera hispidula (var. *vacillans*)	California honeysuckle	yes
Symphoricarpos albus var. *laevigatus*	Snowberry	yes
CONVOLVULACEAE	MORNING GLORY	
Calystegia occidentalis	Chaparral false bindweed	yes
Calystegia purpurata	Morning glory	yes
Calystegia silvatica subsp. *disjuncta?*		
Calystegia subacaulis	Stemless morning glory	yes
Convolvulus arvensis	Field bindweed	no
CUCURBITACEAE	GOURD FAMILY	
Marah fabacea	Wild cucumber	yes
FABACEAE	LEGUME FAMILY	
Acmispon glaber	Deerweed	yes
Acmispon wrangelianus	Chilean trefoil	yes
Lathyrus vestitus	Pacific pea	yes
Lathyrus vestitus var. *vestitus*	Hillside pea	yes
Lotus micrantuhus		
Lupinus albifrons var. *collinus*	Silver bush lupine	yes
Lupinus arboreus	Yellow bush lupine	yes
Lupinus bicolor	Miniature lupine	yes
Lupinus chamissonis	Dune lupine	yes
Lupinus formosus	Summer lupine	yes
Lupinus latifolius	Lupine	yes
Lupinus nanus	Sky lupine	yes
Lupinus sp.	Lupine	yes
Lupinus succulentus	Arroyo lupine	yes
Medicago polymorpha	Bur-clover	no
Trifolium hirtum	Rose clover	no
Trifolium subterraneum	Subterranean clover	no

FAMILY/Species Name - scientific	FAMILY/ Common Name	Nativity
Vicia benghelensis	Purple vetch	no
Vicia sativa	Spring vetch	no
FAGACEAE	OAK FAMILY	
Quercus agrifolia	Coast live oak	yes
Quercus lobata	Valley oak	yes
Quercus rubra	Red oak	no
GERANIACEAE	GERANIUM FAMILY	
Geranium dissectum	Cutleaf geranium	no
Geranium molle	Woodland geranium	no
LAMIACEAE	MINT FAMILY	
Monardella sp.	Coyote mint	yes
Stachys ajugoides	Hedgenettle	yes
MALVACEAE	MALLOW FAMILY	
Malva parviflora	Cheeses	no
Sidalcea malvaeflora	Checker mallow	yes
MONTIACEAE	PURSLANE FAMILY	
Claytonia perfoliata	Miner's lettuce	yes
MYRSINACEAE		
Lysimachia arvensis [*Anagallis arvensis*]	Scarlet pimpernel	no
ONAGRACEAE	EVENING PRIMROSE FAMILY	
Taraxia ovata	Goldeneggs	yes
Epilobium canum	California fuchsia	yes
OXALIDACEAE	OXALIS FAMILY	
Oxalis pes-caprae	Bermuda buttercup	no
PAPAVERACEAE	POPPY FAMILY	
Eschscholzia californica	California poppy	yes
PHRYMACEAE	LOPSEED FAMILY	
Mimulus aurantiacus	Bush monkeyflower	yes
PLANTAGINACEAE	PLANTIAN FAMILY	
Plantago lanceolata	English plantain	no
PLATANACEAE		
Platanus racemosa	Western sycamore	yes
POLYGONACAE	BUCKWHEAT FAMILY	
Eriogonum sp.	California buckwheat	yes
Rumex crispus	Curly dock	no
Rumex pulcher	Fiddle dock	no
RANUNCULACEAE	BUTTERCUP FAMILY	
Clematis lasiantha	Pipestem	yes
Ranunculus californicus	California buttercup	yes

FAMILY/Species Name - scientific	FAMILY/ Common Name	Nativity
ROSACEAE	ROSE FAMILY	
Heteromeles arbutifolia	Toyon	yes
Prunus dulcis	Almond	no
Rubus ursinus	California blackberry	yes
RUBIACEAE	MADDER FAMILY	
Galium porrigens var. *porrigens*	Climbing bedstraw	yes
Sherardia arvensis	Blue fieldmadder	no
SAPINDACEAE	BUCKEYE FAMILY	
Aesculus californica	California buckeye	yes
Acer macrophyllum	Bigleaf	yes
SCROPHULARIACEAE	FIGWORT FAMILY	
Scrophularia californica	Bee plant	yes
SOLANACEAE	NIGHTSHADE FAMILY	
Solanum americanum	American black nightshade	yes
URTICACEAE	NETTLE FAMILY	
Urtica urens	Stinging nettle	yes
VIOLACEAE		
Viola pedunculata	Johnny-jump-up	yes
MONOCOTS		
AGAVACEAE		
Agave Americana	Century plant	no
Chlorogalum pomeridianum	Soap plant	yes
IRIDACEAE	IRIS FAMILY	
Sisyrinchium bellum	Blue-eyed grass	yes
JUNCACEAE	RUSH FAMILY	
Juncus bufonius	Toad rush	yes
Juncus patens	Blue rush	yes
LILIACEAE	LILY FAMILY	
Calochortus albus	White fairy lantern	yes
THEMIDACEAE	BRODIAEA FAMILY	
Dichelostemma capitatum	Blue dicks	yes
POACEAE	GRASS FAMILY	
Avena fatua	Common wild oat	no
Brachypodium distachyon	False brome	no
Bromus diandrus	Ripgut brome	no
Danthonia californica	California oat grass	yes
Festuca perennis	Italian ryegrass	no
Hordeum murinum	Foxtail barley	no
Melica imperfecta	Imperfect melic grass	yes

FAMILY/Species Name - scientific	FAMILY/ Common Name	Nativity
Poa annua	Annual bluegrass	no
Stipa miliacea	Smilo grass	no
Stipa pulchra	Purple needlegrass	yes