

Public Review Draft

Initial Study/Mitigated Negative Declaration

Routine Maintenance and Restoration Program

**East Bay Regional Park District Lands,
Alameda and Contra Costa Counties**



East Bay 
Regional Park District
www.ebparks.org

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Contents

Chapter 1: Introduction.....	1-1
1.1 The Park District’s Routine Maintenance and Restoration Program.....	1-1
1.2 Intent and Scope of this Document	1-1
1.3 Organization of this Document.....	1-2
1.4 Impact Terminology	1-2
Chapter 2: Project Description.....	2-1
2.1 Introduction	2-1
2.2 Program Objectives.....	2-1
2.3 Program Area	2-2
2.4 Project Size Limits	2-2
2.5 Maintenance Crew, Work Durations, and Equipment.....	2-3
2.6 Authorization of Routine Maintenance Projects.....	2-7
2.7 Routine Maintenance Activities	2-7
2.7.1 Culvert Repair, Replacement, and Maintenance.....	2-8
2.7.2 Maintenance of Sediment-Debris from Culverts and Streams.....	2-8
2.7.3 Installation and Maintenance of Crossings and Fords	2-9
2.7.4 Bank Stabilization	2-9
2.7.5 Installation and Maintenance of Clear Span Bridges	2-9
2.7.6 Maintenance and Redevelopment of Spring Boxes	2-9
2.7.7 Maintenance Dredging of Silt Basins, Ponds, and Lakes.....	2-10
2.7.8 Maintenance of Existing Recreational Facilities	2-10
2.7.9 Removal of Hazardous Structures and Vessels.....	2-10
2.7.10 Restoration and Enhancement	2-10
2.8 Routine Maintenance-Associated Activities	2-12
2.9 General Best Management Practices.....	2-12
2.10 Compliance with Federal and State Endangered Species Acts	2-17
Chapter 3: Environmental Factors Potentially Affected.....	3-1
3.1 Determination	3-1
Chapter 4: Environmental Checklist.....	4-1
4.1 Aesthetics	4-1
4.1.1 Environmental Setting.....	4-1
4.1.2 Discussion.....	4-3
4.2 Agriculture and Forestry Resources	4-7
4.2.1 Environmental Setting.....	4-7

4.2.2	Discussion.....	4-8
4.3	Air Quality.....	4-11
4.3.1	Environmental Setting.....	4-11
4.3.2	Discussion.....	4-12
4.4	Biological Resources.....	4-15
4.4.1	Environmental Setting.....	4-16
4.4.2	Discussion.....	4-21
4.5	Cultural Resources.....	4-65
4.5.1	Environmental Setting.....	4-65
4.5.2	Discussion.....	4-67
4.6	Energy.....	4-73
4.6.1	Environmental Setting.....	4-73
4.6.2	Discussion.....	4-73
4.7	Geology and Soils.....	4-75
4.7.1	Environmental Setting.....	4-75
4.7.2	Discussion.....	4-76
4.8	Greenhouse Gas Emissions.....	4-81
4.8.1	Environmental Setting.....	4-81
4.8.2	Discussion.....	4-82
4.9	Hazards and Hazardous Materials.....	4-85
4.9.1	Environmental Setting.....	4-85
4.9.2	Discussion.....	4-90
4.10	Hydrology and Water Quality.....	4-99
4.10.1	Environmental Setting.....	4-99
4.10.2	Flooding.....	4-100
4.10.3	Discussion.....	4-102
4.11	Land Use and Planning.....	4-107
4.11.1	Environmental Setting.....	4-107
4.11.2	Discussion.....	4-107
4.12	Mineral Resources.....	4-109
4.12.1	Environmental Setting.....	4-109
4.12.2	Discussion.....	4-109
4.13	Noise.....	4-111
4.13.1	Environmental Setting.....	4-111
4.13.2	Discussion.....	4-114
4.14	Population and Housing.....	4-117
4.14.1	Environmental Setting.....	4-117

4.14.2 Discussion.....	4-117
4.15 Public Services	4-119
4.15.1 Environmental Setting.....	4-119
4.15.2 Discussion.....	4-120
4.16 Recreation	4-121
4.16.1 Environmental Setting.....	4-121
4.16.2 Discussion.....	4-121
4.17 Transportation	4-123
4.17.1 Environmental Setting.....	4-123
4.17.2 Discussion.....	4-123
4.18 Tribal Cultural Resources.....	4-127
4.18.1 Setting.....	4-127
4.18.2 Discussion.....	4-130
4.19 Utilities and Service Systems.....	4-135
4.19.1 Environmental Setting.....	4-135
4.19.2 Discussion.....	4-136
4.20 Wildfire	4-139
4.20.1 Environmental Setting.....	4-139
4.20.2 Discussion.....	4-139
4.21 Mandatory Findings of Significance	4-143
4.21.1 Discussion.....	4-143
Chapter 5: References	5-1

Appendices

- Appendix A : Temporary Fire Protection Measures
- Appendix B : Ecoregions
- Appendix C : Vegetation Communities
- Appendix D : Sensitive Natural Communities
- Appendix E : Special-Status Plants
- Appendix F : Special-Status Wildlife
- Appendix G : Parks with Listed Species
- Appendix H : Woodrat Nest Relocation Plan
- Appendix I : Habitat Compensation Requirements

Figures

- Figure 2-1 Completed Routine Maintenance and Restoration Program Activities on East Bay Regional Park District Land
- Figure 4.4-1 CNDDDB – Special-Status Plants and Plant Communities
- Figure 4.4-2 CNDDDB – Special-Status Wildlife

Tables

Table 2.1	Summary of Project Limits and Past Project Size	2-3
Table 2.2	Estimates of Project Size and Duration.....	2-5
Table 4.4.1	Potential Impacts to Special-Status Wildlife Species	4-27
Table 4.5.1	Program Activity Type, Amount of Disturbance, and Typical Equipment Used During Construction.....	4-68
Table 4.5.2	Annual Required Cultural Resources Survey Requirements.....	4-70
Table 4.9.1	Known Hazardous Materials Waste Sites.....	4-86
Table 4.9.2	Schools Within 0.25 mile of a Park District Park or Regional Trail.....	4-92
Table 4.10.1	Park District Groundwater Basins	4-101
Table 4.13.1	Typical Noise Levels	4-112
Table 4.13.2	Typical Noise Levels from Construction Equipment.....	4-114
Table 4.18.1	Park District and Tribal Correspondence for AB 52 Consultation.	4-131

List of Abbreviations and Acronyms

AB	Assembly Bill
ADRP	Archaeological Data Recovery Plan
AMP	archaeological monitoring plan
AWS	Alameda whipsnake
BAAQMD	Bay Area Air Quality Management District
BART	Bay Area Rapid Transit
BCE	Before Common Era
BLRA	California black rail
BMP	Best Management Practice
CAL FIRE	California Department of Forestry and Fire Protection
Cal-IPC	California Invasive Plant Council
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CARB	California Air Resources Board
CBC	California Building Code
CCAP	Community Climate Action Plan
CDFW	California Department of Fish and Wildlife
CDOC	California Department of Conservation
CDWR	California Department of Water Resources
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CH ₄	methane
CNDDDB	California Natural Diversity Database
CNEL	community noise equivalent level
CNPS	California Native Plant Society
CNWS	Concord Naval Weapons Station
CO ₂	carbon dioxide
Corps	United States Army Corps of Engineers
CRHR	California Register of Historical Resources
CRLF	California red-legged frog
CRPR	California Rare Plant Rank
CSC	Cultural Services Coordinator
CTS	California tiger salamander

dB	decibel
dBA	A-weighted decibel
DTSC	Department of Toxic Substances Control
EO	Executive Order
ESA	federal Endangered Species Act
FEMA	Federal Emergency Management Agency
FHSZ	fire hazard severity zones
FHWA	Federal Highway Administration
FYLF	foothill yellow-legged frog
GGG	giant garter snake
GHG	greenhouse gas
GIS	geographic information system
HCP	Habitat Conservation Plan
HDPE	high-density polyethylene
IR	Installation Restoration
IS	Initial Study
ITP	Incidental Take Permit
L _{dn}	day-night average level
L _{eq}	continuous sound level
LETE	California least tern
LUST	leaking underground storage tank
MCV	Manual of California Vegetation
MEC	munitions and explosives of concern
MND	Mitigated Negative Declaration
MTBE	methyl tert-butyl ether
N ₂ O	nitrous oxide
NAHC	Native American Heritage Commission
NCCP	Natural Community Conservation Plan
NMFS	National Marine Fisheries Service
NWIC	Northwest Information Center
O&M	operations and maintenance
OSHA	Occupational Safety and Health Administration
PAH	polynuclear aromatic hydrocarbon
Park District	East Bay Regional Park District
PCB	polychlorinated biphenyl
PG&E	Pacific Gas and Electric Company
PM	particulate matter
PM ₁₀	particulate matter less than or equal to 10 microns in diameter

PM _{2.5}	particulate matter less than or equal to 2.5 microns in diameter
QAC	Qualified Applicator Certificate
QAL	Qualified Applicator License
RIRA	California Ridgway's rail
RMA	Routine Maintenance Agreement
RMRP	Routine Maintenance and Restoration Program
RPS	renewable portfolio standard
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SGMA	Sustainable Groundwater Management Act
SJKF	San Joaquin kit fox
SLF	Sacred Lands File
SMHM	salt marsh harvest mouse
SNPL	western snowy plover
SR	State Route
SWRCB	State Water Resources Control Board
TBA	tert-butyl alcohol
TCE	trichloroethylene
TCR	tribal cultural resource
TPH	total petroleum hydrocarbons
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
UST	underground storage tank
UXO	unexploded ordnance
VMT	vehicle miles traveled
WDR	Waste Discharge Requirement
WQC	Water Quality Certification

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Chapter 1: Introduction

The East Bay Regional Park District (the Park District) has prepared this Initial Study (IS)/Mitigated Negative Declaration (MND) to provide the public, responsible agencies, and trustee agencies with information about the potential environmental effects of the proposed Routine Maintenance and Restoration Program (RMRP). This document was prepared pursuant to the requirements of the California Environmental Quality Act (CEQA).

1.1 The Park District's Routine Maintenance and Restoration Program

The Park District preserves a rich heritage of natural and cultural resources and provide open space, parks, trails to the residents of and visitors to the East Bay Area. The Park District comprises 73 parks spanning across 122,890 acres, 1,250 miles of trails, and 55 miles of shoreline throughout Alameda and Contra Costa Counties. The Park District acquires, preserves, protects, and operates this regional parklands in perpetuity for public use, while also conserving the natural and cultural resources of the land.

The RMRP is designed to streamline the permitting and environmental review of routine maintenance of infrastructure throughout the Park District. Under the RMRP, the Park District conducts a variety of routine maintenance activities in streams, catch basins, seeps, springs, ponds, reservoirs, beaches, tidal marshes, and shoreline levees. The purpose of these activities is to maintain existing facilities, protect water quality, reduce erosion, maintain public and emergency access, and maintain natural resources that support a variety of state and federally listed, special-status, and other native species.

1.2 Intent and Scope of this Document

This IS/MND described the proposed RMRP, its environmental setting, and the potential environmental impacts of the proposed RMRP with regard to the following topics:

- Aesthetics
- Agricultural/Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology, Soils, and Seismicity
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire

In **Chapter 2, Project Description**, Best Management Practices (BMPs) are described that will ensure that there would be no significant adverse impacts on the environment. In addition to BMPs, mitigation measures are discussed throughout **Chapter 4, Environmental Checklist**, where BMPs were not

sufficient to reduce the impact of the proposed RMRP. Over the long term, the RMRP would benefit the overall watershed health, riparian and aquatic resources, and species located in the RMRP project area.

I.3 Organization of this Document

This IS/MND consists of the following components:

- **Chapter 1, Introduction:** Provides a brief description of the intent and scope of this IS/MND and the organization of and terminology used in this IS/MND.
- **Chapter 2, Project Description:** Describes the proposed RMRP including a description of the RMRP area, RMRP activities, implementation, BMPs, and related permits and approvals.
- **Chapter 3, Environmental Factors Potentially Affected:** A summary of what resources areas have potentially significant impacts, and the determination that all potentially significant impacts have been reduced to a less than significant impact with mitigation measures
- **Chapter 4, Environmental Checklist:** Presents the environmental checklist used to assess the proposed RMRP's potential environmental effects. Each checklist section contains a brief environmental setting description for each resource topic and identifies the proposed RMRP's anticipated environmental impacts and any mitigation measures that would reduce potentially significant impacts to a less-than-significant level.
- **Chapter 5, References:** Provides a bibliography of references used in preparing this IS/MND
- **Appendices**
 - **Appendix A: Temporary Fire Protection Measures**
 - **Appendix B: Ecoregions**
 - **Appendix C: Vegetation Communities**
 - **Appendix D: Sensitive Natural Communities**
 - **Appendix E: Special-Status Plants**
 - **Appendix F: Special-Status Wildlife**
 - **Appendix G: Parks with Listed Species**
 - **Appendix H: Woodrat Nest Relocation Plan**
 - **Appendix I: Habitat Compensation Requirements**

I.4 Impact Terminology

This IS/MND uses the following terminology to describe the environmental effects of the proposed Program:

- A finding of *no impact* is made when the analysis concludes that the proposed Program would not affect the particular environmental resource or issue.
- An impact is considered *less than significant* if the analysis concludes that no substantial adverse change in the environment would result and that no mitigation is needed.

- An impact is considered *less than significant with mitigation* if the analysis concludes that no substantial adverse change in the environment would result with the implementation of the mitigation measures described.
- An impact is considered *significant or potentially significant* if the analysis concludes that a substantial effect on the environment could result.
- Mitigation refers to specific measures or activities that would be adopted by the lead agency to avoid, minimize, rectify, reduce, eliminate, or compensate for an otherwise significant impact.

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Chapter 2: Project Description

2.1 Introduction

This document evaluates the potential environmental effects of activities covered under the Park District's RMRP to provide the public, relevant public agencies, and stakeholders with information about the program and its potential environmental impacts.

The Park District currently manages 74 regional parks including, recreation areas, wilderness lands, shorelines, preserves, and land bank areas, as well as distinct regional trail segments, which currently encompass approximately 122,890 acres in Alameda and Contra Costa Counties, California. The Park District's mission is to acquire, preserve, protect, and operate regional parklands in perpetuity for public use, while conserving these lands for natural resources. More than 90 percent of Park District lands are protected and operated as natural parklands. This includes parklands along the shorelines of San Francisco, San Pablo, Suisun Bays and the Delta Region, and inland areas of the coastal and transverse ranges of the East Bay.

The Park District performs routine maintenance and restoration activities within various waterbodies and adjacent upland habitats. These activities are designed to maintain existing facilities and structures and improve habitat, water quality and climate resiliency. Routine maintenance activities are by definition small projects; their size in most cases is limited to 2,000 square feet or 150 linear feet. Projects whose main goal is habitat restoration can be up to 5 acres or a cumulative total of 500 linear feet. These activities are performed under the RMRP and in compliance with required state and federal permits for work within waters of the U.S. and State to ensure all routine maintenance activities comply with state and federal environmental regulations.

2.2 Program Objectives

Under the RMRP, the Park District conducts a variety of routine maintenance activities in streams, catch basins, seeps, springs, ponds, reservoirs, beaches, tidal marshes, and shoreline levees. The purpose of these activities is to maintain existing facilities, protect water quality, reduce erosion, maintain public and emergency access, and maintain natural resources that support a variety of state and federally listed, special-status, and other native species. As part of the routine maintenance activities, the Park District also restores various aquatic and wetland ecosystems, including lentic (i.e., still fresh water, such as a pond or lake) and lotic (i.e., flowing fresh water, such as a stream) habitat; these restoration activities focus on enhancement and/or creation of aquatic ecosystems, with the primary objective to promote the conservation and recovery of sensitive species and riparian habitats, and in some cases, to provide habitat compensation for routine maintenance activities. For example, the Upper San Leandro Stream Restoration Project was completed at the Huckleberry Botanic Preserve in 2020; this project restored 0.07 acre of riparian habitat and created 650 square feet of new streambed. In general, routine maintenance projects result in net environmental benefits through controlling erosion, removing invasive vegetation, reducing sedimentation, restoring pond habitat, and improving the quality of stream and riparian habitat.

2.3 Program Area

Routine maintenance activities will be implemented as needed throughout Park District properties and facilities including newly acquired properties. Due to the nature of these projects (i.e., repairing and replacing failed infrastructure and restoring degraded habitats), the locations of all future routine maintenance and restoration projects are not known at this time. However, the habitat types in which routine maintenance projects occur are known and generally include streams and associated riparian habitat, as well as catch basins, seeps, springs, ponds, lakes, beaches, tidal marshes, and shoreline levees. As shown on **Figure 2.1** (at the end of this section), completed routine maintenance projects are widely distributed across Park District lands.

2.4 Project Size Limits

Over a five-year period, excluding habitat restoration projects, habitat disturbance from projects conducted under the RMRP will not exceed 2.50 total acres, with approximately two-thirds of those acres expected to be temporary impacts.¹ Projects where habitat restoration is the primary goal may result in additional temporary impacts but will result in a net gain of habitat quantity and quality. Routine maintenance project sites are relatively small. Based on routine maintenance projects completed during 2018-2021, the average project size was 553 square feet (0.013 acre) and included 409 square feet of temporary impacts and 144 square feet of permanent impacts; approximately 74 percent of total impacts were temporary and 26 percent were permanent impacts.² The Park District conducts approximately 20 to 40 routine maintenance projects annually. The number of projects varies due to staff capacity, work delays (e.g., red flag days) and site accessibility.

As discussed above, routine maintenance projects (excluding projects where habitat restoration is the primary goal or projects including maintenance dredging) generally have a maximum allowed size of 2,000 square feet or 150 linear feet. However, the below exceptions are currently allowed by the Regional Water Quality Control Board (RWQCB) Waste Discharge Requirements (WDRs) and Water Quality Certification (WQC) for Routine Maintenance projects and the Park District will request that these exceptions be included in a new Routine Maintenance Agreement (RMA) issued by the California Department of Fish and Wildlife (CDFW): 1) clearing of inboard ditches when necessary to prevent or reduce road and trail erosion; 2) planting riparian vegetation to reduce erosion; 3) fencing to keep people and livestock away from stream channels; 4) localized sediment removal in limited areas that does not exceed 500 linear feet; 5) repair and stabilization of existing armored shoreline banks and levees that does not exceed 500 linear feet total per year at each Park District shoreline unit; 6) repair and stabilization of existing unarmored shoreline banks and levees that does not exceed 160 linear feet total per year at each Park District shoreline unit; 7) dredging of existing silt basins, ponds, lakes, and other waterbodies that does not exceed 700 cubic yards; and 8) dredging projects that do not exceed 500 linear feet or 4,000 square feet (0.1 acre) and 9) projects meeting the requirements of a Small

¹ Temporary impacts include the in-kind replacement of infrastructure, removal of accumulated sediment and debris, any dewatered area, vegetation removal for construction access, staging areas not on previously disturbed areas such as trails, and excavation and ground disturbance that exceeds the size of infrastructure being installed/constructed/replaced.

² Permanent impacts include new infrastructure, the difference in size of new infrastructure and infrastructure being replaced, and removal of vegetation that does not return to pre-existing conditions within 2 years.

Habitat Restoration Project which is defined as a project size that does not exceed 5 acres or a cumulative total of 500 linear feet and whose primary purpose is habitat restoration.

Table 2.1 Summary of Project Limits and Past Project Size

Maximum 5-Year Habitat Disturbance from Routine Maintenance Projects (temporary and permanent)	Maximum Size of Individual Routine Maintenance Project ³	Maximum Size of Habitat Restoration Project ⁴	Average Size of Past Routine Maintenance Projects (2018-2021)	Annual Number of Routine Maintenance Projects
2.5 acres	2,000 square feet or 150 linear feet	5 acres or 500 linear feet	553 square feet (0.013 acre)	20 to 40

2.5 Maintenance Crew, Work Durations, and Equipment

The size of the work crew implementing RMRP activities generally varies between three and six personnel and most projects are completed in 1 to 5 days. However, larger habitat restoration projects may require up to approximately 6 weeks to complete. Project activities are restricted to daylight hours, from a half hour after sunrise to a half hour before sunset. Work outside of this period requires separate regulatory approval and has been necessary for projects in tidal areas where work is required to be conducted in a dry work environment corresponding with low tide events.

The equipment used for the routine activities varies, and may include pick-up trucks, a dump truck, an excavator, backhoe, bulldozer, soil compactor, crane, water truck, hand-held power tools (e.g., chainsaw, trimmer), and hand tools (e.g., shovels). Given that routine maintenance projects maintain existing infrastructure, equipment and vehicles will access the project sites and operate mostly on existing roads and levees. In rare instances when “off-trail” travel is required to access a project site, distances traveled will be short and the avoidance and minimization included in **Section 4.4, Biological Resources**, will be implemented. In accordance with RMRP permit conditions, heavy equipment will not be operated in standing or flowing water, except for water diversion equipment, or unless regulatory approval is granted based on site-specific conditions and project needs. **Table 2.2** provides additional information on typical project size, duration, and required equipment for the activities conducted under the RMRP.

³ See exceptions to maximum project size discussed above.

⁴ Habitat restoration projects larger than 2,000 SF or 150 LF requires specific approval from RWQCB, CDFW, Corps, and USFWS. Habitat Restoration Projects are not included in the 2.5 acre 5-year maximum habitat disturbance limit or in the calculation of the average size of past routine maintenance projects.

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Table 2.2 Estimates of Project Size and Duration

Routine Maintenance Activity Type	Temporary Disturbance Acreage (Range)	Average Temporary Disturbance Acreage	Permanent Disturbance Acreage (Range)	Average Permanent Disturbance Acreage	Construction Duration (Range, Average)	Number of projects Conducted Annually (Range, Average)	Construction Equipment Generally Required
Culvert Repair, Replacement, and Maintenance	0.0 to 0.02	0.005	0.0 to 0.014	0.003	2 to 7 days, 3 days	8 to 15 projects, 13 projects	Excavator, backhoe, ten-wheel dump truck, water truck, and soil compactors
Maintenance of Sediment-Debris from Culverts and Streams	0.001 to 0.025	0.010	No permanent impacts	0.000	0.5 to 3 days, 1 day	2 to 9 projects, 4 projects	Excavator, backhoe, vacuum truck, ten-wheel dump truck, or four-wheel drive truck
Installation and Maintenance of Crossings and Fords	0.0 to 0.015	0.003	0.0 to 0.017	0.006	1 to 3 days, 2 days	4 to 8 projects, 6 projects	Mostly hand tools, but may use excavator, backhoe, ten-wheel dump truck, water truck, and soil compactors
Bank Stabilization	0.0 to 0.024	0.004	0.0 to 0.03	0.006	1 to 6 days, 3 days	0 to 6 projects, 3 projects	Excavator, backhoe, ten-wheel dump truck, water truck, and soil compactors
Installation and Maintenance of Clear Span Bridges	0.0 to 0.012	0.003	0.0 to 0.001	0.000	10 to 11 days, 11 days	0 to 3 projects, 1 project	Crane, excavator, backhoe, ten-wheel dump truck, water truck, and soil compactors
Maintenance and Redevelopment of Spring Boxes	N/A	N/A	N/A	N/A	N/A	N/A	Excavator, backhoe, and ten-wheel dump truck
Maintenance Dredging of Silt Basins, Ponds, and Lakes	Not to exceed 700 CY	Not to exceed 700 CY	N/A	N/A	1 to 7 days, 2 days	3 to 6 projects, 4 projects	Excavator, backhoe, ten-wheel dump truck, or four-wheel drive truck

Routine Maintenance Activity Type	Temporary Disturbance Acreage (Range)	Average Temporary Disturbance Acreage	Permanent Disturbance Acreage (Range)	Average Permanent Disturbance Acreage	Construction Duration (Range, Average)	Number of projects Conducted Annually (Range, Average)	Construction Equipment Generally Required
Maintenance of Existing Recreational Facilities	0.001 to 0.102	0.026	No permanent impacts	0.000		0 to 2 projects, 1 project	Crane, excavator, backhoe, ten-wheel dump truck, water truck, and soil compactors
Removal of Hazardous Structures and Vessels	N/A	N/A	N/A	N/A	N/A	N/A	Crane, excavator, backhoe, ten-wheel dump truck, water truck, and soil compactors

Notes

The number of each project type, project duration, and associated impacts have been estimated based on routine maintenance projects completed between 2018 – 2021. These past projects provide an estimate of the expected future number of projects per year, project duration, and associated impacts, but actual project size and maximum allowed impacts are restricted to the limits described elsewhere in this chapter (see **Table 2.1**).

- Past routine maintenance projects including maintenance dredging of silt basins, ponds, and lakes were limited to 200 cubic yards. The Park District will be requesting a dredging limit of 700 cubic yards for maintenance projects, which is the limit currently allowed by the RWQCB routine maintenance WDR/WQC. Because the past projects do not reflect the anticipated impacts of future projects, the table indicates that impacts associated with the 700 cubic yard limit and will be requested in the application for a new RMA with CDFW. Sediment removal from ponds for restoration projects may exceed the standard 700 cubic yards limit upon authorization from the regulatory agencies.
- Although the Park District has not conducted any Spring Box installations or removals of hazardous structures under its previous RMA, a small number of these types of projects may be conducted over the coming years contingent on these activity types being included in the new RMA and associated Incidental Take Permit with CDFW.

2.6 Authorization of Routine Maintenance Projects

Routine maintenance and restoration activities occur within waters of the State and/or waters of the U.S. Therefore, the Park District has obtained agreements, certifications, permits, and/or a biological opinion from the following regulatory agencies to perform routine maintenance activities:

- CDFW; East Bay Regional Park District RMA, Notification No. I600-2016-0269-R3. The RMA expired on December 31, 2020, but CDFW extended the RMA expiration to December 31, 2022 (extension letter dated January 28, 2021).
- RWQCB; WDR/WQC Order No. R2-2018-0036. The authorization for activities covered by this Order expires in 2023 when the CWA section 404 authorization from the United States Army Corps of Engineers (Corps) expires.
- Corps); Regional General Permit 15, Permit No. SPN-2005-289-020S. The authorization for activities covered by this permit ends on October 31, 2023.
- United States Fish and Wildlife Service (USFWS); Biological Opinion 08ESMf00-2013-F-0416. The Biological Opinion expires on February 22, 2023, which is 5 calendar years after its date of issuance. The Biological Opinion expiration date can be extended if deemed appropriate by both parties.
- San Francisco Bay Conservation and Development Commission; Permit No. M1985.083.08. The work authorized by this permit will continue until December 31, 2023, unless a further extension of time is granted.

Upon expiration, these permits will be extended (if allowed) or new permits will be applied for, as needed.

To obtain authorization to conduct a routine maintenance project, the Park District submits detailed project information (e.g., project description, impact calculations) to each jurisdictional regulatory agency. This provides the regulatory agencies the opportunity to review each project, approve projects, suggest revisions to projects, or determine a project may not be constructed as proposed under existing permits. Pre-construction surveys are done for all sites and these reports are submitted to CDFW on a weekly basis and to USFWS on a monthly basis. An annual report is submitted to each regulatory agency describing the completed projects and compliance with the required permit conditions.

2.7 Routine Maintenance Activities

Routine maintenance activities are limited to the period of April 15 to October 31 in non-tidal areas, with most activities occurring between August 1 and October 31 when water levels are low or site conditions are dry. However, urgent debris removal may be conducted outside of the April 15 to October 31 period provided all other conditions of the RMA and other permits are met and upon regulatory agency authorization. To protect state and federally listed bird species, routine maintenance activities in most tidal areas are limited to the period of September 1 through January 31; for further discussion of work windows, see BMP #8, Work Windows. Every project will implement the appropriate BMPs described at the end of this Project Description chapter, as well as the mitigation

measures required by this document. The various types of routine maintenance activities to be conducted as part of the Park District's Routine Maintenance Restoration Program are summarized in **Table 2.2** and described in more detail below.

2.7.1 Culvert Repair, Replacement, and Maintenance

The Park District maintains culverts including routine repair or replacement due to material degradation, damaged headwalls and energy dissipaters, or eroding outfalls. Most existing degraded culverts will be replaced with same-size culverts; most culverts range in size from a diameter of 12 inches to 48 inches, but other sized culverts may require maintenance or replacement. Failed metal culverts are generally replaced with high-density polyethylene (HDPE) culverts. If an existing culvert is undersized and/or inadequate to convey peak flows, a larger culvert may be installed, but under the RMRP, culvert size may not be increased in width by more than 50 percent or the length by more than 25 percent. Culvert replacement work generally occurs within the same footprint as the original culvert and culverts will be installed at the existing channel grade. Culverts may also be removed as part of stream restoration or to be replaced with an articulated ford, arch culvert, or clear-span bridge (see below discussions).

Headwalls, tailwalls, and/or energy dissipation structures may be installed or replaced at existing culverts to stabilize the culverts, reduce bank and stream erosion, and to minimize widening and down cutting of the channel bed. Minor earthmoving (i.e., bank recontouring, backfill) may be necessary to ensure adequate placement and stability. Headwalls, tailwalls, and energy dissipation structures will consist of drain rock, sized to fit flow requirements, placed on top of filter fabric around the entry and exit of culverts and storm drains. When feasible, porous materials will be used to allow plant growth. Concrete head and tail walls may be used only if required for a project and with specific approval by CDFW.

2.7.2 Maintenance of Sediment-Debris from Culverts and Streams

Deposited or accumulated sediment and debris reduces ability of the stream or culvert to convey streamflow. Accumulated sediment or debris can also block culverts, bridges, ditches, and other drainage features, and direct flows into streambanks and could potentially cause erosion and negatively impact water quality and adjacent facilities. In addition, sediment and debris accumulation could also flood and damage property or structures, thus threatening public safety.

Accumulated sediment and debris will be removed from culverts and streams using equipment operated from the top of banks and levees or by hand crews to maintain flow and prevent flooding. Some mechanized equipment may be required and could include backhoe, 10-wheel dump truck, or four-wheel drive truck. This equipment will access the project sites and operate mostly on existing roads, trails, or levees and completely avoid any wetted channels or other waterbodies. Woody debris that does not block flow will be left in place to provide habitat for fish and wildlife. If stream flows are threatening to overtop banks or damage existing infrastructure due to accumulation of woody debris and excess sediment in the stream channel, this debris may be removed by hand or using equipment from top of bank outside of the April 15 to October 31 period provided all other conditions of the RMA and other permits are met and upon regulatory agency authorization. In the case of an emergency (an unexpected and imminent threat to life or property) it may be necessary to report urgent debris removal after the fact to the regulatory agencies. Overall, the removal of excess sediment and debris would improve water quality and decrease the risk of flooding and erosion.

2.7.3 Installation and Maintenance of Crossings and Fords

Articulated concrete fords can provide a stabilized area or structure to provide access across low-water crossings and will be installed in select locations to replace existing culvert crossings and at existing natural crossings to provide stability and minimize channel bed erosion. To install each ford, the ground surface of the banks and channel will be leveled within an approximately 10- to 12-foot-wide band (equivalent to the width of the corresponding roadway). The length and total area of each crossing will vary based on the width of the channel. Leveling will require minor grading at some locations. Following grading of the underlying bank and beds, filter fabric and gravel will be placed to prevent down cutting and erosion. Subsequently, interlocking blocks will be installed on top of the crossing bed. Maintenance and repair of existing fords will be performed including the repositioning of pavers, removing excess debris, and stabilizing minor erosion.

2.7.4 Bank Stabilization

Bank stabilization involves the repair and stabilization of eroded or eroding streambanks to minimize water quality and erosion impacts and would take place on an as-needed basis, based on the risk of flooding, erosion, or bank failure. Stabilization methods include the installation log crib walls, replacement of existing riprap, extension of riprap sections, installation of new riprap, upland and riparian vegetation planting, and other bio-engineering techniques. Bank stabilization activities will be performed in locations where bank erosion is resulting in release of sediment into the channel from failing infrastructure or other disturbance; instability of a road or trail; erosion around a culvert, bridge, or other infrastructure; and/or other major environmental or structural damage.

2.7.5 Installation and Maintenance of Clear Span Bridges

Clear span bridges may be installed to replace existing culverts, natural (unarmored ford) crossings, or existing failing bridges. Concrete footings for the bridges will be poured in place but will be above the top of bank. The span for each bridge will be lowered into place by a crane operated from above the top of bank or by other methods that minimize impacts. Other mechanized equipment, including excavator, backhoe, and ten-wheel dump truck, will access the project sites and operate mostly on existing roads and levees avoiding wetted channels or waterbodies. Project duration ranges will vary.

2.7.6 Maintenance and Redevelopment of Spring Boxes

Spring boxes allow groundwater to be obtained from a natural spring or seep and function to protect spring water from contamination through human or animal contact, or surface water runoff.

This activity type includes repairing or replacing/redeveloping existing spring boxes, but it does not include working is springs that do not have evidence of previous spring box development. Spring box repairs may include the maintenance of existing redwood spring boxes, metal or HDPE slotted culvert collection piping and possible removal of silt and leaf debris accumulation in order to collect water in a seep or spring. Spring re-developments typically involve the installation of a new vertically placed 18- to 24-inch-diameter culvert collection pipe centered within a wooden façade box with washed drain rock filled in from the collection pipe to façade box walls. The wood façade will have a gap or escape ramp installed to allow passage for wildlife seeking refuge in the spring box. All spring box covers are solid (no grates). Spring box maintenance and development may also include the installation or repair of above or

underground 1¼ inch HDPE pipelines for conveying water from these water sources to alternative locations, including water tanks or troughs in conjunction with improving livestock distribution and drawing cattle away from the sensitive resources. Whenever possible, pipelines will be installed in existing roads and trails. All troughs will have escape ramps for wildlife.

2.7.7 Maintenance Dredging of Silt Basins, Ponds, and Lakes

Maintenance dredging is conducted at ponds, recreational lakes, and silt basins to restore wildlife habitat, improve water quality, and to restore sediment-holding capacity (for silt basins). Dredging would be done with a crawler excavator, and in accordance with the Park District's RMRP permits, limited to 700 cubic yards of material per site annually based on the existing RWQCB WDR/WQC requirements, for each single dredging activity. Erosion control measures and procedures (e.g., silt curtains) would be implemented as appropriate to minimize sediment and turbidity within waterbodies during dredging operations. Sediment that is removed would be hauled away to an appropriate upland site for disposal or re-used. Removal of riparian vegetation would be minimized during dredging operations, but this activity may include the removal of emergent vegetation to restore open water habitat, remove habitat for predatory species (e.g., bullfrogs), and/or generally improve habitat and water quality conditions.

2.7.8 Maintenance of Existing Recreational Facilities

Repairs to or replacement of existing recreational features will be conducted, such as docks, fishing piers, bridges, boat launches, marsh boardwalks and overlooks. Repairs to these structures will preserve public access and ensure public safety. Non-toxic materials will be used in repairs.

2.7.9 Removal of Hazardous Structures and Vessels

The Park District may acquire property that contains hazardous and/or abandoned structures and vessels, or wants to open land banked property that contains such structures. Abandoned structures that serve as barriers to wildlife movement and/or hazards to public safety will be removed. Structures will be removed in their entirety if possible. If possible, work will be performed during low- or no-flow conditions via equipment operated outside of the wetted portion of the channel. Excavated/disturbed areas will be restored following removal of objects. In addition to the equipment generally used for routine maintenance activities, various watercraft could also be used in open water to provide access and remove objects.

2.7.10 Restoration and Enhancement

The Park District will restore various water-based ecosystems, including coastal, lentic, lotic, and tidal marsh habitat. Restoration activities will focus on enhancement and/or creation of these aquatic ecosystems, with the primary objective to promote the conservation and recovery of sensitive species and riparian and marsh habitats. As previously discussed, projects where habitat restoration is the primary goal may be up to 5 acres or a cumulative total of 500 linear feet per project. In some cases, these projects may serve as habitat compensation for routine maintenance activities, as required by permit conditions. Similar to general routine maintenance projects, projects which primary goal is habitat restoration or enhancement are subject to regulatory agency authorization, but in addition generally include a Habitat Mitigation and Monitoring Plan.

Lentic Waterbody (Pond) Restoration and Enhancement

Pond restoration and enhancement activities would include the repair, maintenance, and restoration of lentic waterbodies. These ponds are important wetland features that provide water for livestock and associated fuel reduction benefits and support vital habitat for a variety of endangered and protected species including western pond turtle, California tiger salamander and California red-legged frog. Projects will be designed to enhance aquatic habitat for wildlife, reduce erosion and sedimentation to receiving waters, and improve hydroperiod. Activities could include the re-construction of failed ponds, removal of sediments or de-siltation, and minor modifications of existing ponds to restore the original capacity and inundation period, repair and/or replacement of structural components needed to support pond stability including spillways, overflow discharge pipes, earthen dam and embankment stabilization. Sediment removal from ponds for restoration projects may exceed the standard 700 cubic yards limit upon authorization from the regulatory agencies. Additionally, activities may include the removal of man-made obstructions or debris, control of noxious weeds, establishment of native vegetation, and control of non-native predators such as bullfrogs (*Rana catesbeiana*), predatory centrarchids (e.g., largemouth bass), catfish, and mosquitofish (*Gambusia* spp.). Exotic predator control may involve the dewatering or draining of the pond (see Dewatering, below). Cattails (*Typha* spp.) and other commonly occurring aquatic plant species may also be removed in small select areas to prevent sedimentation, improve habitat for special-status species, and for pond monitoring purposes. If herbicides are used, they will be used according to their label instructions, California state law and best professional standards (see **Section 2,9, General Best Management Practices, Chemical Controls**).

Stream (Lotic Waterbody) Restoration

Stream restoration activities would involve the enhancement or restoration of ephemeral, intermittent, or perennial streams and riparian corridors to improve habitat characteristics for special-status and other native species and improve resiliency to climate change impacts. These activities will incorporate hydrologic, hydraulic, biological, and geomorphic processes. The habitat restoration projects are designed to enhance stream function, improve fish passage, promote dynamic equilibrium, reduce erosion, improve water quality to receiving waters, control invasive vegetation, and improve aquatic habitat characteristics and/or riparian vegetative structure within the restored stream reach sites.

Installation of in-stream structures to stabilize and protect degraded streambanks could include using boulder riprap, boulder wing deflectors, rock weirs, root wad deflectors, log cribbing, live vegetated crib walls, tree or native material revetment, brush mattresses, and native re-vegetation. They may be installed in conjunction with the removal of in stream or bank structures including old culverts, degraded concrete fords and bridge abutments, and failed gabion walls. Modification could include, but is not limited to, changes in gradient, sinuosity, channel slope and type, cross-section and flood plain profile, and bankside vegetation. To the extent practicable, invasive noxious weeds will be controlled or removed. Riparian restoration projects with the primary goal of controlling/removing invasive plant species may also be conducted; this may include the removal of eucalyptus trees or invasive plants (e.g., *Arundo*, broom) to improve habitat and hydrology conditions. Native cattails may also be removed when appropriate to restore open water habitat and improve habitat quality. Manual and/or chemical methods may be used to control/remove invasive plant species. When herbicides are used, they will be used according to their label instructions, California state law and best professional standards (see **Section 2,9, General Best Management Practices, Chemical Controls**). Appropriate native

vegetation will be used for riparian restoration or for replanting exposed banks in a way that will replicate the existing biological conditions to stream reach corridor sites.

Tidal Marsh Restoration

Tidal marsh restoration activities may involve the removal of invasive plant species (e.g., *Lepidium latifolium*) and the removal of creosote treated wood. Manual and/or chemical methods may be used to control/remove invasive plant species. When herbicides are used, they will be used according to their label instructions, California state law and best professional standards (see **Section 2,9, General Best Management Practices**, Chemical Controls).

2.8 Routine Maintenance-Associated Activities

The routine maintenance and restoration activities described above may require the temporary dewatering of work sites. Most routine maintenance projects can be performed when streams are naturally dry. However, when work in a flowing stream is unavoidable, the stream flow will be diverted around or through the work area during construction operations. Stream flow will be diverted using gravity flow or pumps through temporary culverts/pipes or pumped around the work site with the use of hoses. Any temporary dam or other artificial obstruction constructed will only be built from materials such as sheet pile, Visqueen, and sandbags or clean gravel which will cause little or no siltation. No other water diversion method will be used without authorization of CDFW.

Dewatering of ponds may also be required during pond restoration projects and/or for the removal of bullfrogs and non-native predatory fish; water from ponds would be drained and/or pumped and discharged to an upland location or into a dry drainage. If water is present within the pond's downstream drainage, then the pumped water may be discharged a minimum of 10 feet upslope of the drainage to allow infiltration before the water enters the drainage.

All water diversion intake hoses and pump inlets shall be screened to prevent the entrapment or intake of aquatic species. Normal flows will be restored to the affected stream immediately upon completion of work at that location.

2.9 General Best Management Practices

The following BMPs are incorporated into the proposed project and will be implemented for all routine maintenance activities to protect biological resources during construction and restoration activities. Additional general avoidance and minimization measures and species-specific avoidance and minimization are included in **Section 4.4, Biological Resources**.

- I. **Minimization of Work Area:** Project activities will be restricted to the minimum area necessary. Prior to start of work, project boundaries and access routes will be clearly demarcated to prevent work vehicles from straying into adjacent habitat. To the extent feasible, maintenance and construction activities will avoid small mammal and ground squirrel burrows and potential dens that may be used by species for shelter.

2. **Daytime Work Hours:** All construction activities must cease one half hour before sunset and shall not begin prior to one half hour after sunrise. Nighttime construction is allowed only if authorized by CDFW and USFWS.
3. **Permit Availability:** The Park District will ensure that a readily available copy of the biological resources permits is maintained by the construction foreman/manager and/or qualified biologist/monitor on the project site whenever earthmoving and/or construction is taking place.
4. **Invasive Plant Species Control:** The Park District will ensure that the spread or introduction of invasive exotic plant species will be avoided to the maximum extent possible. When feasible, invasive exotic plants in the project areas will be removed.
5. **Chemical Controls:** If mechanical vegetation control or removal are considered too destructive to soil and existing plant communities, herbicides will be used to limit ground disturbance, erosion potential and facilitate the establishment of desired vegetation that contribute to the function of the development. When herbicides are used, they will be used according to their label instructions, California state law, BMPs for Wildland Stewardship: Protecting Wildlife When Using Herbicides for Invasive Plant Management (Cal-IPC 2015), and best professional standards that include:
 - The Park District will use caution to apply the least practicable amount and the least concentrated formulation of herbicide necessary to effectively control invasive and non-native vegetation.
 - A licensed Pest Control Advisor will provide the written Pest Control Recommendation for herbicide use. A qualified applicator (having a Qualified Applicator Certificate [QAC]/Qualified Applicator License [QAL]) will apply or supervise the application of any herbicide deemed necessary to minimize disturbance and provide for the maintenance of functional vegetation.
 - The Park District shall use extreme caution to not apply any herbicide directly to water. If herbicides must be applied adjacent to water, Permittee will use aquatically registered herbicides and adjuvants. Permittee will ensure that the application does not accidentally enter a body of water through drift or through unintended soil or vegetation movement.
 - Designate a dry stream crossing where needed in project areas to avoid crossing where in-stream channel is wet.
 - Herbicides shall not be applied during periods of inversion or during periods of sustained wind above 10 mph at the application site. Use selective herbicides, appropriate timing and targeted spot treatment to avoid off target application and damage to native and desirable vegetation.
 - Using best practices, low toxicity products and targeted application, incidental off target application on amphibians, reptiles, insects, and other wildlife will be minimized and avoided.

- Spraying within 60 feet of existing mitigation and other sensitive sites will be done using the most accurate application method practicable, commiserate to the size of the target plants and the site restrictions, that minimizes the potential for drift. These include handheld devices such as backpack sprayer, hand sprayer, stem injection, cut stump and hack and squirt applications.
- Marker dye will be used to aid in the application accuracy, correct rate and provide in time feedback to avoid drift and off target application.
- Limit the amount of herbicide that can be transported in a vehicle to the least amount necessary for the anticipated daily use.
- All concentrated herbicides will have secondary containment bins during transport.
- Carry a spill kit to contain and remove any spills immediately and train crews on procedures for doing so.
- Mix and load herbicides only in pre-designated areas. Select areas where a potential spill would be most easy to contain and will have the least environmental impact.
 - Mixing and loading areas should be in or near treatment areas, relatively flat, have few native plants or other desirable species; not be susceptible to erosion or run-off; have easy access for containment and clean-up of spills; and be located away from water bodies.
- Pesticide Clean Up and Disposal. Clean up of pesticide residue and containers shall follow all California state laws and regulations and label requirements that pertain to this activity. Empty pesticide containers shall be triple rinsed. Rinsate will be returned to the mix tank to be used in a subsequent application. Final tank rinsate shall be applied in the treatment area, to target plants and in a manner that will not permit rinsate to move outside of the treatment area. Empty pesticide containers will be triple rinsed immediately, punctured, label removed and be disposed of according to label and California state and local regulations.
- Should any fish or animal kills occur following application of herbicides, such kills shall be reported to CDFW within 24 hours.
- Permittee shall consult a number of tools to identify any stipulated injunctions or other protection standards associated with listed species on Park District properties. Permittee will follow the most accurate and current data set to follow the most protective use limitations in order to provide the maximum protections for these species. These include the following:
 - The Park District's geographic information system (GIS) layers that cover protected wildlife and plant community habitats as well as sensitive areas such as ponds, streams and wetlands.

- The United States Environmental Protection Agency 's(USEPA's) tool San Francisco Bay Area – Map Tool to Identify Interim Pesticide Use Limitations <https://www.epa.gov/endangered-species/san-francisco-bay-area-map-tool-identify-interim-pesticide-use-limitations>
 - California Department of Pesticide Regulation's Prescribe database: <https://calpip.cdpr.ca.gov/county.cfm?ds=PRESCRIBE>
6. **Revegetation:** Project sites determined to require revegetation in order to prevent erosion and/or offset weed pressure the area will be remediated with erosion control materials and/or replanted with an appropriate assemblage of native riparian, wetland, and upland vegetation suitable for the area.
7. **Heavy Equipment Locations:** To the extent possible, no heavy mechanized equipment will operate in standing or flowing water and disturbance in stream channels will be minimized as much as possible.
- To create a dry work environment and maintain down stream flow, water will be temporarily diverted around the work area using sandbag cofferdams, hoses, and pumps.
 - If a work site is to be temporarily dewatered by pumping, intakes will be completely screened with wire mesh not larger than 2.5 millimeters or 3/32 inch. Water will be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. Upon completion of construction activities, any barriers to flow will be removed in a manner that would allow flow to resume with the least disturbance to the substrate. If the removal of ground water seepage/non-flowing water is required for an isolated work area, the water will be pumped out and discharged to a suitable upland location.
 - Pumps will be placed in a perforated intake basin to allow water to be drawn into the pump to protect and ensure aquatic organisms are not pulled into the pump.
8. **Work Window:** Work within listed species habitat (lentic and lotic and coastal waterbodies) will be performed during the allowed work windows described in the Species-Specific Conservation Measures included in **Section 4.4, Biological Resources**. The specific Park District Lands in which these work windows apply are shown in **Appendix G**. In summary, these work windows include:
- Within most habitats, grading and construction will be limited to the dry season, typically May to October 31.
 - In streams or ponds potentially supporting California red-legged frog or California tiger salamander, work will be conducted between August 31 and October 31, unless the area is naturally dry before that time.
 - In tidal emergent wetlands activities supporting Ridgway's rail, California black rail, Western snowy plover, and/or California least tern, construction activities will be conducted between September 1 and January 31 (outside of the nesting season of these bird species).

- In habitat potentially occupied by Delta smelt, activities will occur between August 1 and November 30.
 - Urgent debris removal from culverts or instream immediately necessary to prevent flooding would be conducted at any time upon regulatory agency approval.
 - On a case-by-case basis, the regulatory agencies may approve the extension of construction work windows past October in non-tidal areas if there is no rain in the forecast.
9. **Culvert Debris Removal:** To the maximum extent feasible, urgent debris removal during winter to unclog culverts, etc. will be performed by hand crews or by the use of trucks with winches, and/or by backhoes operated from the top of the bank.
10. **Restrictions on Vegetation Removal:** As much as possible, the Park District will avoid the removal of large woody riparian vegetation and remove only the minimum necessary to complete the project. Woody debris, which does not cause a problem of bank instability, flooding, or culvert blockage, will be left in place to provide in-stream cover and habitat for aquatic species.
11. **Equipment Restrictions:** The Park District will avoid using heavy equipment in areas where hand tools or light equipment are capable of performing the task. Whenever feasible, the Park District will use rubber-tired vehicles as opposed to track mounted equipment to avoid soil compaction and disturbance.
12. **Concrete Pouring:** New concrete will not be placed or poured on-site in a location that may come into contact with any natural waterbodies while water is present until the concrete has cured. Any concrete pouring will also be isolated from all natural waterbodies and rain events through appropriate wrapping or water barrier implements.
13. **Equipment Inspections:** Prior to work, all equipment will be inspected for fuel, oil, and hydraulic leaks and will be repaired if necessary.
14. **Equipment Maintenance and Fueling:** At the work site, fueling of equipment and vehicles will only occur in upland areas. When occurring within 100 feet of open or flowing water, secondary containment will be used while fueling.
15. **Equipment Parking:** Vehicles will be parked on pavement, existing roads, and previously disturbed areas to the maximum extent feasible.
16. **Erosion Control Measures:** Erosion control materials that use plastic or synthetic mono-filament netting will not be used in order to prevent species from becoming entangled, trapped or injured. This includes products that use photodegradable or biodegradable synthetic netting, which can take a full calendar year or more to decompose. Acceptable materials include natural fibers such as jute, coconut, twine or other similar fibers.

17. General Construction Phytophthora BMPs:

- **Worker Training.** Park District employees and contractors working on routine maintenance projects will receive training (at least annually) that includes information on Phytophthora diseases and how to prevent the spread of these and other soil-borne pathogens by following approved phytosanitary procedures.
- **Clothing and Gear.** At the start of work at each new job site, worker clothes should be free of all mud or soil, including boots. If clothes are not freshly laundered, before arriving at the site, workers will remove all debris and adhered soil with a stiff brush. Prior to arriving at the site, all gear should be cleaned with brushes, air or water to remove as much visible mud and debris as possible.
- **At the end of the workday,** scrub, brush and pick off soil, vegetation or other debris from shoes, saws, vehicles and other equipment at the work site.
- **Vehicles and Large Equipment.** Before arrival at construction sites, vehicles and large equipment must be free of soil and debris including on tires, wheel wells, vehicle undercarriages, and other surfaces.

18. Hazardous Materials Storage/Disposal

- Any hazardous or toxic materials that could be deleterious to aquatic life that could be washed into State waters or its tributaries will be contained in watertight containers or removed from the project site.
- Use biodegradable chainsaw bar oil.
- Label all hazardous materials and hazardous wastes (such as pesticides, paints, thinners, solvents, fuel, oil, and antifreeze) in accordance with city, county, state and federal regulations.
- Store hazardous materials and wastes in watertight containers, store in appropriate secondary containment, and cover them at the end of every workday or during wet weather or when rain is forecast.
- Follow manufacturer's application instructions for hazardous materials and use the smallest amount possible. Do not apply chemicals outdoors when rain is forecast within 24 hours.
- Arrange for appropriate disposal of all hazardous wastes.

19. **Fire Prevention:** All RMRP activities will follow the Park District's 01 51 16 Temporary Fire Protection Specifications (see **Appendix A**).

2.10 Compliance with Federal and State Endangered Species Acts

Routine maintenance activities are covered under Biological Opinion 08ESMf00-2013-F-0416, which was issued by the USFWS on February 22, 2018. The Biological Opinion is effective for a period of

5 calendar years from its date of issuance and can be extended upon approval by USFWS. To obtain authorization to conduct a routine maintenance project, the Park District submits detailed project information (e.g., project description, impact calculations) to USFWS.

The Park District does not currently have Incidental Take Coverage from CDFW for routine maintenance and habitat restoration projects that may result in take of state-listed endangered, threatened, or candidate species.⁵ To obtain authorization to conduct a routine maintenance project, the Park District submits detailed project information (e.g., project description, impact calculations) to CDFW. Only projects that can be completed without take of state-listed species, with the implementation of the avoidance and minimization measures included in the RMA and/or in this document, will be authorized until an Incidental Take Permit (ITP) has been issued by CDFW. To address this situation the following procedures will be implemented:

As part of the project authorization request with CDFW, each project will be identified as a Tier 1, 2, or 3 Project, as defined below:

- Tier 1 Project. These include projects being constructed in locations where special-status plant and wildlife species are not expected to occur. Examples include heavily developed areas (e.g., paved) or regularly disturbed areas (e.g., the sediment detention basins at Lake Temescal).
- Tier 2 Projects. These include projects being constructed in locations with habitat features known or potentially supporting special-status plant and/or wildlife species, but which harm to species can be avoided through the implementation of appropriate avoidance and minimization measures. The majority of routine maintenance projects fall into this category.
- Tier 3 Projects. These projects include activities in locations where take of state listed endangered, threatened, or candidate species cannot be avoided through the implementation of avoidance and minimization measures. Examples of Tier 3 Projects may include but are not limited to (1) pond restoration projects in locations supporting or assumed to support California tiger salamander (*Ambystoma californiense*); (2) projects requiring operation of heavy equipment within Alameda whipsnake (*Masticophis lateralis euryxanthus*) core habitat where conducting a thorough clearance survey is not possible due to dense scrub/chaparral on and bordering the site; (3) projects requiring dewatering in potential Delta smelt (*Hypomesus transpacificus*) habitat; and (4) stream projects within watersheds known to support foothill yellow-legged frog (*Rana boylei*) where dewatering or other work in standing/flowing water is required.

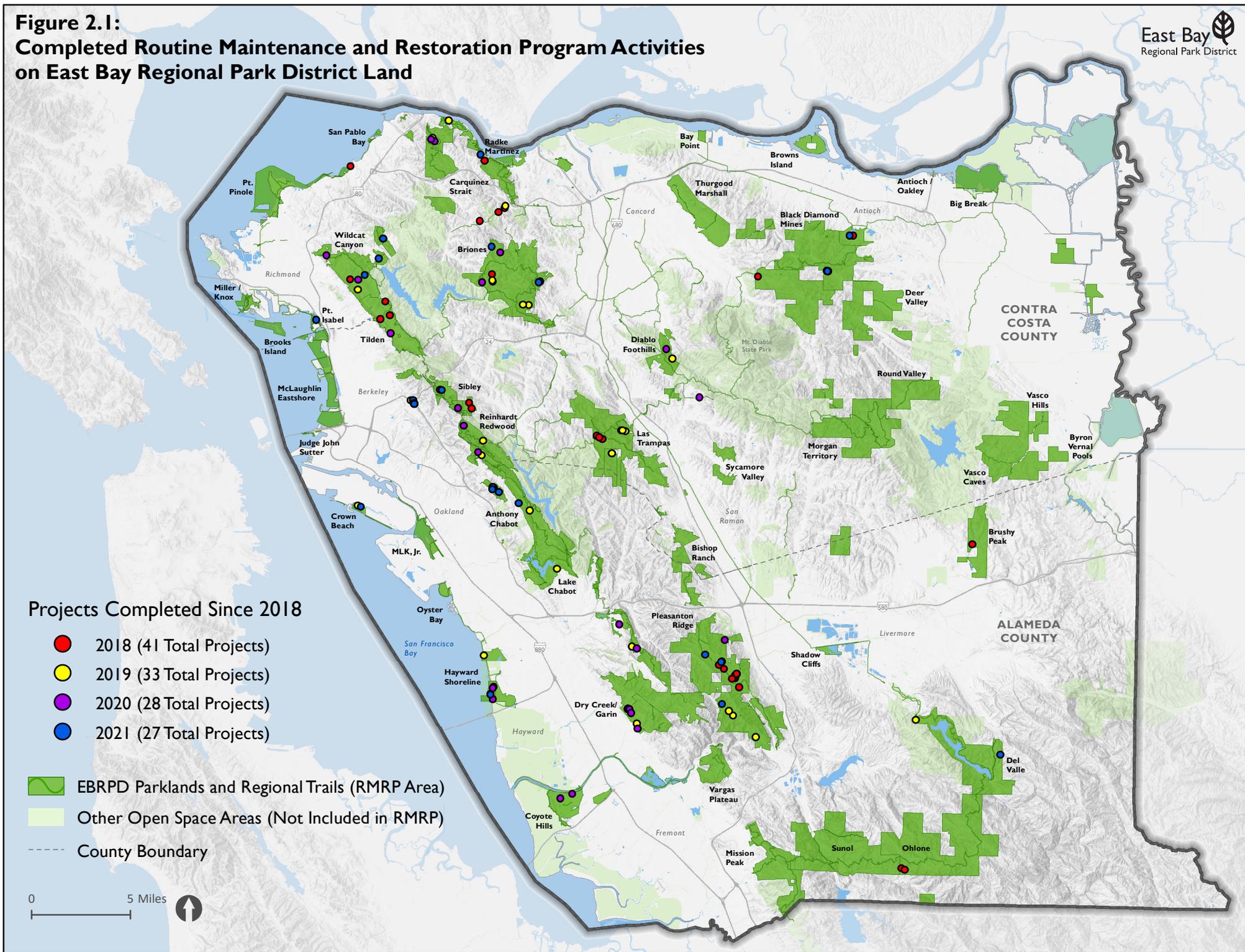
Tier 1 and 2 projects can be conducted without an ITP from CDFW. However, Tier 3 projects will be required to obtain coverage under an ITP in addition to the coverage afforded by the RMA. This may be accomplished through applying for an ITP for individual routine maintenance projects or through the

⁵ The federal Endangered Species Act definition of take includes “Harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct” (16 United States Code, §1532 (19)). The California Endangered Species Act definition of take includes “Hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill” (Fish and Game Code, §86).

Park District obtaining a program-level ITP covering Tier 3 Routine Maintenance Activities. Coverage by an ITP must be obtained before Tier 3 routine maintenance projects can be constructed.

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**Figure 2.1:
Completed Routine Maintenance and Restoration Program Activities
on East Bay Regional Park District Land**



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Chapter 3: Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a “Potentially Significant Impact,” as indicated by the checklists in **Chapter 4, Environmental Checklist**.

- | | | |
|---|--|--|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forestry Resources | <input checked="" type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input checked="" type="checkbox"/> Energy |
| <input checked="" type="checkbox"/> Geology/Soils | <input checked="" type="checkbox"/> Greenhouse Gas Emissions | <input checked="" type="checkbox"/> Hazards and Hazardous Materials |
| <input checked="" type="checkbox"/> Hydrology/Water Quality | <input type="checkbox"/> Land Use/Planning | <input type="checkbox"/> Mineral Resources |
| <input checked="" type="checkbox"/> Noise | <input type="checkbox"/> Population/Housing | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Recreation | <input checked="" type="checkbox"/> Transportation | <input checked="" type="checkbox"/> Tribal Cultural Resources |
| <input type="checkbox"/> Utilities/Service Systems | <input checked="" type="checkbox"/> Wildfire | <input checked="" type="checkbox"/> Mandatory Findings of Significance |

3.1 Determination

On the basis of this initial evaluation:

- I find that the proposed project **COULD NOT** have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A **MITIGATED NEGATIVE DECLARATION** will be prepared.
- I find that the proposed project **MAY** have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required.
- I find that the proposed project **MAY** have a “Potentially Significant Impact” or “Potentially Significant Unless Mitigated” impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed.

- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature

Date

Chapter 4: Environmental Checklist

4.1 Aesthetics

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
a. Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Substantially damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.1.1 Environmental Setting

The Park District’s lands are located throughout Alameda and Contra Costa Counties and cover a wide range of aesthetic environments. The Park District currently manages 74 regional parks, recreation areas, wilderness lands, shorelines, preserves, and land bank areas, as well as Regional Trails outside of designated park land, Park District lands protect a variety of habitats including tidal salt marshes along the San Francisco Bay, San Pablo Bay, and Suisun Bay shorelines, redwood forests in the coastally influenced East Bay Hills, extensive oak savannas in the Mount Diablo Range and Mount Hamilton, and grasslands throughout the interior regions of both counties.

Visual Character

Park District’s lands consist of a variety of natural landscapes including grasslands, coastal scrub, chaparral, oak woodland, hardwood and conifer forests and riparian and wetland areas. Additional landscapes include non-native or ornamental areas, rock outcroppings, and developed areas. The Park District additionally has areas of open water consisting of livestock ponds, larger lakes, the San Francisco Bay, the San Pablo Bay, and the Carquinez Strait. The Park District maintains facilities such as visitor centers, restrooms, offices, and other built structures, parking areas, boat launches, fencing, trailheads,

trails, and other recreational facilities for the use and enjoyment of park visitors. Park lands can also contain structures used to support grazing activities such as barns, corrals, and water troughs.

Park District lands offer scenic vistas from ridges and mountain tops featuring the habitat types described above, as well as urban areas and the San Francisco Bay. Scenic vistas are found throughout Park District lands along trails and roads where openings at higher elevations provide views of these natural areas. The overall scenic quality of Park District lands is high because of the vegetation communities, water bodies, and varied topography offered in the parks.

Scenic Highways

The California Department of Transportation (Caltrans) implements the State Scenic Highway Program. The program lists officially designated scenic highways and eligible highways. Officially designated State Scenic Highways bisecting or adjacent to Park District lands include State Route (SR) 580, SR 24, SR 680 and SR 84. Highways designated as Eligible that bisect or are adjacent to Park District lands include SR 580, SR 80, and SR 13 (Caltrans 2021).

Cities and Counties may also designate scenic corridors, roadways, or trails, which are defined as lands that are visible from a highway that provide scenic and natural features. The Scenic Route Element of the Alameda County General Plan designates three classifications of scenic roads: freeways and expressways, major thoroughfares, and major rural roads. The element was adopted in 1966, and these descriptors match the state of the roads at that time. The Scenic Route Element includes a map depicting the scenic roadway system throughout the county. Roads that are located adjacent to or bisect Park District lands include Redwood Road, Skyline Boulevard, Wildcat Canyon Road, Lake Chabot Road, Calaveras Road, Doolan Road, Vasco Road, and others (Alameda County 1966).

The Transportation and Circulation Element of the Contra Costa County General Plan designates four classification of scenic routes: Scenic Highways and Expressways, Scenic Routes, Connecting Highways, and Connecting Roads. The Transportation and Circulation Element includes a map depicting the scenic roadways system throughout the county. Designated roads that are located adjacent to or bisect Park District lands include Highway 4, Cummings Skyway, Alhambra Valley Road, Bear Creek Road, Marsh Creek Road, Morgan Territory Road, Camino Tassajara, San Pablo Avenue, San Pablo Dam Road, Castro Ranch Road, and others (Contra Costa County 2005).

Viewer Groups

Viewer groups include the general public recreating on trails or at recreation facilities in Park District parks, tenants who are leasing land from the Park District, Park District employees, and motorists traveling on roadways adjacent to Park District lands. Viewer sensitivity would mostly be high because the public accessing the recreation on Park District lands are more likely to value the natural environment, appreciate the visual experience, and be more sensitive to changes in views or incompatible elements. Groups who view Park District lands from a distance or for a short duration would experience a more moderate viewer sensitivity as they would be more focused on the overall surroundings.

4.1.2 Discussion

a. *Have a substantial adverse effect on a scenic vista? (Less than Significant)*

As described above, Park District lands provide scenic viewing opportunities for the public. Scenic vistas of natural areas and the San Francisco Bay are found throughout Park District lands along trails and roads generally located at high elevations along ridgelines, and in open areas.

RMRP activities would occur throughout the Park District. Some activities would occur within channels or ponds, situated at lower elevations (installation and maintenance of crossings and fords, bank stabilization, maintenance dredging of silt basins, ponds, and lakes) and would be unlikely to have an adverse impact on a scenic vista. Other projects (culvert repair, replacement, and maintenance, maintenance of sediment debris from culverts and streams, installation and maintenance of clear span bridges, maintenance and reconstruction of spring boxes, maintenance of existing recreational facilities, removal of hazardous structures and vessels) have a higher likelihood of occurring along trails, roads, or in other areas located at higher elevations where such activities would be visible from scenic viewpoints. Depending on the visual sensitivity of an individual project area, which would vary from moderate to high, temporary construction related visual impacts to scenic vistas could occur, but would not be considered significant as Program activities would involve the short term use of heavy equipment in any one area for a short period of time. The average RMRP activity would last approximately 3 days, with a minimum of half a day and a maximum of 11 days. Project's temporary disturbance footprints are very small, generally less than 1/10 of an acre (see **Table 2.2, Estimates of Project Size and Duration**, in the Project Description). Program activities would not permanently reduce the quality of views within Park District lands, or views of Park District lands from nearby areas, because work would be performed in limited areas at any given time. Visual changes related to the presence of equipment and workers is generally considered low because viewers perceive it as temporary and can quickly and easily move to other areas.

The majority of RMRP activities would not result in the construction of any structures or facilities that would block views of surrounding scenic vistas. Activities involve the maintenance, repair, and/or replacement of existing structures and would not construct any new features that were not present before the project. Only three project types would add features that were not already there: the installation of crossings and fords, the installation of clear span bridges, and habitat restoration projects. Crossings and fords would be installed below the bank level of any stream and would not impact a scenic vista. Concrete footings for the clear span bridges would not extend beyond the top of bank. The span would be visible, but as it would be replacing an existing ford the visual character of the area would not be greatly impacted. Further, as clear span bridges are likely to be built across low elevation areas, there would be minimal impacts to scenic vistas. Habitat restoration projects would improve the aesthetic quality of a site, and therefore improve views from or of scenic vistas.

As detailed in the project description, RMRP activities would be performed to protect and enhance the natural environment and improve public access. Due to the short-term duration of project construction and either the replacement or maintenance of existing structures or minimal additions of new structures mostly at low elevations, the impact on scenic vistas would be **less than significant** and no mitigation is required.

- b. *Substantially damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? (Less than Significant)*

State and County designated scenic roadways are located in and adjacent to many Park District lands. All RMRP activities may occur in areas adjacent to designated scenic roadways. Although the presence of construction equipment in these locations could temporarily disrupt scenic views, such disruption would be temporary. The average RMRP activity would last approximately 3 days, with a minimum of half a day and a maximum of 11 days. As mentioned above, most of the RMRP activities involve the maintenance, repair, and/or replacement of existing manmade or natural facilities and would not create permanent visual impacts. Any new structures would be small and would not greatly change the visual character of the surroundings i.e., an unimproved ford to an improved one, or the installation of a small bridge where a road or trail already exists. The RMRP activities either have no new permanent structures or facilities or involve the addition of minimal new features that would not have a significant adverse impact to scenic resources. There would be no substantial or long-term degradation of scenic resources in any area, including in areas adjacent to scenic highways. Therefore, this impact would be **less than significant** and no mitigation is required.

- c. *In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those which are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality? (Less than Significant)*

As described above, RMRP activities could take place in a variety of locations. Many Park District lands are located in non-urbanized areas consisting of natural landscapes and open space. However, the Park District also owns and manages parks in more urbanized settings, often along the shoreline parks, and RMRP activities could occur there as well. In both cases, the visual character and quality of RMRP sites varies from site to site but would generally be moderate to high. For example, culvert repair along Park District roads and trails could be situated in a redwood forest, along creeks, near agricultural lands, or at the beach. Temporary degradation of the visual character of work sites could adversely affect public view groups such as recreationists and grazing tenants. However, work duration would be short, with the average RMRP activity lasting 3 days, with a minimum of half a day and a maximum of 11 days. Construction related impacts would therefore be less than significant.

Most RMRP activities involve the maintenance, repair, or replacement of existing facilities and would have no long-term impact on the visual character of a site. Many RMRP activities would improve the visual character of a project site, with culvert repair, removal of sediment debris, bank stabilization, maintenance dredging of silt basins, ponds, and lakes, maintenance of existing recreational facilities, and removal of hazardous structures and vessels all improving the existing conditions of a site. Where RMRP activities would install new structures, the new facilities would be small and not greatly change the visual character of the surroundings. Installation of stream fords or clear span bridges would occur at places where a trail or road already crossed the stream.

Most RMRP activities would only temporarily impact the visual character of any one site for a short period of time. Any new features would be small and fit the existing character and use of the site. Therefore, this impact would be **less than significant**, and no mitigation is required.

- d. *Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area* **(Less than Significant)**

Under the existing conditions, lighting within Park District lands is extremely limited, with a minimal amount of exterior lighting at residences, offices, and park operational buildings for safety. All RMRP activities would be conducted during daylight hours, so no temporary nighttime lighting would be needed. Although routine maintenance includes the installation of new facilities and small facility improvements, none of these improvements would result in the installation of lighting. The installation of new fords or clear span bridges does increase man made surfaces, but the Park District designs these structures to blend into the natural surroundings. Small reflectors could potentially be added to bridges for pedestrian and bicycle safety, but these would reflect light directly back at a user and would not disturb the general public viewing the site. Therefore the impact would be **less than significant** and no mitigation is required.

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4.2 Agriculture and Forestry Resources

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (CDOC 1997) as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state’s inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.2.1 Environmental Setting

The Park District manages approximately 86,000 acres of grazing through the use of grazing tenants. The majority of the land is grazed using cattle, but goat and sheep grazing is used in smaller areas where cattle grazing is inappropriate or infeasible. Additionally, the Park District operates the Ardenwood Historic Farm as a working farm in Fremont, California. Using restored farm machinery, staff and volunteers grow and harvest corn, wheat, hay, and other agricultural products. The farm also contains a farmyard with a variety of animals.

Approximately 5,738 acres of Park District land is under an active Williamson Act Contract. The California Department of Conservation (CDOC) publishes statewide farmland maps by county, which sorts land into Prime Farmland, Unique Farmland, Farmland of Statewide Importance, Farmland of Local Importance, Grazing Land, Other Land, Urban and Built-Up Land, and Water. The majority of Park District land is designated as Grazing Land, which makes up approximately 81,500 acres. The Park District does contain approximately 425 acres of Prime Farmland, 535 acres of Unique Farmland, and 60 acres of Farmland of Statewide Importance. Additionally, the Park District contains approximately 5,850 acres of Farmland of Local Importance (CDOC 2016, 2018).

The California Public Resources Code defines forested land as land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions, and allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits. The Park District contains approximately 44,800 acres of forest and woodland habitat (Conservation Lands Network 2019). The Park District does not contain land zoned as timberland as defined by Public Resources Code Section 4526 or timberland zoned as timberland production as defined by Government Code Section 51104(g).

4.2.2 Discussion

a, b, e *Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract? Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use? (No Impact)*

As described above, approximately 1,000 acres of land owned or managed by the Park District is considered Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, and approximately 5,738 acres is under a Williamson act contract. A substantially larger portion, approximately 81,500 acres, is classified as Grazing Land. The RMRP would not convert any of these land to non-agricultural use, conflict with existing agricultural zoning or a Williamson Act contract or involve other changes that could result in the conversion of farmland to non-agricultural use. Instead, many of the RMRP activities would enhance grazing operations on Park District lands (rebuilding spring boxes, maintaining culverts, maintaining stock ponds, etc.). **No Impacts** to farmland or agricultural uses would occur with implementation of the RMRP.

c, d. *Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? Would the project result in the loss of forest land or conversion of forest land to non-forest use? (No Impact)*

Implementation of the RMRP would not involve changes to land use and would not conflict with existing timberland zoning for the rezoning of any land.

Some RMRP activities may involve a small amount of vegetation pruning or removal. Culvert repair, bank stabilization, dredging of silt basins, ponds, and lakes and other activities could require some vegetation removal directly around the project site. Any such work would impact as little vegetation as possible

and would not have any impact on the larger environment. The intent of the Park Districts work on these projects is to preserve and protect its forest, woodlands, and other ecosystems and not to convert forest land to a non-forest use. **No impacts** to forest land would occur with implementation of the RMRP.

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4.3 Air Quality

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4.3.1 Environmental Setting

The RMRP is in Alameda and Contra Costa Counties; it is within the jurisdiction of the Bay Area Air Quality Management District (BAAQMD), which regulates air quality in the San Francisco Bay Area. Air quality conditions in the San Francisco Bay Area have improved significantly since the BAAQMD was created in 1955. Ambient concentrations of air pollutants and the number of days during which the region exceeds air quality standards have fallen substantially. Throughout both counties, exceedances of air quality standards occur primarily during meteorological conditions conducive to high pollution levels, such as cold, windless winter nights or hot, sunny summer afternoons.

Within the BAAQMD, ambient air quality standards for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, particulate matter (PM) less than or equal to 10 microns in diameter (PM₁₀), PM less than or equal to 2.5 microns in diameter (PM_{2.5}), and lead have been set by both the State of California and the federal government. The State has also set standards for sulfate and visibility. The BAAQMD is under State non-attainment status for ozone and PM standards. The BAAQMD is classified as non-attainment for the federal ozone 8-hour standard and non-attainment for the federal PM_{2.5} 24-hour standard (CARB 2020).

4.3.2 Discussion

- a, b. *Would the project conflict with or obstruct implementation of the applicable air quality plan? Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard? (Less-Than-Significant with Mitigation Incorporated)*

The RMRP would not involve any future actions that would generate air quality emissions because of the project. The majority of RMRP activities involve the repair, replacement, or maintenance of existing infrastructure or natural areas. These activities would not increase emissions beyond the baseline of activities that are currently occurring. Installation of improved crossings, fords, or clear span bridges would occur in areas where a natural crossing or improved crossing already exists. The public and park staff already use these areas and any increase in use would be minimal. Therefore, the RMRP's long-term impacts would not conflict with BAAQMD standards or result in a considerable net increase of any criteria pollutant for which the RMRP area is in non-attainment (ozone and PM₁₀ and PM_{2.5}).

Emissions would occur during the construction phase of RMRP activities. Vehicles and equipment, such as excavators, dump trucks, cranes, and soil compactors, would generate emissions of criteria air pollutants. Fuel combustion involved with vehicle and equipment use would release PM and other contaminants associated with motor vehicle operation, including carbon monoxide and ozone precursors. However, RMRP emissions would be minimal and would only occur temporarily during construction. RMRP activity sites would be spread throughout Alameda and Contra Costa counties, with emissions at any one site only occurring temporarily. The average RMRP activity would last approximately 3 days, with a minimum of half a day and a maximum of 11 days. Construction equipment at any one site would generally be limited to one piece of heavy machinery (e.g., excavator), and several work trucks/worker vehicles. Additionally, the RMRP will implement Mitigation Measure AQ-1 to further reduce impacts from construction related emissions.

RMRP activity sites would be small, with most being less than 1/10 of an acre. RMRP that involve ground disturbance, such as culvert repair, installation of crossings and fords, bank stabilization, would expose an even smaller amount of land. This small footprint of minimal ground disturbance minimizes the potential for fugitive dust escaping a RMRP site. Additionally, RMRP activities would average approximately 3 days, with a minimum of half a day and a maximum of 11 days, and RMRP sites would be spread throughout the Park District, further reducing the amount of fugitive dust at any one location. Additionally, the RMRP will implement the project-applicable BAAQMD basic construction mitigation measures (BAAQMD 2017) as Mitigation Measure AQ-1 to further reduce impacts from construction related fugitive dust.

Mitigation Measures for Construction Related Air Quality Impacts

- Mitigation Measure AQ-1 When a RMRP activity involves heavy equipment or involves ground disturbance or earthwork, the following project applicable BAAQMD Basic Construction Mitigation Measures shall be implemented:
- All haul trucks transporting soil, sand, or other loose material off site shall be covered.

- All vehicle speeds on unpaved roads shall be limited to 15 miles per hour.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California Airborne Toxics Control Measure Title 13, Section 2485 of the California Code of Regulations).
- All construction equipment shall be maintained and properly tuned in accordance with manufacturers' specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

In addition to this mitigation measure, the RMRP would implement the following BMPs, described in detail in **Chapter 2, Project Description**:

- BMP 1: Minimization of Work Area – which will reduce the work footprint and minimize fugitive dust
- BMP 6: Revegetation – which will necessitate revegetation of exposed areas as needed, reducing long term fugitive dust impacts
- BMP 10: Restrictions on Vegetation Removal – which will reduce cleared areas to the smallest possible footprint, minimizing fugitive dust
- BMP 11: Equipment Restrictions – which will reduce heavy machinery use when possible

Construction emissions associated with RMRP activities would be less than significant with the implementation of Mitigation Measure AQ-1 and the listed BMPs. Therefore, the RMRP would not conflict with or obstruct implementation of the applicable air quality plan or result in a cumulatively considerable net increase of any criteria pollutant for which the region is in non-attainment. This impact would be **less than significant with mitigation incorporated**.

c. *Would the project expose sensitive receptors to substantial pollutant concentrations? (**Less than Significant with Mitigation Incorporated**)*

Sensitive receptors are those segments of the population most susceptible to poor air quality: children, the elderly, and individuals with pre-existing serious health problems affected by air quality (CARB 2005). Residences, schools, parks and playgrounds, daycare centers, nursing homes, and medical facilities are all locations that contain sensitive receptors.

RMRP activities would occur throughout Park District parks, mostly along roads, creeks, trails and culverts. In general, Park District parks are comprised of large wilderness areas, with park users not congregating in any one concentrated location. Some exceptions to this would be at swim beaches and lagoons, at Ardenwood Historic Farm, the Tilden Little Farm and steam trains, and picnic areas spread throughout the Park District that draw a higher concentration of people. Given that RMRP activities could occur anywhere throughout the Park District, individual sensitive receptors have not been

identified. However, it is assumed that receptors in the vicinity of any one RMRP activity site could include any of the receptor types mentioned previously.

As discussed above, the RMRP would not lead to a net long-term increase in pollutant concentrations that would impact sensitive receptors. Construction related increases in pollutant concentrations would be minor and temporary. The average RMRP activity duration would be 3 days, with a minimum of half a day and a maximum of 11 days, with only one to two pieces of heavy, pollutant generating, equipment running at any one time. RMRP activities would not be concentrated in any one place at any one time. Additionally, implementation of Mitigation Measure AQ-1 and BMPs 1, 6, 10, and 11, would further reduce the localized, short term, emissions of pollutants. Therefore, the RMRP would result in a **less than significant impact with mitigation incorporated** on sensitive receptors.

d. *Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? (**Less than Significant with Mitigation Incorporated**)*

Sediment removal and diesel used for maintenance equipment have the potential to generate localized objectional odors. Excavated sediment from ponds or culverts may contain high levels of organic material or reduced Sulphur, which upon excavation and/or decomposition, could generate odors. On average, the Park District expects to conduct up to nine maintenance of sediment debris from culverts and streams projects, and six maintenance dredging of silt basins projects a year. These maintenance projects would be small, infrequent, spread throughout the Park District, and of short duration. Additionally, the implementation of Mitigation Measure AQ-1 would limit the idling time of heavy machinery, reducing diesel fumes in RMRP areas. BMPs 7 and 11 would also reduce the use of heavy machinery whenever possible. Therefore, the proposed Project would not generate substantial annoyances from odors. This impact would be **less than significant with mitigation incorporated**.

4.4 Biological Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

This section describes the biological conditions of Park District lands and evaluates potential impacts on sensitive biological resources from the implementation of routine maintenance and restoration projects. The biological resources analysis is based on a review of available GIS data and literature as well as survey results and technical expertise. Primary Sources of information included:

- California Natural Diversity Database (CNDDDB) and the Park District Database
- East Bay Regional Park District Biological Assessment on the Effects of Routine Maintenance Activities on Fifteen Federally Listed Species (Bobzien and Wilson 2017)
- The East Bay Regional Park District Routine Maintenance and Restoration Activities Along Eastern Shorelines of the San Francisco Bay, California (Bobzien and Wilson 2018)

- Formal Consultation on the East Bay Regional Park District’s Routine Maintenance Activities, Contra Costa and Alameda Counties, California (Corps File Number 2005-28902SS) (USFWS 2018)
- Technical expertise of Park District Staff and surveys conducted by Park District biologists

The evaluation of potential impacts on sensitive biological resources also incorporates prior biological evaluations and the associated conclusions and conditions of biological resources permits (e.g., Biological Opinion, RMA) that have been issued for the Park District’s RMRP (see **Chapter 2, Project Description**). Where appropriate, conditions of the existing Routine Maintenance Permit have been included as avoidance and minimization measures.

4.4.1 Environmental Setting

Given the “as needed” nature of routine maintenance and restoration projects, the locations of future projects are not known. Although precise locations are unknown, the habitat types in which routine maintenance projects occur are known and generally include streams and associated riparian habitat, but may also include catch basins, seeps, springs, ponds, lakes, beaches, seasonal wetlands, reservoirs, tidal marshes, and shoreline levees. Therefore, this section describes biological resources at locations where routine maintenance projects could occur.

Overview

The Park District currently manages 74 regional parks, recreation areas, wilderness lands, shorelines, preserves, and land bank areas, as well as distinct trail segments, which encompass approximately 122,890 acres in Alameda and Contra Costa Counties, California. The major water sheds on Park District lands include Alameda, Alhambra, Claremont, Garrity, Rheem, Kirker, Marsh, Mount Diablo, Pinole, San Pablo, San Leandro, San Lorenzo, Walnut and Wildcat Creeks, San Francisco Bay, San Pablo Bay, and Suisun Bay.

Park District lands protect a variety of habitats including tidal salt marshes along the San Francisco Bay, San Pablo Bay, and Suisun Bay shorelines, redwood forests in the coastally influenced East Bay Hills, extensive oak savannas in the Mount Diablo Range and Mount Hamilton, and grasslands throughout the interior regions of both counties. These provide habitat for a wide variety of special-status plants and wildlife species.

Ecological subsections provide a relevant context for biological resources. The Ecological Subregions of California (USDA 1997) form the framework for describing regional variation in California ecoregions on which the vegetation alliance descriptions and distributions in *A Manual of California Vegetation* (MCV) (Sawyer et al. 2009) are based. The MCV (Sawyer et al. 2009) defines the currently recognized method of vegetation classification and mapping in California, which is accepted by California Native Plant Society (CNPS), and CDFW, and is used to determine the sensitivity rarity and endangerment of these vegetation types that can result in sensitive natural communities designation.

For the purposes of this effort, Park District lands were delineated into unique ecoregions for the purpose of evaluating special-status plant and animal occurrences, including Bay Shore, Delta/San Joaquin Valley, East Bay Hills, Mount Diablo Range, and Mount Hamilton. These unique ecoregions are cross-

walked with the United States Department of Agriculture Ecological Sections and Subsections and further described in **Appendix B**.

Vegetation Communities and Land Cover

Park District lands support a wide variety of vegetation communities, including grasslands, wetlands, chaparral, coastal scrub, hardwood forests, and oak savanna woodlands, among others. The vegetation types included in this section are documented in the Park District’s spatial dataset based on previous mapping efforts undertaken by Park District and other sources. This dataset draws primarily on CNPS and CDFW methodology for vegetation classification.

For the purpose of providing summary information, general descriptions of vegetation types mapped within Park District lands vegetation descriptions here are collapsed into generalized “Habitat Types”. The specific Habitat Type vegetation categories are based on geographic distribution and structure, and special-status species preferences. Vegetation communities that occur on Park District lands are separated into two categories: upland vegetation communities and aquatic vegetation communities. The types of communities found within the two categories are described in detail below.⁶

Upland Vegetation Communities

Upland vegetation communities comprise the vast majority of Park District lands. Many of these communities occur in areas underlain by unique substrates or soil types including serpentine, alkaline, or clay, all of which drive edaphic conditions that influence vegetation composition. Certain areas mapped within Park District lands are not considered natural terrestrial communities, as vegetation does not grow there, or the area is considered wholly anthropogenic, developed, or a waste area.

Grassland

Grasslands are widely distributed on Park District lands. These communities tend to lack shrub and tree layers and are most commonly dominated in the herbaceous layer by non-native annual grass species (e.g., *Avena* spp., *Bromus* spp., *Festuca* spp., and *Hordeum* spp., among others) as well as native and non-native forbs common throughout California. These communities can retain moderate to high native integrity with native species present and even dominant or co-dominant in areas. Where serpentine substrates are present, for example, native species integrity greatly increases with both native grasses and forb abundance. Other unique edaphic environments exist in grassland communities on Park District lands such as areas with alkaline or clay soils. These areas tend to retain moderate native integrity as well as a higher abundance of rare species and unique vegetation assemblages. Grassland communities have historically been subject to more frequent fire intervals than they are currently due to fire suppression efforts, which has contributed to their generally degraded native composition and increased conversion to shrub and/or woodland or forest communities. Emergent trees or shrubs may be present in low numbers. Grassland communities are found in every ecoregion present on Park District lands but are more widely distributed in the East Bay Hills, Mount Diablo Range, and Mount Hamilton ecoregions

⁶ **Appendix C** provides a detailed vegetation crosswalk for upland and aquatic communities that compare general Habitat Types to those in the Park District dataset, as well as other commonly used vegetation classification systems, notably the Terrestrial Natural Communities of California (Holland 1986) or California Vegetation (Holland and Keil 1995); A Manual of California Vegetation (Sawyer et al. 2019); and habitat types from the CNPS Inventory of Rare and Endangered Plants of California (CNPS 2001). This is an effort to relate vegetation community names to these commonly used classification systems for regional context and regulatory continuity.

and tend to have a more restricted distribution in the Bay Shore and Delta/San Joaquin Valley ecoregions. Grassland communities with alkaline soils are restricted entirely to the eastern Mount Diablo Range and the Delta/San Joaquin Valley ecoregions. Serpentine grasslands are restricted to small areas in the Mount Diablo Range, Mount Hamilton, and East Bay Hills ecoregions. Grasslands on clay soils are not mapped as a distinct habitat type but are most common in the Mount Diablo Range ecoregion with small representation in the Delta/San Joaquin Valley ecoregion.

Coastal Scrub

This community is limited in distribution but locally abundant when present on Park District lands. Dominant species in this community include coyote brush (*Baccharis pilularis* subsp. *consanguinea*), California sagebrush (*Artemisia californica*), bush monkeyflower (*Diplacus aurantiacus*), poison oak (*Toxicodendron diversilobum*), California coffeeberry (*Frangula californica*), oceanspray (*Holodiscus discolor*), toyon (*Heteromeles arbutifolia*), and/or other shrub species. These communities are often characterized as soft chaparral that form stands of low, almost continuous to closed cover canopies. This community has a sparse herbaceous understory and few emergent trees, although a more open shrub layer and a significant herbaceous component may be present. In many ways, scrub communities are similar to chaparral communities, although scrub communities tend to inhabit more moist coastal habitats. Scrub habitats dominated by bush monkeyflower, coyote brush codominant with oceanspray, *Rubus* spp., hazelnut, and oceanspray are considered sensitive natural communities. Within Park District lands, the vast majority of coastal scrub communities occur in the East Bay Hills ecoregion, although small amounts are present in the Bay Shore ecoregion. Coastal scrub communities occurring on serpentine substrates are present on Park District lands in extremely limited distribution in the East Bay Hills ecoregion.

Chaparral

Although chaparral communities are widely distributed on Park District lands, they are typically present in small patches. Chaparral is typically dominated by dense stands of various native shrub and small tree species including manzanita (*Arctostaphylos* spp.), western choke cherry (*Prunus virginiana* var. *demissa*), chamise (*Adenostoma fasciculatum* var. *fasciculatum*), rubber rabbitbrush (*Ericameria nauseosa*), shrubby oaks (*Quercus* spp.), among others. Chaparral communities are generally characterized by dense, impenetrable stands of shrubby species with sparse tree and herbaceous layers. These communities are often adapted to fire. It is not uncommon for chaparral communities to occur on thin, exposed substrates, including serpentine, and many are considered sensitive natural communities. Within Park District lands, chaparral communities are present in the East Bay Hills, Mount Diablo Range, and Mount Hamilton ecoregions. Serpentine chaparral communities are present in very limited distribution within the Mount Hamilton ecoregion.

Oak Savanna Woodland

This community is fairly widespread within Park District lands, often times being the dominant community. Oak savanna woodland communities are characterized by open canopy woodlands dominated by either blue oak (*Quercus douglasii*) or valley oak (*Quercus lobata*). The shrub layer is either sparse or absent in this community but the herbaceous layer is well-developed and similar in composition to adjacent grassland communities. Oak savanna communities dominated by valley oak are considered sensitive natural communities. Within Park District lands, oak savanna woodland is mapped extensively in the Mount Diablo Range and Mount Hamilton ecoregions. It is present in lower quantity in the East Bay Hills ecoregion, but wholly absent from Delta/San Joaquin Valley and Bay Shore ecoregions.

Hardwood Forest

Hardwood forest communities are mapped extensively within Park District lands. They are dominated in the canopy by California bay (*Umbellularia californica*), various oak species (*Quercus agrifolia* var. *agrifolia*, *Q. kelloggii*, *Q. lobata*, *Q. douglasii*, *Q. wislizeni*), madrone (*Arbutus menziesii*), and California buckeye (*Aesculus californica*), or a mixture of these species. The shrub and herbaceous layer are variable in this community, ranging from open and sparse to thick poison oak. California bay is susceptible to sudden oak death and these communities have suffered impacts from (*Phytophthora ramorum*) infection. Despite their extensive distribution, many hardwood forest communities are considered sensitive natural communities. Within Park District lands, hardwood forests can be found widely distributed in the East Bay Hills and Mount Hamilton ecoregions, and to a lesser extent in the Mount Diablo Range ecoregion. Very small amounts are mapped in the Bay Shore ecoregion, and it is absent from the Delta/San Joaquin Valley ecoregion. Small patches of hardwood forest occur on serpentine substrates in both the East Bay Hills and Mount Hamilton ecoregions.

Conifer Forest and Woodland

These communities have a limited distribution within Park District lands. They are dominated or co-dominated by a handful of coniferous species including coast redwood (*Sequoia sempervirens*), gray pine (*Pinus sabiniana*), and Coulter pine (*Pinus coulteri*). California bay and various oak species are often present and sometimes codominant. The shrub and herbaceous layers in these communities are highly variable, often forming important components of the community, while other times being almost entirely absent. Extremely small patches of this community occur on serpentine substrates in the East Bay Hills and Mount Hamilton ecoregions. When on serpentine substrates, this community occurs with many species that are rare or uncommon elsewhere. Many of the conifer forest community types that occur within Park District lands are considered Sensitive Natural Communities. Conifer forest communities on Park District lands are restricted to the East Bay Hills, Mount Hamilton, and Mount Diablo Range ecoregions.

Riparian

Riparian communities have a wide distribution on Park District lands but are limited to mesic habitats or canyon bottoms. These communities are typically located within canyons or in close proximity to creeks, streams, or seeps and often qualify as wetland habitats. Due to the close association with waterways, these communities often occur in linear polygons. These communities are typically dominated or codominated by native species including a variety of willows (*Salix* spp.), California sycamore (*Platanus racemosa*), red alder (*Alnus rubra*), white alder (*Alnus rhombifolia*), California buckeye, and bigleaf maple (*Acer macrophyllum*). Dominant species range from shrubs to large trees. The understory in these communities range from open to impenetrable, depending on the dominant species. Herbaceous layers can be well established to sparse. Due to their localized nature, many of these communities are considered sensitive natural communities. Riparian communities occur across the East Bay Hills, Mount Diablo Range, Mount Hamilton, and Delta/San Joaquin Valley ecoregions.

Non-Native or Ornamental

Non-native or ornamental communities are those dominated by non-native species. These communities often have a history of anthropogenic disturbance or are a result of intrusion of invasive weed species. Dominant non-native weed species of these communities include eucalyptus species (*Eucalyptus* spp.), acacia (*Acacia* spp.), Monterey pine (*Pinus radiata*), Monterey cypress (*Hesperocyparis macrocarpa*), broom

species (*Genista* spp., *Cytisus* spp., *Spartium* spp.), Himalayan blackberry (*Rubus armeniacus*), poison hemlock (*Conium maculatum*), and yellow starthistle (*Centaurea solstitialis*), among others. Species range from annual herbs to large trees in this community, and many are considered noxious and often form monotypic stands (Cal-IPC 2021). Native species are often present in these communities, although they rarely constitute major components and are often considered relictual. The majority of this community is located in the East Bay Hills ecoregion. It is present in the Delta/San Joaquin Valley, Mount Hamilton, Diablo Range, and Bay Shore ecoregions in relatively small quantities.

Barren or Rock

The barren or rock type includes landslides, outcrops, cliffs, and other areas that typically are devoid of vegetative cover due to natural disturbance or extreme topography. These areas within Park District lands are extremely limited in scope and are likely under-mapped or inaccurately mapped. These areas are typically characterized as outcrops of sandstone, Franciscan mélange, graywacke, or serpentinite outcrops. These areas are generally found in the Mount Diablo and Mount Hamilton ecoregions.

Developed

The developed type is widely distributed on Park District lands though limited in coverage. These areas tend to be completely dominated by anthropogenic land use for either residential, agricultural, economic, or recreational purposes. They are often devoid of native vegetation or lack an identifiable vegetation community due to anthropogenic intervention. Developed areas are present but uncommon in all ecoregions within Park District lands.

Aquatic Vegetation Communities

Aquatic vegetation community types and open water lacking vegetation are present within aquatic features. The wetlands areas described on Park District lands are not based on the results of a wetland or jurisdictional delineation. The wetland areas, therefore, represent general areas that contain wetland associated vegetation and further analysis would be required to determine the boundaries of any jurisdictional wetlands present.

Open Water

Open water communities are present in all ecoregions within Park District lands although where present they are fairly limited in size. They consist of unvegetated to sparsely vegetated aquatic communities that occupy permanent water features. Both flowing and non-flowing features are included and this community includes reservoirs, ponds, lakes, canals, rivers, and estuaries. What little vegetation is present is almost entirely composed of floating, non-rooted species such as duckweed (*Lemna* sp.), mosquito fern (*Azolla* spp.), water-thyme (*Hydrilla verticillata*), water hyacinth (*Eichhornia crassipes*), Brazilian water weed (*Egeria densa*), Eurasian water milfoil (*Myriophyllum spicatum*), and water primrose (*Ludwigia* spp.).

Wetlands

Wetlands are widely distributed on Park District lands although they are uncommon and do not cover large swaths of land. Wetlands are inherently mesic and are frequently located along the edges of waterways, water features, or seeps. Due to the tidally influenced nature of many Park District lands, these communities can be alkaline/saline, freshwater, or brackish. Soils in these communities are often poorly drained and can have thick layers of organic material (Sawyer et al. 2009). Dominant species in

these communities consist of a variety of wetland restricted species including sedge (*Carex* spp.), salt grass (*Distichlis spicata*), rush (*Juncus* spp.), bulrush (*Bolboshoenus* spp. and *Schoenoplectus* spp.), cattail (*Typha* spp.), and pickleweed (*Salicornia pacifica*). The shrub and tree layer are generally absent in these communities, although tree or shrub dominated communities can occur in close proximity to wetland communities or have emergent riparian species present in low numbers. An exception to this general rule is iodine bush scrub wetland communities, which occur in very small patches in the Delta/San Joaquin Valley ecoregion, where a shrubby species – iodine bush (*Allenrolfea occidentalis*) – is the dominant and characteristic species. Many wetland communities are considered sensitive natural communities. These communities are mapped throughout Park District lands although the larger polygons are located in the Bay Shore and northern Delta/San Joaquin Valley ecoregions.

Sensitive Natural Communities

Sensitive natural communities are of limited distribution statewide or within a county or region that provides important habitat value to native species. **Appendix D** presents the sensitive natural communities that have the potential to occur within routine maintenance project sites. Communities are considered sensitive if they have a Subnational Conservation Status Rank of S3 or lower (CDFW 2020). A Subnational Conservation Status Rank of S3 indicates a vegetation alliance or association is “Vulnerable,” meaning it is at moderate risk of extinction or elimination due to a restricted range, relatively few populations, recent and widespread declines, or other factors (NatureServe 2020). A Subnational Conservation Status Rank of S2 indicates a vegetation alliance or association as “Imperiled” because of rarity due to very restricted range, few populations, steep declines, or other factors making it very vulnerable to extirpation from jurisdiction (NatureServe 2016). A Subnational Conservation Status Rank of S1 indicates a vegetation alliance or association as “Critically Imperiled” because of rarity due to very restricted range, very few populations, steep declines, or other factors making it very vulnerable to extirpation from jurisdiction (NatureServe 2016). A Subnational Conservation Status Rank of S? denotes that although insufficient samples exist for the full expected range of a community, the existing information points to a Sensitive Natural Community Ranking (NatureServe 2016).

4.4.2 Discussion

- a. *Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service? (Less than Significant with Mitigation Incorporated)*

Special-Status Plant Species

Special-status plants include species that are designated Rare, threatened, or endangered and candidate species for listing under the federal Endangered Species Act (ESA) or the California Endangered Species Act (CESA). Special-status plants also include species listed as rare by the Native Plant Protection Act of 1977; or considered rare or endangered under the conditions of Section 15380 of the *State CEQA Guidelines*; such as those plant species identified with a California Rare Plant Rank (CRPR) of 1A, 1B, 2A, and 2B in the Inventory of Rare and Endangered Vascular Plants of California by CNPS. Special-status plants may include other species that are considered sensitive or of special concern due to limited distribution or lack of adequate information to permit listing or rejection for state or federal status, such as those with a CRPR 3 or 4 in the CNPS Inventory.

In addition to the designations described above, CDFW (2018) and CEQA require that impacts to “resources that are rare or unique to that region” be evaluated [CEQA Guidelines 15125(c)]. This includes, but is not limited to disjunct subpopulations, sensitive, declining, or populations that have a restricted distribution. These are informal terms that refer to those species that might be declining or be in need of concentrated conservation actions to prevent decline or extirpation but have no legal protection of their own. Also, CEQA Guidelines Section 15380 states “a species not included in any listing...shall nevertheless be considered to be rare or endangered if the species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered threatened as that term is used in the ESA.” Therefore, potential locally rare species should be considered in local planning and stewardship management efforts. Including them in environmental review documents such as an MND or Environmental Impact Report is up to the discretion of the relevant environmental review lead agency, under the guidance of CNPS and local botanical experts on a case-by-case basis. Locally rare species tracked by the East Bay Chapter of CNPS meet these criteria (Lake 2010). Their status is based on their rarity and endangerment throughout all or portions of their range.

An analysis was conducted to identify all special-status plant species with potential to occur on Park District lands. To address the large geographic extent of Park District lands, parks and other Park District properties were grouped into ecoregions with similar climates for the purpose of the evaluation, including Bay Shore, Delta/San Joaquin Valley, East Bay Hills, Mount Hamilton, and Mount Diablo Range. The evaluation identified numerous special-status plant species known or with potential to occur on Park District lands. **Appendix E** identifies these special-status plant species, along with their listing status, habitat and distribution information, flowering period/phenology, and an evaluation of habitat suitability and potential for occurrence. **Figures 4.4-1: 1-6** (at the end of this section), show the location of special-status plant species documented by the CNDDDB on Park District lands.

Based on botanical surveys conducted for past routine maintenance projects, special-status plants species rarely occur in or near the disturbance footprint of routine maintenance projects. In the approximately 120 focused botanical surveys conducted in 2018, 2019, 2020, and 2021 no special-status plant species were found within the disturbance boundary of a routine maintenance project. Western leatherwood (*Dirca occidentalis*), a CNPS Rank 1B plant, was found on several occasions near project sites but impacts to the species were easily avoided. Most routine maintenance projects are located adjacent to trails or in areas subject to frequent disturbance, which can limit habitat suitability. In general, special-status plants tend to occur within relatively undisturbed habitats and within fairly specialized microhabitats such as serpentine substrates, alkaline or heavy clay soils, or on rock outcrops, where introduced annual grasses are relatively sparse. Although suitable habitat conditions have generally been absent from past routine maintenance project sites, future routine maintenance projects could occur in locations supporting or potentially supporting special-status plant species.

Routine maintenance activities typically include the use of heavy equipment (e.g., excavator, dump trucks) and hand tools and involve excavation, rock or ford block placement, limited vegetation removal, use of access roads, and staging of equipment. These activities could result in direct damage or removal of special-status plants. Therefore, routine maintenance construction activities could result in the loss of special-status plants and related impacts are potentially significant. Potential impacts to special-status plants would be reduced to a less-than-significant level by implementation of Mitigation Measures Special-Status Plants-1 through 3.

The RMRP also includes limited use of herbicides to control invasive plants as part of habitat restoration projects. The primary threat that herbicides pose to special-status plants is “herbicide drift,” which occurs when air carries pesticide particles or vapors away from the target plant. These particles or vapors may impact non-target special-status plant species in the immediate vicinity of the target species. Therefore, in the absence of avoidance and minimization measures, herbicide use could adversely affect special-status plant species. However, if herbicides are used, they will be used according to their label instructions, California state law and best professional standards (see **Section 2.9, General Best Management Practices**, Chemical Controls). These BMPs include measures to limit herbicide drift and accidental application to special-status plants, including but not limited to, applying the least amount and least concentrated formulation necessary, a qualified applicator (QAC/QAL) will apply or supervise the application of any herbicide, targeted application, and not applying herbicides during periods of inversion or during windy periods. Therefore, potential impacts on special-status plant species from herbicide use are less than significant.

Mitigation Measures for Special-Status Plants

Mitigation Measure

Special-Status Plants-1

To the degree feasible, all staging locations will be on existing access roads/trails or other previously disturbed areas. Given the locations of typical routine maintenance and restoration projects, the Park District does not foresee any scenarios when it would not be feasible to locate staging areas on access roads/trails or other previously disturbed areas. However, if staging is necessary in an off-trail area with suitable habitat for special-status plants, the staging area will be included in the special-status plant survey area (see below).

Mitigation Measure

Special-Status Plants-2

Before commencing the routine maintenance activity, a qualified botanist will survey potential habitat (if present) within and adjacent to the disturbance footprint of the activity, during the appropriate identification period for the targeted special-status plant species (as shown in the flowering phenology column of **Appendix E**). If no special-status plants are observed during appropriately timed surveys by a qualified botanist, it is assumed that the maintenance activity will have no impact on special-status plants. The surveys will be considered valid for no longer than 3 years.

Mitigation Measure

Special-Status Plants-3

If special-status plants are identified within or adjacent to the routine maintenance area, the individuals or populations will be flagged, mapped, and quantified and reported to the CNDDDB. All special-status plants will be avoided when feasible. When avoidance is feasible, a non-disturbance buffer will be established around the population during construction activities. The size of the buffer will be determined by a qualified botanist taking into consideration threats (e.g., inadvertent trampling), types of equipment to be used, and other specific RMRP activities at that location. All construction personnel will be instructed as to the

location and extent of the special-status plants or populations and the importance of avoiding impacts to the species and its habitat.

If avoidance is not possible, then a Rare Plant Mitigation Plan shall be designed and implemented. CDFW approval of the Rare Plant Mitigation Plan is required before implementation of an activity that could directly or indirectly impact a federally or state listed or CRPR 1A, 1B, 2A, or 2B species, and under no circumstances will state or federally listed plants be impacted without additional consultation with appropriate regulatory agencies. At a minimum, the plan shall include the following elements:

- For annual species, seed shall be collected from plants that will be impacted, seed stored in an appropriate seed banking facility, and a portion of the seeds shall be redistributed in the project vicinity, as directed by a Park District botanist. Individual plants may also be transplanted. For perennial species, seed collection and seed banking may be augmented by transplanting entire plants or cuttings, as directed by the Park District botanist.
- Suitable sites shall be identified and prepared for redistribution of seeds (or transplants) at mitigation ratios that are appropriate for the species lifeform (e.g., annual or perennial) and success based on performance standards calibrated by established reference populations. The plan shall outline the site preparation activities.
- Monitoring surveys of the seeded or transplanted areas shall be conducted for a minimum of 2 years. The Park District shall prepare monitoring reports that document the monitoring results and the success of the rare plant mitigation program.
- Mitigation will be deemed successful when the mitigation population provides the same ecological functions as the impacted population, after taking into account natural fluctuations in population size, health, etc. This will include each of the relocated species establishes at least one stable population of approximately the same size of the impacted population, defined as species presence and population size over a 2-year period, taking into account fluctuations in local reference populations. If this goal is not achieved in 3 years, then contingency measures shall be implemented. Such measures will include evaluating the environmental or other characteristics affecting plant survival and implementing corrective measures, which may include additional seeding and planting; altering or implementing a weed control regime; or introducing or altering other management activities. Efforts shall continue until the mitigation site meets the success criteria for two consecutive years.

Special-Status Wildlife Species

For the purposes of this analysis, special-status wildlife species include the following:

- Animal species listed by the USFWS or CDFW as threatened or endangered; proposed for listing as threatened or endangered; or as a candidate for listing as threatened or endangered under the ESA or CESA.
- Animal species considered as “endangered, rare or threatened” as defined by Section 15380 of the *State CEQA Guidelines*. This may include species included on the CDFW Special Animals list with no other legal protection. Section 15380(b) states that a species of animal or plant is “endangered” when its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors. A species is “rare” when either “(A) although not presently threatened with extinction, the species is existing in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or (B) the species is likely to become endangered within the foreseeable future throughout all or a portion of its range and may be considered ‘threatened’ as that term is used in the ESA.”
- Animal species designated as “Species of Special Concern” or “Fully Protected” by the CDFW. Although these species have no legal status under CESA, the CDFW recommends their protection as their populations are generally declining and they could be listed as threatened or endangered (under CESA) in the future.
- “Fully Protected” species may not be taken or possessed at any time and most fully protected species have also been listed as threatened or endangered species under the more recent CESA. The CDFW may only authorize take for necessary scientific research or if they are a covered species whose conservation and management is provided for in a Natural Community Conservation Plan (NCCP).
- Birds designated by the USFWS as “Birds of Conservation Concern.” Although these species have no legal status under ESA, the USFWS recommends their protection as their populations are generally declining, and they could be listed as threatened or endangered (under ESA) in the future.

The presence of special-status wildlife species on Park District lands has been well documented through focused surveys and other observations made by Park District staff and the public. Based on a review of the CNDDDB, surveys conducted by the Park District, and other sources, 81 special-status wildlife species are known to occur, or have a reasonable potential to occur, on a routine maintenance project site. The listing status, habitat requirements, known occurrences of the species in the project area, and an assessment of the likelihood of occurrence of each of the species are provided in **Appendix F**. The documented occurrences of special-status species in the surrounding project area are shown in **Figure 4.4-2: I-6** (at the end of this section).

Table 4.4.1, below, describes potential impacts to special-status wildlife species from the implementation of routine maintenance and restoration projects, as well as an overview of the BMPs and mitigation measures to be implemented to protect the species. For the purposes of the analysis of

potential impacts to special-status wildlife species from routine maintenance and restoration projects, the 10 activity types are not differentiated because they all include ground disturbance within and adjacent to a stream, pond, wetland, or other water body. As dewatering is not required for all projects, and because it can introduce additional potential impacts (e.g., stranding aquatic species), dewatering is discussed separately in **Table 4.4.1**.

The mitigation measures to protect special-status wildlife are described in detail following **Table 4.4.1**. In the absence of required mitigation measures, impacts to special-status wildlife species are potentially significant. However, with the implementation of the required mitigation measures, impacts to special-status wildlife species are less than significant.

Potential Impacts to Special-Status Wildlife Species from Chemical Control of Invasive Plant Species

As discussed in **Chapter 2, Project Description**, herbicides may be used as part of the *Restoration* activity types. This includes the use of herbicides to remove invasive plant species to improve riparian and tidal marsh habitats.

Chemical controls of invasive plants are used when mechanical vegetation control or removal are considered too destructive to soil, existing plant communities, and associated habitat, or when required for success and duration of the invasive species removal/control. Chemical controls are only used as part of routine maintenance and restoration projects when their use improves habitat quality.

When herbicides are used, they will be used according to their label instructions, California state law, Best Management Practices for Wildland Stewardship: Protecting Wildlife When Using Herbicides for Invasive Plant Management (Cal-IPC 2015), and best professional standards (see **Section 2,9, General Best Management Practices**). This includes but is not limited to: applications using the lowest rate and the least volume of herbicide necessary to effectively control invasive plants; herbicides will not be applied directly to water; measures to minimize herbicide drift; measures to minimize the risk of spills; and compliance with all injunctions that limit active ingredient and proximity to habitat for endangered species in Alameda and Contra Costa counties, including the “Stipulated Injunction and Order for the protection of the California red legged frog” and the “Bay Area Stipulated Injunction and Order.”

Although amphibians are particularly vulnerable to herbicides due to their permeable skin, the BMPs implemented as part of the project prohibit applying herbicides directly to water. In addition, it is not expected that amphibians (including special-status amphibians) or other special-status wildlife species would be directly sprayed or subject to direct exposure from drift or spills given that most species generally flush from the area when approached, as well as the experience and training of Park District IPM staff to avoid sensitive resources, the implementation of the BMPs, and compliance with all applicable regulations set by the California Department of Pesticide Regulation. Given these factors, and that the BMPs will be implemented as part of the proposed project, related impacts to special-status wildlife species are less than significant.

Table 4.4.1 Potential Impacts to Special-Status Wildlife Species

POTENTIAL CONSTRUCTION/ GROUND DISTURBANCE IMPACTS	POTENTIAL DEWATERING IMPACTS	BMPS, MITIGATION AND CONCLUSION
Federally and/or State Listed Amphibians: California tiger salamander (CTS), California red-legged frog (CRLF), foothill yellow-legged frog (FYLF)		
<p>Direct impacts to these species could occur from injury or death through direct contact with construction equipment, construction materials, or vehicles. As CTS and CRLF occupy burrows or other subterranean refuges, these species may also be crushed or trapped by operation of heavy equipment or other construction activities. These species could be directly impacted while in aquatic habitats, dry ponds/stream, or while in uplands during migration, dispersal, foraging, or seeking refuge habitat.</p> <p>Potentially Significant</p>	<p>When work in a flowing stream is unavoidable, the stream flow will be diverted around or through the work area during construction operations. Dewatering of ponds may also be required during pond restoration projects and for removal of bullfrogs and non-native predatory fish. In the absence of BMPs and avoidance measures, dewatering can harm species through intake into pumps and stranding species in dry environments. Relocation of CTS, CRLF, and/or FYLF could also be required during dewatering activities.</p> <p>Potentially Significant</p>	<p>BMPs Standard BMPs will be implemented to minimize habitat impacts. Standard BMPs will also be implemented to create a dry work environment and maintain downstream flows when dewatering is required, as well as screens for intake pumps to protect aquatic species.</p> <p>General Avoidance and Minimization Measures These require an approved biological monitor/qualified biologist to be onsite during all construction activities, biological resources training for construction personnel, preconstruction surveys, requirements/restrictions for relocation of species, measures to prevent the entrapment of species, and other actions to reduce the potential harm of species.</p> <p>Species-Specific Measures The following measures would be implemented in addition to the General Avoidance and Minimization Measures when a routine maintenance project occurs on Park District lands containing any of these species (see Appendix G): CTS-I through CTS-4 CRLF-I through CRLF- 4 FYLF-I through FYLF-4 These measures restrict routine maintenance activities to August 31 through October 31 (or under naturally dry site conditions), when streams and ponds are more likely to be dry and which is generally outside of the breeding period of these amphibians; the start of the breeding period can vary depending on rainfall, temperature, and other factors. These measures also include restrictions on when and how</p>

POTENTIAL CONSTRUCTION/ GROUND DISTURBANCE IMPACTS	POTENTIAL DEWATERING IMPACTS	BMPS, MITIGATION AND CONCLUSION
		<p>listed species can be relocated and when a construction activity must be halted.</p> <p>ESA and CESA Compliance</p> <p>CTS and CRLF are listed as Threatened under the ESA. Federal take coverage for these species is provided by Biological Opinion 08ESMf00-2013-F-0416. The conditions of that Biological Opinion have been incorporated into the MND.</p> <p>Under the state ESA, CTS is listed as Threatened and FYLF is listed as Endangered. An ITP, and the implementation of any additional requirements of that permit, would be required if during the project authorization process CDFW determines a routine maintenance project could result in take of the species even when the above avoidance and minimization measures are implemented.</p> <p>Conclusion</p> <p><i>Less than Significant with Mitigation</i></p>
<p>Federally and/or State Listed Tidal Marsh Associated Birds: California Ridgway's rail (RIRA), California black rail (BLRA), California least tern (LETE), and western snowy plover (SNPL)</p>		
<p>Direct impacts to these species could occur from injury or death through direct contact with construction equipment, construction materials, or vehicles. Construction related noise and human activity could cause nest abandonment or flushing of individuals. Construction activities may also cause these species to temporarily avoid active work sites due to noise or increased human presence.</p> <p>Potentially Significant</p>	<p>Dewatering activities are not expected to occur in habitats used for nesting by these species. However, in the case they are required, related activities could disrupt nesting behavior or cause individuals to flush.</p> <p>Potentially Significant</p>	<p>BMPs</p> <p>Standard BMPs will be implemented to minimize habitat impacts.</p> <p>General Avoidance and Minimization Measures</p> <p>These require an approved biological monitor/qualified biologist to be onsite during all construction activities, biological resources training for construction personnel, preconstruction surveys, requirements/restrictions for relocation of species, measures to prevent the entrapment of species, and other actions to reduce the potential harm of species.</p>

POTENTIAL CONSTRUCTION/ GROUND DISTURBANCE IMPACTS	POTENTIAL DEWATERING IMPACTS	BMPS, MITIGATION AND CONCLUSION
		<p>Species-Specific Measures</p> <p>The following measures would be implemented in addition to the General Avoidance and Minimization Measures when a routine maintenance project occurs on Park District lands containing any of these species (see Appendix G). Although not included in Appendix G, BLRA is assumed to occur in suitable habitat at Bay Point, Point Pinole, MLK Shoreline and Coyote Hills.</p> <p>RAIL-1 through RAIL-4 LETE-1 through LETE-2 SNPL-1 through SNPL-2</p> <p>These measures restrict construction activities near suitable nesting habitat to the period of September 1-January 31, which is outside these species' breeding period. These measures also require temporarily halting construction if the species enters or is near the work area.</p> <p>ESA and CESA Compliance</p> <p>RIRA, SNPL, and LETE are protected by the federal ESA and Federal take coverage for these species is provided by Biological Opinion 08ESMf00-2013-F-0416. RIRA, LETE, and BLRA are protected by the state ESA and are also state Fully Protected Species. Due to these species' Fully Protected status, CDFW cannot issue Incidental Take Coverage. Therefore, the Species-Specific Measures listed above are designed to prevent harm to these species and their active nests.</p> <p>Conclusion <i>Less than Significant with Mitigation</i></p>

POTENTIAL CONSTRUCTION/ GROUND DISTURBANCE IMPACTS	POTENTIAL DEWATERING IMPACTS	BMPS, MITIGATION AND CONCLUSION
Federally and/or State Listed Mammals: salt marsh harvest mouse (SMHM)		
<p>When working in or near suitable pickleweed habitat, direct impacts to this mammal could occur from injury or death through contact with construction equipment, construction materials, or vehicles, as well as from vegetation removal.</p> <p>Potentially Significant</p>	<p>This species occurs in pickleweed habitat within tidal marshes and does not occur in aquatic habitats that would be dewatered. Therefore, this species will not be harmed by dewatering.</p> <p>No Impact</p>	<p>BMPs Standard BMPs will be implemented to minimize habitat impacts.</p> <p>General Avoidance and Minimization Measures These require an approved biological monitor/qualified biologist to be onsite during all construction activities, biological resources training for construction personnel, preconstruction surveys, requirements/restrictions for relocation of species, measures to prevent the entrapment of species, and other actions to reduce the potential harm of species.</p> <p>Species-Specific Measures The following measures would be implemented in addition to the General Avoidance and Minimization Measures when a routine maintenance project occurs on Park District lands containing this species (see Appendix G): SMHM-1 through SMHM-3</p> <p>These measures restrict vegetation removal methods within and near suitable SMHM habitat, require additional clearance surveys and identification of the construction boundaries.</p> <p>ESA and CESA Compliance SMHM is protected by the federal ESA and Federal take coverage for these species is provided by Biological Opinion 08ESMf00-2013-F-0416. This species is also protected by the state ESA and is a state Fully Protected Species. Due to this species' Fully Protected status, CDFW cannot issue Incidental Take Coverage. Therefore, the Species-Specific Measures listed above are designed to prevent harm to the species.</p> <p>Conclusion Less than Significant with Mitigation</p>

POTENTIAL CONSTRUCTION/ GROUND DISTURBANCE IMPACTS	POTENTIAL DEWATERING IMPACTS	BMPS, MITIGATION AND CONCLUSION
Federally and/or State Listed Mammals: San Joaquin kit fox (SJKF)		
<p>Construction equipment, construction materials, or vehicles could result in direct impacts to this mammal, including injury or death, if an active den is present in or adjacent to the project construction area or in the unlikely event an individual entered the construction area.</p> <p>Potentially Significant</p>	<p>This species does not occur in aquatic habitats and, therefore, will not be harmed by dewatering.</p> <p>No Impact</p>	<p>BMPs Standard BMPs will be implemented to minimize habitat impacts.</p> <p>General Avoidance and Minimization Measures These require an approved biological monitor/qualified biologist to be onsite during all construction activities, biological resources training for construction personnel, preconstruction surveys, requirements/restrictions for relocation of species, measures to prevent the entrapment of species, and other actions to reduce the potential harm of species.</p> <p>Species-Specific Measures The following measures would be implemented in addition to the General Avoidance and Minimization Measures when a routine maintenance project occurs on Park District lands potentially supporting this species (see Appendix G): SJKF-1 through SJKF-4 These measures require preconstruction den surveys and avoidance of active dens.</p> <p>ESA and CESA Compliance SJKF is listed as Endangered under the federal ESA. Federal take coverage for these species is provided by Biological Opinion 08ESMf00-2013-F-0416. The conditions of that Biological Condition have been incorporated into the MND. Under the state ESA, SJKF is listed as Threatened. An ITP, and the implementation of any additional requirements of that permit, would be required if during the project authorization process CDFW determines a routine maintenance project could result in take of the species even when the above avoidance and minimization measures are implemented.</p> <p>Conclusion Less than Significant with Mitigation</p>

POTENTIAL CONSTRUCTION/ GROUND DISTURBANCE IMPACTS	POTENTIAL DEWATERING IMPACTS	BMPS, MITIGATION AND CONCLUSION
Federally and/or State Listed Reptiles: Alameda whipsnake (AWS)		
<p>Direct impacts to AWS could occur from injury or death through contact with construction equipment, construction materials, or vehicles. As AWS can occupy burrows or other subterranean refuges, this species may also be crushed or trapped by operation of heavy equipment or other construction activities.</p> <p>Potentially Significant</p>	<p>It is not expected that AWS would be harmed during dewatering activities because the species is not aquatic and individuals in riparian habitats would move away from the disturbance area.</p> <p>Less than Significant</p>	<p>BMPs Standard BMPs will be implemented to minimize habitat impacts.</p> <p>General Avoidance and Minimization Measures These require an approved biological monitor/qualified biologist to be onsite during all construction activities, biological resources training for construction personnel, preconstruction surveys, requirements/restrictions for relocation of species, measures to prevent the entrapment of species, and other actions to reduce the potential harm of species.</p> <p>Species-Specific Measures The following measures would be implemented in addition to the General Avoidance and Minimization Measures when a routine maintenance project occurs on Park District lands supporting this species (see Appendix G): AWS-1 through AWS-4 These measures require avoiding rock outcrops when possible, restricting construction to periods when AWS are more active and capable of escaping, and removal of cover habitat with hand-held equipment.</p> <p>ESA and CESA Compliance AWS is listed as Threatened under the federal ESA. Federal take coverage for these species is provided by Biological Opinion 08ESMf00-2013-F-0416. The conditions of that Biological Condition have been incorporated into the MND. Under the state ESA, AWS is listed as Threatened. An ITP, and the implementation of any additional requirements of that permit, would be required if during the project authorization process CDFW determines a routine maintenance project could result in take of the species even when the above avoidance and minimization measures are implemented.</p> <p>Conclusion Less than Significant with Mitigation</p>

POTENTIAL CONSTRUCTION/ GROUND DISTURBANCE IMPACTS	POTENTIAL DEWATERING IMPACTS	BMPS, MITIGATION AND CONCLUSION
Federally and/or State Listed Reptiles: giant garter snake (GGS)		
<p>Direct impacts to GGS could occur from injury or death through contact with construction equipment, construction materials, or vehicles. As GGS occupy burrows or other subterranean refuges in upland habitats, this species may also be crushed or trapped by operation of heavy equipment or other construction activities. Potentially Significant</p>	<p>When work in a flowing stream is unavoidable, the stream flow will be diverted around or through the work area during construction operations. In the absence of avoidance measures, dewatering can harm GGS through intake into pumps or forcing the species to relocate from dewatered area. Potentially Significant</p>	<p>BMPs Standard BMPs will be implemented to minimize habitat impacts. Standard BMPs will also be implemented to create a dry work environment and maintain downstream flows when dewatering is required, as well as screens for intake pumps to protect aquatic species. General Avoidance and Minimization Measures These require an approved biological monitor/qualified biologist to be onsite during all construction activities, biological resources training for construction personnel, preconstruction surveys, requirements/restrictions for relocation of species, measures to prevent the entrapment of species, and other actions to reduce the potential harm of species. Species-Specific Measures The following measures would be implemented in addition to the General Avoidance and Minimization Measures when a routine maintenance project occurs on Park District lands supporting this species (see Appendix G): GGS-1 through GGS-2. These measures restrict construction activities in or within 200 feet of suitable aquatic habitat to the species active period (May 1 to October 1) and the hand removal of vegetation in off trail areas to be disturbed by construction vehicles/equipment. ESA and CESA Compliance GGS is listed as Threatened under the federal ESA. Federal take coverage for these species is provided by Biological Opinion 08ESMf00-2013-F-0416. The conditions of that Biological Condition have been incorporated into the MND. Under the state ESA, GGS is listed as Threatened. An ITP, and the implementation of any additional requirements of that permit, would be required if during the project authorization process CDFW determines a routine maintenance project could result in take of the species even when the above avoidance and minimization measures are implemented. Conclusion Less than Significant with Mitigation</p>

POTENTIAL CONSTRUCTION/ GROUND DISTURBANCE IMPACTS	POTENTIAL DEWATERING IMPACTS	BMPS, MITIGATION AND CONCLUSION
Federally Listed and Other Vernal Pool Branchiopod Species: vernal pool fairy shrimp, longhorn fairy shrimp, vernal pool tadpole shrimp, mid-valley fairy shrimp, California linderiella		
<p>Direct impacts to these species could occur from ground-disturbing activities within or adjacent to vernal pool or other suitable seasonal aquatic habitat. Indirect impacts could occur from altering hydrology of seasonal pools or from spoils entering suitable habitat.</p> <p>Potentially Significant</p>	<p>Given the seasonal nature of these species' habitat, no dewatering in suitable habitat will be required.</p> <p>Less than Significant</p>	<p>BMPs Standard BMPs will be implemented to minimize habitat impacts.</p> <p>General Avoidance and Minimization Measures These require an approved biological monitor/qualified biologist to be onsite during all construction activities, biological resources training for construction personnel, preconstruction surveys, requirements/restrictions for relocation of species, measures to prevent the entrapment of species, and other actions to reduce the potential harm of species.</p> <p>Species-Specific Measures The following measures would be implemented in addition to the General Avoidance and Minimization Measures when a routine maintenance project occurs on Park District lands containing any of these species (see Appendix G): VPBR-1 through VPBR-4</p> <p>These measures require restricting work within 250 feet of listed vernal pool branchiopod habitat to between August 1 and October 31 under dry site conditions; implementing dust control measures; and ensuring that no permanent adverse effects to the hydrology of the vernal pool or vernal pool complex results from the project.</p> <p>ESA and CESA Compliance Vernal pool fairy shrimp, vernal pool tadpole shrimp, and longhorn shrimp are listed as Threatened under the federal ESA. Federal take coverage for these species is provided by Biological Opinion 08ESMf00-2013-F-0416. The conditions of that Biological Condition have been incorporated into the MND. These species are not protected by the state ESA.</p> <p>Conclusion Less than Significant with Mitigation</p>

POTENTIAL CONSTRUCTION/ GROUND DISTURBANCE IMPACTS	POTENTIAL DEWATERING IMPACTS	BMPS, MITIGATION AND CONCLUSION
Federally and/or State Listed Fish: delta smelt, green sturgeon, steelhead, longfin smelt		
<p>These fish species can all occur in salt and brackish water habitats, with steelhead also potentially occurring in freshwater streams without barriers to migration to/from the bay. Routine maintenance activities are generally not permitted in standing water potentially supporting any of these species and most projects in suitable habitat for these species can be conducted at low tide when the work area is naturally dry (and fish are absent). However, should work in standing water accessible to these species be required, or dewatering of suitable habitat be required, individual fish could be harmed.</p> <p>Potentially Significant</p>	<p>See Potential Construction Impacts</p>	<p>BMPS</p> <p>Standard BMPS will be implemented to minimize habitat impacts. Standard BMPS will also be implemented to create a dry work environment and maintain downstream flows when dewatering is required, as well as screens for intake pumps to protect aquatic species.</p> <p>General Avoidance and Minimization Measures</p> <p>These require an approved biological monitor/qualified biologist to be onsite during all construction activities, biological resources training for construction personnel, preconstruction surveys, requirements/restrictions for relocation of species, measures to prevent the entrapment of species, and other actions to reduce the potential harm of species.</p> <p>Species-Specific Measures</p> <p>The following measures would be implemented in addition to the General Avoidance and Minimization Measures when a routine maintenance project occurs on Park District lands containing any of these species:</p> <p>DS-I FISH-I</p> <p>These measures restrict work in potential delta smelt habitat to the period of August through November. All work within tidal habitat suitable for special-status fish species will be conducted at low tide when the work area is dry. Work in standing water where any of these species could be present will not be conducted without appropriate approvals by NMFS, USFWS, and/or CDFW and not without an agency approved fish relocation plan.</p> <p>ESA and CESA Compliance</p> <p>Under the federal ESA, Delta smelt and green sturgeon are listed as Threatened, and longfin smelt is a candidate for listing. Federal take coverage for Delta smelt is provided by</p>

POTENTIAL CONSTRUCTION/ GROUND DISTURBANCE IMPACTS	POTENTIAL DEWATERING IMPACTS	BMPS, MITIGATION AND CONCLUSION
		<p>Biological Opinion 08ESMf00-2013-F-0416 and the associated conditions of that Biological Condition have been incorporated into the MND. Consultation with NMFS is conducted for all routine maintenance projects in tidal waters and any required additional avoidance and minimization measures would be implemented.</p> <p>Under the state ESA, Delta smelt is listed as Endangered, and steelhead and longfin smelt are listed as Threatened. An ITP, and the implementation of any additional requirements of that permit, would be required if during the project authorization process CDFW determines a routine maintenance project could result in take of Delta smelt, steelhead or longfin smelt even when the above avoidance and minimization measures are implemented.</p> <p>Conclusion <i>Less than Significant with Mitigation</i></p>
Special-Status Bird Species (Numerous Species, see Appendix F), including active nests of special-status and common bird species		
<p>Impacts to nesting birds could occur through construction activities directly destroying nests, damaging nests or causing abandonment of nests through vegetation removal, or from construction related noise or visual disturbance causing nest abandonment or neglect.</p> <p>Potentially Significant</p>	<p>These species do not occur in aquatic habitats and, therefore, will not be directly harmed by dewatering. However, dewatering could disturb birds nesting in emergent vegetation and make them more vulnerable to predation.</p> <p>Potentially Significant</p>	<p>BMPS Standard BMPs will be implemented to minimize habitat impacts.</p> <p>General Avoidance and Minimization Measures Measure #7 requires a preconstruction nesting bird survey and avoidance of active bird nests.</p> <p>Conclusion <i>Less than Significant with Mitigation</i></p>

POTENTIAL CONSTRUCTION/ GROUND DISTURBANCE IMPACTS	POTENTIAL DEWATERING IMPACTS	BMPS, MITIGATION AND CONCLUSION
Special-Status Bees (Blennosperma vernal pool Andrenid bee, obscure bumble bee, Crotch bumble bee, western bumble bee, Antioch adrenid bee)		
<p>Direct impacts to individual special-status bees are unlikely given their mobility and ability to escape danger from construction equipment. The exception would be if a hive is present within the construction footprint (e.g., in the ground or in a tree being removed). However, as a bee hive has not been encountered during a routine maintenance project, and because most associated activities occur within unsuitable habitat (e.g., streams, ponds), disturbance of a hive is unlikely to occur. Nonetheless, there is some potential to disturb a hive of a special-status bee species.</p> <p>Potentially Significant</p>	<p>Hives of these species do not occur in aquatic habitats and, therefore, will not be harmed by dewatering.</p> <p>No Impact</p>	<p>BMPs Standard BMPs will be implemented to minimize habitat impacts.</p> <p>General Avoidance and Minimization Measures These require an approved biological monitor/qualified biologist to be onsite during all construction activities, biological resources training for construction personnel, preconstruction surveys, requirements/restrictions for avoidance or relocation of species, measures to prevent the entrapment of species, and other actions to reduce the potential harm of species.</p> <p>Conclusion Less than Significant with Mitigation</p>
Special-Status Invertebrates (Antioch efferian robberfly, Bridges' coast range shoulderband, curved-foot hygrotus diving beetle, Molestan blister beetle, Lee's micro-blind harvestman, Lum's micro-blind harvestman, mimic tyronia)		
<p>Direct impacts to these species could occur from injury or death through direct contact with construction equipment, construction materials, or vehicles. However, as routine maintenance activities generally occur under dry site conditions, because of the habitat conditions of these species are very specific, and/or because there are few observations of these species on Park District lands, it is unlikely that individuals would be harmed by routine maintenance activities. In the unlikely event that individuals are harmed (despite the General Avoidance and Minimization Measures which are implemented for all projects), because of the low sensitivity designations of these species (i.e., Special Animals, but no other rarity designations/protections), impacts would not rise to a level of significance.</p> <p>Less than Significant</p>	<p>Some of these species could occur within aquatic habitats where dewatering could occur. BMPs, including screens, will be implemented to minimize the potential of individuals to be harmed by intake pumps and individuals would be expected to leave the dewatered area. Although there is still limited potential that a small number of individuals could be harmed, given the low sensitivity status of these species, related impacts would not rise to a level of significance.</p> <p>Less than Significant</p>	<p>BMPs Standard BMPs will be implemented to minimize habitat impacts. Standard BMPs will also be implemented to create a dry work environment and maintain downstream flows when dewatering is required, as well as screens for intake pumps to protect aquatic species.</p> <p>General Avoidance and Minimization Measures Although impacts to these species are expected to be less than significant, the potential for impacts to occur would be further reduced by the avoidance and minimization measures implemented for all routine maintenance projects. These require an approved biological monitor/qualified biologist to be onsite during all construction activities, biological resources training for construction personnel, preconstruction surveys, requirements/restrictions for avoidance or relocation of species, measures to prevent the entrapment of species, and other actions to reduce the potential harm of species.</p> <p>Conclusion Less than Significant</p>

POTENTIAL CONSTRUCTION/ GROUND DISTURBANCE IMPACTS	POTENTIAL DEWATERING IMPACTS	BMPS, MITIGATION AND CONCLUSION
Monarch Butterfly		
<p>Direct impacts to the overwintering population of monarch butterflies are not expected to occur because routine maintenance activities occur outside of the winter roosting season and individual butterflies can move out of the way of construction activities.</p> <p>Less than Significant</p>	<p>This species does not occur in aquatic habitats and, therefore, will not be harmed by dewatering.</p> <p>No Impact</p>	<p>BMPs Standard BMPs will be implemented to minimize habitat impacts.</p> <p>General Avoidance and Minimization Measures Although impacts to this species are expected to be less than significant, the potential for impacts to occur would be further reduced by the avoidance and minimization measures implemented for all routine maintenance projects. These require an approved biological monitor/qualified biologist to be onsite during all construction activities, biological resources training for construction personnel, preconstruction surveys, requirements/restrictions for avoidance or relocation of species, measures to prevent the entrapment of species, and other actions to reduce the potential harm of species.</p> <p>Conclusion Less than Significant</p>
Northern California legless lizard, coast horned lizard		
<p>Direct impacts to these reptiles could occur from injury or death through contact with construction equipment, construction materials, or vehicles. As legless lizards can burrow in loose soils and under leaf litter, this species may also be crushed or trapped by operation of heavy equipment or other construction activities.</p> <p>Potentially Significant</p>	<p>These species do not occur in aquatic habitats and, therefore, will not be harmed by dewatering.</p> <p>No Impact</p>	<p>BMPs Standard BMPs will be implemented to minimize habitat impacts.</p> <p>General Avoidance and Minimization Measures These require an approved biological monitor/qualified biologist to be onsite during all construction activities, biological resources training for construction personnel, preconstruction surveys, requirements/restrictions for avoidance or relocation of species, measures to prevent the entrapment of species, and other actions to reduce the potential harm of species.</p> <p>Conclusion Less than Significant with Mitigation</p>

POTENTIAL CONSTRUCTION/ GROUND DISTURBANCE IMPACTS	POTENTIAL DEWATERING IMPACTS	BMPS, MITIGATION AND CONCLUSION
Western pond turtle		
<p>Direct impacts to this species could occur from injury or death through contact with construction equipment, construction materials, or vehicles.</p> <p>Potentially Significant</p>	<p>When work in a flowing stream is unavoidable, the stream flow will be diverted around or through the work area during construction operations. Dewatering of ponds may also be required during pond restoration projects and for removal of bullfrogs and non-native predatory fish. In the absence of avoidance measures, dewatering can harm species through intake into pumps and stranding species in dry environments. Relocation of pond turtles could also be required during dewatering activities.</p> <p>Potentially Significant</p>	<p>BMPS Standard BMPs will be implemented to minimize habitat impacts. Standard BMPs will also be implemented to create a dry work environment and maintain downstream flows when dewatering is required, as well as screens for intake pumps to protect aquatic species.</p> <p>General Avoidance and Minimization Measures These require an approved biological monitor/qualified biologist to be onsite during all construction activities, biological resources training for construction personnel, preconstruction surveys, requirements/restrictions for avoidance or relocation of species, measures to prevent the entrapment of species, and other actions to reduce the potential harm of species.</p> <p>Conclusion Less than Significant with Mitigation</p>
Roosting Bats (numerous species, see Appendix F)		
<p>Direct impacts to roosting bats could occur through the removal of a roost site (e.g., culvert, bridge, tree) or construction activities in proximity to an active maternity roost.</p> <p>Potentially Significant</p>	<p>Dewatering activities would not directly impact active roosts. Any loss of foraging habitat over standing/flowing water would be temporary and limited to a small area (footprint of routine maintenance project site).</p> <p>Less than Significant</p>	<p>BMPS Standard BMPs will be implemented to minimize habitat impacts.</p> <p>General Avoidance and Minimization Measures These require an approved biological monitor/qualified biologist to be onsite during all construction activities, biological resources training for construction personnel, preconstruction surveys, requirements/restrictions for avoidance or relocation of species, measures to prevent the entrapment of species, and other actions to reduce the potential harm of species.</p> <p>Species-Specific Measures The following measure would be implemented during all routine maintenance construction projects:</p>

POTENTIAL CONSTRUCTION/ GROUND DISTURBANCE IMPACTS	POTENTIAL DEWATERING IMPACTS	BMPS, MITIGATION AND CONCLUSION
		<p>BATS-1 This measure requires a bat habitat assessment to identify any roosting habitat that could be removed or disturbed by construction activities and measures to protect roosting bats and active roost sites. Conclusion <i>Less than Significant with Mitigation</i></p>
San Pablo vole, salt-marsh wandering shrew		
<p>Construction activities in and adjacent to salt marshes could result in direct impacts to these mammals from injury or death through contact with construction equipment, construction materials, or vehicles. Potentially Significant</p>	<p>These species occur in tidal marshes and do not occur in aquatic habitats that would be dewatered. Therefore, these species will not be harmed by dewatering. No Impact</p>	<p>BMPs Standard BMPs will be implemented to minimize habitat impacts. General Avoidance and Minimization Measures These require an approved biological monitor/qualified biologist to be onsite during all construction activities, biological resources training for construction personnel, preconstruction surveys, requirements/restrictions for avoidance or relocation of species, measures to prevent the entrapment of species, and other actions to reduce the potential harm of species. Species-Specific Measures The measure to protect salt marsh harvest mouse would also serve to protect San Pablo vole and salt-marsh wandering shrew. These measures will be implemented during all routine maintenance construction projects in tidal areas potentially supporting San Pablo vole and salt-marsh wandering shrew: SMHM-1 through SMHM-3 These measures restrict vegetation removal methods within and near suitable SMHM habitat, require additional clearance surveys and identification of the construction boundaries. Conclusion <i>Less than Significant with Mitigation</i></p>

POTENTIAL CONSTRUCTION/ GROUND DISTURBANCE IMPACTS	POTENTIAL DEWATERING IMPACTS	BMPS, MITIGATION AND CONCLUSION
San Francisco dusky-footed woodrat		
<p>Direct impacts to this mammal and its nests could occur from injury or death through contact with construction equipment, construction materials, or vehicles, as well as vegetation removal.</p> <p>Potentially Significant</p>	<p>This species does not occur in aquatic habitats and, therefore, will not be harmed by dewatering.</p> <p>No Impact</p>	<p>BMPS Standard BMPS will be implemented to minimize habitat impacts.</p> <p>General Avoidance and Minimization Measures These require an approved biological monitor/qualified biologist to be onsite during all construction activities, biological resources training for construction personnel, preconstruction surveys, requirements/restrictions for avoidance or relocation of species, measures to prevent the entrapment of species, and other actions to reduce the potential harm of species.</p> <p>Species-Specific Measures The following measure would be implemented during all routine maintenance construction projects: SFWR-I This measure requires a preconstruction survey for woodrat nests and avoidance of nests when possible. The relocation of a woodrat nest is only permitted upon CDFW approval and in accordance with the approved relocation plan (Appendix H).</p> <p>Conclusion <i>Less than Significant with Mitigation</i></p>

POTENTIAL CONSTRUCTION/ GROUND DISTURBANCE IMPACTS	POTENTIAL DEWATERING IMPACTS	BMPS, MITIGATION AND CONCLUSION
San Joaquin pocket mouse		
<p>Direct impacts to this mammal could occur from injury or death through contact with construction equipment, construction materials, or vehicles. However, potential for harm is considered low as individual mice would generally flush from the disturbance area.</p> <p>Potentially Significant</p>	<p>This species does not occur in aquatic habitats and, therefore, will not be harmed by dewatering.</p> <p>No Impact</p>	<p>BMPs Standard BMPs will be implemented to minimize habitat impacts.</p> <p>General Avoidance and Minimization Measures These require an approved biological monitor/qualified biologist to be onsite during all construction activities, biological resources training for construction personnel, preconstruction surveys, requirements/restrictions for avoidance or relocation of species, measures to prevent the entrapment of species, and other actions to reduce the potential harm of species.</p> <p>Conclusion Less than Significant with Mitigation</p>
American badger		
<p>Construction equipment, construction materials, or vehicles could result in direct impacts to this mammal, including injury or death, if an active den is present in or adjacent to the project construction area or in the unlikely event an individual entered the construction area.</p> <p>Potentially Significant</p>	<p>This species does not occur in aquatic habitats and, therefore, will not be harmed by dewatering.</p> <p>No Impact</p>	<p>BMPs Standard BMPs will be implemented to minimize habitat impacts.</p> <p>General Avoidance and Minimization Measures These require an approved biological monitor/qualified biologist to be onsite during all construction activities, biological resources training for construction personnel, preconstruction surveys, requirements/restrictions for avoidance or relocation of species, measures to prevent the entrapment of species, and other actions to reduce the potential harm of species.</p> <p>Species-Specific Measures The following measure would be implemented during all routine maintenance construction projects: AB-I This measure requires that if an active badger den cannot be avoided, badgers may only be passively relocated when</p>

POTENTIAL CONSTRUCTION/ GROUND DISTURBANCE IMPACTS	POTENTIAL DEWATERING IMPACTS	BMPS, MITIGATION AND CONCLUSION
		young are not present and in accordance with a CDFW- approved badger relocation plan. Conclusion <i>Less than Significant with Mitigation</i>

Notes:

AWS = Alameda whipsnake
 BLRA = California black rail
 BMP = Best Management Practice
 CDFW = California Department of Fish and Wildlife
 CESA = California Endangered Species Act
 CRLF = California red-legged frog
 CTS = California tiger salamander

ESA = federal Endangered Species Act
 FYLF = foothill yellow-legged frog
 GGS = giant garter snake
 ITP = Incidental Take Permit
 LETE = California least tern
 MND = Mitigated Negative Declaration
 NMFS = National Marine Fisheries Service

Park District = East Bay Regional Park District
 RIRA = California Ridgway's rail
 SJKF = San Joaquin kit fox
 SNPL = western snowy plover
 SMHM = salt marsh harvest mouse
 USFWS = United States Fish and Wildlife Service

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Avoidance and Minimization Measures for Special-Status Wildlife

The Avoidance and Minimization Measures will vary based on the Tier 1, 2, or 3 project categorizations (see **Chapter 2, Project Description, Compliance with Federal and State Endangered Species Acts**).

For Tier 1 Projects, only the BMPs described in **Chapter 2, Project Description**, and the General Avoidance and Minimization Measures described below are required to be implemented. Activities requiring a qualified biologist may be conducted by a biological monitor (as defined below).

For Tier 2 Projects, all BMPs, General Avoidance and Minimization Measures and relevant Species-Specific Conservation Measures described below will be implemented.

For Tier 3 Projects, an ITP must first be obtained before the project can be implemented and all conditions of that ITP will be implemented. In addition, all BMPs, General Avoidance and Minimization Measures and relevant Species-Specific Conservation Measures described below will be implemented.

General Avoidance and Minimization Measures

1. The Park District will submit the names and credentials of biologists that will conduct the activities specified in the following measures to the CDFW and USFWS for approval.
2. A qualified biologist or approved biological monitor will remain on-site during all construction activities. When the project site is staffed by the biological monitor, a qualified biologist will be available to be at the site within 2 hours, if needed. The qualified biologist/biological monitor will be given the authority to stop any work that may result in the harm of special-status species. If the qualified biologist/biological monitor exercises this authority, the CDFW and/or USFWS will be notified by telephone and electronic mail within one working day. The qualified biologist/biological monitor will be the contact for any employee or contractor who might inadvertently kill or injure a listed species or anyone who finds a dead, injured or entrapped individual.
3. Prior to construction, a qualified biologist/biological monitor will conduct a construction employee education program in reference to potential special-status species and sensitive habitats on site. At a minimum, the program will provide an overview of relevant permit/agreement requirements, a description of special-status species potentially present, sensitive habitats on or near the site, avoidance measures to be implemented, and instruction on actions to take if wildlife species are observed. A list of employees who attend the training sessions will be maintained to be made available for review by the CDFW and/or USFWS upon request. Contractor training will be incorporated into construction contracts and will be a component of weekly project meetings.
4. A qualified biologist will conduct a preconstruction survey for special-status species immediately prior to groundbreaking activities. If at any point, construction activities cease for more than five consecutive days, an additional preconstruction survey will be conducted prior to the resumption of work.
5. The qualified biologist or biological monitor will conduct a clearance survey prior to the start of each workday. This will include walking the project site, and checking under construction

equipment, project vehicles, and their tires to ensure no species are using the equipment as temporary shelter.

6. All wildlife species within harm's way will be given the opportunity to leave the work area on their own. With the exception of species protected by CESA, and/or California Fully Protected Species, wildlife species may be removed from the work area by the qualified biologist/biological monitor in accordance with the approved conditions of the project's corresponding authorizations associated with biological permits (e.g., RMA, Biological Opinion). Any relocated wildlife species will be moved to a safe area that provides suitable habitat. The relocation of any wildlife species will be documented in the daily monitoring logs and a summary report will be provided to CDFW should the relocation of any special-status species be required. Species protected by CESA may only be relocated if the activity is covered by an ITP and in accordance with the procedures included in that ITP.

As required in the USFWS Biological Opinion, the relocation of federally listed species cannot occur until a relocation is approved by USFWS on a project-specific basis. The Park District will prepare a listed species relocation plan for the project to be reviewed and approved by USFWS prior to project implementation when listed species are known or suspected of being present. The plan will include trapping and relocation methods, relocation site, and post relocation monitoring. If the relocation of federally listed species is unexpectedly required, USFWS will be contacted for guidance on how to proceed.

7. If work will occur during nesting bird season (February 1 through August 31), a qualified biologist/monitor will survey a sufficient area around the work site to identify any nests that are present and determine their status. The survey will be conducted within 7 days for the commencement of construction. Once construction work begins, the survey effort will continue to ensure any nest starts established after the work commences are identified. 'Sufficient' in the context of this condition means any nest within an area that could potentially be affected by the Project. In addition to direct impacts, such as nest destruction, nesting birds might be affected by noise, vibration, odors and movement of workers or equipment.

If an active nest(s) is found, a qualified biologist will establish appropriate setbacks or construction will be delayed until nesting is complete. Identified active nests will be monitored for a sufficient period prior to any construction related activities to establish a behavioral baseline of the adults and any nestlings. Once work commences, all active nests will be monitored by the qualified biologist to detect any signs of disturbance and behavioral changes as a result of the project. If signs of disturbance and behavioral changes are observed, the biologist will cease the work causing that change and will contact CDFW for guidance.

8. To prevent the accidental entrapment of species during construction, all excavated holes or trenches deeper than 12 inches will be covered at the end of each workday with plywood or similar materials. Foundation trenches or larger excavations that cannot easily be covered will be ramped at the end of the workday to allow trapped animals an escape method. Prior to the filling of such holes, these areas will be thoroughly inspected for species by the qualified biologist or biological monitor. In the event that a trapped animal is observed, construction will cease until the individual has been relocated to an appropriate location.

9. Because species may take refuge in cavity-like and den-like structures such as pipes and may enter stored pipes and become trapped, all construction pipes, culverts, or similar structures that are stored at a construction site for one or more overnight periods will be either securely capped prior to storage or thoroughly inspected by a qualified biologist or biological monitor for animals before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If any individuals have become trapped, the animal will be relocated in accordance with General Avoidance and Minimization Measure 7, above.
10. At all proposed project sites, a qualified biologist will make the determination as to whether exclusion fencing is necessary or appropriate to prevent harm to special-status species.
11. All trash and debris within the work area will be placed in containers with secure lids before the end of each workday in order to reduce the likelihood of predators being attracted to the site by discarded food wrappers and other rubbish that may be left on-site. Containers will be emptied as necessary to prevent trash overflow onto the site and all rubbish will be disposed of at an appropriate off-site location.
12. All vegetation that obscures the observation of wildlife movement within the affected areas will be completely removed using hand-held tools just prior to the initiation of grading to remove cover that might be used by listed species. The qualified biologist will survey these areas immediately prior to vegetation removal. If species are observed they will be allowed to leave the work area on their own, or if necessary, listed species will be captured and relocated out of the work area, following methods approved by CDFW and/or the USFWS.

Species-Specific Avoidance and Minimization Measures

Federally and/or State Listed Species

Alameda Whipsnake (Federally and State Threatened)

The Park District will implement the following measures in parks identified in the Biological Opinion (08ESMF00-2013-F-0416) (see **Appendix G**) as supporting or potentially supporting Alameda whipsnake:

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| Mitigation Measure AWS-1 | To the extent possible, all rock outcroppings will be avoided. |
| Mitigation Measure AWS-2 | Within potentially suitable Alameda whipsnake habitat, construction activities will occur between June 15 and October 31, when the whipsnake are more active, capable of escaping, and less likely to be impacted. |
| Mitigation Measure AWS-3 | Ground disturbance and vegetation clearing in scrub/chaparral habitat will be avoided to the maximum extent possible. Where disturbance cannot be avoided in this habitat type, work shall be limited to the fall season of September to November in order to allow the young of the year time to become sufficiently capable of escaping such activities. |
| Mitigation Measure AWS-4 | When disturbance is taking place in known or potential Alameda whipsnake habitat, shrub/chaparral vegetation will be removed by |

equipment operated by hand to prevent mortality associated with mowers or other large mechanical equipment. A qualified biologist will be present during vegetation removal.

California Red-Legged Frog (Federally Threatened, California Species of Special Concern)

The Park District will implement the following measures in parks identified in the Biological Opinion (08ESMF00-2013-F-0416) (see **Appendix G**) as supporting or potentially supporting California red-legged frog:

- Mitigation Measure CRLF-1 Work within California red-legged frog habitat (lentic and lotic waterbodies) will be performed only between August 31 and October 31 or under dry site conditions and will minimize potential adverse impacts to aquatic habitats.
- Mitigation Measure CRLF-2 A qualified biologist will survey the work site immediately prior to construction activities. If California red-legged frogs, tadpoles, or eggs are found, the approved biologist shall contact USFWS and CDFW to determine if moving any of these life-stages is appropriate. In making this determination, USFWS/CDFW will consider if an appropriate relocation site exists, as provided in the USFWS-required relocation plan. If USFWS/CDFW approves of moving animals, the qualified biologist will be allowed sufficient time to move California red-legged frogs from the work site before work activities begin.
- Mitigation Measure CRLF-3 Only USFWS-approved biologists shall participate in activities associated with the capture and handling of California red-legged frogs.
- Mitigation Measure CRLF-4 Bare hands will be used to capture California red-legged frogs. USFWS-approved biologists will not use soaps, oils, creams, lotions, repellents, or solvents of any sort on their hands within 2 hours before and during periods when they are capturing and relocating individuals. To avoid transferring diseases or pathogens while handling the amphibians, USFWS-approved biologists will follow the Declining Amphibian Populations Task Force's "Code of Practice."

Central California Tiger Salamander (Federally and State Threatened)

The Park District will implement the following measures in parks identified in the Biological Opinion (08ESMF00-2013-F-0416) (see **Appendix G**) as supporting or potentially supporting California tiger salamander:

- Mitigation Measure CTS-1 Work within California tiger salamander aquatic habitat will be performed only between August 31 and October 31 or under dry site conditions and will minimize potential adverse impacts to aquatic habitats. All projects in known or suspected California tiger salamander breeding habitat will be identified as Tier 3 projects by the Park District. If determined necessary by CDFW based on the location and activity proposed, an ITP will be obtained prior to the commencement of work.

- Mitigation Measure CTS-2** A qualified biologist will conduct a visual encounter survey the work site immediately prior to construction activities. If an ITP has not been obtained and Central California tiger salamanders, larvae, or eggs are found, then work will be immediately halted and the CDFW will be contacted for guidance. If an ITP has been obtained, the relocation of any of these life-stages may occur as allowed in the ITP and Biological Opinion.
- Mitigation Measure CTS-3** Only USFWS- and CDFW-approved biologists will participate in activities associated with the capture, handling, and monitoring of Central California tiger salamanders.
- Mitigation Measure CTS-4** Bare hands will be used to capture Central California tiger salamanders. Approved biologists will not use soaps, oils, creams, lotions, repellents, or solvents of any sort on their hands within 2 hours before and during periods when they are capturing and relocating individuals. To avoid transferring disease or pathogens while handling the amphibians, USFWS-approved biologists will follow the Declining Amphibian Populations Task Force’s “Code of Practice.”

Foothill Yellow-Legged Frog (State Endangered)

The Park District will implement the following measures in parks in the upper Alameda Creek and Arroyo Del Valle watersheds, which include Sunol and Del Valle.

- Mitigation Measure FYLF-1** Work within foothill yellow-legged frog aquatic habitat will be performed only between August 31 and October 31 or under dry site conditions and will minimize potential adverse impacts to aquatic habitats. All projects in locations known or suspected of supporting foothill yellow-legged frog, and which include dewatering or a water diversion, will be identified as Tier 3 projects by the Park District. If determined necessary by CDFW based on the location and activity proposed, an ITP will be obtained prior to the commencement of work.
- Mitigation Measure FYLF-2** A qualified biologist will survey the work site immediately prior to construction activities. If an ITP has not been obtained and foothill yellow-legged frog, larvae, or eggs are found, then work will be immediately halted and the CDFW will be contacted for guidance. If an ITP has been obtained, the relocation of any of these life-stages may occur only as allowed in the ITP.
- Mitigation Measure FYLF-3** Only CDFW-approved biologists will participate in activities associated with the capture, handling, and monitoring of foothill yellow-legged frog.
- Mitigation Measure FYLF-4** Bare hands will be used to capture foothill yellow-legged frog. Approved biologists will not use soaps, oils, creams, lotions, repellents, or solvents of any sort on their hands within 2 hours before and during periods when they are capturing and relocating individuals. To avoid transferring

disease or pathogens while handling the amphibians, USFWS-approved biologists will follow the Declining Amphibian Populations Task Force’s “Code of Practice.”

San Joaquin Kit Fox (Federally Endangered, State Threatened)

The Park District will implement the following measures in parks identified in the Biological Opinion (08ESMF00-2013-F-0416) (see **Appendix G**) as supporting or potentially supporting San Joaquin kit fox:

- Mitigation Measure SJKF-1 Preconstruction surveys for San Joaquin kit fox will be conducted in work areas and all areas within 200 feet of work areas to identify potential San Joaquin kit fox dens or other refugia. Surveys will include den searches following methods outlined in the USFWS *San Joaquin Kit Fox Survey Protocol for the Northern Range* (USFWS 1999). A USFWS-approved biologist will conduct the den searches 14 to 30 days before initiation of ground-disturbing activity in each work area. Following den searches, all identified potential dens (as defined in Appendix II of the USFWS *Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (USFWS 2011)) will be monitored for evidence of kit fox use by placing an inert tracking medium and/or a camera station at den entrances and monitoring for at least 3 consecutive nights. The results of the surveys will be provided to USFWS and CDFW within 1 week of completion. If ground-disturbing activities cease for 28 consecutive calendar days, a USFWS- and CDFW-approved biologist will conduct a new survey for San Joaquin kit fox prior to re-initiation of ground-disturbing activities.
- Mitigation Measure SJKF-2 If no activity is detected at potential den sites, potential den sites that will be collapsed by construction activities will be closed following guidance established in the USFWS *Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (USFWS 2011). If kit fox occupancy is determined during any of the surveys conducted, USFWS and CDFW will be notified within 24 hours and no work will occur within 200 feet of the den unless approved by USFWS and CDFW. Appropriate buffers and avoidance measures will be developed in consultation with USFWS and CDFW. Depending on the den type, measures to avoid effects to kit foxes could include seasonal limitations on work in the area (i.e., restricting the work period to avoid spring-summer pupping season), establishing a work exclusion zone around the identified site, or resurveying the den later to determine species presence or absence.
- Mitigation Measure SJKF-3 Vehicle traffic will be restricted to established roads, construction areas, and other designated areas.
- Mitigation Measure SJKF-4 Grading activities will be designated to minimize or eliminate effects to rodent burrows. Areas with high concentrations of burrows and large burrows suitable for San Joaquin kit fox dens will be avoided by grading

activities to the maximum extent possible. In addition, when concentrations of burrows or large burrows are observed within the site these areas will be staked and flagged to ensure construction personnel are aware of their location and to facilitate avoidance of these areas.

Longhorn Fairy Shrimp, Vernal Pool Fairy Shrimp, and Vernal Pool Tadpole Shrimp (Federally Endangered or Threatened)

The Park District will implement the following measures in parks identified in the Biological Opinion (08ESMF00-2013-F-0416) (**Appendix G**) as supporting or potentially supporting listed vernal pool branchiopods:

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| Mitigation Measure VPBR-1 | Work within 250 feet of listed vernal pool branchiopod habitat will be performed only between August 1 and October 31 under dry site conditions and will minimize potential adverse impacts to aquatic habitats. |
| Mitigation Measure VPBR-2 | A USFWS-approved biologist will monitor all construction activities within 250 feet of suitable habitat for listed vernal pool branchiopods to ensure that no unnecessary take or destruction of habitat occurs. |
| Mitigation Measure VPBR-3 | The Park District or its contractors will implement dust control measures necessary to prevent the transport of soil from exposed surfaces to vernal pool, swale, and rock pool habitat. Sprinkling with water will not be done in excess to minimize the potential for non-storm water discharge. |
| Mitigation Measure VPBR-4 | Routine maintenance activities within 250 feet of vernal pool and swale habitat will be avoided to the maximum extent possible. |
| Mitigation Measure VPBR-5 | If work within 250 feet of suitable habitat for listed vernal pool branchiopods cannot be avoided, the Park District will conduct protocol-level surveys according to USFWS's 2015 <i>Survey Guidelines for Listed Vernal Pool Branchiopods</i> and provide the results of the surveys to USFWS along with the preconstruction project list. If listed vernal pool branchiopods are found to be present in features within 250 feet of proposed activities (or if surveys are not conducted and presence of listed branchiopods is assumed), the Park District will design the project so that no permanent adverse effects to hydrology to the vernal pool or vernal pool complex will result from the project. The Park District will then contact USFWS for site specific approval and USFWS will help to develop appropriate site-specific conservation measures to avoid any permanent adverse effects to the hydrology of the pools. If avoidance of permanent adverse effects to hydrology is not feasible for the project, the Park District will contact the Corps and request initiation of a separate consultation for that project. |

Giant Garter Snake (Federally and State Threatened)

The Park District will implement the following measures in parks identified in the Biological Opinion (08ESMF00-2013-F-0416) (see **Appendix G**) as supporting or potentially supporting giant garter snake:

Mitigation Measure GGS-1 Disturbance activities in known or potential giant garter snake aquatic habitat or within 200 feet of aquatic habitat will be performed only between May 1 and October 1 to avoid potential impacts to this species.

Mitigation Measure GGS-2 Work activities will be restricted to existing roads and trails to the maximum extent possible. When existing roads and trails cannot be followed, and disturbance is in known or potential giant garter snake habitat, vegetation will be removed by hand to prevent mortality associated with mowers and other landscaping equipment.

Ridgway's Rail (California Clapper Rail) (Federally and State Endangered, State Fully Protected) and *California Black Rail* (State Threatened, State Fully Protected)

The Park District will implement the following measures in parks identified in the Biological Opinion (08ESMF00-2013-F-0416) (see **Appendix G**) as supporting or potentially supporting Ridgway's rail, as well as at the following locations potentially supporting California black rail: Bay Point, Point Pinole, MLK Shoreline, and Coyote Hills.

Mitigation Measure RAIL-1 To avoid causing the abandonment of an active Ridgway's rail or California black rail nest, activities (including construction and maintenance activities) within 700 feet of vegetated tidal marsh providing suitable breeding habitat for these species will be avoided during the breeding season from February 1 to August 31. Consequently, the allowed work window in shoreline areas extends from September 1 to January 31.

Mitigation Measure RAIL-2 If a rail of any species is observed in or adjacent to a work area, work will be stopped immediately. If the rail is either identified as a Ridgway's rail or California black rail by the qualified biologist or cannot be positively identified, work will be stopped until the rail leaves the work area of its own volition and USFWS and CDFW will be notified. If the rail does not leave the work area, work will not be reinitiated until after USFWS and CDFW are consulted regarding appropriate avoidance measures and permission is granted by USFWS and CDFW to commence work.

California Least Tern (Federally and State Endangered)

The Park District will implement the following measures in parks identified in the Biological Opinion (08ESMF00-2013-F-0416) (see **Appendix G**) as supporting or potentially supporting California least tern:

Mitigation Measure LETE-1 Maintenance activities in or within 600 feet of known or potential California least tern nesting habitat will be performed only during the non-nesting season between September 1 and January 31.

Mitigation Measure LETE-2 To minimize open water turbidity during the California least tern breeding season, no dredging activities will occur in California least tern foraging habitat from April 1 to August 15.

Western Snowy Plover (Federally Threatened, California Species of Special Concern)

The Park District will implement the following measures in parks identified in the Biological Opinion (08ESMF00-2013-F-0416) (see **Appendix G**) as supporting or potentially supporting western snowy plover:

Mitigation Measure SNPL-1 Shoreline protection and dredging activities in or within 600 feet of known or potential Western snowy plover habitat (dunes, beaches, constructed islands) will be performed only during the non-nesting season between September 1 and January 31.

Mitigation Measure SNPL-2 Should a western snowy plover be observed within or adjacent to a project area, work activities within a 50-foot radius of the bird will be suspended until the bird leaves the site voluntarily.

Salt Marsh Harvest Mouse (Federally and State Endangered, State Fully Protected)

The Park District will implement the following measures in parks identified in the Biological Opinion (08ESMF00-2013-F-0416) (see **Appendix G**) as supporting or potentially supporting salt marsh harvest mouse:

Mitigation Measure SMHM-1 Impacts to pickleweed will be avoided to the maximum extent feasible. Excluding outboard wave exposed levees, any vegetation clearing to be conducted in areas containing pickleweed habitat or areas within 50 feet from the edge of pickleweed habitat will be conducted only with non-mechanized hand tools (i.e. trowel, hoe, rake, and shovel). No motorized equipment, including weed whackers or lawn mowers, will be used to remove this vegetation. Vegetation will be cleared to bare ground and removal will start at the edge farthest from the salt marsh and work towards the marsh. If a mouse of any species is observed within the areas being removed of vegetation work will cease until the mouse has left the area of its own volition.

Mitigation Measure SMHM-2 During mowing of vegetation in habitats between 50 feet to 200 feet from pickleweed habitat potentially supporting salt marsh harvest mouse during site preparation for covered maintenance activities, mowing will start from the top (the area of least suitable habitat) and proceed downslope toward more suitable habitat so any salt marsh harvest mice present in the area to be mown can move away from the disturbance of the mower and out of the mowing area. If mowing needs to occur within 50-feet of pickleweed habitat, Mitigation

Measure SMHM-1, above, will be implemented prior to mowing. Immediately prior to start of mowing (even after hand-removal), a USFWS- and CDFW-approved biologist will walk the area to be mowed to look for salt marsh harvest mice and to encourage them to move out of the area. If a salt marsh harvest mouse (or mouse that could be a salt marsh harvest mouse) is detected within the area to be mowed, no mowing will occur in that area.

Mitigation Measure SMHM-3 For ground-disturbing activities in or within 50 feet of pickleweed habitat, construction boundaries will be well marked with flagging or stakes. The final design and proposed location of the boundary marking will be determined by a qualified biologist. The site will be surveyed throughout the day for any salt marsh harvest mouse individuals. Boundary flagging/staking will be removed immediately following work completion.

Tricolored Blackbird (State Threatened)

Mitigation Measure TRB-1 If a tricolored blackbird is observed in or adjacent to a work area, work will be stopped immediately and until the bird leaves the work area of its own volition and CDFW will be notified. If the tricolored blackbird does not leave the work area, work will not be reinitiated until after the CDFW are consulted regarding appropriate avoidance measures and permission is granted by the CDFW to commence work. General Avoidance Measure #7 will also be implemented, which requires a preconstruction nesting bird survey and avoidance of active nests.

Also see General Avoidance and Minimization Measure #7 (Preconstruction Nesting Bird Survey).

Delta Smelt (Federally Threatened, State Endangered)

The Park District will implement the following measures in parks identified in the Biological Opinion (08ESMF00-2013-F-0416) (see **Appendix G**) as supporting or potentially supporting Delta smelt.

Mitigation Measure DS-1 Disturbance activities in known or potential delta smelt habitat will be performed only between August 1 and November 30 to avoid potential impacts to this species. All projects that require work in standing water within potential delta smelt habitat will be identified as Tier 3 projects by the Park District. If determined necessary by CDFW based on the location and activity proposed, an ITP will be obtained prior to the commencement of work.

Longfin Smelt (Federal Candidate, State Threatened), *Green Sturgeon* (Federally Threatened), *Steelhead* (Federally Threatened)

Mitigation Measure FISH-1 All work within tidal habitat suitable for special-status fish species will be conducted at low tide when the work area is dry. To the degree feasible, work in non-tidal aquatic habitat suitable for special-status fish will be conducted when the stream/water body is naturally dry. Work

within standing water where longfin smelt, green sturgeon, and/or steelhead will not be conducted without appropriate approvals by the National Marine Fisheries Service, USFWS, and/or CDFW and not without an agency approved fish relocation plan.

Pallid Manzanita (Federally Threatened, State Endangered)

The Park District will implement the following measures in parks identified in the Biological Opinion (08ESMF00-2013-F-0416) (see **Appendix G**) as supporting or potentially supporting pallid manzanita:

- Mitigation Measure PM-1 All pallid manzanita populations will be mapped using GPS prior to any construction activities. Populations or individual plants will be flagged with high visibility flagging and avoided.
- Mitigation Measure PM-2 Adjacent to or within pallid manzanita populations, encroaching brush or noxious weedy vegetation will be removed by hand to protect and prevent harm to the species.
- Mitigation Measure PM-3 A specific ingress/egress route that minimizes the potential spread of *Phytophthora cinnamomi*, will be identified by a USFWS-approved biologist when working in vicinity of extant populations of pallid manzanita. A wash station will be established at the ingress/egress location. Prior to entering or exiting the ingress/egress location, any potentially contaminated material will be removed from all boots, hand tools, clothing, and equipment, then these items will be disinfected using 70 percent isopropanol (rubbing alcohol) or another USFWS-approved substance known to disinfect *P. cinnamomi* contaminated equipment.
- Mitigation Measure PM-4 Prior to conducting routine maintenance activities within the vicinity of known extant populations of pallid manzanitas, all personnel will attend an environmental awareness training session designed to inform all workers about the long-term effects of *P. cinnamomi*, how it is spread, and the measures to be taken to avoid spreading it.

Other Special-Status and Protected Species

San Francisco Dusky-Footed Woodrat

- Mitigation Measure SFWR-1 For projects occurring within suitable habitat for San Francisco dusky-footed woodrat, a qualified biologist or biological monitor shall survey the worksite for nests within two weeks of the proposed activities. If nests of the dusky-footed woodrat are found, the biological monitor, in consultation with the qualified biologist, shall determine an appropriate buffer distance based on the type of work being conducted.
- If avoidance of woodrat nest(s) is not possible on a project site, the Park District shall request written permission from CDFW to conduct a phased removal of the nest(s) according to the San Francisco Dusky-Footed Woodrat Relocation Plan for the East Bay Regional Park District

Routine Maintenance Activities (**Appendix H**) or another CDFW-approved relocation plan. No woodrat nests may be removed without written authorization from CDFW and the qualified biologist removing a nest must be approved for the task by CDFW. If any San Francisco dusky-footed woodrats are detected within the vicinity of the work site during construction, all work shall cease in the vicinity of the individuals until they move out of the area of active construction.

Roosting Bats

Mitigation Measure BATS-1

A qualified biologist shall conduct a habitat assessment for bats at work sites where culverts, structures and/or trees would be removed or disturbed during work. The habitat assessment shall include a visual inspection of features within 50 feet of the work site for potential roosting features (bats need not be present) no more than 48 hours prior to disturbance of such features. Habitat features found during the survey shall be flagged or marked.

If any habitat features identified in the habitat assessment will be altered or directly disturbed by project activities, a phased disturbance strategy shall be employed. Non-habitat trees or structural features will be removed 1 day prior to removal of habitat features. The construction team will not attempt to directly disturb (e.g., shake, prod) roosting features, as such disturbance constitutes "harassment".

If roosting bats (individuals or colonies, not just roosting habitat) are detected during the habitat assessment, CDFW shall be notified immediately for guidance on how to proceed.

Western Pond Turtle

See General Avoidance and Minimization Measures 1 through 6, and 8 through 12.

Northern California legless lizard, coast horned lizard, San Joaquin pocket mouse

See General Avoidance and Minimization Measures 1 through 6, and 8 through 12.

San Pablo vole, salt-marsh wandering shrew

See General Avoidance and Minimization Measures 1 through 6, and 8 through 12; and Mitigation Measures SMHM-1 through SMHM-3.

San Joaquin pocket mouse

See General Avoidance and Minimization Measures 1 through 6, and 8 through 12.

American Badger

See General Avoidance and Minimization Measures 1 through 6, and 8 through 12. In addition, Mitigation Measure AB-1 would be implemented if a potential badger den is found during the preconstruction survey.

Mitigation Measure AB-1 If a potential American badger den is found during the required preconstruction survey, and if the den cannot be avoided, construction activities will be halted until the qualified biologist determines if the den is active. If the den is found to be active, then badgers may only be passively relocated when young are not present and in accordance with a CDFW-approved badger relocation plan.

With implementation of the above mitigation measures, the project would have a **less than significant impact with mitigation incorporated**.

b. *Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service? (**Less than Significant with Mitigation**)*

The riparian, wetland and other sensitive plant communities present on Park District lands are discussed in the setting section and listed in **Appendix D**. These communities provide a wide range of biological functions for fish and wildlife species. The habitat types in which routine maintenance projects occur generally include streams and associated riparian habitat, as well as catch basins, seeps, springs, ponds, lakes, beaches, tidal marshes, and shoreline levees. Routine maintenance activities are designed and conducted to maintain existing facilities and structures and improve watersheds and coastal shoreline conditions. In general, routine maintenance projects result in net environmental benefits to riparian, wetland and aquatic habitats through controlling erosion, removing invasive vegetation, reducing sedimentation, restoring pond habitat, and improving the quality of stream and riparian habitat. As part of the routine maintenance activities, the Park District also restores various aquatic and wetland ecosystems, including lentic (i.e., still fresh water, such as a pond or lake) and lotic (i.e., flowing fresh water, such as a stream) habitat; these restoration activities focus on enhancement and/or creation of aquatic ecosystems, with the primary objective to promote the conservation and recovery of sensitive species and riparian habitats.

Habitat impacts from routine maintenance activities are minor. Over a five-year period, excluding habitat restoration projects, habitat disturbance from projects conducted under the RMRP will not exceed 2.50 total acres, with approximately two-thirds of those acres expected to be temporary impacts.⁷ Any vegetation removed during routine maintenance projects is expected to regrow except in areas where capacity or other maintenance activities would require the permanent exclusion of vegetation.

All work will also be conducted in compliance with the BMPs included in **Chapter 2, Project Description**, which includes measures to minimize habitat disturbance, address the spread of invasive plant species and *Phytophthora*, ensure the safe and appropriate application of herbicides, control erosion, prevent work in standing or flowing water, and other measures to protect riparian, wetland, tidal and sensitive habitats. All work will also be conducted in compliance with the conditions of the regulatory permits/agreements issued by CDFW, RWQCB, Corps, and USFWS, which include measures to further minimize impacts. Further, as a permit condition, RWQCB requires habitat compensation in

⁷ Temporary impacts include the in-kind replacement of infrastructure, removal of accumulated sediment and debris, any dewatered area, vegetation removal for construction access, staging areas not on previously disturbed areas such as trails, and excavation and ground disturbance that exceeds the size of infrastructure being installed/constructed/replaced.

the form of enhancement and restoration of stream/riparian and tidal marsh habitats. Examples of such habitat compensation projects completed to date include stream restoration projects (creating additional stream and riparian habitat), control/elimination of invasive ivy from riparian habitats, and the control/elimination of invasive pepperweed from tidal marsh habitat. As part of the existing RMA, CDFW requires the replacement of any trees removed as part of a routine maintenance project and compensatory restoration. Examples of compensatory restoration projects completed or underway include two stream restoration projects that created 0.77 acre of stream/riparian habitat. A similar compensatory restoration requirement will be included in the new RMA from CDFW and the RWQCB habitat compensation requirement is ongoing and will continue when the WDR/WQC is renewed.

Impacts to riparian and sensitive plant communities are less than significant with mitigation given: (a) the small size of routine maintenance activities, (b) most impacts would be temporary, (c) the projects generally improve habitat conditions, (d) most project disturbance areas naturally revegetate and sites are revegetated when appropriate, (e) the projects incorporate BMPs to avoid and minimize impacts, and (f) the projects would comply with regulatory permit conditions, which require compensatory enhancement and restoration, which at a minimum will meet the habitat compensation requirements included in the RWQCB WDR/WQC for temporary and permanent impacts (see **Appendix I**). With implementation of the above mitigation measures, the project would have a **less than significant impact with mitigation incorporated**.

- c. *Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? (Less than Significant with Mitigation)*

Routine maintenance and restoration projects may occur in state and federally protected wetlands, including but not limited to seasonal and perennial wetlands, freshwater marshes, and tidal marshes. Wetlands may be affected by direct fill (e.g., construction of an articulated ford across a wetland swale), the removal of sediment and debris, and short-term water quality impacts due to substrate disturbance. However, in general, routine maintenance projects result in net environmental benefits to wetland and aquatic habitats through controlling erosion, removing invasive vegetation, reducing sedimentation, restoring pond habitat, and improving the quality of stream and riparian habitat. Impacts are minimal due to the small size of routine maintenance activities and do not have long-term impacts on wetlands functions as they are designed to maintain existing infrastructure.

Impacts to state and federally protected wetlands are less than significant with mitigation given: (a) the small size of routine maintenance activities, (b) most impacts would be temporary, (c) the projects generally improve habitat conditions, (d) most project disturbance areas naturally revegetate and sites are revegetated when appropriate, (e) the projects incorporate BMPs to avoid and minimize impacts, (f) the projects would comply with regulatory permit conditions, which require compensatory enhancement and restoration, which at a minimum will meet the habitat compensation requirements included in the RWQCB WDR/WQC for temporary and permanent impacts (see **Appendix I**), and (g) Avoidance and Minimization Measures VPBR-I through 5 provide additional protection to vernal pools. With implementation of the above mitigation measures, the project would have a less than significant impact with mitigation incorporated.

- d. *Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? (Less than Significant)*

Impacts to nesting bird species (including special-status and common species) and roosting bats are discussed in the responses to question (a), above.

Although many routine maintenance activities occur in streams which may facilitate wildlife movement, none of the activity types conducted as part of the RMRP create a barrier to wildlife movement. New culverts are not permitted as part of the program. In addition, the projects are small, so wildlife can move around active construction sites and any infrastructure (e.g., headwall or tailwall).

Construction activities may cause wildlife to temporarily avoid active work sites due to noise or increased human presence. However, construction activities would be relatively short in duration and would not result in permanent access restrictions or barriers to movement for wildlife. Construction activities also occur during daylight hours, but many wildlife species use movement corridors at dawn, dusk, and/or night. Following the completion of construction activities in an area, wildlife dispersal through the affected area is expected to return to existing conditions. Any required dewatering will also be short-term and conducted in accordance with the BMPs described in **Chapter 2, Project Description**. Therefore, the project would have a **less than significant impact**.

- e. *Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? (Less than Significant)*

The RMRP will comply with all Park District policies protecting biological resources. Although the Park District is exempt from other local policies, such as city or county tree policies, any trees removed as part of a RMRP project will be replaced in accordance with the requirements of the CDFW RMA. Therefore, the RMRP will not conflict with local policies protecting biological resources and related impacts are less than significant. Therefore, the project would have a **less than significant impact**.

- f. *Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? (Less than Significant)*

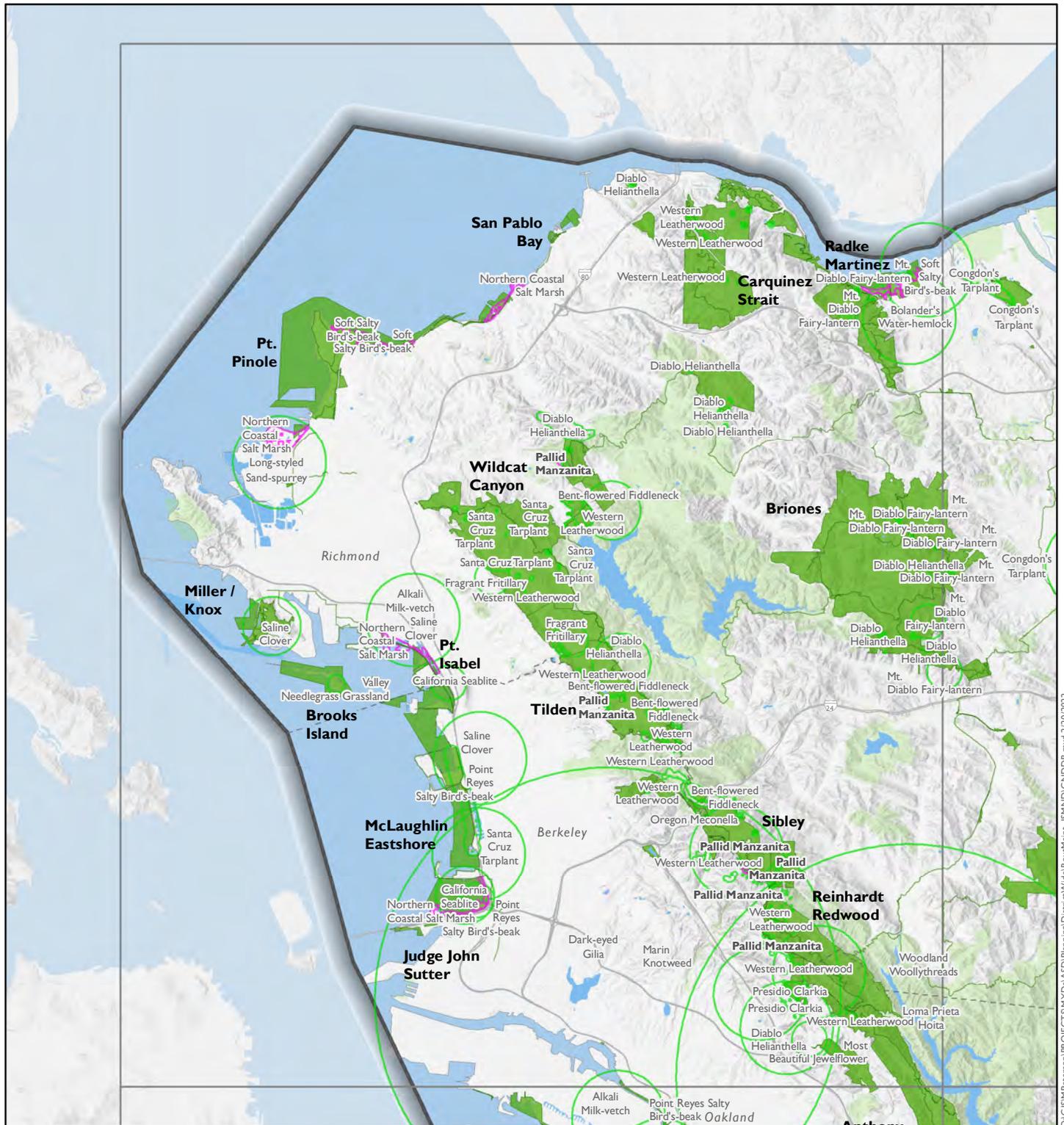
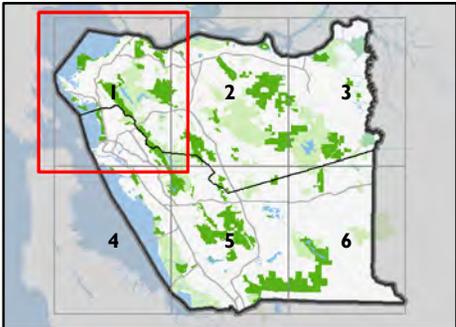
Some Park District lands are located within the East Contra Costa County Habitat Conservation Plan (HCP)/NCCP inventory area, including some lands within designated HCP/NCCP preserves. All projects conducted within HCP/NCCP preserves are required to, and will be conducted in accordance with, the conditions of the HCP/NCCP. However, coverage by the HCP/NCCP is not required for routine maintenance activities on Park District lands outside of designated preserves but within the greater HCP/NCCP inventory area. Given the above, the RMRP will not conflict with the conditions of an adopted HCP/NCCP and related impacts are less than significant. Therefore, the project would have a **less than significant impact**.

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Figure 4.4-I: I
CNDDDB - Special-Status Plants
and Plant Communities

CNDDDB Records (2/2022)

- Plant (80m)
- Plant (specific)
- Plant (non-specific)
- Plant (circular)
- Terr. Comm. (80)
- Terr. Comm. (specific)
- Terr. Comm. (non-specific)
- Terr. Comm. (circular)
- EBRPD Parklands and Regional Trails
- Other Open Space Areas
- County Boundary



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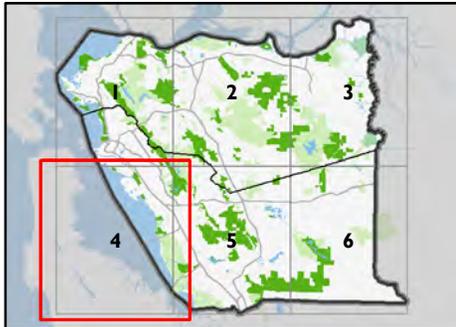
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Figure 4.4-I: 4
CNDDDB - Special-Status Plants
and Plant Communities

CNDDDB Records (2/2022)

- Plant (80m)
- Plant (specific)
- Plant (non-specific)
- Plant (circular)
- Terr. Comm. (80)
- Terr. Comm. (specific)
- Terr. Comm. (non-specific)
- Terr. Comm. (circular)
- EBRPD Parklands and Regional Trails
- Other Open Space Areas
- County Boundary



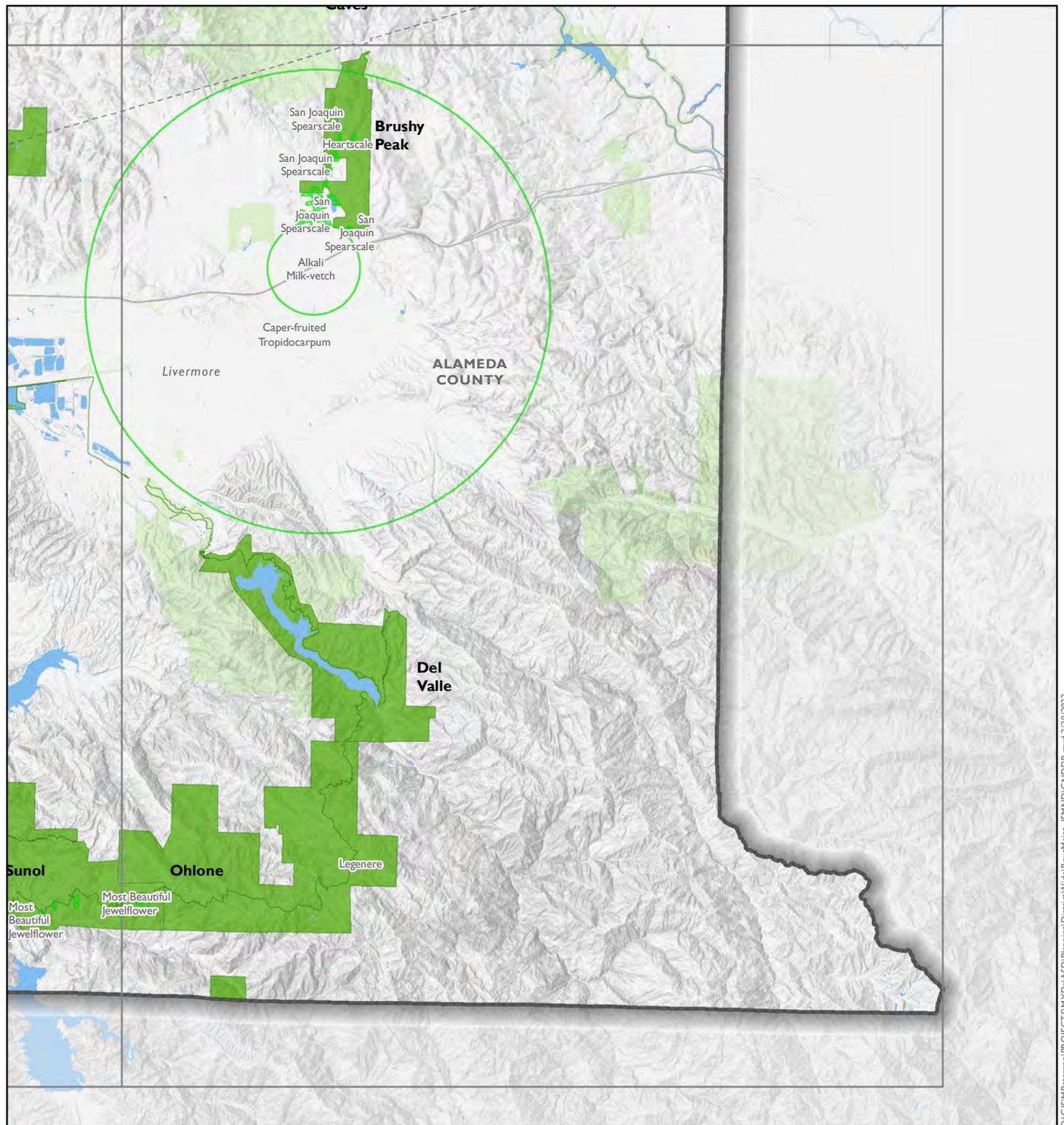
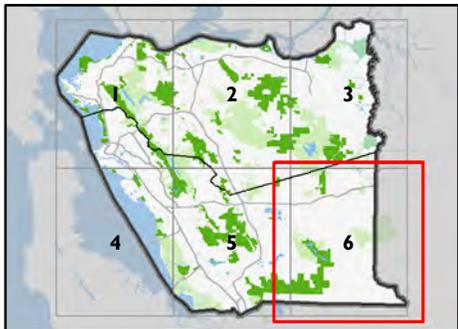
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Figure 4.4-I: 6
CNDDDB - Special-Status Plants
and Plant Communities

CNDDDB Records (2/2022)

- Plant (80m)
- Plant (specific)
- Plant (non-specific)
- Plant (circular)
- Terr. Comm. (80)
- Terr. Comm. (specific)
- Terr. Comm. (non-specific)
- Terr. Comm. (circular)
- EBRPD Parklands and Regional Trails
- Other Open Space Areas
- County Boundary



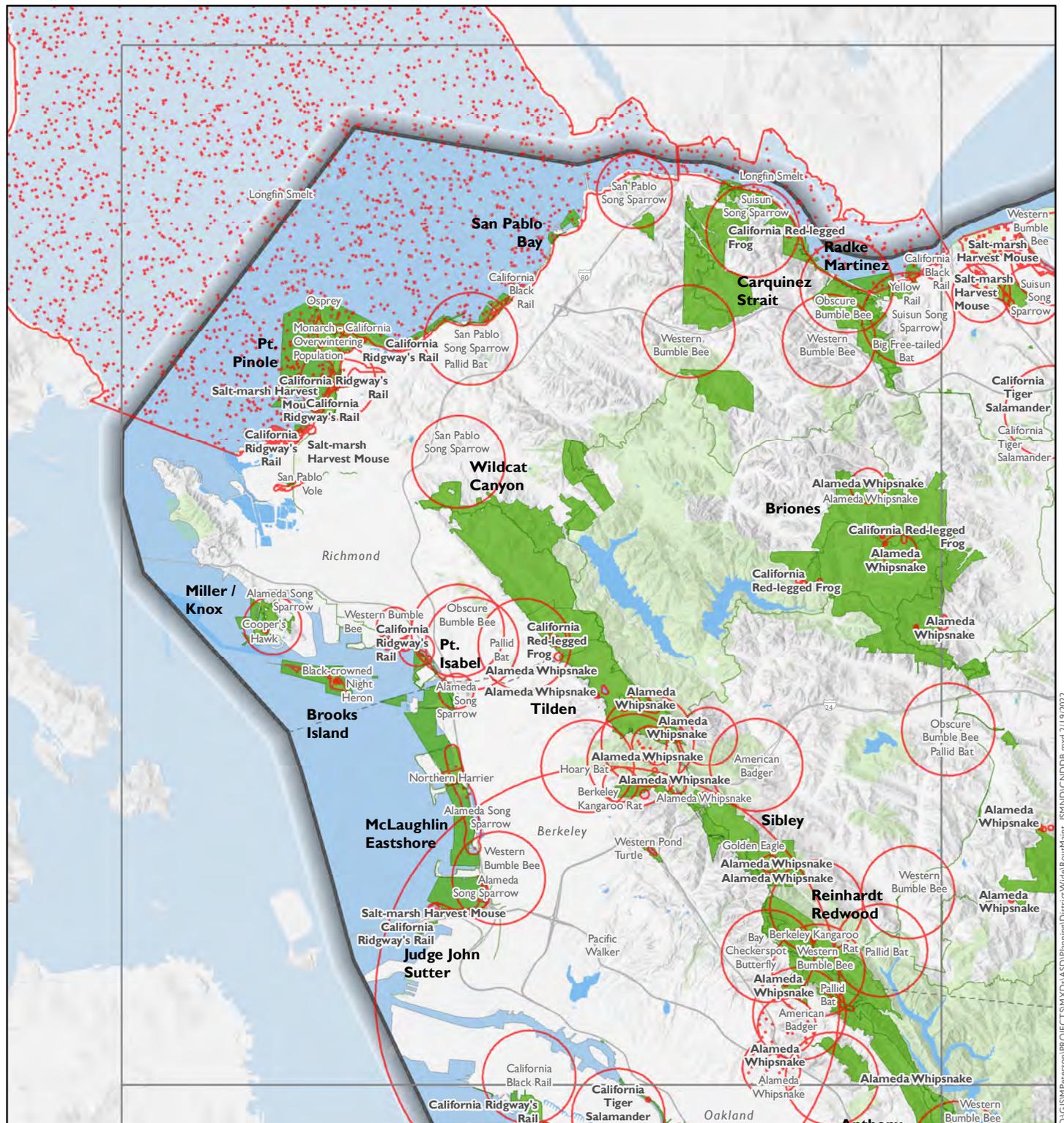
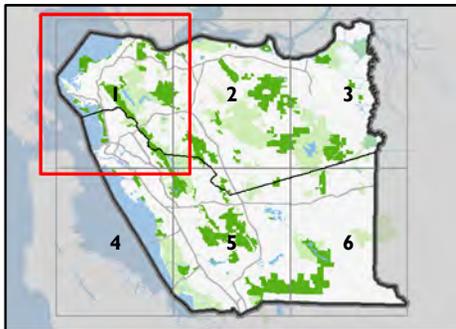
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**Figure 4.4-2: I
CNDDDB - Special-Status Wildlife**

CNDDDB Records (2/2022)

- Animal (80m)
- Animal (specific)
- Animal (non-specific)
- Animal (circular)

- EBRPD Parklands and Regional Trails
- Other Open Space Areas
- County Boundary



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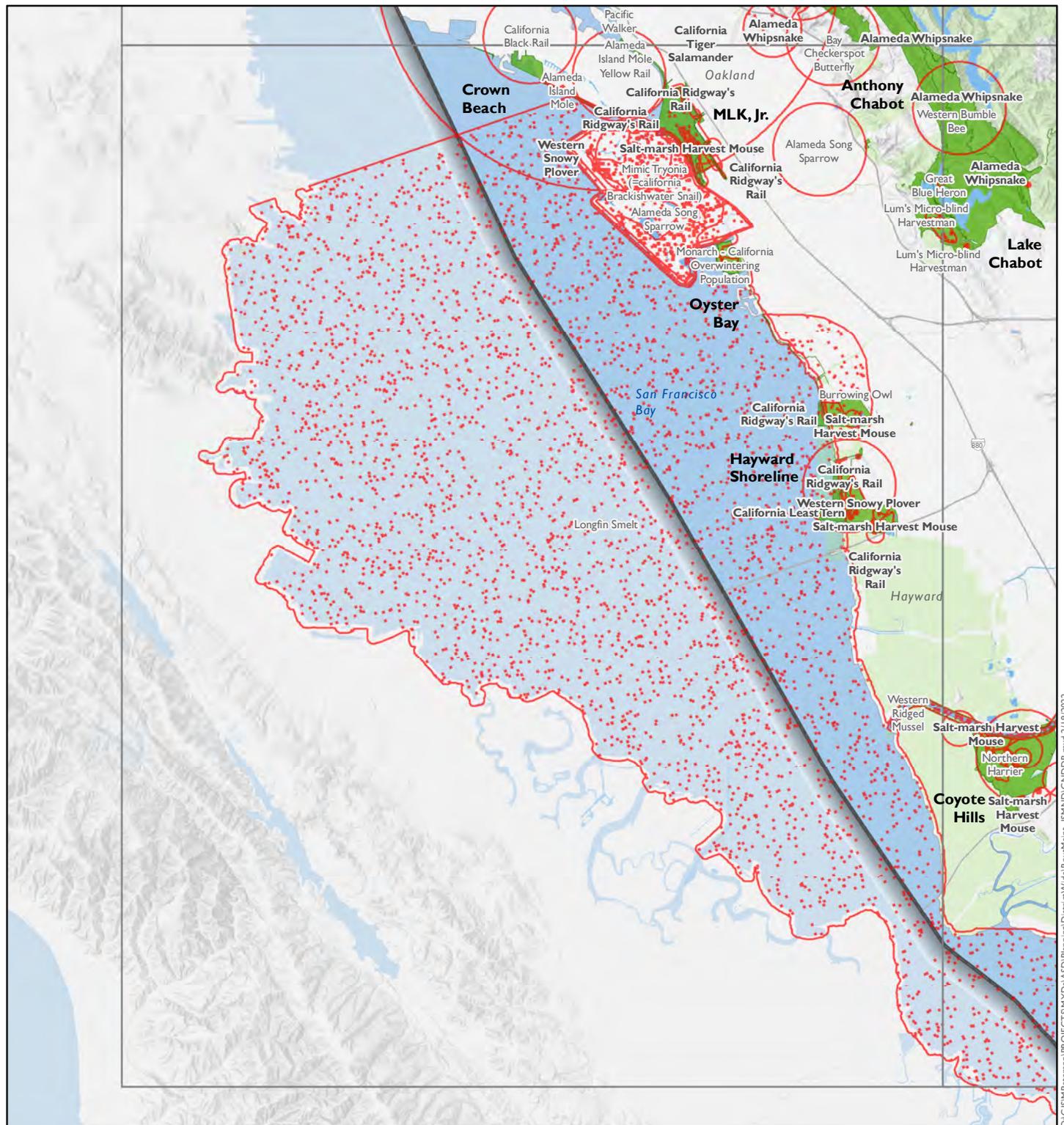
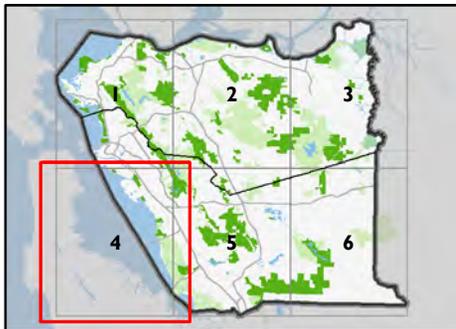
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**Figure 4.4-2: 4
CNDDDB - Special-Status Wildlife**

CNDDDB Records (2/2022)

- Animal (80m)
- Animal (specific)
- Animal (non-specific)
- Animal (circular)

- EBRPD Parklands and Regional Trails
- Other Open Space Areas
- County Boundary



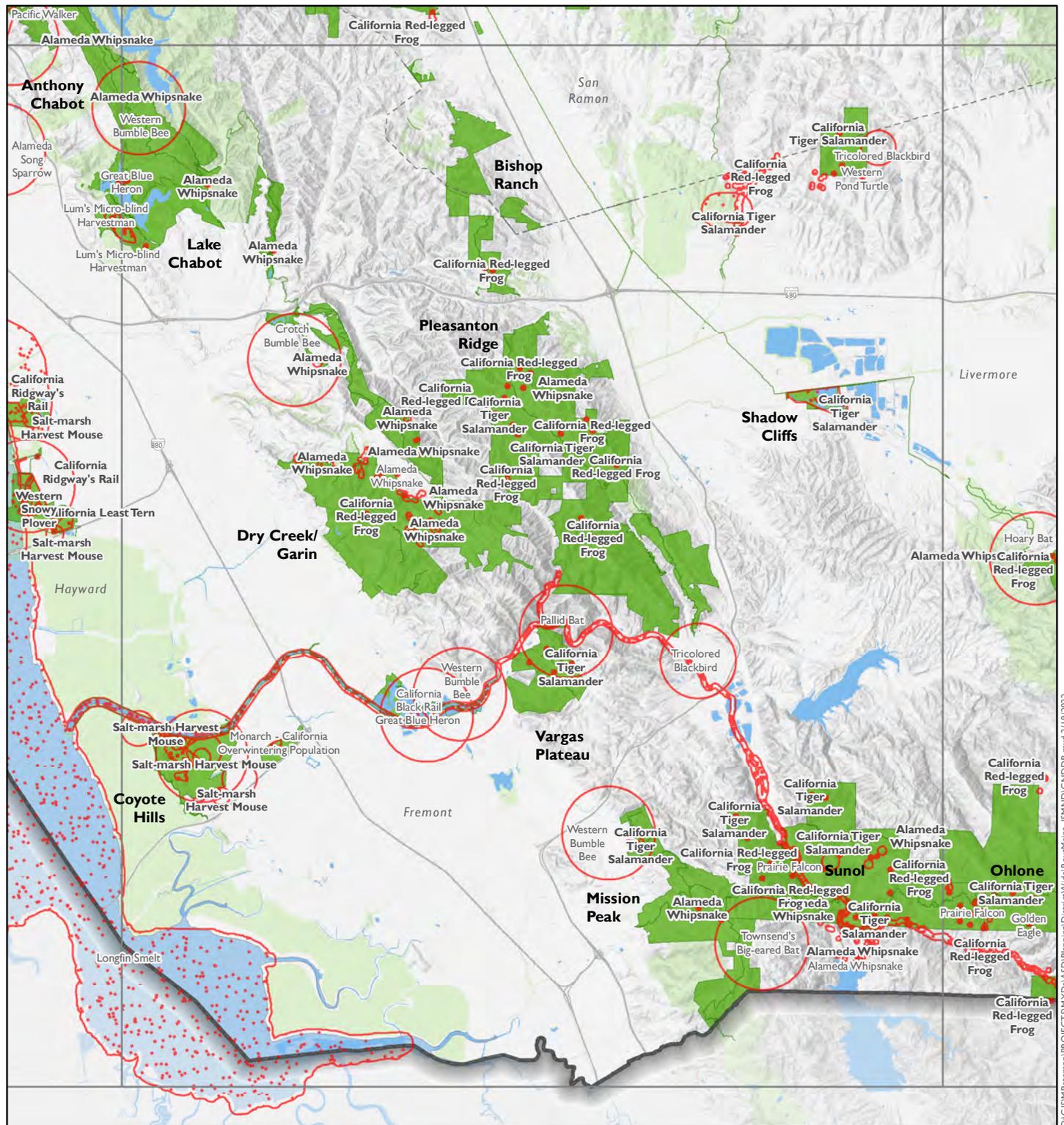
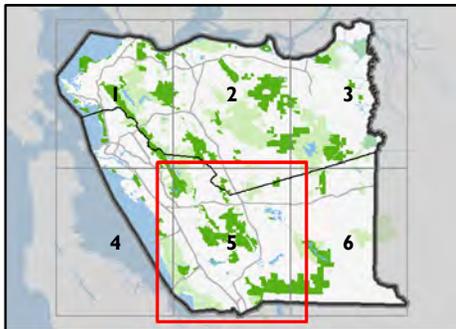
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**Figure 4.4-2: 5
CNDDDB - Special-Status Wildlife**

CNDDDB Records (2/2022)

- Animal (80m)
- Animal (specific)
- Animal (non-specific)
- Animal (circular)

- EBRPD Parklands and Regional Trails
- Other Open Space Areas
- County Boundary



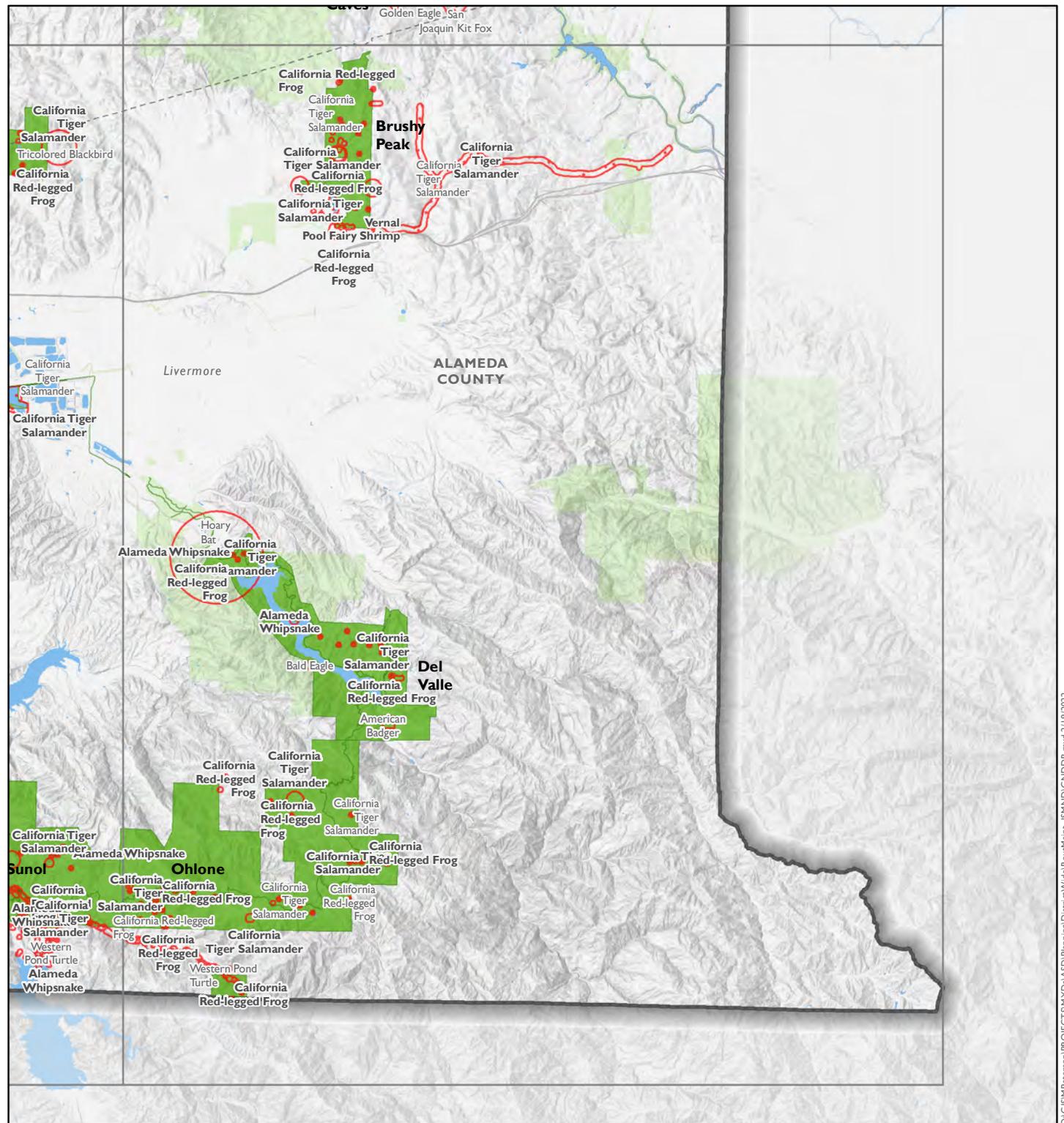
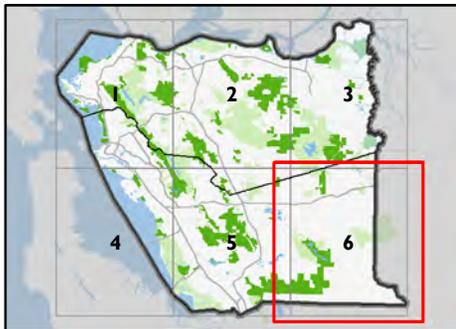
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**Figure 4.4-2: 6
CNDDDB - Special-Status Wildlife**

CNDDDB Records (2/2022)

- Animal (80m)
- Animal (specific)
- Animal (non-specific)
- Animal (circular)

- EBRPD Parklands and Regional Trails
- Other Open Space Areas
- County Boundary



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4.5 Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4.5.1 Environmental Setting

Spanning Alameda and Contra Costa counties, the Park District lands are situated along the northern extent of the southern Coast Ranges, between the San Francisco Bay and the Great Central Valley. The Coast Ranges (being split into the northern and southern Coast Ranges by the San Francisco Bay) consist of a series of north to south trending valleys and ridges that lie along a series of parallel faults and folds (Schoenherr 1992:262). In general, the southern Coast Ranges are characterized by an Oak Woodland, coastal sage scrub and chaparral habitat. Although Contra Costa is inland of Alameda County, both are located on the coastal side of the southern Coast Ranges (as opposed to the interior valley) and therefore subject to a more maritime climate (Schoenherr 1992:264).

Geologically, the Bay Area ridges are upland formations (which include Park District lands such as Black Diamond Mines Preserve, Morgan Territory Regional Preserve, Las Trampas Regional Wilderness Park, Briones Regional Park etc.) comprised of Franciscan Complex and Great Valley Sequence rock units from the late Mesozoic (greater than 65 million years old), overlain with Holocene surficial deposits (less than 10,000 years). Younger sedimentary and volcanic layers overlie portions of the Great Valley Sequence. The lowland areas fronting the San Joaquin River, Suisun Bay, and the San Francisco Bay (which would include shoreline properties such as Big Break Regional Shoreline, Point Pinole Regional Shoreline, and Miller/Knox Regional Shoreline) are composed of late Holocene mud deposits and artificial fill overlying Bay Mud.

Although Native traditions talk of inhabiting the land since time immemorial, the earliest archaeological evidence for human occupation in California dates to approximately 11,500 Before Common Era (BCE). Archaeologists have yet to identify evidence of human occupation in the Bay Area from 11,500 to 8,000 calibrated BCE, when big game hunters were thought to be living in the area. Because human population was very low during the terminal Pleistocene, archaeological evidence of such habitation would be very sparse, and preservation of such ephemeral archaeological deposits has presumably been affected by geomorphic processes such as stream erosion, burial under more recent alluvium, or submersion by rising sea levels (Rosenthal and Meyer 2004, in Milliken et al. 2007). However, evidence (including artifacts e.g., milling equipment, beads, stone tools; features e.g., hearths, hunting blinds; sites e.g., temporary campsites, semipermanent habitation sites) of occupation beginning in the early Holocene has

been identified at numerous locations in the greater Bay Area and Coast Ranges. The archaeological record of the Bay Area and Coast Ranges is characterized by evidence of a complex human interaction with the environment that consisted of both molding the environment (through selective harvesting and planting, controlled burns, etc.) and adaptive responses to environmental changes over time. The archaeological record also provides evidence of a unique cultural variation that existed in the Indigenous region now known as the Bay Area (Milliken 1995), and a complex mosaic of cultural exchange between various Indigenous groups throughout California that resulted from the numerous waves of migration and interaction between tribal groups throughout the Holocene. This complexity is further reflected in the Indigenous languages of California, which was linguistically the most diverse area of North America.

Before changes brought by the arrival of Euro-Americans, Indigenous society in the Bay Area was organized into tribelets, which included 200 to 400 people across three to five semipermanent villages within territories of approximately 10 to 12 miles in diameter (Milliken 1995). Discussion of Native Americans from the point of European contact through today can be found in **Section 4.18, Tribal Cultural Resources**.

The first Spanish expedition into what is now Alameda County occurred in 1770, after the Spanish established a town and mission on Monterey Bay. From Monterey Bay, the Spanish sent exploratory parties north to San Francisco Bay, through the Santa Clara Valley. In November of 1770, Fages recorded his initial encounter with the Tuibuns at a lake on the Fremont Plain, just south of Alameda Creek, when his expedition traveled to the north Oakland area (Milliken 1995). In March of 1772, Fages' party traveled northward and east into the interior of eastern Alameda and Contra Costa counties (Milliken 1995). The Spanish exploration of California marked the beginning of the Spanish colonial period (1769 through 1821), with the establishment of missions, pueblos, and forts throughout Alta California (see **Section 4.18, Tribal Cultural Resources** for a description of the impact of Spanish colonization on the Indigenous people).

The Mexican period (1822 through 1846) signaled the secularization of mission land, an increased prominence in sea commerce, ranching/agriculture, and an expanding migration of Anglo-American settlers into the region. By the end of the 1840s, California was an American territory (1847 and 1849), governed by the United States Military, and entered the Union in 1850.

There are numerous publications that are dedicated to documenting the pre-contact and post-contact histories of California, and Alameda and Contra Costa Counties, and the Park District (e.g., Stein 1984 and McCreery 2010), which are not included in this document for brevity.

Archaeological and built environment evidence of all of these periods (Indigenous, Spanish Colonial, Mexican, and American) of California history can be found throughout Alameda and Contra Costa counties, including on property owned and/or operated by the Park District. As discussed above, evidence of Native American use of the Bay Area landscape is found in archaeological artifacts, features, and sites (e.g., milling equipment, beads, stone tools; hearths, hunting blinds, temporary campsites, and village sites) as well as landscape features that have been imbued with cultural significance and meaning, as discussed in **Section 4.18, Tribal Cultural Resources**. Indications of Spanish colonial, Mexican, and American use of the land is reflected in archaeological and built environment resources (mining e.g., coal; ranching/agriculture e.g., corrals, stock ponds, orchards, wells, building foundations; industrial e.g., railroads, levees, warehouses; maritime e.g., piers/docks, waterfront landscapes) located throughout the Park District.

The term “cultural resources” includes Native American (pre-, proto-, and post-contact) and historic-period archaeological sites, historic-era built environment, linear features, and districts. Cultural resources also include tribal cultural resources (TCRs) (see **Section 4.18, Tribal Cultural Resources**).

4.5.2 Discussion

As described in **Chapter 2, Project Description**, the land owned/operated by the Park District includes over 122,000 acres, spanning Alameda and Contra Costa counties, in the form of 74 parks (recreation areas, wilderness lands, shorelines, preserves, and land bank areas) and regional trail segments.

The Park District constructs approximately 20 to 40 RMRP-related activities annually. The RMRP activities will be implemented as needed throughout existing—and on future, as-yet-to-be acquired—Park District properties and facilities. Due to the nature of these projects (e.g., repairing and replacing failed infrastructure and restoring degraded habitats), the locations of specific RMRP activities are unknown at this time, and are generally decided on an as-needed basis at the beginning of each construction season (generally in the Spring each year). In general, however, RMRP activities would occur within streams and associated riparian habitat, catch basins, seeps, springs, ponds, lakes, beaches, tidal marshes, and shoreline levees. RMRP activities are limited in size and generally have a maximum allowed size of 2,000 square feet or 150 linear feet, with the following exceptions: 1) clearing of inboard ditches when necessary to prevent or reduce road and trail erosion; 2) planting riparian vegetation to reduce erosion; 3) fencing to keep people and livestock away from stream channels; 4) localized sediment removal in limited areas that does not exceed 500 linear feet; 5) repair and stabilization of existing armored shoreline banks and levees that does not exceed 500 linear feet total per year at each Park District shoreline unit; 6) repair and stabilization of existing unarmored shoreline banks and levees that does not exceed 160 linear feet total per year at each Park District shoreline unit; 7) dredging of existing silt basins, ponds, lakes, and other waterbodies that does not exceed 700 cubic yards; and 8) dredging projects that do not exceed 500 linear feet or 4,000 square feet (0.1 acre); and 9) projects meeting the requirements of a Small Habitat Restoration including project size that does not exceed 5 acres or a cumulative total of 500 linear feet, where the primary purpose is habitat restoration. **Table 4.5.1** (on the following page) provides the range of RMRP activities, extent of ground disturbance, and the typical equipment used to construct each activity. As discussed in **Chapter 2, Project Description**, the limited nature of RMRP activities is reflected in the fact that, over the last several years, the average size of each RMRP project was 553 square feet (0.013 acre).

- a. *Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5? (Less than Significant with Mitigation Incorporated)*

California Code of Regulations 14 §15064.5 defines a substantial adverse change in the significance of a historical resource as the demolition, destruction, relocation, or alteration of the resource or its immediate surroundings, that impairs its historical significance. The RMRP activities include bank stabilization (e.g., levees), and maintenance of bridges, culverts, spring boxes, recreational facilities (e.g., docks, fishing piers, boardwalks, bridges), and hazardous structures. Because such built environment resources may be identified as historical resources, the implementation of the RMRP has the potential to directly or indirectly cause a substantial adverse change in the significance of a historical resource. However, with the implementation of Mitigation Measure CUL-1, the potential to directly or indirectly cause a substantial adverse change in the significance of historical resource would be reduced to less than significant.

Table 4.5.1 Program Activity Type, Amount of Disturbance, and Typical Equipment Used During Construction

Program Activity Type	Program Activity	Average Temporary Disturbance Acreage	Average Permanent Disturbance Acreage	Typical Equipment Used
Sediment removal/dredging	Maintenance of sediment-debris from culverts and streams	0.010	0.000	Excavator, backhoe, vacuum truck, ten-wheel dump truck, or four-wheel drive truck
	Maintenance dredging of silt basins, ponds, and lakes	Not to exceed 700 CY	N/A	Excavator, backhoe, ten-wheel dump truck, or four-wheel drive truck
Possible ground disturbance	Bank stabilization	0.004	0.006	Excavator, backhoe, ten-wheel dump truck, water truck, and soil compactors
Ground disturbance/built environment	Installation and maintenance of clear span bridges	0.003	0.000	Crane, excavator, backhoe, ten-wheel dump truck, water truck, and soil compactors
Ground disturbance/built environment	Installation and maintenance of crossings and fords	0.003	0.006	Mostly hand tools, but may use excavator, backhoe, ten-wheel dump truck, water truck, and soil compactors
Ground disturbance/built environment	Culvert Repair, Replacement, and Maintenance	0.005	0.003	Excavator, backhoe, ten-wheel dump truck, water truck, and soil compactors
	Maintenance and Installation of Spring Boxes	N/A	N/A	Excavator, backhoe, and ten-wheel dump truck
	Maintenance of Existing Recreational Facilities	0.026	0.000	Crane, excavator, backhoe, ten-wheel dump truck, water truck, and soil compactors
	Removal of Hazardous Structures and Vessels	N/A	N/A	Crane, excavator, backhoe, ten-wheel dump truck, water truck, and soil compactors

Mitigation Measure CUL-I Annual Cultural Resources Survey and monitoring of RMRP activity locations. Each year the Park District will retain a cultural resources consultant (hereinafter referred to as “the consultant”), whose Principal Investigator meets the Secretary of the Interior’s Standards and guidelines (36 Code of Federal Regulations [CFR] 44738.9) for either Archaeologist or Architectural Historian, to develop and implement a cultural resources survey and monitoring plan for that year’s RMRP activities. In order to avoid and/or mitigate direct and indirect effects that could cause a substantial adverse change in the significance of a historical resource, the RMRP activities should not begin until completion of that year’s cultural resources survey and reporting efforts, which will contain any pre-construction requirements such as cultural resources monitoring. Specific elements required for the cultural resources survey are detailed in Table 4.5.2 (on the following pages).

It is possible that implementation of the RMRP could potentially impact a yet-to-be identified historical resource. However, with the implementation of Mitigation Measure CUL-I, the potential to cause a substantial adverse change in the significance of historical resource would be reduced to **less than significant with mitigation incorporated**.

b. *Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? (**Less than Significant with Mitigation Incorporated**)*

Given that RMRP activities occur in environments that are sensitive for containing archaeological resources (e.g., streams, seeps, ponds, tidal marshes), it is possible that previously unidentified archaeological resources, which may qualify as unique archaeological resources or historical resources pursuant to §15064.5, could be impacted by future RMRP activities and that such impacts could potentially be significant. However, with the implementation of Mitigation Measure CUL-I impacts related to archaeological resources would be **less than significant with mitigation incorporated**.

c. *Would the project disturb any human remains, including those interred outside of formal cemeteries? (**Less-Than-Significant With Mitigation Incorporated**)*

RMRP activities occur in environments that are sensitive for containing archaeological and TCRs (see **Section 4.18, Tribal Cultural Resources**), which could contain Native American skeletal remains. Therefore, the possibility exists that the footprint of an RMRP activity could coincide within an area sensitive for containing Native American human remains.

Human burials, in addition to being potential archaeological resources, have specific provisions for treatment in Section 5097 of the California Public Resources Code. The California Health and Safety Code (Sections 7050.5, 7051, and 7054) also has specific provisions for the protection of human burial remains. Existing regulations address the illegality of interfering with human burial remains, and protects them from disturbance, vandalism, or destruction, and established procedures to be implemented if Native American skeletal remains are discovered. Public Resources Code Section 5097.98 also addresses the disposition of Native American burials, protects such remains, and established the Native American Heritage Commission (NAHC) to resolve any related disputes.

Table 4.5.2 Annual Required Cultural Resources Survey Requirements

Elements	Description
Define direct and indirect RMRP activity footprints	<ul style="list-style-type: none"> • Direct footprint: Every year, the Park District will identify the direct project footprint for individual RMRP activities for that year. In general, the direct project footprint will coincide with the maximum vertical and horizontal footprint of each activity (and include any unpaved staging/laydown areas). • Indirect footprint: Depending on the nature of the RMRP activity, definition of an indirect project footprint may also be required. Indirect impacts may include visual, vibrational, auditory, or atmospheric intrusions on a potential historical resource. Indirect project footprints will be delineated between a Secretary of the Interior qualified architectural historian and the Park District CSC. Given that RMRP activities are limited in size and that the goal of such activities is restoration and/or maintenance (with the exception of the removal/demolition of a historical resource) it is understood that most RMRP activities will not require definition of an indirect footprint as there is a lower potential for an indirect affect associated with an RMRP activity to cause a substantial adverse change in a historical resource.
Records search	<ul style="list-style-type: none"> • NWIC and Park District cultural database search: The Park District will maintain its subscription with the NWIC to ensure that its database of cultural resources is up to date so that either the CSC, or Park District staff (e.g., geographic information services staff) under the direction of the CSC, can provide location data and documentation for resources within a 50-foot radius of individual RMRP activities to the consultant.
Archaeological and built environment field investigations	<ul style="list-style-type: none"> • Archaeological survey: Each RMRP activity location will be subject to archaeological survey by the consultant, unless: (1) the RMRP activity location has been subject to an archaeological survey within the past 5 years, and conditions have not demonstrably changed (e.g., a fire); (2) is located in an area comprised of imported artificial fill (e.g., Oyster Bay Regional Shoreline); (3) or, in consultation with the CSC, it is determined that other factors preclude the archaeological sensitivity and need for survey of a specific RMRP activity location. • Built environment survey: The consultant will conduct a survey of built environment resources (i.e., buildings or structures) that have reached 50 years of age, or where it can be demonstrated that sufficient time has passed to understand its historical importance, within the direct or indirect footprint of a RMRP activity. • Tribal survey: Per Mitigation Measure TCR-1, the Park District will allow site visits for the tribes who requested it as part of AB 52 consultation for this Project.
Develop buried archaeological sensitivity guide	<ul style="list-style-type: none"> • Guide for buried resources: For locations where no previously recorded archaeological resources are identified, the consultant will create a sensitivity rating (high, medium, low) for buried resources within the vicinity of each direct RMRP activity footprint. Analyses of archaeological studies indicates that archaeological sites do not occur randomly across the landscape but are correlated with certain environmental factors, namely landform, slope, and distance to water (especially water confluences). Sensitivity for buried archaeological sites also consider the age of the landform (with younger landforms being relatively more likely to contain buried archaeological resources compared to older landforms).
Recommendations	<ul style="list-style-type: none"> • Recommendations: The consultant will make recommendations based on the background research and field investigations. These include but are not limited to: <ul style="list-style-type: none"> ○ If, based upon the archaeological survey and the buried archaeological sensitivity guide, there is a low sensitivity for archaeological resources to be encountered during Project implementation, no further action (i.e., no monitoring during construction) is required. However, if a cultural resource is identified during Project construction, work in the immediate vicinity of the find will be temporarily halted and the find will be evaluated in accordance with the late discovery protocol identified in the Archaeological Monitoring Plan, described below. The

Elements	Description
	<p>absence of an archaeological resource does not preclude the presence of a Tribal Cultural Resource and/or tribal monitoring.</p> <ul style="list-style-type: none"> ○ If an RMRP activity coincides with, or is within 50 feet of, a known cultural resource (built environment, archaeological, or tribal), the consultant and the CSC will work with appropriate Park District staff to design the RMRP activity to avoid impacts to the resource; minimize impacts by limiting the degree or magnitude of the activity. ○ If it is infeasible to modify an RMRP activity to avoid impacts on a cultural resource, it will be necessary to determine whether or not the resource is a historical and/or unique archaeological resource (i.e., eligible to the California Register of Historical Resources). In the case of archaeological resources where insufficient information exists to make a determination of eligibility, the consultant, in consultation with CSC, will develop and implement an Archaeological Testing Plan. The results of the testing will be provided in a report to the Park District. If the CSC concurs that an eligible resource is present, the Park District, at its discretion will either re-design the RMRP activity to reduce the effect to less-than-significant through preservation in place or other feasible measures. If the resource is important for its association with an important person or event, embodies the distinctive characteristics of a type, period, or method of construction, or otherwise has demonstrable public interest for both its scientific and historical values, where feasible, the Park District will preserve the resource in place with appropriate documentation. If it is not feasible to preserve such a resource in place, the resource will be systematically documented and/or recovered for interpretive use. If the resource is important primarily for its data potential, and it is not feasible to preserve the resource in place, the consultant will, in coordination with the CSC, prepare an ADRP. The ADRP will include: historic context and research design, field methods and procedures, archaeological monitoring recommendations, cataloguing and laboratory analysis (including discard, deaccession, and curation policy), security measures, and interpretive program. ○ Monitoring program: The consultant will develop an AMP, in consultation with the CSC, to account for unanticipated buried archaeological resources in RMRP activity areas with a moderate to high sensitivity for buried archaeological resources, and areas with moderate to high sensitivity for surficial archaeological resources where the ground surface was obscured during archaeological surveys (e.g., paved areas, areas of imported fill) or otherwise not available for inspection. The AMP will include, but is not limited to, a description of the RMRP activity locations to be included in the monitoring program, buried sensitivity analysis and rating, a cultural awareness training for construction personnel, the role and responsibilities of the archaeological and/or Tribal monitor, procedures that will be followed if a potential resource and/or human remains are encountered, and reporting efforts.
Reporting	<ul style="list-style-type: none"> ● Results of the records search, archaeological sensitivity model, and site visits, and recommendations will be documented in a cultural resources survey report that will be submitted to the CSC and the NWIC, prior to start of RMRP.

Notes:

- AB = Assembly Bill
- ADRP = Archaeological Data Recovery Plan
- AMP = archaeological monitoring plan
- CSC = Cultural Services Coordinator
- NWIC = Northwest Information Center
- Park District = East Bay Regional Park District
- RMRP = Routine Maintenance and Restoration Program

RMRP projects would be designed to avoid any areas with known or suspected human remains on Park District lands. However, the potential exists for as-yet unidentified human remains to be present within future RMRP activity areas, which could result in potentially significant impacts. Implementation of Mitigation Measure CUL-1 and Mitigation Measure CUL-2 would reduce the potential for the RMRP to disturb any human remains to **less than significant with mitigation incorporated**.

Mitigation Measure CUL-2

In the event that human remains are discovered during RMRP implementation, if human remains are encountered during construction, all work in that area must halt and either the Alameda or Contra Costa county Coroner must be contacted pursuant to California Public Resources Code Sections 5097.94, 5097.98, and 5097.99.

If the county coroner determines the remains to be Native American human remains, the county coroner shall contact the Native American heritage Commission (NAHC). The NAHC will immediately notify those persons it believes to be the most likely descended from the deceased. The descendants may, with the permission of the owner of the land, or his or her authorized representative, inspect the site of the discovery of the Native American human remains and may recommend to the owner or the person responsible for the excavation work means for treatment or disposition, with appropriate dignity, of the human remains and any associated grave goods.

4.6 Energy

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.6.1 Environmental Setting

In 2002, the Legislature passed Senate Bill (SB) 1389, which required the California Energy Commission (CEC) to develop an integrated energy plan every 2 years for electricity, natural gas, and transportation fuels, for the California Energy Policy Report. The plan calls for the State to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies several strategies, including assistance to public agencies and fleet operators in implementing incentive programs for zero emission vehicles and their infrastructure needs, and encouragement of urban designs that reduce vehicle miles traveled (VMT) and accommodate pedestrian and bicycle access. The CEC is recently adopted the 2019 Integrated Energy Policy Report, which provides the results of the CEC's assessments of a variety of energy issues facing California. Many of these issues will require action if the State is to meet its climate, energy, air quality, and other environmental goals while maintaining energy reliability and controlling costs. The 2019 Integrated Energy Policy Report covers a broad range of topics, including implementation of SB 350, integrated resource planning, distributed energy resources, transportation electrification, solutions to increase resiliency in the electricity sector, energy efficiency, transportation electrification, barriers faced by disadvantaged communities, demand response, transmission and landscape-scale planning, the California Energy Demand Preliminary Forecast, the preliminary transportation energy demand forecast, renewable gas (in response to SB 1383), updates on electricity reliability, natural gas outlook, and climate adaptation and resiliency.

4.6.2 Discussion

- a. *Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation? (Less-Than-Significant Impact with Mitigation Incorporated)*

RMRP activities mostly involve the maintenance, repair, or replacement of existing facilities and natural areas, and would not create new sources of energy use. RMRP activities that involve new construction, the installation of crossings and fords, and installation of new clear span bridges, would not create new uses of energy in the Park District. The installation of new crossings, fords, and clear span bridges would only occur in areas where some type of crossing, and therefore hiker or vehicle traffic, already exists, and the new infrastructure would not encourage a significant amount of new traffic to that location.

Therefore, the operational energy use of the RMRP would not significantly change due to project activities.

The RMRP's maintenance activities would require the consumption of energy (fossil fuels) for construction equipment and worker vehicles traveling to and from the project sites during the construction phase. The RMRP would not involve any permanent activities that require electricity based energy use. The energy consumption during maintenance and facilities upkeep work is necessary for resource protection and restoration. These activities would not cause wasteful, inefficient, and unnecessary consumption of energy or cause a substantial increase in in energy demand and the need for additional energy resources. Implementation of Mitigation Measure AQ-1, detailed in **Section 4.3.1, Air Quality**, would further reduce the RMRP's impact by requiring the minimization of idling times and requiring that all equipment be properly maintained. Therefore, the RMRP would have a **less than significant impact with mitigation incorporated**.

b. *Conflict with or obstruct a state or local plan for renewable energy or energy efficiency? (Less-Than-Significant Impact)*

As indicated above, energy usage in the project area during construction would be relatively small, and the RMRP would not create new sources of energy use during operation. Because California's energy conservation planning actions are conducted at a regional level, and because the project's total impact to regional energy supplies would be minor, the RMRP would not conflict with California's energy conservation plans as described in the 2019 Integrated Energy Policy Report. Thus, as shown above, the project would avoid or reduce the inefficient, wasteful, and unnecessary consumption of energy and not result in any irreversible or irretrievable commitments of energy. Therefore, impacts would be **less than significant**.

4.7 Geology and Soils

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii. Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii. Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv. Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4.7.1 Environmental Setting

The San Francisco Bay Area is considered a highly seismically active region due to a network of active and potentially active faults associated with the San Andreas Fault. Faults that cross through or are located near Park District lands include the Hayward Fault, the Calaveras Fault, the Concord Fault, and the Greenville Fault. Risk of fault rupture on California’s mapped faults has been assessed by CDOC under the Alquist-Priolo Earthquake Fault Zoning Act. An Alquist-Priolo fault zone is a regulatory zone surrounding active faults. Some Park District lands are located within Alquist-Priolo earthquake fault zones according to the California Earthquake Hazards Zone Application, CDOC’s online geologic hazards map (CDOC 2021b).

A landslide is the downslope movement of materials such as rock, soil, or fill from a slope. Landslides may occur due to several factors related to slope stability, including slope, weathering, climate, saturation, vegetation, erosion, earthquakes, and human-induced factors. Landslide susceptibility increases with steeper slopes and weaker rocks. Generally, landslide susceptibility is lower in areas with low slopes and strong materials. Some areas of the RMRP are moderately and highly susceptible to landslides (California Geological Survey 2011). Another type of landslide are debris flows. Debris flows are fast moving mud consisting of vegetation, rocks, and other debris that are commonly caused by intense rainfall. Generally, areas with steep slopes that are not vegetated are more likely to have debris flows, including areas recently burned by wildfire.

Liquefaction occurs when unconsolidated, saturated sediments at or near the ground surface lose their strength, typically during a ground shaking event, and are converted to a fluid-like state. Poorly consolidated and saturated soils and fill materials are the most susceptible to liquefaction. Areas of the RMRP area that are susceptible to liquefaction include most of the shoreline Park District lands and parks in northeast Contra Costa County and southeast Alameda County (CDOC 2021b). Lateral spreading and bank failure are other potential effect of seismically induced liquefaction. Lateral spreading is the horizontal movement of flat lying saturated sediments.

4.7.2 Discussion

- a. *Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:*
 - i, ii, iii. *i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. ii. Strong seismic ground shaking? iii. Seismic-related ground failure, including liquefaction? (**Less than Significant Impact**)*

Several active faults that are susceptible to rupture and have historically created strong seismic ground shaking cross through the RMRP area. However, an impact is only considered significant if the project would increase existing seismic hazards by increasing severity or likelihood of the hazards impacting people above the already existing conditions.

The number of workers on Park District lands throughout the term of the RMRP would not increase as the Park District is already performing these activities. However, seismic ground shaking events are unpredictable and the potential of such events to occur at the same time and place as the RMRP's construction related activities are low. Because all RMRP activities are on public open space that is already open to the public and maintained by Park Staff and contractors, the risk from seismic ground shaking events impacting workers or the public would not increase.

Furthermore, the majority of the RMRP activities do not include any new structures or operational activities that could create or exacerbate a ground shaking risk or involve construction of habitable structures that could expose people to the impacts from ground shaking. The installation of clear span bridges is the only activity that would add a new structure that could create this risk. However, all construction and design associated with the RMRP would comply with applicable California Building Code (CBC) standards (California Code of Regulations, Title 24), which includes standards for various

aspects of construction, including but not limited to earthwork, embankment construction, foundation investigations, resistance to ground shaking in various zones of the state, and liquefaction potential and soil strength. Implementation of the RMRP would not cause an increased risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, or seismic related ground failure, including liquefaction. This impact would be **less than significant**. No mitigation is required.

iv. Landslides? (Less than Significant impact)

As described above, there are many areas within the RMRP area that are susceptible to landslides. During rainfall events or earthquakes, there could be an increased potential for landslides. However, the majority of RMRP activities involve the maintenance, repair, or replacement of existing facilities and natural areas in Park District lands. These activities would not involve large scale earthwork or other factors that would increase the likelihood of landslides. Bank stabilization would decrease the likelihood of landslides on Park District lands. The installation and maintenance of crossings and fords and installation and maintenance of clear span bridges would occur in low lying areas where trails cross streams and the risk of landslide is low.

The RMRP does not include any new structures or operational activities that could create or exacerbate landslides. Furthermore, the implementation of the RMRP would not involve the construction of habitable structures that could expose people to the risk of landslides. This impact would be **less than significant**, and no mitigation is required.

b. Would the project result in substantial soil erosion or the loss of topsoil? (Less than Significant with Mitigation Incorporated)

RMRP activities such as bank repair, culvert clearing, sediment and debris removal, and habitat restoration, would reduce erosion and sedimentation. The stabilization and treatment of streambanks and pond berms that are actively eroding or slumping would reduce long-term erosion. Maintaining and updating poorly constructed or non-functioning road and trail crossing and clearing clogged culverts and bridge crossings would prevent erosion and sediment delivery to aquatic resources and reduce the potential for erosive flows to be redirected towards banks, roads, or other facilities. Removal of instream debris that has the potential to capture debris or redirect erosive flows towards the banks would reduce erosion and sedimentation along stream banks.

The RMRP would involve ground-disturbing activities including bank repair, clear span bridge installation, culvert repair and replacement, among others. Access and staging near streams may result in erosion from the streambanks or sediment loading into the channel. Implementation of Mitigation Measure Special-Status Plants-I requires all RMRP staging locations to be on existing access roads/trails or other previously disturbed areas. Beyond protecting special-status plants, this mitigation measure will also prevent erosion and loss of top soil by siting construction staging locations in already disturbed areas. Additionally, the RMRP would implement Mitigation Measures GEO-1 to GEO-6 to reduce the potential impacts from erosion:

Mitigation Measures for Soil Erosion or the Loss of Topsoil

Mitigation Measure GEO-1 Areas of disturbance will be limited to the smallest footprint necessary and a single access pathway, where feasible. For maintenance activities

near waterways the designated work area shall be clearly identified in the field using highly visible material, and work will not be conducted outside this area.

Mitigation Measure GEO-2

Establish and maintain effective perimeter controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from the site.

Mitigation Measure GEO-3

When in-channel work is required, where available use existing ingress or egress points or perform work from the top of stream banks

Mitigation Measure GEO-4

Earthwork will be completed as quickly as possible, and where practical, site restoration will occur immediately following Project activities. If site restoration involves planting, such activities may commence in late fall or early winter during the onset of the rainy season

Bare soil surfaces resulting from maintenance and/or construction activities shall be covered with suitable erosion control (seed or plant vegetation, fabrics, hydroseeding, mulch, etc.):

- Within 12 hours of any break in work unless Project activities will resume within 7 days.
- No later than 3 days following the disturbance during the rainy season (October through April).
- No later than 7 days following the disturbance during the dry season (May through September).
- Bare soil surfaces resulting from maintenance and/or construction activities will be covered prior to storms.

Mitigation Measure GEO-5

Building materials and/or construction equipment shall not be stockpiled or stored where they could be washed into water.

Mitigation Measure GEO-6

Erosion control BMPs, such as silt fences, certified weed-free stray hay bales, water check bars, certified weed free wattles, forest duff or mulches, and certified weed free straw will be used as necessary. Erosion Control fabrics will be constructed of biodegradable materials. Erosion control features will not contain monofilament material.

Erosion control measures will be used throughout all phases of operation where sediment runoff from exposed slopes threatens to enter Waters of the State and/or U.S.

Implementation of these mitigation measures this impact will be **less than significant with mitigation incorporated.**

- c. *Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? (Less than Significant Impact)*

Some Park District lands are subject to instability due to liquefaction, landslides, or ground shaking. However, RMRP activities would not exacerbate these conditions. Soil collapse may occur when high shrink-swell soils shrink during the dry season or when saturated soils are loaded or compressed. However, the RMRP would not involve the construction of large, heavy structures that would cause soil collapse.

The RMRP mostly involves the maintenance, repair, or replacement of existing infrastructure or natural areas, and would not increase the chance of instability on a project site. The RMRP's new features – crossings and fords, clear span bridges, and habitat restoration projects – involve very small amounts of earthwork and the installation of small infrastructure, all located in the bottom of valleys along stream crossings and would not lead to an increased likelihood of offsite landslide, lateral spreading, subsidence, liquefaction, or collapse.

Habitat restoration projects would be located in streams and wetlands, and will not build any structures that could lead to an increased chance of landslide, lateral spreading, subsidence, liquefaction, or collapse. The RMRP would have a **less than significant** impact.

- d. *Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property? (Less than Significant Impact)*

Expansive soils or "shrink-swell" soils are soils that expand and contract due to changes in moisture content and are typically comprised of fine-grained clay sediments. Expansive soils may be present within the Park District's lands in shoreline parks along the San Francisco Bay's margin, as well as throughout other places in the Park District. However, the majority of RMRP activities involve the maintenance, repair, or replacement of existing facilities, and the RMRP implementation would create a new substantial risk to life or property. Installation of fords and crossings, and habitat restoration projects would not create conditions where expansive soil would create a substantial direct or indirect risk to life or property.

As mentioned above, all construction and design associated with the RMRP would comply with applicable CBC standards (California Code of Regulations, Title 24), which includes standards for various aspects of construction, including but not limited to earthwork, embankment construction, foundation investigations, resistance to ground shaking in various zones of the state, and liquefaction potential and soil strength. These building codes would ensure clear span bridges are built to the necessary standards to ensure their safety in any given location. Therefore, a **less than significant impact** would occur and no mitigation is required.

- e. *Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water? (No Impact)*

The RMRP would not result in the generation of wastewater. It would also not involve the construction or modification of any septic tanks or alternative wastewater disposal systems. Thus, the RMRP would have **no impact** associated with the placement of such systems on unsuitable soil in the project area.

- f. *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? (Less than Significant Impact with Mitigation Incorporated)*

The RMRP would have a very low potential to directly or indirectly destroy a unique paleontological resource or a unique geologic feature. Most of the RMRP activities involve the maintenance, repair, or replacement of existing infrastructure. Most ground disturbance in these areas would be in areas that have previously been disturbed in the past. Berm/bank repair, pond restoration, culvert replacement, and maintenance of clear span bridges, maintenance of crossings and fords, would all occur in previously disturbed areas and soil disturbance would not extend to great depths below ground. Similarly, installation of crossings and fords, installation of clear span bridges, replacing/redeveloping spring boxes, and habitat restoration project would only involve a small amount of ground disturbance to a shallow depth. Thus, the potential for ground-disturbing activities to uncover or destroy a unique paleontological resource is unlikely.

The Park District would implement Mitigation Measure GEO-1, limiting the site disturbance to the smallest size possible. Additionally, the Park District would implement the Mitigation Measure GEO-7:

Mitigation Measure GEO-7 Protocol for the treatment of paleontological resources:

1. Work at the location of the find will halt immediately within 50 feet of the find. A no work zone will be established using appropriate flagging to delineate the boundary of this zone, which will measure at least 50 feet in all directions from the find.
2. The Park District will retain the services of a consulting paleontologist who meets the Society for Vertebrate Paleontology's criteria for a qualified professional paleontologist (Society of Vertebrate Paleontology 1995)

The consulting paleontologist will follow the Society for Vertebrate Paleontology's guidelines for the treatment of the find. Treatment may include preparation and recovery of fossil materials for donation to an appropriate museum or university collection, and may include the preparation of a report describing the find. The Park District will be responsible of ensuring the paleontologist's recommendations are implemented.

With the implementation of Mitigation Measures GEO-1 and GEO-7, the RMRP would have a **less than significant impact with mitigation incorporated**.

4.8 Greenhouse Gas Emissions

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.8.1 Environmental Setting

Greenhouse gas emissions (GHGs) are present in the atmosphere naturally, and are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. However, over the last 200 years, human activities have caused substantial quantities of GHGs to be released into the atmosphere. These extra emissions are increasing GHG concentrations in the atmosphere, and enhancing the natural greenhouse effect, which is believed to be causing global climate change. The gases that are widely seen as the principal contributors to human-induced global climate change are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

In recent years, California has enacted a number of policies and plans to address GHG emissions and climate change. In 2006, the California State Legislature enacted Assembly Bill (AB) 32, the Global Warming Solutions Act, which set the overall goals for reducing California’s GHG emissions to 1990 levels by 2020. SB 32 codified an overall goal for reducing California’s GHG emissions to 40 percent below 1990 levels by 2030. Executive Orders (EOs) S-3-05 and B-16-2012 further extend this goal to 80 percent below 1990 levels by 2050. The California Air Resources Board has completed rulemaking to implement several GHG emission reduction regulations and continues to investigate the feasibility of implementing additional GHG emission reduction regulations. These include the low carbon fuel standard, which reduces GHG emissions associated with fuel usage, and the renewable portfolio standard (RPS), which requires electricity suppliers to increase the amount of electricity generated from renewable sources to certain thresholds by various deadlines. In 2018, SB 100 updated the RPS to require 50 percent renewable resources by the end 2026, 60 percent by the end of 2030, and 100 percent renewable energy and zero carbon resources by 2045. EO B-55–18 signed by Governor Jerry Brown set a goal of statewide carbon neutrality by 2045 and net negative emissions thereafter.

California has adopted several vehicle emission reduction and fuel efficiency regulations that are similar and consistent with USEPA and National Highway Traffic Safety Administration regulations. These California vehicle regulations were granted under a waiver request by the USEPA and would not necessarily be affected by changes in the federal policies.

Contra Costa County adopted the Contra Costa County Climate Action Plan (CAP) in 2015. The CAP is designed to demonstrate the County’s commitment to addressing the challenges of

climate change by reducing local GHG emissions. This CAP identifies how the County will achieve the AB 32 emissions reduction targets. The CAP includes GHG reduction measures and actions to reduce GHG emissions from community wide sources that relate to energy efficiency, renewable energy, and use and transportation, solid waste, water conservation, and government operations (Contra Costa County 2015).

Alameda County has adopted a Community Climate Action Plan (CCAP) for unincorporated areas in the County, which includes measures directed at reducing GHG emissions from existing and future development. The majority of the CCAP measure concern County actions and provide direction for County staff to develop regulations for future development within the County. Policies include smart growth, bike and pedestrian infrastructure, and transit oriented development related measures (Alameda County 2014b).

4.8.2 Discussion

- a. *Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? (**Less than Significant With Mitigation Incorporated**)*

The BAAQMD does not have an adopted threshold of significance for construction related to GHG emissions. Construction activities would produce combustion emissions from various sources such as the operation of construction equipment and from worker vehicles, which use fossil fuels to operate. The combustion of fossil fuels creates GHGs such as CO₂, CH₄, and N₂O. Exhaust emissions from onsite construction activities would vary daily as construction activity levels change throughout the Park District. However, worker vehicles would be limited to the minimum necessary, and would have a less than significant impact to the generation of GHG emissions in the region. All of the RMRP construction activities would be small in scale and over a short period of time, minimizing the amount of emitted GHGs in the construction phase. Implementation of Mitigation Measure AQ-I would limit idling times of construction equipment, further reducing the amount of fossil fuels burned, and GHGs emitted.

The RMRP activities mostly involve the maintenance, repair, or replacement of existing facilities and natural areas, and would not create new sources of GHG emissions. The installation of crossings and fords, installation of new clear span bridges, and habitat restoration projects would likewise not create new operational sources of GHGs in the Park District.

Therefore, the RMRP would have a **less than significant with mitigation incorporated** impact on the generation of GHG in the region.

- b. *Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? (**Less than Significant Impact**)*

As discussed above, the BAAQMD does not have an adopted threshold of significance for construction related GHG emissions. Although GHGs would be produced during construction, the levels would be low. RMRP construction would be small in scale over a short periods of time, with low numbers of workers and construction equipment. Furthermore, the Contra Costa County CAP and the Alameda County CCAP do not contain polices related to GHGs emitted during construction (Contra Costa County 2015; Alameda County 2014b).

The RMRP does not involve or encourage development in Alameda or Contra Costa Counties. The RMRP activities mostly involve the maintenance, repair, or replacement of existing facilities and natural areas, and would not create new operational sources of GHG emissions. Likewise, the installation of crossings and fords, installation of new clear span bridges, and habitat restoration projects would not create new operational sources of GHGs. As discussed in **Section 4.14, Population and Housing**, the RMRP would not encourage or create population growth or facilitate the construction of new housing or other development. Because the Alameda County CCAP and Contra Costa County CAP are regional plans with polices regarding development, energy generation and efficiently, and other broad policies, the RMRP would not conflict with either one. Therefore, the RMRP would have a **less than significant** impact and no mitigation is required.

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4.9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.9.1 Environmental Setting

Hazardous materials are chemical and non-chemical substances that can pose a threat to the environment or the public if misused or released. Under the Resource Conservation and Recovery Act in 40 CFR part 261, explosives, flammable and combustible substances, poisons, radioactive materials, pesticides, petroleum products, and other materials are considered hazardous materials. These substances can be released during vehicle or equipment accidents. Hazardous substances also have the potential to contaminate groundwater, soils, and surface waters if they are not properly handled.

Contamination in and near the RMRP area was identified using the State Water Resources Control Board (SWRCB) GeoTracker (SWRCB 2021) database and the Department of Toxic Substances Control's (DTSC's) EnviroStor database (DTSC 2021). The Park District does not contain any superfund sites or radioactive materials. The Park District contains 48 known hazardous materials sites spread throughout 19 parks, two regional trails, and the main office building in Oakland. Of the 48 sites,

28 have a status of either case closed, investigation with no further action, historical/informational item, or have land use restrictions in place. An additional 10 are at Thurgood Marshal Regional Park, Home of the Port Chicago 50, which was formally known as the Concord Naval Weapons Station. This property is in the process of being transferred from the United States Navy and cleanup of hazardous materials sites will be completed prior to transfer. Of the final 10, eight have either ongoing site assessments or some form of remediation taking place. Two are open but do not have active cleanups occurring.

Table 4.9.1, Known Hazardous Materials Waste Sites, details the sites throughout the Park District.

Soil contamination generally occurs in areas that are or have been previously developed, especially with industrial uses. Soil contamination can also occur in areas where pesticides have historically been applied, in areas with historic mining, or in areas with underground storage tanks. Utility lines, such as petroleum or gas pipelines or leaking transformers, can also cause contamination or accidental spills. Sites that are under Park District management, or sites on property the Park District acquires in the future, are on undeveloped lands. Remnant contamination from previous industrial uses or mining operations that occurred previously on Park District lands.

Table 4.9.1 Known Hazardous Materials Waste Sites

Site Name	Case Type/Status	Potential Contaminants of Concern
Alameda Point Shoreline Trail		
Alameda Naval Air Station – UST 342	Military UST Site: Completed – Case Closed	None Listed
Ardenwood Historic Farm		
Ardenwood/Reed Venture	Cleanup Program Site: Completed – Case Closed	None Listed
Black Diamond Mines Regional Preserve		
Black Diamond Mines	Land Disposal Site: Open – Closed/ with Monitoring	Surface Water: Acid Mine Drainage (pH <6.5)
Byron Vernal Pools		
Line 200 Byron Incident	Cleanup Program Site: Open – Site Assessment	Groundwater: TPH
Carquinez Strait Regional Shoreline		
Port Costa Building Materials	LUST Cleanup Site: Completed – Case Closed	Soil: Diesel
Contra Costa Trails		
Pacheco Properties, Inc.	Cleanup Program Site: Completed – Case Closed	Soil: Diesel, MTBE/TBA/Other Fuel Oxygenates, TPH
Coyote Hills Regional Park		
Coyote Hills Communication	LUST Cleanup Site: Completed – Case Closed	Soil: Diesel
PG&E Substation P	Cleanup Program Site: Open – Site Assessment	Lead

Site Name	Case Type/Status	Potential Contaminants of Concern
Garin Regional Park		
Garin Vista	Voluntary Cleanup: Inactive	None Listed
Judge John Sutter Regional Shoreline		
Oakland Army Base – AOC 1-2 (hotspot)	Military Cleanup Site: Open – Assessment and Interim Remedial Action	Groundwater
Oakland Army Base – AOC 1-4 (storm drain pipelines/outfalls)	Military Cleanup Site: Open – Assessment and Interim Remedial Action	Soil: PCBs
Caltrans East Bay Service Road Tent	LUST Cleanup Site: Completed – Case Closed	Groundwater: Gasoline, Kerosene
Lake Chabot Regional Park		
Park District Maintenance Yard	LUST Cleanup Site: Completed – Case Closed	Soil: Diesel
United States Army Corps of Engineers Nike Battery 3 I	LUST Cleanup Site: Completed – Case Closed	Soil: Heating Oil/Fuel Oil
Park District Lake Chabot Marine Maintenance Yard	Cleanup Program Site: Completed – Case Closed	Soil: Diesel
Willow Park Golf Course	LUST Cleanup Site: Completed – Case Closed	Soil: Gasoline
McLaughlin Eastshore State Park		
Eastshore Park – Emeryville Crescent	Cleanup Program Site: Open – Verification Monitoring	Groundwater: PCBs, Other Metal, Diesel
Eastshore Park – Remainder	Cleanup Program Site: Open – Remediation	Groundwater: PCBs, Lead, Other Metal
Albany Landfill	Land Disposal Site: Open – Inactive	None Listed
Fleming Point Property	Non-Case Information: Informational Item	None Listed
Caltrans West Frontage RD Berkeley	Historical	None Listed
Peralta Oaks North		
Oakland Unity High School	School Investigation: No Action Required	
Miller/Knox Regional Shoreline		
Miller Knox Park	LUST Cleanup Site: Completed – Case Closed	Groundwater: Gasoline
Oyster Bay Regional Shoreline		
Former Davis Street Landfill	Cleanup Program Site: Completed – Case Closed	None Listed

Site Name	Case Type/Status	Potential Contaminants of Concern
Oyster Bay/Davis Street Landfill	Land Disposal Site: Open	None Listed
Pleasanton Ridge Regional Park		
Sunol Communications Center	Cleanup Program Site: Open – Inactive	Aquifer: Diesel
Point Isabel Regional Shoreline		
Point Isabel Regional Shoreline	Cleanup Program Site: Open – Remediation	Soil: Lead
Liquid Gold Oil Corp	Corrective Action	
Point Pinole Regional Shoreline		
Modesto Tallow (Former)	Cleanup Program Site: Completed – Case Closed	None Listed
Parkway Transit Village	Voluntary Cleanup: Certified O&M – Land Use Restrictions Only	
Radke Martinez Regional Shoreline		
Southern Pacific	LUST Cleanup Site: Completed – Case Closed	Groundwater: Gasoline
Reinhardt Redwood Regional Park		
Park District Redwood Regional Park	LUST Cleanup Site: Completed – Case Closed	Groundwater Benzene, Diesel, Ethylbenzene, Gasoline, MTBE/TBA/ Other Fuel Oxygenates, Toluene, TPH, Xylene
San Pablo Bay Regional Shoreline		
Southern Pacific Pipelines	Cleanup Program Site: Open – Inactive	Surface Water: TPH
Thurgood Marshal Regional Park, Home of the Port Chicago 50 (Formally: Concord Naval Weapons Station)		
Phillips 66 Concord Line 200 Release	Cleanup Program Site: Completed – Case Closed	Aquifer: Benzene, Diesel, Ethylbenzene, Gasoline, Naphthalene, Toluene, TPH, Xylene
CNWS – Bermed Area (UXO Site 0012) EOD Formerly IR 23A	Military Cleanup Site: Open – Site Assessment	Soil, Surface Water: Explosives (UXO, MEC), Munitions Debris
CNWS – Rocket Practice Area	Military Cleanup Site: Open – Remediation	Soil: Explosives (UXO, MEC), Munitions Debris
CNWS – Cistern Pond	Military Cleanup Site: Open – Site Assessment	None Listed
CNWS –IR Site 41, IA – 100 Storage Areas	Military Cleanup Site: Open – Site Assessment	Aquifer: Explosives (UXO, MEC), Munitions Debris, Arsenic, PAHs
CNWS IA-55	Military UST Site: Completed – Case Closed	None Listed

Site Name	Case Type/Status	Potential Contaminants of Concern
CNWS –IR Site 24A Former Pistol Range (UXO Site 0001A)	Military Cleanup Site: Open – Remediation	Explosives (UXO, MEC), Munitions Debris
CNWS – Eagles Nest EOD Area (UXO Site 0010)	Military Cleanup Site: Open – Site Assessment	Aquifer: Explosives (UXO, MEC), Munitions Debris
CNWS Bldg. 79, SWMU 54	Military UST Site: Open – Site Assessment	Diesel
CNWS –IR Site 42 (Building 81)	Military Cleanup Site: Open – Site Assessment	Groundwater: TCE
CNWS 83/86	Military UST Site: Completed – Case Closed	None Listed
CNWS –IR Site 22A	Military Cleanup Site: Open – Site Assessment	Soil, Surface Water: Other Insecticides/Pesticide/Fumigants/Herbicides, Arsenic
Tilden Regional Park		
SF AAA Batt 12 (J09CA0933)	Military Evaluation: No Further Action	None Listed
Grizzly Peak VHF Station	Military Evaluation: No Further Action	None Listed
San Francisco NIKE Battery 08-09 (J09CA0936)	Military Evaluation: No Further Action	None Listed

Notes:

Caltrans = California Department of Transportation
 CNWS = Concord Naval Weapons Station
 IR = Installation Restoration
 LUST = leaking underground storage tank
 MEC = munitions and explosives of concern
 MTBE = methyl tert-butyl ether
 O&M = operations and maintenance
 PAH = polynuclear aromatic hydrocarbon
 Park District = East Bay Regional Park District
 PCB = polychlorinated biphenyl
 TBA = tert-butyl alcohol
 TCE = trichloroethylene
 TPH = total petroleum hydrocarbons
 UST = underground storage tank
 UXO = unexploded ordnance

Fire hazards present a considerable risk to vegetation, wildlife habitats, and Park District infrastructure in the RMRP area. The potential for significant damage to life and property exists in wildland-urban interface areas. The RMRP area lies within a combination of State and local responsibility areas generally identified by the California Department of Forestry and Fire Protection (CAL FIRE) as Very High and High fire hazard severity zones (FHSZs) (CAL FIRE 2007).

4.9.2 Discussion

- a. *Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? (Less than Significant Impact with Mitigation Incorporated)*

The RMRP would involve the routine transport, use, and disposal of hazardous materials such as pesticides, herbicides, fuel, oil, solvents, and related materials. For the majority of the project types, the Park District would use heavy equipment that would require fuel, oil, lubricants, and other potentially hazardous materials. It is also possible that the RMRP activities could encounter contaminated soil or water, which would require transport and disposal. RMRP activities also include habitat restoration, which may involve the application of herbicides to control invasive plants.

The routine transport, use, and disposal of hazardous materials could potentially create a hazard to the public or the environment. However, regulations under the Occupational Safety and Health Administration require that personal protective equipment be provided to workers to limit exposure to potentially harmful hazardous materials (OSHA 2016). Compliance with these existing laws and regulations would reduce the potential for RMRP activities to create a significant hazard to the environment or the public.

The application of herbicides and pesticides would be done in accordance with regulations set by the California Department of Pesticide Regulation and according to the labeled instructions. Applications will use the lowest rate and least volume of herbicide necessary to effectively control invasive plants. All herbicide and pesticide use will be conducted in accordance with the following BMPs included in **Chapter 2, Project Description:**

- BMP 5 – Chemical Controls
- BMP 18 – Hazardous Materials Storage/Disposal

In accordance with Park District policies and the BMPs in the project description, impacts associated with the majority of hazardous materials transport, use, and disposal would be less than significant.

However, the RMRP's ground-disturbing activities have the potential to encounter contaminated soil, sediment, or groundwater that could expose workers, the public, or the environment, to hazards if adequate precautions are not taken. This would be a significant impact. Implementation of Mitigation Measure HAZ-I would minimize potential impacts:

Mitigation Measures for Contaminated Soil, Sediment, or Groundwater

Mitigation Measure HAZ-I Prior to initiating ground-disturbing activities, the Park District or its contracted workers will inspect the soil, sediment, or groundwater for the presence of possible contamination. If indicators, such as foul odor, staining or sheen, etc. are found, the Park District will initiate the sampling by the appropriate licensed professional. Testing of the samples will be done by a California Certified laboratory. Should contaminated soils be found, the excavated soil will be treated as a hazardous material and disposed of at an approved hazardous water

disposal facility in compliance with state and federal regulations. Effective dust suppression procedures will be used in construction areas to reduce airborne emissions of these contaminants and reduce the risk of exposure to workers and the public. The DTSC and/or the RWQCB, and/or the appropriate County will be contacted to plan the handling, treatment, or disposal options. Workers will wear protective clothing and equipment to limit their exposure while removing the potentially contaminated soil, sediment, or groundwater.

With implementation of the Park District's policies, BMPs, and Mitigation Measure HAZ-I, impacts associated with hazardous materials transport, use, and disposal that would occur during RMRP activities would be **less than significant with mitigation incorporated**.

b. *Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? (**Less-Than-Significant with Mitigation Incorporated**)*

Hazardous materials used or removed during RMRP activities could potentially be released to the environment through accidental spills, and such a release could harm maintenance workers, the public, or the environment. However, the RMRP would implement the following BMPs to reduce the risk of hazardous materials release into the environment:

- BMP 5 – Chemical Controls
- BMP 7 – Heavy Equipment Locations
- BMP 8 – Work Window
- BMP 9 – Culvert Debris Removal
- BMP 11 – Equipment Restrictions
- BMP 13 – Equipment Inspections
- BMP 14 – Equipment Maintenance and Fueling
- BMP 15 – Equipment Parking
- BMP 18 – Hazardous Materials Storage/Disposal

Implementation of the BMPs listed above would minimize the potential for accidental releases or impacts from accidental releases by requiring proper storage of hazardous materials, reducing work in flowing or standing water, minimization of heavy equipment use and the allowable work locations when in use. The implementation of Haz-I, which requires testing and proper disposal of contamination soil, sediment, and ground water would further reduce the potential impact. The impact would be **less than significant with mitigation incorporated**.

- c. *Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? (**Less-Than-Significant with Mitigation Incorporated**)*

There are 136 Schools within 0.25 mile of a Park District Park or Regional Trail as shown in **Table 4.9.2**. As previously discussed, Program activities would involve the transport and use of fuel, oil, lubricants, solvents, and herbicides which may be hazardous. Additionally, certain activities may occur in areas with existing soil or groundwater contamination. Program activities could occur within close proximity of a school.

Table 4.9.2 Schools Within 0.25 mile of a Park District Park or Regional Trail

Alameda (City)			
Donald D. Lum Elementary	Maya Lin Elementary	William G. Paden Elementary	Alameda Community Learning Center
Encinal Junior/Senior High	Lincoln Middle	Will C. Wood Middle	
Alamo			
Rancho Romero Elementary			
Antioch			
Antioch Charter Academy	Grant Elementary	Sutter Elementary	Turner Elementary
East County Elementary Special Education			
Bay Point			
Bel Air Elementary	Rio Vista Elementary	Shore Acres Elementary	Gateway High (Continuation)
Riverview Middle			
Brentwood			
Brentwood Elementary			
Canyon			
Canyon Elementary			
Castro Valley			
Independent Elementary	Palomares Elementary	Proctor Elementary	Vannoy Elementary
Redwood Continuation High	Canyon Middle		
Clayton			
Mt. Diablo Elementary	Diablo View Middle		
Concord			
Ayers Elementary	Highlands Elementary	Woodside Elementary	Wren Avenue Elementary
Floyd I. Marchus Elementary/High School	Clayton Valley Charter High	Ygnacio Valley High	

Crockett			
Willow High		Carquinez Middle	
Danville			
Greenbrook Elementary	John Baldwin Elementary	Montair Elementary	Sycamore Valley Elementary
Tassajara Hills Elementary	Del Amigo High (Continuation)	San Ramon Valley High	Charlotte Wood Middle
Dublin			
Frederiksen Elementary	James Dougherty Elementary	Dublin High	Valley High (Continuation)
Wells Middle			
El Sobrante			
Olinda Elementary			
Fremont			
Ardenwood Elementary	Brookvale Elementary	Forest Park Elementary	Niles Elementary
Vallejo Mill Elementary	American High		
Hayward			
Stonebrae Elementary	Treeview Elementary	Alternative Learning Academy at Conley-Caraballo High	Core Learning Academy at Conley-Caraballo High
Kensington			
Kensington Elementary			
Lafayette			
Burton Valley Elementary	Lafayette Elementary	Springhill Elementary	Acalanes High
M. H. Stanley Middle			
Martinez			
John Swett Elementary	Alhambra Senior High		
Moraga			
Camino Pablo Elementary	Joaquin Moraga Intermediate		
Newark			
John F. Kennedy Elementary			
Oakland			
Hillcrest Elementary	Kaiser Elementary	Lighthouse Community Charter	Vincent Academy
Lighthouse Community Charter High	Ralph J. Bunche High	Skyline High	East Bay Innovation Academy
Oakley			
Iron House Elementary	Laurel Elementary	Vintage Parkway Elementary	Delta Vista Middle
O'Hara Park Middle			

Orinda			
Sleepy Hollow Elementary	Wagner Ranch Elementary		
Pittsburg			
Heights Elementary	Los Medanos Elementary	Stoneman Elementary	Black Diamond High (Continuation)
Rancho Medanos Junior High			
Pleasant Hill			
Fair Oaks Elementary	Pleasant Hill Elementary	Strandwood Elementary	Valhalla Elementary
College Park High	Valley View Middle		
Pleasanton			
Fairlands Elementary	Lydiksen Elementary	Foothill High	
Richmond			
Mira Vista Elementary	Nystrom Elementary	Richmond College Preparatory	Riverside Elementary
Verde Elementary	Washington Elementary	John Henry High	Leadership Public Schools: Richmond
Rodeo			
Rodeo Hills Elementary			
San Leandro			
Garfield Elementary			
San Pablo			
Dover Elementary			
San Ramon			
Golden View Elementary	Montevideo Elementary	Walt Disney Elementary	California High
Iron Horse Middle	Pine Valley Middle		
Sunol			
Sunol Glen Elementary			
Union City			
Delaine Eastin Elementary	Guy Jr. Emanuele Elementary	Cesar Chavez Middle	
Walnut Creek			
Bancroft Elementary	Eagle Peak Montessori	Indian Valley Elementary	Murwood Elementary
Valle Verde Elementary	Walnut Acres Elementary	Las Lomas High	Northgate High
Walnut Creek Intermediate			

Heavy equipment used during routine maintenance activities would emit some diesel exhaust and related emissions that can be hazardous. In general, these emissions would be similar to emissions associated with road and other construction projects that occur throughout Alameda and Contra Costa Counties, sometimes near schools. Each activity would usually only involve 1 piece of heavy equipment and several worker trucks and vehicles, less than most road and construction projects. Additionally, the

average RMRP activity would last only approximately 3 days, with a minimum of half a day and a maximum of 11 days. Any emissions from activities this short in duration would not pose an acute health hazard.

The RMRP has the potential to involve handling hazardous materials in proximity to a school. These activities would not pose a significant health hazard to school children because the RMRP would implement Mitigation Measure HAZ-1 as well as the following BMPs:

- BMP 5 – Chemical Controls
- BMP 11 – Equipment Restrictions
- BMP 13 – Equipment Inspections
- BMP 14 – Equipment Maintenance and Fueling
- BMP 15 – Equipment Parking
- BMP 18 – Hazardous Materials Storage/Disposal

With implementation, the impact would be **less than significant with mitigation incorporated**.

d. *Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? (**Less than Significant with Mitigation Incorporated**)*

Known contaminated hazardous sites within the RMRP area are identified in **Table 3.9.1**. Because RMRP activities would vary each year and the status of existing contamination and cleanup efforts changes, it is difficult to determine the degree to which activities would impact, or be impacted by, contaminated sites.

Due to the fact that several locations within the RMRP area contain contaminated soils, it is possible that the RMRP's ground-disturbing activities could occur on or in the vicinity of a documented hazardous materials site. Were this to occur, the Park District could be subjected to potential hazards from disturbed soils on the site, which would be a significant impact. Implementation of Mitigation Measure HAZ-2 would reduce the potential impacts to **less than significant with mitigation incorporated**.

Mitigation Measures for Known Hazardous Materials Sites

Mitigation Measure HAZ-2

The Park District and/or its contractors will compare the location of any RMRP activity that includes ground disturbance to existing known hazardous material cleanup sites. The review will include examination of the planned activity footprint in relation to records of hazardous materials sites in the SWRCB's GeoTracker database and the DTSC's EnviroStor database.

If the activity is on or within 100 feet of a documented hazardous material contamination site for which cleanup activities have not been completed, the Park District will complete a Phase I Environmental Site Assessment to more fully characterize the potential for soil and/or groundwater contamination to occur at the site.

If the Phase I demonstrates a reasonable likelihood that contamination remains within the RMRP's area of ground disturbance, the Park District will complete a Phase II Environmental Site Assessment, including soils testing, to characterize the extent of the contamination and develop ways to avoid the contamination during ground disturbance to the extent feasible. In the event that it is not feasible to avoid the contamination, the Park District or its contractors will follow all applicable laws regarding management of hazardous materials and wastes. This includes proper disposal of any contaminated soil in a hazardous waste landfill, and ensuring that workers are provided with adequate personal protective equipment to prevent unsafe exposure.

- e. *Would the project be located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area? **(No Impact)***

The majority of Park District lands are not in an area with an airport land use plan or within the vicinity of a public use airport or private airstrip. Martin Luther King Regional Shoreline and Oyster Bay Regional Shoreline are adjacent to the Oakland International Airport. Hayward Regional Shoreline is in the vicinity of the Hayward Executive Airport. Shadow Cliffs Regional Recreation area is in the vicinity of the Livermore Municipal Airport. Byron Vernal Pools, Vasco Hills, and Vasco Caves Regional Preserve are within the vicinity of the Byron Airport. Finally, the Iron Horse Trail is in the vicinity of Buchanan Field Airport in Concord. The RMRP activities would not introduce people permanently to an area that could be subject to safety hazards or excessive noise. In addition, the RMRP would not involve construction of any structures in the vicinity of an airport that could exceed height limitations. The RMRP would have **no impact**.

- f. *Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? **(Less than Significant with Mitigation)***

Designated evacuation routes pass through or adjacent to many Park District lands. RMRP project activities that include operation of heavy equipment on roadways could potentially interfere with traffic movement and impair evacuation procedures in the event of an emergency. Such activities include sediment and debris removal and culvert repair/replacement. Mitigation Measure TRANS-1, described in detail in **Section 4.17, Transportation**, requires the Park District to make provisions to allow emergency responders through any work area or clearly designate alternate routes. Minimal delays, lasting a few minutes, would occur while crews reposition equipment and vehicles to ensure adequate room for emergency vehicles to pass. Mitigation Measure TRANS-1 would ensure that unattended authorized work vehicles are not parked in such a way that blocks the road when there are no operators in attendance to move them and that fire district and emergency response agencies have prior notification of any temporary access road closures. With implementation of Mitigation Measure TRANS-1, impacts associated with the

interference of an adopted emergency response plan or emergency evacuation plan would be **less than significant with mitigation**.

- g. *Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires? (**Less than Significant**)*

The RMRP would not involve construction of new habitable structures or homes, or indirectly lead to the creation of new habitable structures or homes. However, much the Park District is located in the wildland-urban interface, where existing development is adjacent to densely vegetated areas. Additionally, significant portions of RMRP area fall within areas designated as Very High and High Fire FHSZs (CAL FIRE 2007). As such, RMRP activities involving the operation of mechanical equipment would take place in these areas, increasing the potential for igniting a brush fire and triggering a wildland fire.

To minimize the risk from RMRP activities, the Park District would implement BMP 19 – Fire Prevention, described in **Chapter 2, Project Description** and **Appendix A**. This BMP would reduce potential wildland fire impacts associated with RMP activities by requiring on-site fire suppression equipment, spark arrestors on all equipment with internal combustion engines, restricting activities on high fire danger days, and coordinating with local fire districts. With implementation, impacts of the RMRP would be **less than significant**.

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4.10 Hydrology and Water Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i. Result in substantial erosion or siltation on- or off-site;	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv. Impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.10.1 Environmental Setting

Surface Water Hydrology and Quality

The hydrological conditions vary across the Park District. Shoreline parks are, in general, relatively flat, with beaches and tidal wetlands dominating the hydrological landscape. Some do contain coastal hills, and with them seasonal creeks. Inland parks are, in general, more mountainous, with seasonal creeks flowing into larger streams as the water moves towards the San Francisco Bay or Carquinez Strait. The Park District also contains many lakes and ponds, both natural and manmade. Several of the larger lake are used for recreational activities such as boating and swimming. Many of the smaller ponds are uses as sources of water for grazing operations by the Park District’s grazing tenants. Major water bodies include:

- Rivers and Streams: Alameda County Flood Control Channel, Alameda Creek, Arroyo Del Cerro, Arroyo Del Hambre Creek, Arroyo Del Valle, Bolinas Creek, Bolinger Canyon Creek, Brushy Creek, Calaveras Creek, Castro Creek, Claremont Creek, Cull Creek, Damon Slough, Dry Creek, Dublin Creek, Elmhurst Creek, Garrity Creek, Hedd Canyon Creek, Hollis Creek, Kennedy Creek, Kirker Creek, Las Trampas Creek, Marsh Creek, Mout Diablo Creek, Redwood Creek, Sacramento River, San Joaquin River, San Leandro Creek, San Lorenzo Creek, San Pablo Creek, Sycamore Creek, Tassajara Creek, Temescal Creek, Wildcat Creek
- Lakes and ponds: Contra Loma Reservoir, Doolittle Pond, High Valley Pond, Jewel Lake, Jordan Pond, Lake Anza, Lake Chabot, Lake Del Valle, Lake Temescal, Shadow Cliffs Lake, the Cull Canyon Swim Lagoon, the Don Castro Fishing Lake, the Don Castro Swim Lagoon, the Quarry Lakes (Horseshoe Lake, Lago Los Osos, and Rainbow Lake), and many unnamed natural and manmade stock ponds spread throughout the Park District
- Bays and Marshes: Airport Channel, Al McNabney Marsh, Ballena Bay, Carquinez Strait, Cogswell Marsh, Crab Cove Marine Conservation Area, Demonstration Urban Stormwater Treatment Marsh, Dotson Family Marsh, Driftwood Marina, Grian Marsh, Harbor Channel, Hayward Area Recreation District Marsh, Hayward Marsh, Hoffman Channel, Hoffman Marsh, Main Marsh, New Bridge Marina, North Marsh, Oro Loma Marsh, Richmond Inner Harbor, San Francisco Bay, San Leandro Bay, San Pablo Bay, South Marsh, Whittell Marsh

Groundwater Hydrology and Quality

Much of the Park District is not underlain by a groundwater basin, and groundwater conditions vary locally depending on geologic conditions. The occurrence of groundwater is dependent on the presence of porous, permeable rock capable of storing and transmitting water. However, Alameda and Contra Costa Counties are underlain by nine separate groundwater basins as designated by the California Department of Water Resources (CDWR). All nine groundwater basins contain portions of at least one Park District park (CDWR 2020). **Table 4.10.1** (on the following page) lists each groundwater basin and the parks and Regional Trails contained by each one.

4.10.2 Flooding

The Park District is located across many different types of elevation profiles. Most of the inland parks are located at high elevations where flooding is not typically an issue. However, shoreline parks are located in low-lying areas of the San Francisco Bay and are at risk from flooding from major storms and sea-level rise. In addition, the entirety of the East Bay's coast from Martinez to the southern tip of the San Francisco Bay along the Carquinez Strait, San Pablo Bay, and the San Francisco Bay are designated as a Tsunami Hazard area (CDOC 2021a).

Other parks and regional trails located along rivers are within the 100-year flood plain. These areas include Tilden Regional Park and Wildcat Canyon Regional Park along Wildcat Creek, the Iron Horse Trail along Walnut Creek, Huckleberry Botanic Regional Park along San Leandro Creek, Quarry Lakes Regional Recreation Area along Alameda Creek, Sycamore Grove along Arroyo Del Valle, Vasco Hills, Vasco Caves, and Byron Vernal Pools along Brushy Creek, portions of Round Valley Regional Park along Marsh Creek, and other areas (FEMA 2021).

Table 4.10.1 Park District Groundwater Basins

Groundwater Basin	Park District Parks and Regional Trails
Arroyo Del Hambre Valley	<ul style="list-style-type: none"> ● Parks: Carquinez Strait Regional Shoreline, Ted and Kathy Radke Martinez Regional Shoreline ● Regional Trails: None
Clayton Valley	<ul style="list-style-type: none"> ● Parks: Thurgood Marshal Regional Park Home of the Port Chicago 50 ● Regional Trails: Delta DeAnza Trail, CA State Riding and Hiking Trail, Contra Costa Canal Trail
Livermore Valley	<ul style="list-style-type: none"> ● Parks: Bishop Ranch Open Space Regional Preserve, Brushy Peak Regional Preserve, Del Valle Regional Park, Pleasanton Ridge Regional Park, Shadow Cliffs Regional Park ● Regional Trails: Iron Horse Trail, Alamo Canal Trail, Tassajara Creek Trail
Pittsburg Plain	<ul style="list-style-type: none"> ● Parks: Bay Point Regional Shoreline ● Regional Trails: Delta DeAnza Trail
San Joaquin Valley	<ul style="list-style-type: none"> ● Parks: Antioch/Oakley Regional Shoreline, Big Break Regional Shoreline, Black Diamond Mines Regional Preserve, Byron Vernal Pools Regional Preserve, Contra Loma Regional Park, Delta Access Regional Recreation Area ● Regional Trails: Big Break Shoreline Trail, Delta DeAnza Trail, Marsh Creek Trail
San Ramon Valley	<ul style="list-style-type: none"> ● Parks: Las Trampas Wilderness Regional Preserve, Sycamore Valley Open Space Regional Preserve ● Regional Trails: Iron Horse Trail
Santa Clara Valley	<ul style="list-style-type: none"> ● Parks: Ardenwood Historic Farm, Coyote Hills Regional Park, Dry Creek Pioneer Regional Park, Hayward Regional Shoreline, Judge John Sutter Regional Shoreline, Kennedy Grove Regional Recreation Area, Martin Luther King Jr. Regional Shoreline, McLaughlin Eastshore State Park, Miller/Knox regional Shoreline, Mission Peak Regional Preserve, North Richmond Regional Shoreline, Oyster Bay Regional Shoreline, Point Isabel Regional Shoreline, Point Pinole Regional Shoreline, Quarry Lakes Regional Recreation Area, Robert W. Crown Memorial State Beach, Vargas Plateau Regional Park, Wildcat Canyon Regional Park ● Regional Trails: Alameda Creek Regional Trail, Niles Canyon Trail, SF Bay Trail
Sunol Valley	<ul style="list-style-type: none"> ● Parks: Pleasanton Ridge Regional Park, Sunol Wilderness Regional Preserve ● Regional Trails: none
Ygnacio Valley	<ul style="list-style-type: none"> ● Parks: Diablo Foothills Regional Park, Waterbird Regional Preserve ● Regional Trails: Briones to Mt. Diablo Trail, CA State Riding and Hiking Trail, Contra Costa Canal Trail, Iron Horse Trail, Ygnacio Canal Trail

4.10.3 Discussion

- a. *Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality? (**Less than Significant with Mitigation Incorporated**)*

In most cases, RMRP activities would benefit water quality. The repair or replacement of culverts, berm and bank stabilization, removal of in stream structures, and removal of sediment and debris would benefit water quality as these activities stabilize slopes, reduce sediment loading into creeks and other waterways, and remove pollutants from channels. In the long term, RMRP activities would improve water quality conditions at a given site.

Ground-disturbing activities, such as berm/bank repair, pond restoration, clear span bridge installation, and crossing and ford installation, culvert repair and replacement, could expose soils and increase the potential for soil erosion and transport of sediment downstream. During storm events, soil erosion could occur at an accelerated rate. However, implementation of mitigation measures Special-Status Plants-I and GEO-I through GEO-6, would reduce erosion through limiting areas where RMRP activities could be staged from, limiting areas of disturbance to the smallest area possible, performing work from the top of stream banks, implementing soil erosion BMPs, and limiting work around the rainy season. Additionally, the following BMPs, described in the Project Description, would be implemented, and would reduce soil erosion:

- BMP 1 – Minimization of Work Area
- BMP 7 – Heavy Equipment Locations
- BMP 8 – Work Window
- BMP 9 – Culvert Debris Removal
- BMP 11 – Equipment Restrictions
- BMP 15 – Equipment Parking

RMRP activities within stream channels and ponds could likewise result in short term water quality impacts through the disturbance of bed, banks, and berms, which may result in increased turbidity and migration of sediment to areas downstream. Work would generally occur during the dry season when stream channel is dry. If work is must be completed in wet channels, the work area will be dewatered by diverting water around the site to maintain downstream flow as described in **Chapter 2, Project Description**, reducing sediment loss during construction as water will not be present to move soil downstream. Additionally, the above mitigation measures and BMPs would be implemented where appropriate.

The accidental release of hazardous materials also have the potential to impact water quality. RMRP activities would be conducted by hand or small gas powered tools whenever possible, however, heavy equipment would be necessary for some activities. Fuels and lubricants such as oil and grease are used in excavation and transportation equipment and vehicles. Mitigation Measure HAZ-I, which requires the inspection of soil, sediment, and groundwater prior to ground-disturbing activities and ensures testing

should evidence of contamination be found, would reduce impact from existing contamination being released into surface of groundwater. Additionally, the RMRP would implement the following BMPs to reduce the risk of hazardous materials release into the environment:

- BMP 1 – Minimization of Work Area
- BMP 5 – Chemical Controls
- BMP 7 – Heavy Equipment Locations
- BMP 8 – Work Window
- BMP 9 – Culvert Debris Removal
- BMP 11 – Equipment Restrictions
- BMP 13 – Equipment Inspections
- BMP 14 – Equipment Maintenance and Fueling
- BMP 15 – Equipment Parking
- BMP 18 – Hazardous Materials Storage/Disposal

Implementation of the above BMPs and mitigation measures would reduce impact to **less than significant with mitigation incorporated**.

- b. *Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin? (No Impact)*

The RMRP does not include any activities that involve the use of groundwater. The RMRP would not install new wells or pumps or involve the maintenance or repair of existing wells and pumps. RMRP activities would not involve any actions that would deplete groundwater supplies or affect the groundwater or aquifer volume.

The RMRP would not substantially increase new impervious surfaces within Park District lands that would affect groundwater recharge. Further, RMRP activities may improve groundwater recharge functions by removing sediment and debris in streams and ponds and conducting habitat enhancement activities. Overall, **no impacts** related to groundwater supply or groundwater recharge would occur.

c. *Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:*

i. *Result in substantial erosion or siltation on- or off-site; (**Less than Significant with Mitigation Incorporated**)*

The RMRP would involve culvert clearing and drainage feature maintenance, bridge and crossing and ford installation, sediment and debris removal, and other activities that could affect existing drainage patterns. The RMRP would not substantially alter existing drainage patterns as a goal of the project is to maintain existing facilities to protect natural resources and water quality. Without conducting needed repairs and improvements, areas subject to active erosion or sediment accumulation would continue to be subject to such conditions.

Although ground-disturbing activities could increase the potential for erosion and siltation, Program activities such as bank/berm repair, culvert repair and maintenance, crossing and ford installation, and other activities have the potential to create new temporary sources of erosion and siltation. As discussed in question a, the RMRP would implement BMPs and mitigation measures to reduce erosion. Implementation of mitigation measures Special-Status Plants-I and GEO-I through GEO-6 and adherence to BMPs 1, 5, 7, 8, 9, 11, 13, 14, 15, and 18 would reduce impact to **less than significant with mitigation incorporated**.

ii, iii *Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite? Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff (**Less than Significant**)*

As discussed above, the RMRP would not substantially increase impervious surfaces throughout the Park District. New structures such as crossings and fords, and clear span bridges, would install a small amount of new impervious surface. However, the increase would be minimal in relation to the majority of open space and undeveloped lands in the Park District. Thus, minor increases in surface runoff resulting from hardened surfaces would not be substantial. Most Park District parks are not serviced by municipal storm drainage systems and runoff would continue to infiltrate into the ground and drain to creeks and drainages in a similar was as the existing conditions. Thus, RMRP activities would not create runoff that would result in flooding, exceed the capacity of existing stormwater drainage systems, or provide substantial additional sources of polluted runoff. Impacts would be **less than significant**, and no mitigation is required.

iv. *Impede or redirect flood flows? (**No Impact**)*

The RMRP would not involve the construction of new structures that would impede or redirect flood flows. RMRP activities would improve water flow through Park District lands by providing sediment removal, maintenance and repair or replacement of culverts, and bank and berm repair. Therefore, implementation would result in **no impacts** related to placing structures that would impede or redirect flood flows.

- d. *In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation? **(Less than Significant)***

Portions of the RMRP area are located in flood hazard or tsunami zones. Every coastal park west of Martinez Regional Shoreline is located in a tsunami hazard zone, and many of the coastal parks are located in flood hazard zones as designated by the Federal Emergency Management Agency (FEMA). Low lying areas of parks along major rivers and streams are also located in flood hazard zones as designated by FEMA. In addition, flooding has the potential to occur along other river and streams that travel from the upper watershed areas down through Park District parks.

Implementation of RMRP activities would not cause seiches to occur due to the nature of the activities. Although flooding could occur along creeks and streams within the Park District, RMRP activities, including clearing clogged culverts, repairing, or replacing culverts, removal of sediment, and stabilization of berms and banks would reduce the potential for flooding to occur and would reduce the potential for pollutant release due to inundation. This impact would be **less than significant**, and no mitigation is required.

- e. *Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan? **(No Impact)***

The RMRP would not conflict with the RWQCB's Basin Water Quality Control Plan, or the California Sustainable Groundwater Management Act (SGMA). The RMRP would not conflict with the RWQCB's Basin Water Quality Control Plan, or SGMA. The RWQCB has developed a Basin Plan that designates beneficial uses for major surface waters and groundwater basins and establishes specific water quality objectives for those waters. Beneficial uses for many of the surface waters within and downstream of Park District lands are identified in the Basin Plan. A project could conflict with a Basin Plan by degrading water quality in a manner where water-quality objectives are not met or beneficial uses are impacted or not achieved. The RMRP would not degrade water quality in any way, and bank stabilization projects and culvert repair would likely improve water quality.

SGMA established a framework of priorities and requirements to facilitate sustainable groundwater management throughout the State. However, the proposed project does not involve the use of on or off-site groundwater, nor would it significantly impact or reduce groundwater recharge in any way. Therefore, **no impact** related to a water quality control plan or groundwater sustainability would occur.

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4.11 Land Use and Planning

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.11.1 Environmental Setting

The RMRP area consist of approximately 125,000 acres in Alameda and Contra Costa Counties. Land uses within Park District parks predominantly consist of natural open space and recreation. Agricultural uses (grazing), and rural residential uses also occur in some Parks. The RMRP area is located in 31 cities (Alameda (City of), Albany, Antioch, Berkeley, Brentwood, Clayton, Concord, Danville, Dublin, El Cerrito Emeryville, Fremont, Hayward, Hercules, Lafayette, Livermore, Martinez, Moraga, Oakland, Oakley, Orinda, Pinole, Pittsburg, Pleasant Hill, Pleasanton, Richmond, San Leandro, San Pablo, San Ramon, Union City, and Walnut Creek) as well as unincorporated areas in both Alameda and Contra Costa Counties.

4.11.2 Discussion

a. *Would the project physically divide an established community? (Less than Significant)*

Implementation of the RMRP would not involve any new development that could physically divide a community. The RMRP involves routine maintenance activities, the majority of which occur on existing infrastructure. RMRP activities that involve new construction such as installation of crossings and fords, installation of clear span bridges, and habitat enhancement projects, all would happen within parks or along regional trails and would not create a division of any kind. These activities would not change the overall natural landscape or uses of Park District lands. Although some RMRP activities along roadways and trails could cause temporary disruptions to existing roadways or recreational trails, RMRP activities would be short in duration and would not install any permanent structures. As such, the RMRP would not permanently affect access to surrounding land uses or create any new permanent physical barriers between established communities. Thus, this impact would be **less than significant**, and no mitigation is required.

b. *Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect? (No Impact)*

The Park District currently conducts RMRP activities under an RMA with CDFW, and all of the RMRP activates already occur on Park District lands. Most RMRP activities involve the maintenance, repair, or replacement of existing facilities and would not conflict with any land use plan, policy, or regulation. RMRP activities that involve new construction are small activities designed to enhance existing uses, such

as improving access (installations of crossings and fords, installation of clear span bridges). RMRP activities would not result in new development or alter land from its present use. All RMRP activities would comply with Park District and local land use regulations and policies. The RMRP would not conflict with any land use plans or policies and the RMRP would have **no impact**.

4.12 Mineral Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.12.1 Environmental Setting

The proposed RMRP will take place throughout Alameda and Contra Costa County on lands owned or leased by the Park District. Alameda County is located within the Coast Ranges and is characterized by a system of northwest-trending mountain ranges and valleys made up of Mesozoic and Conozoic rocks (Alameda County 1994). The various mineral resources in Alameda County that have historically been extracted include asbestos, bromine, chromite, coal, copper, gold, lead, lime, magnesite, magnesium's compounds, manganese, potash (potassium salts), pyrite, silica (specialty sand), silver, soapstone, and travertine (Alameda County 1994). Contra Costa County is characterized by historical extraction of crushed rock, sand, and its primary mineral resources areas are clay, diabase, and domengine sandstone. (Contra Costa County 2005). Both Alameda and Contra Costa County are located within the South San Francisco Bay Production-Consumption Region as identified by the California Department of Conversation under the Surface Mining and Reclamation Act. This identifies presence or absence of significant construction-grade aggregate in the defined region (CDOC 1996).

4.12.2 Discussion

- a. *Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? (No Impact)*

The proposed RMRP activities include small-scale facility improvements, and restoration and enhancement activities. Although RMRP activities may occur in proximity to active resource recovery sites or aggregate construction sites, the RMRP would not involve activities that could directly affect the availability of a mineral resource. In addition, the proposed RMRP would not alter land uses, access, or subsurface areas that could impact mineral resources. Therefore, **no impact** would occur.

- b. *Would the project result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? (No Impact)*

The proposed RMRP would not result in the loss of availability of any known mineral resource of value to the region nor result in the loss of an active mineral resource recovery site as delineated or identified in a local general plan, specific plan, or other land use plan. As a result, **no impact** would occur.

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4.13 Noise

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project result in:				
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.13.1 Environmental Setting

In the CEQA context, noise can be defined as unwanted sound. Sound is characterized by various parameters, such as oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). The decibel (dB) scale is used to quantify sound intensity. Because sound pressure can vary enormously within the range of human hearing, a logarithmic scale is used to keep sound intensity numbers at a convenient and manageable level. The human ear is not equally sensitive to all frequencies in the spectrum, so noise measurements are weighted more heavily for frequencies to which humans are sensitive, creating the A-weighted decibel (dBA) scale. For example, a jet flyover at 1,000 feet may have a dBA level of 110, and a quiet rural area at nighttime may have a dBA level of 20 (Caltrans 2013). A dB is a unit of measurement that indicates the relative intensity of a sound. Sound levels in dB are calculated on a logarithmic basis. An increase of 10 dB represents a 10-fold increase in acoustic energy, 20 dB is 100 times more intense, and 30 dB is 1,000 times more intense. Each 10 dB increase in sound level is perceived as approximately a doubling of loudness; and similarly, each 10 dB decrease in sound level is perceived as half as loud. Sound intensity is normally measured through the A-weighted sound level (dBA). This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. The A-weighted sound level is the basis for 24-hour sound measurements that better represent human sensitivity to sound at night.

As noise spreads from a source, it loses energy so that the farther away the noise receiver is from the noise source, the lower the perceived noise level would be. Geometric spreading causes the sound level to attenuate or be reduced, resulting in a 6 dB reduction in the noise level for each doubling of distance from a single point source of noise to the noise sensitive receptor of concern.

There are many ways to rate noise for various time periods, but an appropriate rating of ambient noise affecting humans also accounts for the annoying effects of sound. Equivalent continuous sound level (L_{eq}) is the total sound energy of time varying noise over a sample period. However, the predominant rating

scales for human communities in the State of California are the L_{eq} , the community noise equivalent level (CNEL), and the day-night average level (L_{dn}) based on dBA. CNEL is the time varying noise over a 24-hour period, with a 5 dBA weighting factor applied to the hourly L_{eq} for noises occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours) and 10 dBA weighting factor applied to noise occurring from 10:00 p.m. to 7:00 a.m. (defined as sleeping hours). L_{dn} is similar to the CNEL scale, but without the adjustment for events occurring during the evening relaxation hours. CNEL and L_{dn} are within 1 dBA of each other and are normally exchangeable. The noise adjustments are added to the noise events occurring during the more sensitive hours. **Table 4.13.1** shows typical noise levels.

Table 4.13.1 Typical Noise Levels

Common Outdoor Activities	Noise Level (dBA)
Jet flyover at 1,000 feet	110
Gas lawnmower at 3 feet	100
Diesel truck at 50 feet at 50 mph	90
Noisy urban area, daytime	80
Gas lawnmower, 100 feet	70
Heavy traffic at 300 feet	60
Quiet urban – daytime	50
Quiet urban – nighttime	40
Quiet suburban – nighttime	30
Quiet rural – nighttime	20

Note:

dBA = A-weighted decibels

A project would have a significant noise effect if it would substantially increase the ambient noise levels for adjoining areas or conflict with adopted environmental plans and goals of applicable regulatory agencies, including, as appropriate, the counties of Alameda and Contra Costa, or any local jurisdiction that the RMRP activity may be implemented in. The County of Alameda also addresses noise in the noise ordinances of the County Code of Ordinances (Alameda County 2014a). Section 6.60.040 restricts the loading, unloading, or handling of containers, building materials, or similar objects between the hours of 9:00 p.m. and 6:00 a.m. in such a manner as to cause a noise disturbance across a residential real property line. Section 6.60.070 provides an exemption for noise producing construction activities provided said activities do not take place before 7:00 a.m. or after 7:00 p.m. on any day except Saturday or Sunday, or before 8:00 a.m. or after 5:00 p.m. on Saturday or Sunday. Section 6.60.050 prohibits the operating of any device that creates a vibration which is above the vibration perception threshold of an individual at or beyond the property boundary of the source if on private property or at 150 feet from the source if on a public space or public right-of-way

Contra Costa County does not have a noise ordinance. The General Plan provides guidance for noise limits at specific types of land uses to promote the County’s goals for control of environmental noise. The General Plan includes the following goals and policies associated with noise and vibration:

- Goal II-A: To improve the overall environment in the County by reducing annoying and physically harmful levels of noise for existing and future residents and for all land uses.
- Goal II-B: To maintain appropriate noise conditions in all areas of the County.
- Goal II-C: To ensure that new developments will be constructed so as to limit the effects of exterior noise on the residents.
- Goal II-D: To recognize the economic impacts of noise control and encourage an equitable distribution of these costs.
- Goal II-E: To recognize citizen concerns regarding excessive noise levels, and to use measures through which the concerns can be identified and mitigated.
- Policy II-2: The standard for outdoor noise levels in residential areas is a L_{dn} of 60 dB. However, a L_{dn} of 60 dB or less may not be achievable in all residential areas due to economic or aesthetic constraints. One example is small balconies associated with multi-family housing. In this case, second and third story balconies may be difficult to control to the goal. A common outdoor use area that meets the goal can be provided as an alternative.
- Policy II-3: If the primary noise source is train pass-bys, then the standard for outdoor noise levels in residential areas is a L_{dn} of 70 dB. A higher L_{dn} is allowable since the L_{dn} is controlled by a relatively few number of train pass-bys that are disruptive outdoors only for short periods. Even though the L_{dn} may be high, during the majority of the time the noise level will be acceptable.
- Policy II-4: Title 24, Part 2, of the California Code of Regulations requires that new multiple family housing projects, hotels, and motels exposed to a L_{dn} of 60 dB or greater have a detailed acoustical analysis describing how the project will provide an interior L_{dn} of 45 dB or less. The County also shall require new single-family housing projects to provide for an interior L_{dn} of 45 dB or less.
- Policy II-5: In developing residential areas exposed to a L_{dn} in excess of 65 dB due to single events such as train operation, indoor noise levels due to these single events shall not exceed a maximum A-weighted noise level of 50 dB in bedrooms and 55 dB in other habitable rooms. Single event indoor residential noise levels from airport related causes will be 45 dB CNEL.
- Policy II-6: If an area is currently below the maximum "normally acceptable" noise level, an increase in noise up to the maximum should not be allowed necessarily.
- Policy II-7: Public projects shall be designed and constructed to minimize long-term noise impacts on existing residents.
- Policy II-8: Construction activities shall be concentrated during the hours of the day that are not noise-sensitive for adjacent land uses and should be commissioned to occur during normal work hours of the day to provide relative quiet during the more sensitive evening and early morning periods. Noise compatibility standards in the General Plan Noise Element indicate that new construction of residential use with community noise exposure at levels of up to 70 L_{dn} is acceptable on the condition that noise reduction requirements have been analyzed, and that

noise insulation features or fresh air supply systems are included in the building design. Community noise exposure at levels of 70 L_{dn} or higher is considered “normally unacceptable” for new residential construction. A community noise exposure of 75 L_{dn} or higher is considered “clearly unacceptable. (Contra Costa County 2000)

Sensitive receptors in the Park District may include residences, schools, daycare centers, nursing homes, places of worship, medical facilities, and facilities with vibration-sensitive equipment. As the proposed RMRP will be carried out throughout the Park District and there is uncertainty around the timing and location of activities, a detailed noise analysis is not feasible. Noise conditions in the proposed RMRP would vary based on local land uses and location of projects as part of the proposed RMRP. A significant amount of Park District properties and facilities are located in rural area and open space. However, there are also parks located in urban area and adjacent to airports. Major sources of noise within the Park District include highways, airports, and industrial land uses. Bay Area Rapid Transit (BART) and Capitol Corridor also operate within the proposed project and there are airports are located adjacent to Park District lands, including the Oakland International Airport.

4.13.2 Discussion

- a. *Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? (Less Than Significant with Mitigation Incorporated)*

The proposed RMRP would result in intermittent and temporary increases in ambient noise levels during operation of equipment and use of vehicles and trucks associated with routine maintenance activities. Noise from this operation could affect sensitive receptors located near active work areas. The proposed RMRP area includes the jurisdictions such as the counties of Alameda and Contra Costa, and numerous local jurisdictions with specific noise regulations and standards.

Short-term noise impacts would occur during grading and site preparation activities. **Table 4.13.2** lists typical construction equipment noise levels recommended for noise impact assessments, based on a distance of 50 feet between the equipment and a noise receptor, obtained from the Federal Highway Administration Roadway Construction Noise Model (FHWA 2006). Construction-related short-term noise levels could be higher than existing ambient noise levels currently in the project area but would no longer occur once construction of the project is completed.

Table 4.13.2 Typical Noise Levels from Construction Equipment

Equipment Type	L,dBA
Dump Truck	84
Backhoe	80
Excavator	85
Soil Compacter	80
Crane	85
Chainsaw	85

Note:

dBA = A-weighted decibels

Two types of short-term noise impacts could generally occur during the proposed project activities. The first type involves maintenance crew commutes and the transport of maintenance equipment and materials to the site, which would incrementally increase noise levels on roads leading to the site. The second type of short-term noise impact is related to noise generated during routine maintenance activities on the project site. The noise levels could vary as project activity progresses. Mitigation Measure NOI-I would reduce potential construction-period noise impacts for sensitive receptors to less-than-significant levels. Further, all project activities would incorporate and comply with the City's or appropriate jurisdiction's suggested best practices and requirements for control of construction noise.

Mitigation Measure NOI-I

The project contractor or maintenance staff shall implement the following measures during construction of the proposed project:

- The operation of heavy construction equipment will be limited to occur between the hours of 7:00 a.m. and 5:00 p.m., Monday through Friday and comply with applicable local noise requirements.
- RMRP activities in residential areas will not occur on Saturdays, Sundays, or any holidays except during emergencies, or with advance notification of surrounding residents. Powered equipment (vehicles, heavy equipment, and hand equipment such as chainsaws) will be equipped with adequate mufflers maintained in good condition. Best available noise control techniques (e.g., mufflers, intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds) will be used for all equipment and trucks, as necessary.
- Staging areas will be located as far as possible from noise sensitive receptors during maintenance work.
- At work sites where heavy equipment will be used within 40 feet of sensitive receptors for longer than 5 days within the RMRP area, residents/sensitive receptors will be notified at least one week prior to performing maintenance work.

Implementation of Mitigation Measure NOI-I would limit project activity hours and require the project contractor or maintenance staff to implement noise-reducing measures during construction, which would reduce short-term construction noise impacts to a **less than significant level with mitigation incorporated**.

Operational Noise Impacts. Implementation of the proposed project is not expected to add significant trips to the surrounding roadways, as the project is intermittent and ongoing routine maintenance activities. Therefore, the project would not result in a significant increase in the generation of traffic or other noise sources that would result in a perceptible increase in noise levels at receptors in the project vicinity. Noise level would be similar to existing conditions and would not generate noise levels that would exceed the applicable standards. Therefore, the proposed project would not result in exposure

of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance. This impact would be **less than significant**.

- b. *Would the project result in generation of excessive groundborne vibration or groundborne noise levels? (Less Than Significant)*

Common sources of ground borne vibration and noise include trains and construction activities such as blasting, pile driving, and operating heavy earthmoving equipment. Construction of the proposed project would involve limited ground disturbance, site preparation and construction activities but would not involve the use of construction equipment that would result in substantial ground-borne vibration or ground-borne noise on properties adjacent to the project sites. Maintenance activities would be limited to weekday, daytime hours, resulting in minimal disturbance to nearby residents. Furthermore, operation of the proposed project would not generate substantial ground-borne noise and vibration. Therefore, the project would not result in the exposure of persons to or generation of excessive ground-borne noise and vibration impacts are considered **less than significant**.

- c. *For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? (Less Than Significant)*

The proposed project activities do not yet have a determined geographic location. However, there are Park District facilities within 2 miles of a public or public use airport. Airports in the Park District jurisdiction area include Oakland International Airport, Livermore Municipal Airport, Buchanan Field Airport, Byron Airport, and Hayward Executive Airport, Aircraft noise is occasionally audible at Park District facilities; however, the proposed RMRP activity locations are not yet determined and any project activities would comply with Airport Influence Areas as appropriate. Additionally, the proposed project would not result in the introduction of a new noise-sensitive land use. Construction workers at the site may be temporarily exposed to aircraft noise during routine maintenance activity implementation; however, this exposure would be intermittent and temporary. Consequently, the proposed project would have a less-than significant impact regarding exposure of people residing or working to excessive noise levels from a public airport or private airstrips. The impact is **less than significant**.

4.14 Population and Housing

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.14.1 Environmental Setting

The RMRP area consists of approximately 122,890 acres of Park District facilities in Contra Costa and Alameda County. The proposed RMRP area are largely public recreational facilities, including protected 74 regional parks including, recreation areas, wilderness lands, shorelines, preserves, and land bank areas, as well as distinct regional trail segments. Park District facilities serve approximately 34 cities and numerous unincorporated areas in two counties that have a combined population of over 2.8 million residents. More than 90 percent of land uses within the Park District lands are natural open space, recreation, and agriculture. Throughout the Park District, there are residential residences located within Park District facilities as well as areas of residential development adjacent to Park District facilities.

4.14.2 Discussion

- a. *Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? (Less Than Significant)*

The proposed RMRP would not involve the construction of new housing or introduce new land uses associated with population increase (such as industrial or commercial centers) that would directly induce population growth. The proposed RMRP would involve routine maintenance activities related to maintenance and minor improvements to Park District facilities, such as roads, trails, bridges, and culverts to support public access and maintain habitat areas. These recreational improvements are generally small-scale and would not draw new residents to the proposed RMRP area and would not be considered an increase in work therefore it is not expected to increase Park District employees or contract workers in the region. Overall, any increase in employment opportunities as a result of the RMRP is expected to be minimal, seasonal, or require already employed Park District employees. The average number of workers for each project type under the proposed RMRP is estimated to be between three and six personnel. Any additional worker required would be sourced from a locally available work force in the regional. Thus, impacts associated with inducing population growth either directly or indirectly would be **less than significant**. No mitigation is required.

- b. *Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere? (No Impact)*

The proposed Project would not involve the construction of new housing or introduce new land uses that would cause displacement. RMRP activities would occur on Park District facilities and largely confined to existing and specific sites, such as parks, creeks, roads, trails, and other associated recreational facilities. Although there are residences located on Park District property and nearby Park District facilities that may require maintenance or improvement, the proposed RMRP activities are considered to be routine maintenance and would not remove any housing and no residents would be displaced by RMRP activities. Thus, there are **no impacts** related to housing and no displacement of existing people would occur.

4.15 Public Services

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i. Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii. Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii. Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv. Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
v. Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.15.1 Environmental Setting

The Park District works closely with state, regional, and local agencies to ensure that the provision of public services across Park District is sufficient and comprehensive. Park District Police officers, firefighters, and rangers support partner agency police departments, emergency service providers, and fire protection agencies. Park District rangers and the Park District Police Department are tasked with visitor contact and patrolling Park District facilities to enforce federal, state, and local laws and Park District regulations. The Park District’s Public Safety division comprises three departments – Police, Fire, and Lifeguard. They provide services in law enforcement, fire-fighting and suppression, and water safety. The Public Safety Division is also responsible for fire, police, and emergency services for Park District facilities. During the peak summer season, the Public Safety Division is staffed with approximately 500 personnel including 40 industrial firefighters, 71 sworn police officers providing law enforcement through policing contracts, as well as approximately 200 members in the Volunteer Trail Safety Patrol (Park District 2021).. Emergency services including fire suppression, search and rescue, and pre-hospital emergency medical care are provided by the Park District’s Fire Department. The Park District’s Police Department provides law enforcement services 24 hours per day (Park District 2021).

4.15.2 Discussion

a. *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:*

i. *Fire protection? (**Less Than Significant**)*

The proposed RMRP activities would not result in a substantial increase in usage of Park District facilities, and would not include new housing units or other structures outside of those required for routine maintenance activities. Therefore, the demand for fire protection services would not substantially increase with implementation of the proposed RMRP activities. Therefore, the proposed project would result in a **less than significant** impact on fire services and would not result in the need for additional or altered fire protection services.

ii. *Police protection? (**Less Than Significant**)*

The proposed RMRP activities would not result in a substantial increase significant increase in calls for police services and would not generate the need for additional officers or equipment. Therefore, the proposed project would result in a **less than significant impact** on police services in the area and would not result in the need for additional or altered police protection facilities.

iii. *Schools? (**No Impact**)*

The proposed RMRP activities would not include the construction of housing or employment-generating facilities. Therefore, it would not increase demand for school services, and the proposed project would have **no impact** on schools.

iv. *Parks? (**Less Than Significant**)*

The proposed RMRP activities would not significantly increase the usage of Park District facilities, nor would it increase the demand for new park facilities within the Park District's jurisdiction. Please refer to **Section 3.16, Recreation**, for a description of the proposed project's impact on surrounding parks and open space areas. Therefore, this impact would be **less than significant**.

v. *Other public facilities? (**No Impact**)*

Other public facilities would include facilities such as libraries, post offices, meeting rooms, or hospitals. The proposed RMRP activities would not result in an increase in population or facilities that would require other public facilities, or result in the need for physically altered facilities. Therefore, the proposed project would have **no impact** on other public facilities.

4.16 Recreation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.16.1 Environmental Setting

Recreation is one of the primary uses of many Park District facilities that have public access facilities or are designed for public use. Regional parks located near population centers or urban areas are designed and planned to accommodate higher levels of public access and provide managed access to natural and undeveloped parklands, providing visitors the opportunities to enjoy a wide variety of recreational activities, facilities, services, and programs. These recreational opportunities include hiking, biking, horseback riding, bird watching, and picnicking. In addition, many other open space lands and trails maintained by various agencies or co-managed by the Park District and partner agencies also provide access to recreational opportunities.

4.16.2 Discussion

- a. *Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? (Less Than Significant)*

As described in **Section 3.14, Population and Housing** the proposed RMRP would not induce population growth in the region. The proposed RMRP would include routine maintenance and restoration activities within various waterbodies and adjacent upland habitats. These activities are designed to maintain existing facilities and structures and improve habitat, water quality and climate resiliency. Some RMRP activities, particularly those involving trails and roads, would require temporary closure of those facilities such as trails, picnic areas, or parking areas in order to access the site or use as staging areas. Although temporary closures could briefly increase use of nearby recreational facilities, the proposed RMRP would not permanently increase the demand of other recreational facilities such that any substantial deterioration would be expected to occur. Therefore, this impact would be **less than significant**.

- b. *Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? (Less Than Significant)*

The proposed RMRP would involve the routine maintenance of recreational facilities, such as trails and roads, and the minor construction of new small-scale facility improvements including new culverts and facility replacements, and new interpretative facilities and signage. No new large-scale recreational facility

projects would be conducted under the RMRP. **Table 2-1** illustrated the maximum size and average size of proposed RMRP activities. Although recreational users of trails, picnic areas, and other facilities may experience temporary disruptions during the implementation of proposed RMRP activities, alternative recreational opportunities would continue to be available in proposed RMRP area. Furthermore, implementation of the proposed RMRP would primarily focus on the repairing and replacing failed infrastructure and restoring degraded habitats and ultimately improve Park District facilities. Thus, impacts would be **less than significant**.

4.17 Transportation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Conflict or be inconsistent with CEQA Guidelines §15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Result in inadequate emergency access?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4.17.1 Environmental Setting

The RMRP area includes numerous roads and transportation systems ranging from freeways and arterials to local collector streets and rural roads. The primary highways in the RMRP area are Interstates 80, 580, 980, 680, and 238, and SRs 4, 24, 123, 84, and 242 (Contra Costa County 2005). AC Transit serves portions of Western Contra Costa County and Alameda County. The northwest portion of the County is served by the Western Contra Costa Transit Authority. Central Contra Costa County is served by both fixed route and demand response buses operated by the Central Contra Costa Transit Authority, also called the County Connection (Contra Costa County 2005). Other transit agencies operating in the RMRP area are BART Livermore Amador Valley Transit Authority, Amtrak Capitol Corridor, Altamont Commuter Express (Alameda County Transportation Commission 2012). The two congestion management authorities in the RMRP area are the Contra Costa Transportation Authority and the Alameda County Transportation Commission.

4.17.2 Discussion

- a. *Would the project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities? (**Less than Significant with Mitigation Incorporated**)*

Proposed RMRP activities would generate temporary worker and RMRP related vehicles trips could require temporary lane closures if RMRP activities are located adjacent to a public roadway. This may include culvert repair or replacement and vegetation removal. RMRP activities could also require re-routing or temporary closure of trails and pedestrian facilities located within Park District lands. As described in **Chapter 2, Project Description**, RMRP activities would typically involve three to six personnel and most projects are completed in 3 days, with a minimum of half a day and a maximum of 11 days. However, larger habitat restoration projects may require a longer period to complete. The Park District conducts approximately 20 to 40 routine maintenance projects annually. The number of projects varies due to staff capacity, work delays (e.g., red flag days) and site accessibility. Most of these

activities are intermittent, routine, and the periodic trips generated under the proposed RMRP would be similar to past levels of work for similar activities. During the peak work season, the work crew at any one project site may consist of up to six workers; however, projects would typically have crew sizes of three to five workers. Additionally, it is possible that several projects would overlap in duration during the peak work season. Although it is unknown how many projects would occur in a typical day, if 10 crews were employed simultaneously, up to 60 workers would be driving to and from project sites. Even if each worker drove independently to the work site, these vehicle trips would have a negligible impact on the local circulation system given the size of the RMRP area and the diffuse locations of the Park District facilities and possible project site, and would not substantially affect any other transportation performance metric. Additionally, these trips would not affect bicycle routes on local roadways, trails or other pedestrian facilities on Park District lands. Further, the RMRP would not involve construction of any housing or new retail or commercial uses that would generate any new long-term vehicle trips.

Furthermore, RMRP activities (e.g., culvert repair/replacement, drainage feature maintenance, bridge maintenance, road maintenance, and brushing and mowing) may take place along, or in close proximity to, public roadways. Where insufficient widths for equipment, work and regular traffic occur, temporary closing or narrowing of lanes may be necessary and could create traffic hazards if adequate precautions are not taken, resulting in a significant impact. Implementation of Mitigation Measure TRANS-I would ensure that vehicle flow and emergency access is maintained during RMRP activities. Mitigation Measure TRANS-I would also ensure that appropriate agencies with jurisdiction are notified in advance of the closures as well as adjacent neighbors, unattended authorized work vehicles are not parked in such a way that blocks the road when there are no operators in attendance to move them, and traffic flaggers are present to safely maintain traffic flow. Mitigation Measure TRANS-I would also minimize impacts to neighbors who require driveway access, pedestrian and bicyclist traffic, and the limited public transit (e.g., occasional buses) that may travel through the RMRP area.

Mitigation Measure TRANS-I Emergency Responders and Access

The following measures shall be implemented to ensure emergency access is maintained:

1. At least one week prior to temporary lane or full closure of a public road, Park District staff shall contact the appropriate emergency response agency/agencies with jurisdiction (e.g., Caltrans, County, City) to ensure that each agency is notified of the closure and any temporary detours in advance. Park District staff shall also notify adjacent neighbors along the road in advance of temporary closure.
2. In the event of an emergency, roads (public roads, and Park District-owned or managed roads) or access trails blocked or obstructed by activities shall be cleared to allow emergency vehicles to pass.
3. During temporary lane or road closures on public roads, Park District shall use flaggers equipped with two-way radios. During an emergency, flaggers shall radio to the crew to cease operations and reopen the public road to emergency vehicles.

4. In work areas, all vehicles and equipment shall be parked so the road is not blocked or obstructed when there is no operator present to move the vehicle.

With implementation of Mitigation Measure TRANS-I, impacts on the local circulation system would be **less than significant with mitigation.**

- b. *Would the project conflict or be inconsistent with CEQA Guidelines §15064.3, subdivision (b)? (**Less Than Significant**)*

Although many of the proposed RMRP activities would occur at a similar level of frequency as current conditions, the proposed RMRP could generate increased vehicle trips from both workers and truck haul trips associated with conducting RMRP activities. However, because RMRP activities would occur at a similar level as current conditions, the proposed RMRP would not result in a substantial increase in VMT compared to existing conditions. Thus, the RMRP would not conflict with State CEQA Guidelines Section 15064.3 subdivision (b); impacts would be **less than significant.**

- c. *Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? (**Less than Significant with Mitigation Incorporated**)*

Proposed RMRP activities are limited to routine maintenance and repair activities, as well as habitat restoration. No permanent changes to roadways or intersections are proposed. Certain RMRP activities, such as culvert repair, may require temporary closure of one or more lanes of traffic and the operation of construction equipment at work sites could be incompatible with other vehicles on local roads. Implementation of Mitigation Measure TRANS-I would ensure that potential impacts from activities or work equipment on local roadways are minimized by requiring flaggers to safely guide travelers during RMRP activities, notifying local agencies with jurisdiction regarding planned lane closures, and ensuring that work vehicles are not parked in such a way that blocks the road when there are no operators in attendance to move them. With implementation of Mitigation Measure TRANS-I, this impact would be **less than significant with mitigation.**

- d. *Would the project result in inadequate emergency access? (**Less than Significant with Mitigation Incorporated**)*

Proposed RMRP activities would not include any activities that would permanently block or constrain publicly accessible roadways or emergency access routes. However, some RMRP activities may result in lane closures that would be required for short-term activity implementation and could temporarily limit the mobility of the emergency response vehicles or residents attempting to evacuate a given area. Implementation of Mitigation Measure TRANS-I would require that emergency responders are allowed through any work area or clearly designate alternate routes. Minimal delays, lasting a few minutes, would occur while crews reposition equipment and vehicles to ensure adequate room for emergency vehicles to pass. Mitigation Measure TRANS-I would also ensure that unattended authorized work vehicles are not parked in such a way that blocks the road when there are no operators in attendance to move them and that the fire district and emergency-response agencies have prior notification of temporary access road closures. With implementation of Mitigation Measure TRANS-I, impacts related to emergency access would be **less than significant with mitigation.**

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4.18 Tribal Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)? Or	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4.18.1 Setting

Indigenous people—who spoke languages now referred to as Bay Miwok, Delta Yokut, and Ohlone—managed, stewarded, and lived within the regions now known as Alameda and Contra Costa counties, including the lands (recreation areas, wilderness lands, shorelines, preserves, land bank areas, and trails) currently owned and operated by the Park District.

Prior to and at the time of European intrusion, the Indigenous landscape of what is now the Bay Area was intricate and nuanced; the Bay Miwok, Delta Yokut, and Ohlone languages are not distinct and cohesive language units. With the exception of the term “Yokut,” these language designations are Euro-American terms that were bestowed upon Indigenous peoples as a way to identify and categorize them by western standards. The local tribes did not need language group names because they did not experience life at the language scale (Milliken et al. 2009).

Each language group was composed of independent tribes that had tailored socio-cultural concepts unique to their territory and a dialect that reflected this. Some tribes may have had more similarities with neighboring tribes of a different linguistic group based upon a shared geographic and ecological environment than with other tribes within their own language family.

It is likely that the intricate nature of the pre-contact socio-political tribal landscape actually lends to the overall tendency to create a “misleading and overly simplistic view” of the complex mosaic and unique cultural variation that existed in the Indigenous region now known as the Bay Area (Milliken 1995:13). Detailed ethnographic information about Bay Miwok, Delta Yokut, and Ohlone speakers at the time of Euro-American contact is relatively sparse. The ethnographic information that does exist offers only Spanish and/or Euro-American perspective. For example, the names of tribes were first documented in writing by the Spanish and therefore likely do not accurately reflect the Indigenous perspective.

The following section provides a very brief ethnohistory for Ohlone/Costanoan, Bay Miwok, and Delta Yokut speakers; however, other works (e.g., Kroeber 1925; Levy 1978; Milliken 1995; Milliken et al. 2009; Ortiz 2014, 2015a, 2015b) provide more detail.

Ohlone/Costanoan

Two Euro-American terms—Costanoan and Ohlone—are commonly used to refer to the Indigenous peoples who inhabited the region from where the San Joaquin and Sacramento rivers empty into the San Francisco Bay west to the San Francisco peninsula and southwards to Point Sur (generally the East Bay, Peninsula, and South Bay, in today’s lexicon).

The term Costanoan, is derived from the Spanish term Costanos, which translates to “coast people.” The term Ohlone is derived from the anglicized version of a local tribe from the San Mateo County coast. The Spanish documented the tribe as the “Oljon” (Milliken et al. 2009). It is possible that “Oljon” arose from a single root term that signified a western area or westerly direction that was applied to them by their Sierra Miwok neighbors to the east (Milliken et al. 2009).

However, neither Costanoan nor Ohlone are terms that the native peoples would have used to refer to themselves, let alone recognized, at the time of Spanish contact. Milliken et al. (2009) notes that, “no conclusion satisfactory to all of the Indian descendants has been reached regarding the proper label” for the Costanoan family. Many government agencies (e.g., the National Park Service) use the label Ohlone/Costanoan (Milliken et al. 2009). Per Milliken et al. (2009), the term Costanoan will be used in reference to the language family and the label “Ohlone/Costanoan” will be used when referring to the descendants of speakers of the various Costanoan languages.

The Costanoan language comprises six different languages (Karkin, Awaswas, Mutsun, Rumsen, Chalon and Bay Costanoan), and the Bay Costanoan Ohlone language includes three different dialects (Chochenyo, Raymatush, and Tamyen).

Bay Miwok

Ethnographically, Bay Miwok speakers occupied the eastern portions of Contra Costa County, from Walnut Creek east to the Sacramento-San Joaquin Delta, including the northern slopes of Mount Diablo. They inhabited the interior valleys of the East Bay, but may also have had access to the Bayshore in the present East Oakland (Milliken 1995). The direct estimates of Bay Miwok populations are limited to Anza’s April 3, 1776 visit to a village near Antioch, where the population was estimated to be 400 persons. Based on this figure and the number of known villages from which later mission-affiliated Bay Miwok speakers hailed, the total population circa 1776 has been estimated to be at about 1,700 persons (Levy 1978). The Bay Miwok were the first of the Eastern Miwok to be affiliated with the mission

system. The first recorded converts, which occurred at Mission San Francisco in 1794, were recorded as being from the Saclan village in the Tice Valley. These first Bay Miwok baptisms occurred between 1805 and 1812 (Milliken 1995).

Delta (Far Northern Valley) Yokut

Delta Yokut (sometimes referred to as the Far Northern Valley Yokut) was spoken in the northern San Joaquin Valley by local tribes that moved to Mission San Jose and Mission Santa Clara between 1810 and 1826. The word Yokut is derived from a Yokut word that roughly translates to native “person” or “people” (Ortiz 2014). Delta Yokut is closely related to, but different than, the Northern Valley Yokut spoken by people from central San Joaquin Valley (Milliken et al. 2009).

The area currently known as the Stockton Delta region, through the Stanislaus River drainage of the San Joaquin Valley, is the ancestral homeland of 12 to 16 Delta Yokut speaking tribes (Leventhal 2015). These include the Cholvon, Coybos, Jalalon, Josmite, Nototome, and Tauquimne. The Luecha tribe is thought to have included both the Delta Yokut and Ohlone languages (Ortiz 2014).

Prior to the mission system, the only Delta and Northern Valley Yokut local tribes that intermarried with Ohlone-speaking tribes, were those along the long language boundary at the break of the Coast Ranges and San Joaquin Valley. Post-mission establishment, large numbers of Yokut speakers moved to Mission San Jose, Santa Clara, Santa Cruz, and San Juan Bautista in Ohlone-speaking territory. This resulted in new intermarriage patterns between Yokut and Ohlone speakers (Milliken et al. 2009).

Ethnohistory

The first recorded European intrusion into the lives of Indigenous people of what is now the greater Bay Area, occurred in 1542, when Juan Rodriguez Cabrillo anchored in Monterey. Numerous expeditions followed, by sea and land. These early encounters heralded a time of tremendous dislocation and upheaval in the lives of Indigenous people (Park District 2018). The entry of Spanish missionaries, soldiers, and later civilians introduced a tumultuous time, where extensive socio-cultural and environmental changes made it impossible for Indigenous people to continue their traditional, pre-contact way of life.

Mexico’s independence from Spain in 1821, began the process of secularization of mission lands and ushered in another era of change. Although Spanish missionaries had promised to one day return mission lands to local Indigenous people, only a tiny number of Ohlone/Costanoan, and no Bay Miwok or Delta Yokut, ever received any land. Instead, they became serf-like laborers on non-Indigenous owned ranchos, with most of the Indigenous labor actually being coerced through the use of force (Park District 2018; Madley 2014). Older boys and men worked as vaqueros and older girls and women worked as housekeepers, cooks, and childcare workers (Park District 2018). The Indigenous people endured another era of change when California became a state in 1850. Ohlone/Costanoan, Bay Miwok, and Delta Yokut peoples (along with other California Indigenous peoples) were subject to state laws that legalized the indenture and de facto slavery of Indigenous people, leading to their kidnapping, buying, and selling. These laws also made it illegal for Indigenous people to testify in court, serve on juries, and vote. In 1863, the passage of the Emancipation Proclamation began to dismantle these laws; by 1924 California Indians were granted citizenship (Park District 2018).

In 1928, three main Ohlone/Costanoan communities survived, those of Mission San Jose, Mission San Juan Bautista, and Mission Carmel. The 1930s through the 1950s were decades when discrimination against them and all California Indians continued to abound. Indigenous Californians responded to this in four main ways: 1) ignoring it, 2) by keeping a low profile, 3) passing as a member of another ethnic group, or 4) creating familial and community support networks (Milliken et al. 2009). The 1960s through the 1980s were transitional decades when local tribal groups began to influence public policy at the local and state level (Milliken et al. 2009). Since the 1970s, many Bay Area tribal groups have participated in intertribal pan-Indian events (gatherings, picnics, meetings, pow-wows) that have helped to foster renewed pride in their Indigenous heritage. Concerted efforts have also been made to continue to speak and revive native languages..

Today's Ohlone/Costanoan/Bay Miwok/Delta Yokut groups retain a strong and vital presence in the San Francisco Bay Area, actively participate in educating the greater Bay Area community about Indigenous California, protecting and preserving their ancestral heritage sites, continuing and revitalizing traditional cultural practices (e.g., basket making, language preservation programs, innovative foodway practices), and stewarding and managing their ancestral homeland. They maintain their identities through their programmatic efforts to reach their goals (e.g., language programs), through their group social gatherings and internal governmental meetings, or for some, through their efforts to have their interests recognized by local representatives of federal, state, or county governments, and special districts (Milliken et al. 2009).

4.18.2 Discussion

TCRs are defined as sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either included or determined to be eligible for inclusion in the California Register of Historical Resources (CRHR) or included in a local register of historical resources, or a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant. A cultural landscape that meets these criteria is a TCR to the extent that the landscape is geographically defined in terms of the size and scope of the landscape. Historical resources, unique archaeological resources, or non-unique archaeological resources may also be TCRs if they meet these criteria.

The Park District contacted the NAHC on September 3, 2021 to request the AB 52 Tribal Consultation list and for a search of the Sacred Lands File (SLF) for Alameda and Contra Costa counties. At the time of this submission, the Park District had not received any written requests from tribal groups to be informed of projects for which the Park District is the lead agency, pursuant to the provisions of AB 52. (The Park District has subsequently received a written request from one tribal group to be notified of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated.)

On October 14, 2021, Ms. Katy Sanchez, of the NAHC, responded with a letter stating that the SLF check was "positive." The NAHC also provided a list of California Native American tribes that are traditionally and culturally affiliated with the geographic area for Alameda and Contra Costa counties.

The Park District sent letters regarding the RMRP, via certified mail with return receipt and electronic mail (email), on October 19, 2021, to all groups and individuals identified on the NAHC list.

Table 4.18.1 summarizes correspondence efforts and AB 52 consultation requests and outcomes. All NAHC correspondence and government consultation documents are on file with the Park District.

Table 4.18.1 Park District and Tribal Correspondence for AB 52 Consultation.

County	Tribal Affiliation	Tribal Contact	Response
Alameda and Contra Costa	California Indian Water Commission	Randy Yonemura, Vice President	Requested consultation on 11/04/2021. Vice President Yonemura and the Park District met on December 15, 2021. Mr. Yonemura and the Park District discussed potential mitigation measures that resulted in language reflected in Mitigation Measures TCR-1 and TCR-2.
Alameda and Contra Costa	Him.re-n	Ruth Orta, Tribal Chair	Park District staff followed up with a voicemail on 11/09/2021. No response to AB 52 consultation request.
Alameda and Contra Costa	Wakaacekomne' Miwko'	Don Hankins	Park District staff followed up with a voicemail on 11/03/2021. No response to AB 52 consultation request.
Alameda and Contra Costa	Amah Mutsun Tribal Band of Mission San Juan Bautista	Irene Zwierlein, Chairperson	Did not request consultation under AB 52; however, did suggest training workers in cultural sensitivity. This suggestion is reflected in TCR-1.
Alameda and Contra Costa	North Valley Yokuts Tribe	Katherine Erolinda Perez, Chairperson	Did not request AB 52 consultation. Chairperson Perez provided suggested mitigation measures on behalf of Northern Valley Yokuts Tribe on 10/29/2021. These suggestions are reflected in Mitigation Measures TCR-1 and TCR-2.
Alameda	Costanoan Rumsen Carmel Tribe	Bob Burton, Chairman	Park District staff followed up with a voicemail on 11/03/2021. No response to AB 52 consultation request.
Alameda	Tamien Nation	Quirina Luna Geary, Chairperson	Did not request consultation under AB 52, deferring instead to the guidance of Mr. Andrew Galvan (The Ohlone Tribe) and Chairperson Corrina Goud (Confederated Villages of Lisjan).
Alameda and Contra Costa	Guidiville Indian Rancheria	Donald Duncan, Chairperson	Did not request consultation under AB 52; indicated they would be in touch if it pertains to them.
Alameda and Contra Costa	The Confederated Villages of Lisjan,	Corrina Gould, Chairperson	Requested consultation on 11/04/2021. The Park District met with the Confederated Villages of Lisjan on December 8, 2021 to review potential mitigation measures for the RMRP. The agreed upon mitigation measure language is reflected in Mitigation Measure TCR-1.
Alameda and Contra Costa	Indian Canyon Mutsun Band of Costanoan	Ann Marie Sayers, Chairperson	In response to follow-up phone call, indicated she was not the correct contact but would check to confirm that she received the email and would submit a

County	Tribal Affiliation	Tribal Contact	Response
			response. Chairperson Sayers did not follow-up with the Park District.
Alameda and Contra Costa	The Ohlone Indian Tribe	Andrew Galvan	Requested consultation on 11/03/2021. The Park District and Mr. Galvan engaged in AB 52 consultation via telephone on November 9, 2021. Mr. Galvan and the Park District developed mitigation measure language reflected in Mitigation Measure TCR-1.
Alameda and Contra Costa	Muwekma Ohlone Indian Tribe of the SF Bay Area	Charlene Nijmeh, Chairperson	AB 52 consultation requested by Vice Chairwoman Monica Arellano on behalf of Muwekma Ohlone Indian Tribe of the SF Bay Area. Vice Chairwoman Arellano and the Park District met on November 15, 2021, December 3, 2021 to discuss the RMRP. On December 3, 2021, Vice Chairwoman Arellano provided proposed mitigation measure language via email. The Park District revised the language and held a follow up meeting with the Vice Chairwoman Arellano on December 13, 2021; the revisions were accepted and are reflected in Mitigation Measure TCR-1.
Alameda and Contra Costa	Tule River Indian Tribe	Neil Peyron, Chairperson	Left a voicemail on 11/03/2021. No response to AB 52 consultation request.
Alameda and Contra Costa	Wilton Rancheria	Jesus G. Tarango Jr., Chairperson	Left a voicemail on 11/03/2021. No response to AB 52 consultation request.
Alameda and Contra Costa	Wuksache Indian Tribe/Eshom Valley Band	Kenneth Woodrow, Chairperson	Left a voicemail on 11/03/2021. No response to AB 52 consultation request.
Contra Costa	Nashville Enterprise Miwok-Maidu-Nishinam Tribe	Cosme A. Valdez, Chairperson	Left a voicemail on 11/03/2021. No response to AB 52 consultation request.
Contra Costa	Chicken Ranch Rancheria of Me-Wuk Indians	Lloyd Mathiesen, Chairperson	Left a voicemail on 11/03/2021. No response to AB 52 consultation request.

Notes:

AB = Assembly Bill
 Park District = East Bay Regional Park District
 RMRP = Routine Maintenance and Restoration Program

- a. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:*
- i. *Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)? **(Less than Significant with Mitigation Incorporated)***

No TCRs that are listed, or eligible for listing in the CRHR have been documented in the Park District. However, there is the potential that previously undocumented TCRs could be present within Park District lands, and potentially impacted by RMRP activities.

As discussed in **Chapter 2, Project Description**, specific RMRP activity locations, which consist of repairing and replacing failed infrastructure and restoring degraded habitats, are unknown until they are identified annually. However, in general, the habitat types that characterize routine maintenance projects, including streams and associated riparian habitats as well as seeps, springs, ponds, beaches, and tidal marshes, have the potential to be sensitive for TCRs.

With the implementation of Mitigation Measure TCR-1 and Mitigation Measure TCR-2, the potential to directly or indirectly cause a substantial adverse change in the significance of a TCR would be reduced to **less than significant with mitigation incorporated**.

Mitigation Measure TCR-1 Every year, when specific Routine Maintenance Projects are identified, Park District Cultural Staff will review the Project locations against the database of known resources to identify previously identified resources. Project location maps, descriptions, and whether or not any previously recorded sites are within the vicinity of the Project area (as well as any site records) will be provided to the tribes that requested this information during consultation. Within 45 days of receipt of this project-specific information, the tribes will notify the Park District's Cultural Services Coordinator, or their designee, of any concerns regarding specific RMRP activities and submit site visit requests. In Project locations that are sensitive for containing TCRs, as identified by a tribe who requests AB 52 consultation for the RMRP, the Park District may hire a Tribal Monitor to be present during Project implementation in that location. Any TCRs within/near the vicinity of the Project location will be subject to the procedures outlined in Public Resource Code 21084.3, which states that public agencies shall, when feasible, avoid damaging effects to any TCR.

Mitigation Measure TCR-2 Every year, prior to the start of construction of RMRP activities, the Park District shall retain a paid Tribal representative, who requested AB 52 consultation for the RMRP, to provide a Tribal Cultural Resources Awareness Training for all RMRP construction personnel. Furthermore, before work occurs in specific RMRP activity locations that have been identified as sensitive for either containing or being part

of a TCR, as defined under Mitigation Measure TCR-1, additional trainings may be provided by a paid Tribal representative.

- ii. *A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe. (**Less than Significant with Mitigation Incorporated**)*

Previously recorded historical resources and/or unique archaeological resources, which may also qualify as TCRs and/or have significance to California Native American tribes, are present on Park District lands. As discussed in **Section 4.5, Cultural Resources**, to the degree possible, RMRP activities will be reviewed and designed to avoid impacts to previously recorded and newly identified cultural resources that may qualify as historical resources and/or unique archaeological resources, pursuant to subdivision (c) of Public Resources Code Section 5024.1. If such impacts cannot be completely avoided, they will be mitigated to a less-than-significant level through implementation of Mitigation Measure CUL-1 and CUL-2. As there is the potential that these as-yet unidentified resources could qualify as TCRs or otherwise have significance to California Native American tribes, there is the potential for RMRP activities to result in substantial adverse change in the significance of one of these resources. However, if such resources are identified during RMRP implementation, they would be treated according to Mitigation Measure TCR-1 and CUL-1, as described in **Section 4.5, Cultural Resources**, which include provisions for Native American involvement and consideration of tribal concerns. In the event that Native American human remains are identified, they would be treated according to CUL-2, as described in **Section 4.5**.

With the implementation of Mitigation Measure TCR-1, CUL-1, and CUL-2, the potential to directly or indirectly cause a substantial adverse change in the significance of a historical resource or unique archaeological resource, that may also qualify as a TCR or otherwise have significance to California Native American tribes, would be reduced to **less than significant with mitigation incorporated**.

4.19 Utilities and Service Systems

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.19.1 Environmental Setting

Water for use in Park District facilities comes from commercial water supplies, springs, creeks, and groundwater. Wastewater is generated from public restrooms and public facilities in the Park District and is generally disposed by local service providers.

Solid waste disposal services are provided by local providers. These solid waste disposal sites in Contra Costa County that are active and permitted include the Acme Landfill (remaining capacity 506,590 cubic yards), Contra Costa TS and Recovery (daily capacity 1,900 tons per day), Keller Canyon Landfill (remaining capacity 63,408,410 cubic yards), and seven additional transfer stations located throughout the County. In Alameda County, solid waste disposal sites include the Altamont Landfill and Resource Recovery (remaining 65,400,000 cubic yards), Vasco Road Sanitary Landfill (remaining 7,379,000 cubic yards), and up to 12 waste transfer stations.

Pacific Gas and Electric Company (PG&E) constructs and maintains power lines and underground gas lines through the RMRP area. PG&E maintains these facilities through easements and generally retains the responsibility for vegetation clearance associated with PG&E infrastructure.

The Park District Water Management Department's objective is to enhance Park District natural resources and to comply with local, state and federal water quality standards intended to protect public health, safety, and the environment (Park District 2022). Park District facilities comply with RWQCB stormwater drainage regulations, and are not generally serviced by municipal storm drain facilities.

4.19.2 Discussion

- a. *Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects? (**Less than significant**)*

The proposed RMRP involves routine maintenance activities that will be implemented throughout Park District properties and may involve the repair and replacement of failed infrastructure and restoring degraded habitats. The proposed RMRP would not require or result in the construction of new water or wastewater treatment, electrical power, natural gas, or telecommunications facilities. However, existing infrastructure may be expanded from its original location for replacement of degraded infrastructure. However, any expansion of existing infrastructure would not result in significant environmental effects as discussed throughout this IS/MND. The proposed RMRP activities project would not include the construction of any new buildings or significant infrastructure. Therefore, the proposed RMRP would not require any new or relocated utility lines or connections, and there would be **less than significant** to existing utility infrastructure.

- b. *Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years? (**No Impact**)*

Construction of the proposed project may temporarily require small amounts of water for cleanup activities. Use of water would cease when construction or routine maintenance activities are complete. Sufficient water supplies are available to provide for the project's minimal water needs during the construction phase of the project. Water would not be required for long-term operation of the proposed RMRP as no potable or non-potable water facilities are proposed as part of the RMRP activities. The proposed project would not include any new structures or facilities that would generate water demand, and there would be **no impact** to existing or future water supplies.

- c. *Would the project result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? (**No Impact**)*

As noted above, the proposed project would not include the construction of any new facilities that would generate demand for wastewater services. Therefore, there would be **no impact** to wastewater treatment services.

- d. *Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals? (**Less than Significant Impact**)*

Proposed RMRP activities could generate a small amount of solid waste or organic material waste. Most of the waste generated by the routine maintenance activities would be organic materials such as cleared vegetation and dirt, as well as waste generated by Park District personnel. The generation of such solid waste would be temporary, and non-hazardous waste would be hauled to transfer stations throughout the RMRP area and comply with solid waste reduction goals and applicable federal, state, and local management and reduction statutes and regulations related to solid waste. Waste generated during

routine maintenance activities then be disposed of at landfills. In Contra Costa County landfills there is an estimated capacity of 63,915,000 cubic yards and in Alameda County landfills there is an estimated capacity of 71,779,000 cubic yards (CalRecycle 2021). These facilities have the capacity to handle the small amount of waste that would be generated by the implementation of routine maintenance activities.

Operation of the proposed project would not generate solid waste. The amount of construction waste would not be substantial and would not result in substantial reduction in the capacity of the landfill. Therefore, the proposed project would not affect landfill capacity and would comply with all statutes and regulations related to solid waste, and this impact would be **less than significant**.

Removed hazardous materials, such soils with hazardous levels of contaminants would be disposed of at an appropriate hazardous waste disposal facility, discussed in more detail in **Section 4.9, Hazards and Hazardous Materials**, of this IS/MND.

- e. *Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste? (**Less than Significant Impact**)*

Please refer to the response to question d., earlier in this section.

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4.20 Wildfire

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.20.1 Environmental Setting

The Office of the State Fire Marshal and CAL FIRE) administer state policies and regulations regarding wildland fire safety. Park District staff and contractors must comply with applicable requirements in the Public Resources Code when implementing RMRP activities. Additionally, Alameda and Contra Costa counties have established Hazard Mitigation Plans, which contain goals and policies to protect residents and structures from wildfires. The proposed RMRP area lies within a combination of State and local responsibility areas generally identified by CAL FIRE as Very High, High, and Moderate FHSZs and vary between local and state responsibility areas (CAL FIRE 2021). The Park District’s Wildfire Hazard Reduction and Resource Management Plan provides sound, long-term strategies for reducing fuel loads and managing vegetation within Park District lands to minimize the risk catastrophic wildfire along the wildland-urban interface while ensuring the protection and enhancement of ecological values and resources within Park District jurisdiction (Park District 2010).

4.20.2 Discussion

- a. *Would the project substantially impair an adopted emergency response plan or emergency evacuation plan? (Less than Significant With Mitigation)*

Proposed RMRP activities may include the operations of equipment on roadways could potentially interfere with traffic movement and impair evacuation procedures in the event of an emergency, such as a wildfire. Such activities include sediment and debris removal, culvert repair/replacement, vegetation management. This may require temporary lane closures and operation of heavy equipment on public

roadways could potentially impede movement of fire apparatus and vehicles, as well as residents attempting to flee a wildfire. Hindering evacuation and emergency response represents a potentially significant impact. Mitigation Measure TRANS-I requires the Park District to make provisions to allow emergency responders through any work area or clearly designate alternate routes. Minimal delays could occur while crews reposition equipment and vehicles to ensure adequate room for emergency vehicle passage. Mitigation Measure TRANS-I would ensure that unattended authorized work vehicles are not parked in such a way that blocks the road when there are no operators in attendance to move them and that the fire district and emergency response agencies have prior notification of temporary access road closures. With implementation of Mitigation Measure TRANS-I, impacts associated with the interference of an adopted emergency response plan or emergency evacuation plan would be **less than significant with mitigation**.

- b. *Would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire? (**Less than Significant**)*

Proposed RMRP activities does not involve construction of residential or commercial structures. Implementation of the Proposed RMRP activities would follow the Park District's BMPs to minimize fire danger in fire-prone wildlands (e.g., prohibiting work on red flag days, warning the public of fire danger on high fire days, establishing pump truck requirements). Specifically, during the dry summer months when fire danger is the highest, there is a potential for an accidental ignition of a wildland fire and the Park District would ensure that necessary precautions are taken to reduce such risks through BMP 19: Fire Prevention (described in **Chapter 2, Project Description and Appendix A**), which would reduce potential wildland fire impacts associated with those activities by requiring on-site fire suppression equipment, spark arrestors on all equipment with internal combustion engines, and restricting activities on high fire danger days and reducing the risk of wildfire.

With implementation of BMP GEN-19, adherence to State and local regulations, and compliance with Park District's Wildfire Hazard Reduction and Resource Management Plan, the proposed RMRP would neither exacerbate wildfire risks and expose RMRP occupants to pollutant concentrations from a wildfire, nor would it expose people or structures to significant risks, including downslope or downstream flooding or landslides. The proposed RMRP would reduce the risks and hazards associated with wildfire. Therefore, the proposed project would not exacerbate wildfire risks, and this impact would be **less than significant**.

- c. *Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment? (**Less than Significant**)*

Proposed RMRP activities would not include the construction of any buildings or significant infrastructure and therefore would not require fuel breaks, emergency water sources, power lines, or other utilities to be installed that may exacerbate fire risk or result in impacts to the environment. Proposed RMRP activities may include the use of a range equipment outlined in in **Table 2-2**, including mechanical tools such as excavators, backhoes, ten-wheel dump trucks, water trucks, and soil compactors, which could temporarily exacerbate fire risk and potentially cause a fire in adjacent wildland fuel areas. However, implementation of BMP 19: Fire Prevention would minimize potential impacts associated with activities involving the use of vehicles and heavy equipment by requiring on-site fire

suppression equipment, spark arrestors on all equipment with internal combustion engines, requiring a 10-foot distance between flammable materials and any equipment that could produce a spark, and requiring a 25-foot distance between portable tools powered by gasoline-fueled internal combustion engines and flammable materials. Additionally, BMP 19 also includes specific protocols for the use of mechanical equipment in high fire risk areas, including restricting operation to outside the fire season and monitoring weather conditions prior to any high-risk activity. Therefore, this impact would be **less than significant**.

- d. *Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes? (**Less than Significant**)*

Please refer to 4.20.2(b).

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4.21 Mandatory Findings of Significance

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4.21.1 Discussion

- a. *Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?*

The proposed Project does not have the potential to substantially degrade the quality of the environment, reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of major periods of California history or prehistory. As illustrated throughout this document and in the Project Description (**Chapter 2, Project Description**), the proposed Project would have generally beneficial ecological effects through habitat restoration. Any potentially adverse effects to wildlife during maintenance activities would be reduced to less-than-significant levels through implementation of avoidance and minimization measures (discussed in **Section 4.4, Biological Resources**), BMPs (discussed in **Chapter 2, Project Description**), and mitigation measures. Specifically, Mitigation Measures Special-Status Plants-1 through Special-Status Plants-3, AWS-1 through AWS-4, CRLF-1 through CRLF-4, CTS-1 through CTS-4, FYLF-1 through FYLF-4, SJKF-1 through SJKF-4, VPBR-1 through VPBR-5, GGS-1 and GGS-2, RAIL-1 and RAIL-2, LETE-1 and LETE-2, SNPL-1 and SNPL-2, SMHM-1 through SMHM-3, TRB-1, DS-1, FISH-1, PM-1 through PM-4, SFWR-1, BATS-1, and AB-1 would reduce all potentially significant impacts to less than significant. Furthermore, as discussed in **Section 4.5, Cultural Resources**, the proposed Project would not eliminate important examples of

major periods of California history or prehistory. Although the project does have the potential to impact cultural resources, Mitigation Measures CUL-1 and CUL-2 would reduce any impact to less than significant. Thus, the proposed Project's impacts would be **less than significant with mitigation incorporated**.

- b. *Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?*

Other ongoing projects and programs in the Park District jurisdiction area could result in cumulative impacts. However, given that the proposed Project would result in long-term beneficial effects, its contribution to any such effects would not be cumulatively considerable. Other maintenance projects with substantial temporal and spatial overlap with the proposed routine maintenance activities could result in cumulative impacts related to transportation and hazards due to the use of residential roadways by heavy equipment and maintenance workers. However, the proposed Project's contribution would not be cumulatively considerable, as mitigation discussed in **Section 4.17, Transportation**, would assure coordination with other ongoing maintenance projects and minimize potential impacts. Additionally, mitigation measures and BMPs discussed in **Section 4.9, Hazards and Hazardous Materials**, would prevent any impacts from the transportation of or release of hazardous materials from becoming cumulatively considerable. Thus, the proposed Project would not result in impacts that are individually limited but cumulatively considerable, and this impact would be **less than significant with mitigation incorporated**.

- c. *Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? (**Less than Significant with Mitigation Incorporated**)*

As discussed in the above resource sections, the RMRP would result in less than significant impacts for the following resource topics: Aesthetics, Agricultural and Forestry Resources, Land Use/Planning, Mineral Resources, Population/Housing, Public service, Recreation, and Utilities/Service Systems. BMPs, general avoidance measures, and mitigation measures pertaining to Air Quality, Biological Resources, Cultural Resources, Energy, Geology/Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology/Water Quality, Noise, Transportation, Tribal Cultural Resources, and Wildfire, would reduce RMRP related impacts to a less-than-significant level. Therefore, implementation of the already identified mitigation measures would ensure that the effects on human beings would be **less than significant with mitigation incorporated**.

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APPENDICES

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Appendix A: Temporary Fire Protection Measures

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SECTION 01 51 16

TEMPORARY FIRE PROTECTION

PART 1 – GENERAL

1.1 SUMMARY

- A. The General Conditions and the Supplementary Conditions shall apply to all of the work of every Section or Subsection of these specifications as if fully repeated in each.
 - 1. See General Conditions Article 26, FIRE HAZARDS AND PREVENTIONS and Article 43, EXTENSIONS, DELAYS, SUSPENSION OF WORK.
- B. Reference Laws and Regulations:
 - 1. California Public Resource Code Sections 4442 & 4443 spark arrester & muffler requirements; 4427 clearance & equipment requirements.
 - 2. California Health and Safety Code Sections 13001 Causing Fire; 13005 Use of Hydrocarbon Engine without Exhaust Spark Arrester; 13007 & 13009 liability.
- C. Summary of work: Provide all material, labor, and equipment necessary to complete all work as shown on the drawings and as specified herein, including, but not limited to, the following:
 - 1. Monitor fire weather conditions and implement fire protection safety measures.

1.2 PROJECT CONDITIONS

- A. The East Bay Regional Park District (EBRPD) restricts activities that can be performed in the Parks during the Fire Season based on the level of fire danger.
 - 1. EBRPD typically announces the start of the Fire Season in May of each year and usually does not end the season until November, depending on weather and fuel conditions.
 - 2. When working in or adjacent to grass, brush or forested areas, EBRPD requires the contractor to implement Extra Protection Fire Safety Measures
 - 3. The National Weather Service may issue Red Flag Warnings for hazardous weather conditions. EBRPD restricts the types of activities that can be performed during Red Flag events.
- B. Fire Season Requirements
 - 1. Emergency Notification: Contractors shall maintain at least one working cell phone, radio, or satellite phone capable of communicating in case of an emergency, such as medical or fire incident. Note that not all Parks have adequate cellular service. In an emergency, call 911 then notify the EBRPD Communications Center by calling 510-881-1833.

2. Forecast: Contractor shall check the National Weather Service forecast for potential Red Flag Warnings and other hazardous conditions.
3. Vehicle use: Contractor must remain on improved roads when driving between work sites. No cross country or off-road driving is permitted. All vehicles must be parked on paved or dirt improved areas near the work site to minimize igniting grass.
4. Spark Arresters: Spark arresters affixed to the exhaust system of engines or vehicles shall not be mounted in a manner as to allow flames or heat from exhaust system to ignite any flammable material.
5. Fueling Equipment: When fueling equipment, allow it to cool in an area where there is no flammable vegetation that can be ignited by the hot exhaust, preferably in a dirt or paved area.
6. Equipment Requirements mobile/on-site: Provide at least one serviceable round-point shovel with an overall length of not less than 46 inches and one five-gallon water fire extinguisher or backpack pump fully equipped and ready for use at the immediate area during the operation. Unless otherwise noted, The Contractor shall provide and maintain a fire pump with a minimum of 350 gallons of water and a 1-inch hose line in the immediate work area. The hose line must be a minimum of 50 feet in length with an adjustable combination nozzle that can provide a fog pattern and straight stream capability of 50 gallons per minute.
7. Fire Department monitoring: An EBRPD Fire Department representative may be on-site for initial start of work and may make periodic inspections. the East Bay Regional Park District Fire Department or other fire jurisdiction having authority may direct work to stop at any time.
8. No smoking is permitted within the East Bay Regional Parks.
9. Fire Equipment: Prepare and check all fire equipment for readiness.
10. Extra Protection Fire Safety Measures: No use of combustion powered equipment (e.g., mowers, weed eaters, chain saws, welders and generators), welding, cutting, earthwork, grinding, mowing, or other activity potentially creating a fire hazard, is allowed within or adjacent to grass, brush or forest covered areas unless the following Extra Protection Fire Safety Measures are implemented. Work may proceed without the Extra Fire Safety Measures only within noncombustible areas -- such as irrigated turf, paving or bare earth -- and a minimum distance of two (2) times the vegetation height or 20 feet, whichever is greater, away from grass, brush or forest covered areas.
 - a. Weather Sampling: Weather sampling shall be conducted at the work site utilizing a device, such as a Kestrel weather meter, capable of measuring Ambient Temperature, Wind Speed and Relative Humidity.
 - Prior to start of work: Conduct and record weather sampling prior to start of work.

- Additional weather samplings: Conduct and record readings every two (2) hours thereafter until completion of the operation, except as noted below.
- Temperature: If the ambient temperature reaches 80 degrees Fahrenheit at any time during the operation, conduct and record readings every one (1) hour thereafter until completion of the operation.
- In the event that the following readings are noted, any activity potentially creating a fire hazard **WILL CEASE IMMEDIATELY**:
 - When the ambient air temperature reaches 80 degrees Fahrenheit or above

and either

- The relative humidity is at or below 30 percent.

or

- Sustained wind speeds reach 10 mph or higher.

- Note that adjusting to an earlier scheduled work time may be necessary to avoid the worsening afternoon fire conditions.
- The Contractor shall record the Relative Humidity, Ambient Temperature and Wind Speed measurements into the FIRE SAFETY DAILY CONSTRUCTION LOG.

- b. Active fire monitoring during welding, cutting or grinding operations: Contractor is required to provide active fire monitoring, which minimally consists of a non-divertible fire pump with a minimum of 350 gallons of water and a 1-inch hose line in the immediate work area. The hose line must be a minimum of 50 feet in length with an adjustable combination nozzle that can provide a fog pattern and straight stream capability of 50 gallons per minute.
- c. Wetting area during cutting, grinding or welding: Contractor must adequately wet the work area with water utilizing a water truck or equivalent portable water source to eliminate potential fire ignition. Contractor must also monitor the area for drying conditions, apply additional water as necessary and monitor work area for any signs of fire ignition following WCGGM operations.
- d. Fire clearance during cutting, grinding or welding: Contractor must provide a minimum of 20 feet of fire clearance around each welding area with a fireproof barrier and/or clearing down to bare soil.
- e. Active fire watch during mowing or grading operations: Contractor shall provide active fire patrol following behind the mower or ground engaging equipment (grader, dozer, etc.), which minimally consists of a non-

divertible pickup truck equipped with a fire pump with a minimum of 350 gallons of water with a 1-inch hose line, staffed with at least one person in the pickup truck. The hose line must be a minimum of 100 feet in length with an adjustable combination nozzle that can provide a fog pattern and straight stream capability of 50 gallons per minute.

- f. FIRE SAFETY DAILY CONSTRUCTION LOG: Contractor shall fill out the Log on site each day and submit a copy of the Logs to the Park District weekly. A sample of the Log is attached at the end of this specification section, and an electronic copy will be provided to the Contractor at the preconstruction meeting.

C. National Weather Service Red Flag Warning

1. No construction activities shall occur anywhere in the East Bay Regional Park District during a red flag event anywhere in the East Bay as determined by the National Weather Service (NWS). The NWS typically announces a Fire Weather Watch at least 24 hours prior to a Red Flag Warning, and it is the Contractor's responsibility to monitor the NWS website <https://www.weather.gov>.
 - a. Extension of Time: Contractor may submit a written request for an extension of time due to unusual inclement conditions per Article 43 in the General Conditions. The Contractor will not be compensated for the inability to work on these days.

Appendix B: Ecoregions

For the purposes of this effort EBRPD lands were delineated into unique ecoregions for the purpose of evaluating special-status plant and animal occurrences. These unique ecoregions are crosswalked with the USDA Ecological Sections and Subsections below in **Table B-I**. These EBRPD ecoregions and USDA subsections are further described below.

Table B-I. Crosswalk Between EBRPD Ecoregions and USDA Sections and Subsections

EBRPD Ecoregions	USDA Sections ²	USDA Subsections ¹
Bay Shore	Central California Coast	Bay Flats
		East Bay Hills – Mount Diablo
		East Bay Terraces and Alluvium
Delta/San Joaquin Valley	Central California Coast	Suisun Hills and Valleys
	Central California Coast Ranges	Fremont – Livermore Hills and Valley
	Great Valley	Delta
		Westside Alluvial Fans and Terraces
East Bay Hills	Central California Coast	East Bay Hills – Mount Diablo
	Central California Coast Ranges	East Bay Terraces and Alluvium
		Fremont – Livermore Hills and Valleys
Mount Diablo Range	Central California Coast	East Bay Hills – Mount Diablo
	Central California Coast Ranges	Suisun Hills and Valleys
		Eastern Hills
		Fremont – Livermore Hills and Valleys
	Great Valley	Westside Alluvial Fans and Terraces
Mount Hamilton	Central California Coast	East Bay Hills – Mount Diablo
	Central California Coast Ranges	Fremont – Livermore Hills and Valleys
		Western Diablo Range

Regional Setting

Central California Coast

Bay Flats

The Bay Flats subsection is restricted to the immediate coastline and areas just inland on the San Francisco and San Pablo Bays, where it roughly overlaps with the bay-side edge of the Bay Shore ecoregion. EBRPD preserves located in the Bay Flats subsection are thus necessarily part of the Bay Shore ecoregion and are limited to the Hayward Regional Shoreline and the eastern part of Coyote Hills Regional Park.

The Bay Flats subsection is located on parts of the plain at the south end of San Francisco Bay that are less than 10 feet above mean sea level. The climate is hot and subhumid, and mean annual precipitation is about 12 to 15 inches, all of which is rain. High tides inundate most of the area. The deltas of Coyote

Creek, which drains the Santa Clara Valley, and Alameda Creek, which drains the Livermore – San Ramon Valley, are found in this subsection. This subsection consists of a nearly level delta and estuarine area that is entirely below 10 feet in elevation. It is mostly flooded by high tides, or it was before artificial barriers were built. The main geomorphic processes are coastal marine, and, on the inner edges of the subsection, fluvial (USDA 1997).

East Bay Hills – Mount Diablo

The East Bay Hills – Mount Diablo subsection contains parts of the East Bay Hills, Mount Diablo Range, Bay Shore, and Mount Hamilton ecoregions. A large portion of EBRPD preserves are located within the boundaries of this subsection, including Briones Regional Park, Reinhardt Regional Park, Wildcat Canyon Regional Park, Las Trampas Regional Wilderness, Pleasanton Ridge Regional Park, and Radke Martinez Regional Shoreline Park.

This subsection consists of Mount Diablo of the Mount Diablo Range and the steep hills located to the west of Mount Diablo between the Diablo Range and San Francisco Bay. It is bounded to the southwest by the Hayward Fault. The climate is hot and subhumid with a moderate marine influence in the East Bay Hills but this diminishes toward Mount Diablo. Annual precipitation averages 15 to 25 inches, practically all of which is rain, except for some snow on Mount Diablo and higher peaks. Water runoff is rapid from the hills, but slow from the alluvial plains in this subsection. Natural lakes are absent, and all but the larger streams are dry through the summer. This subsection is characterized by northwest trending hills with subequal summits, rounded ridges, steep sides, and narrow canyons. Mount Diablo and part of Diablo Valley are included in this subsection. Elevation ranges in this subsection range from sea-level to approximately 2,000 feet in the East Bay Hills and up to 3,849 feet on Mount Diablo. The main geomorphic processes are mass wasting and fluvial erosion (USDA 1997).

East Bay Terraces and Alluvium

The East Bay Terraces and Alluvium subsection encompasses the majority of the Bay Shore ecoregion and small parts of the East Bay Hills ecoregion. Most EBRPD preserves located in this subsection are found along the shoreline of San Francisco and San Pablo Bays including Point Pinole Regional Shoreline, Martin Luther King Jr. Regional Shoreline, and Miller/Know Regional Shoreline. A small part of the northwestern-most section of Wildcat Canyon Regional Park is located towards the eastern edge of the Eastern Bay Terraces and Alluvium subsection.

This subsection is on an alluvial plain that is located between the East Bay Hills and San Francisco Bay, extending from San Pablo Bay southeast to Santa Clara Valley. It is bounded on the northeast by the Hayward fault. The climate is hot and subhumid and is modified greatly by marine influence. Mean annual precipitation is about 20 to 30 inches, practically all of which falls as rain. Runoff from the hills is rapid, but slow across the alluvial plains. Natural lakes are absent, and all but the larger streams run dry through most of the summer. The alluvial plains are mostly gently sloping to nearly level alluvial fans. The hills projecting above the fans are steep to moderately steep. Elevations range from sea-level to about 600 feet on the hills along the Hayward Fault. Fluvial erosion is the main geomorphic process. Fluvial deposition is an important process on recent floodplains and alluvial fans, but most of the stream sediments are washed across the alluvial plain to estuaries of the San Francisco-San Pablo Bay system (USDA 1997).

Suisun Hills and Valleys

The Suisun Hills and Valleys subsection overlaps with small areas of both the Mount Diablo Range and Delta/San Joaquin Valley ecoregions. The northern reaches of Black Diamond Mines Regional Preserve, Contra Loma Regional Park, and Concord Hills Regional Park are located within the Suisun Hills and Valleys subsection, as is the southern-most section of Bay Point Regional Shoreline.

The Suisun Hills and Valleys subsection is an area of low-lying hills north and south of the Carquinez Strait. It includes the valleys between the hills and the plains at the west end of the Sacramento-San Joaquin River delta. The climate is hot and subhumid. It is very windy on hills adjacent to and north of the Carquinez Strait. The mean annual precipitation is about 15 to 20 inches, practically all of which is rain. Runoff is rapid from hills, but slow across alluvial plains. Natural lakes are absent and all but the larger streams run dry through most of the summer. This subsection is an area of steep to moderately steep hills, valley between the hills, and the edge of a plain that is the floor of the Great Valley. The hills are aligned northwest. Elevations range from sea-level to about 1,428 feet in the Briones Hills. Mass wasting and fluvial erosion loss are the main geomorphic processes. Fluvial deposition is an important process on recent floodplain and alluvial fans, but most of the stream sediments are washed across the alluvial plain to estuaries of the San Francisco-San Pablo Bay system (USDA 1997).

Central California Coast Ranges

Eastern Hills

The Eastern Hills subsection of the Central California Coast Ranges section encompasses the eastern preserves of the Mount Diablo Range ecoregion. These include Vasco Caves Regional Preserve, Byron Vernal Pools Regional Preserve, Deer Valley Regional Park, as well as small sections of Round Valley Regional Preserve and the majority of Brushy Peak Regional Preserve.

This subsection stretches from east of the Livermore – San Ramon Valley south-southeast to the Cholame Valley. It consists of hill and low mountains in the drier eastern and southeastern parts of the Diablo Range, including some hills south of the range. The climate is hot and subhumid to arid. Mean annual precipitation is about 12 to 20 inches. Most precipitation falls as rain. Runoff is rapid and all except the larger streams are dry throughout the summer months. Natural lakes are absent, but there are reservoirs in the area. This subsection consists mostly of low, steep mountains and foothills on the east-northeast edge of the Diablo Range and Avenal Ridge at the south-southeast end of the Range. At the south end, it includes moderately steep hills and old alluvial fans along the east-northeast side of the San Andreas fault. The elevation range is from about 100 to 2,000 or 3,000 feet on the higher mountains. Mass wasting and fluvial erosion are the main geomorphic processes (USDA 1997).

Fremont – Livermore Hills and Valleys

This subsection consists of EBRPD preserves in the East Bay Hills, Delta/San Joaquin Valley, Mount Diablo Range, and Mount Hamilton ecoregions. Only small sections of preserves located at the eastern extent of the East Bay Hills ecoregion are included here such as parts of Pleasanton Ridge Regional Preserve and Bishop Ranch Regional Preserve. The northern-most section of Del Valle Regional Park of the Mount Hamilton ecoregion is located in the Fremont – Livermore Hills and Valleys subsection. Sycamore Valley Regional Preserve, Doolan Canyon Regional Preserve, and Shadow Cliffs Regional Recreation Area are also included here.

The Fremont – Livermore Hills and Valleys subsection consists of the Livermore – San Ramon Valley and the hills around it, between the Greenville and Calaveras faults, and the hills southeast of Fremont

that are between the Calaveras fault and the Santa Clara Valley. The climate is hot and subhumid. Mean annual precipitation is about 15 to 20 inches, most of which is rain although the higher peaks occasionally receive snow. Runoff to the alluvial plain is rapid and all but the larger streams are dry throughout most of the summer. The alluvial plain the northern half of Livermore Valley drains slowly and some of the soils are somewhat poorly drained. No natural lakes exist in the area, but there are a few reservoirs. This subsection includes a late Quaternary alluvial plain running east to west across the middle of the Livermore – San Ramon Valley; moderately steep hills with rounded summits north of the alluvial plain; moderately steep to steep hills with flat summits south of the alluvial plain; and moderately steep to steep hills along the Calaveras fault and between the fault and the Santa Clara Valley. Elevations range from about 300 to 1,200 feet in Livermore Valley and about 100 feet in Santa Clara Valley to 2,954 feet at Monument Peak northeast of the valley. Mass wasting and fluvial erosion are the main geomorphic processes (USDA 1997).

Western Diablo Range

The Western Diablo Range encompasses preserves in the Mount Hamilton Ecoregion. These include the majority of Del Valle Regional Park, as well as all of Sunol Regional Wilderness Preserve and Sunol Regional Wilderness Preserve.

This subsection is located on the mountains in the western part of the Diablo Range. They are located south-southeast of the Livermore – San Ramon Valley. It is the more moist part of the Diablo Range. The climate is hot and subhumid. Mean annual precipitation is about 20 to 30 inches. Most of the precipitation falls as rain, with occasional snow at higher elevations. Runoff is rapid and all but the larger streams are dry though most of the summer. Natural lakes are absent, although there are a few reservoirs in the area. This is a subsection of mountains with rounded ridges, steep and moderately steep sides, and narrow canyons. Most of the mountains are aligned in a north-northwest to northwest direction. Elevations range from about 1,000 feet adjacent to the Santa Clara Valley to about 4,000 feet on the higher mountains, reaching 4,209 feet on Mount Hamilton. The main geomorphic processes are mass wasting and fluvial erosion (USDA 1997).

Great Valley

Delta

The Delta subsection contains the Delta/San Joaquin Valley ecoregion. Browns Island Regional Preserve, Big Break Regional Shoreline, and Delta Access Regional Recreation Area are located within the Delta Valley subsection. The northern section of Bay Point Regional Shoreline is also within this subsection.

The Delta subsection is a low area, near sea-level, at the confluence of the Sacramento and San Joaquin Rivers. Organic fill is a distinctive feature of the subsection. The climate is hot and subhumid. Mean annual precipitation is about 14 to 16 inches, practically all of which is rain. The Sacramento and San Joaquin Rivers follow meanders, that are somewhat modified artificially, across the subsection. There are many overflow channels, and brackish tidal water enters the area when river flow is low during summer and autumn. This subsection is a practically level plain, except for the levees of the Sacramento and San Joaquin Rivers. Many artificial levees have been constructed to prevent flooding of areas that have been converted to agriculture. The elevation ranges from a few feet on levees of the Sacramento and San Joaquin Rivers to sea-level, or lower, on the rest of the plain. The main geomorphic processes are decomposition of organic deposits and consequential land subsidence. The main geomorphic processes on and adjacent to the levees are fluvial erosion and deposition (USDA 1997).

Westside Alluvial Fans and Terraces

The Westside Alluvial Fans and Terraces overlaps with small sections of the Mount Diablo Range ecoregion at its eastern-most boundary, and with small parts of the Delta/San Joaquin Valley ecoregion. The eastern-most part of Byron Vernal Pools Regional Preserve is found within this subsection, as is a small area of the Delta Access Regional Recreation Preserve.

This subsection is located on terraces and alluvial fans along the western edge of the San Joaquin Valley, adjacent to the Coast Ranges. The climate is hot and semi-arid to subhumid. Mean annual precipitation is about 8 to 16 inches, practically all of which is rain. Precipitation increases both toward the mountain of the southern California Coast Ranges and toward the northern end of the subsection. Streams in the subsection drain to the San Joaquin River. All but the larger streams are generally dry during the summer. There are no lakes present, but there is temporary ponding in vernal pools on Pleistocene terraces. This subsection is on very gently to gently sloping terraces and alluvial fans. The San Joaquin Valley is asymmetrical, with shorter and steeper alluvial fans adjacent to the Coast Ranges than adjacent to the Sierra Nevada. Most of the drainage from the southern Coast Ranges is toward the Pacific Ocean, so few large streams drain across the terraces and alluvial fans on the west side of the San Joaquin Valley. Elevations range from 0 to about 1,500 feet in this subsection. The main geomorphic processes are fluvial erosion and deposition (USDA 1997).

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Appendix C: Vegetation Communities

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For the purpose of providing summary information, general descriptions of vegetation types mapped within EBRPD lands vegetation descriptions here are collapsed into generalized “Habitat Types.” The specific RMA Type vegetation categories are based on geographic distribution and structure, and special-status species preferences. Vegetation communities that occur on EBRPD lands are separated into two categories: upland vegetation communities and aquatic vegetation communities. The types of communities found within the two categories are described in detail below.

Table C-1 provides a detailed vegetation crosswalk for upland and aquatic communities that compare general RMA Types to those in the EBRPD dataset, as well as other commonly used vegetation classification systems, notably the Terrestrial Natural Communities of California (Holland 1986) or California Vegetation (Holland and Keil 1995); A Manual of California Vegetation (Sawyer et al. 2009); and habitat types from the CNPS Inventory of Rare and Endangered Plants of California (CNPS 2011). This is an effort to relate vegetation community names to these commonly used classification systems for regional context and regulatory continuity.

It is also intended to connect EBRPD vegetation types to currently accepted types of sensitive natural communities and rare plant habitat descriptors. The numeric codes following vegetation types in the Terrestrial Communities and California Vegetation columns align these vegetation types with the California Natural Communities List (CDFW 2020). It is from this list that sensitive natural communities, those with State Ranks (S1-S3), are identified. In these cases, vegetation types in the California Vegetation column will be noted with their appropriate State Rank.

Table C-1. Vegetation Communities Found on EBRPD Lands

Vegetation Community Classification Systems				
Habitat Types	EBRPD Types ¹	Terrestrial Communities ²	California Vegetation ^{3,4}	CNPS Inventory ⁵
Upland Communities				
Grassland	Alkali Grassland	Alkali Meadow (45310) Valley Sacaton Grassland (42120)	<i>Distichlis spicata</i> Grassland Alliance (Salt Grass Flats) (41.200.00) <i>Cressa truxilensis</i> – <i>Distichlis spicata</i> Herbaceous Alliance (Alkali Weed – Salt Grass Playas and Sinks) (46.100.00) S2 <i>Sporobolus airoides</i> Grassland Alliance (Alkali Sacaton Wet Meadow) (52.060.00) S2	Playas
	Annual Grassland	Non-Native Grassland (42200) Wildflower Fields (42300)	<i>Avena spp.</i> – <i>Bromus spp.</i> Herbaceous Semi-Natural Alliance (Wild Oats and Annual Brome Grasslands) (42.027.00) <i>Bromus rubens</i> – <i>Schismus (arabicus, barbatus)</i> Herbaceous Semi-Natural Alliance (Red Brome or Mediterranean Grass Grasslands) (42.024.01)	Valley and Foothill Grassland

¹ EBRPD Vegetation Types (EBRPD 2020)

² Terrestrial Natural Communities of California (Holland 1986) or California Vegetation (Holland and Keil 1995)

³ A Manual of California Vegetation (Sawyer *et al.* 2009) or List of Terrestrial Natural Communities (CDFW 2020)

⁴ S-Ranks 1-3 are included and appear at the end of the California Vegetation name. These ranks indicate Sensitive Natural Community status (CDFW 2020). A rank of S1 indicates a vegetation alliance or association as “Critically Imperiled” because of rarity due to very restricted range, very few populations, steep declines, or other factors making it very vulnerable to extirpation from jurisdiction (NatureServe 2020). A rank of S2 indicates a vegetation alliance or association as “Imperiled” because of rarity due to very restricted range, few populations, steep declines, or other factors making it very vulnerable to extirpation from jurisdiction (NatureServe 2020). A rank of S3 indicates a vegetation alliance or association is “Vulnerable,” meaning it is at moderate risk of extinction or elimination due to a restricted range, relatively few populations, recent and widespread declines, or other factors (NatureServe 2020). A rank of S? denotes that although insufficient samples exist for the full expected range of a community.

⁵ CNPS Inventory of Rare and Endangered Plants of California Habitat Types (CNPS 2001)

Vegetation Community Classification Systems				
Habitat Types	EBRPD Types ¹	Terrestrial Communities ²	California Vegetation ^{3,4}	CNPS Inventory ⁵
Grassland (Cont'd)	Annual Grassland (Cont'd)		<p><i>Cynosurus echinatus</i> Herbaceous Semi-Natural Alliance (Annual Dogtail Grasslands) (42.044.00)</p> <p><i>Phalaris aquatica</i> Herbaceous Semi-Natural Alliance (Harding Grass Swards) (42.051.00)</p> <p><i>Cynodon dactylon</i> – <i>Crypsis</i> spp. – <i>Paspalum</i> spp. Herbaceous Semi-Natural Alliance (Bermudagrass – Prickle Grass – Crowngrass Turfs) (42.220.00)</p> <p><i>Elymus caput-medusae</i> Herbaceous Semi-Natural Association (Medusahead Grassland) (42.020.03)</p> <p><i>Lolium perenne</i> Herbaceous Semi-Natural Alliance (Perennial Rye Grass Fields) (41.321.00)</p>	
	Annual Grassland with Encroaching Scrub	Non-Native Grassland (42200) Wildflower Fields (42300)	<p><i>Avena</i> spp. – <i>Bromus</i> spp. Herbaceous Semi-Natural Alliance (Wild Oats and Annual Brome Grasslands) (42.027.00)</p> <p><i>Baccharis pilularis</i>/Annual Grass – Herb Shrubland Association (Coyote Brush – Grassland Scrub) (32.060.20)</p>	Valley and Foothill Grassland

Vegetation Community Classification Systems				
Habitat Types	EBRPD Types ¹	Terrestrial Communities ²	California Vegetation ^{3,4}	CNPS Inventory ⁵
Grassland (Cont'd)	Native Grassland	Serpentine Bunchgrass (42130) Valley Needlegrass Grassland (42110) Valley Wildrye Grassland (42140) Wildflower Fields (42300)	<i>Bromus carinatus</i> – <i>Elymus glaucus</i> Grassland Alliance (California Brome – Blue Wildrye Prairie) (41.131.00) S3 <i>Deschampsia cespitosa</i> – <i>Hordeum brachyantherum</i> – <i>Danthonia californica</i> Grassland Alliance (Coastal Tufted Hair Grass – Meadow Barley – California Oat Grass) (41.221.00) S3 <i>Elymus triticoides</i> Grassland Alliance (Creeping Wildrye Turfs) (41.081.00) S3 <i>Festuca idahoensis</i> – <i>Danthonia californica</i> Grassland Alliance (Idaho Fescue – California Oatgrass Grassland) (41.251.00) S3 <i>Nassella</i> spp. – <i>Melica</i> spp. Herbaceous Alliance (Needlegrass – Melic Grass Grassland) (41.151.00) S3S4	Valley and Foothill Grassland
	Ruderal	Ruderal (Not Described)	<i>Brassica nigra</i> – <i>Centaurea (solstitialis, melitensis)</i> Herbaceous Semi-Natural Stand (Upland Mustards or Star-Thistle Fields) (42.013.00) <i>Cakile (edentula, maritima)</i> Herbaceous Semi-Natural Stand (Sea Rocket Stands) (21.125.00) <i>Conium maculatum</i> – <i>Foeniculum vulgare</i> Herbaceous Semi-Natural Stand (Poison Hemlock or Fennel Patches) (45.556.00) <i>Lepidium latifolium</i> Herbaceous Semi-Natural Stand (Perennial Pepperweed Patches) (52.205.00)	Valley and Foothill Grassland

Vegetation Community Classification Systems				
Habitat Types	EBRPD Types ¹	Terrestrial Communities ²	California Vegetation ^{3,4}	CNPS Inventory ⁵
Grassland (Cont'd)	California Buckwheat – California Sage Scrub	Central (Lucian) Coastal Scrub (32200)	<i>Eriogonum fasciculatum</i> Shrubland Alliance (California Buckwheat Scrub) (32.040.00) <i>Artemisia californica</i> – <i>Eriogonum fasciculatum</i> Shrubland Association (32.110.05)	Coastal Scrub
	California Sage Scrub	Central (Lucian) Coastal Scrub (32200)	<i>Artemisia californica</i> Shrubland Alliance (California Sage Scrub) (32.015.00)	Coastal Scrub
	California Sage – Coyote Brush Scrub	Central (Lucian) Coastal Scrub (32200) Northern Coyote Brush Scrub (32110)	<i>Artemisia californica</i> Shrubland Alliance (California Sage Scrub) (32.015.00) <i>Baccharis pilularis</i> Shrubland Alliance (Coyote Brush Scrub) (32.060.00) <i>Baccharis pilularis</i> – <i>Artemisia californica</i> Shrubland Association (Coyote Brush – California Sage Scrub) (32.060.05)	Coastal Scrub
	California Sage – Grassland Scrub	Central (Lucian) Coastal Scrub (32200)	<i>Artemisia californica</i> Shrubland Alliance (California Sage Scrub) (32.015.00)	Coastal Scrub
	Chaparral California Sage – Poison Oak Scrub	Central (Lucian) Coastal Scrub (32200) Poison Oak Chaparral (37F00)	<i>Artemisia californica</i> Shrubland Alliance (California Sage Scrub) (32.015.00) <i>Toxicodendron diversilobum</i> Shrubland Alliance (Poison Oak Scrub) (37.940.00) <i>Toxicodendron diversilobum</i> – <i>Artemisia californica</i> Shrubland Association (Poison Oak – California Sage Scrub) (37.940.02) S3	Coastal Scrub

Vegetation Community Classification Systems				
Habitat Types	EBRPD Types ¹	Terrestrial Communities ²	California Vegetation ^{3,4}	CNPS Inventory ⁵
Grassland (Cont'd)	Choke Cherry Thickets	Mesic North Slope Chaparral (37E00)	<i>Prunus virginiana</i> Shrubland Alliance (Choke Cherry Thickets) (37.905.00) S2?	Coastal Scrub
	Coffeeberry Scrub	Northern Mixed Chaparral (37I10)	<i>Frangula californica</i> Shrubland Alliance (California Coffeeberry Scrub) (63.311.00) S3	Coastal Scrub
	Coffeeberry – Poison Oak Scrub	Northern Mixed Chaparral (37I10) Poison Oak Chaparral (37F00)	<i>Frangula californica</i> Shrubland Alliance (California Coffeeberry Scrub) (63.311.00) S3 <i>Toxicodendron diversilobum</i> Shrubland Alliance (Poison Oak Scrub) (37.940.00)	Coastal Scrub
	Coyote Brush Scrub	Northern Coyote Brush Scrub (32I10)	<i>Baccharis pilularis</i> Shrubland Alliance (Coyote Brush Scrub) 32.060.00)	Coastal Scrub
	Coyote Brush – Blackberry Scrub	Mesic North Slope Chaparral (37E00) Northern Coyote Brush Scrub (32I10)	<i>Baccharis pilularis</i> Shrubland Alliance (Coyote Brush Scrub) 32.060.00) <i>Baccharis pilularis</i> – <i>Rubus</i> spp. Shrubland Association (Coyote Brush – Blackberry Scrub) (32.060.30) S2?	Coastal Scrub
	Coyote Brush – California Sage Scrub	Central (Lucian) Coastal Scrub (32200) Northern Coyote Brush Scrub (32I10)	<i>Artemisia californica</i> Shrubland Alliance (California Sage Scrub) (32.015.00) <i>Baccharis pilularis</i> Shrubland Alliance (Coyote Brush Scrub) 32.060.00) <i>Baccharis pilularis</i> – <i>Artemisia californica</i> Shrubland Association (Coyote Brush – California Sage Scrub) (32.060.05)	Coastal Scrub

Vegetation Community Classification Systems				
Habitat Types	EBRPD Types ¹	Terrestrial Communities ²	California Vegetation ^{3,4}	CNPS Inventory ⁵
Grassland (Cont'd)	Coyote Brush – Grassland Scrub	Northern Coyote Brush Scrub (32110)	<i>Avena</i> spp. – <i>Bromus</i> spp. Herbaceous Semi-Natural Alliance (Wild Oats and Annual Brome Grasslands) (42.027.00) <i>Baccharis pilularis</i> /Annual Grass – Herb Shrubland Association (Coyote Brush – Grassland Scrub) (32.060.20)	Coastal Scrub
	Coyote Brush – Poison Oak Scrub	Northern Coyote Brush Scrub (32110) Poison Oak Chaparral (37F00)	<i>Baccharis pilularis</i> Shrubland Alliance (Coyote Brush Scrub) 32.060.00) <i>Baccharis pilularis</i> – <i>Toxicodendron diversilobum</i> Shrubland Association (Coyote Brush – Poison Oak Scrub) 32.060.17) <i>Toxicodendron diversilobum</i> Shrubland Alliance (Poison Oak Scrub) (37.940.00)	Coastal Scrub
	Elderberry Scrub	Mesic North Slope Chaparral (37E00)	<i>Sambucus nigra</i> Shrubland Association (Blue Elderberry Scrub) S3 (63.410.01)	Coastal Scrub
	Oceanspray Scrub	Mesic North Slope Chaparral (37E00)	<i>Holodiscus discolor</i> Brush Association (Ocean Spray Brush) (37.970.02) S3	Coastal Scrub
	Oceanspray – Poison Oak Scrub	Mesic North Slope Chaparral (37E00) Poison Oak Chaparral (37F00)	<i>Holodiscus discolor</i> Brush Association (Ocean Spray Brush) (37.970.02) S3 <i>Toxicodendron diversilobum</i> Shrubland Alliance (Poison Oak Scrub) (37.940.00)	Coastal Scrub

Vegetation Community Classification Systems				
Habitat Types	EBRPD Types ¹	Terrestrial Communities ²	California Vegetation ^{3,4}	CNPS Inventory ⁵
Grassland (Cont'd)	Poison Oak Scrub	Poison Oak Chaparral (37F00)	<i>Toxicodendron diversilobum</i> Shrubland Alliance (Poison Oak Scrub) (37.940.00)	Coastal Scrub
	Poison Oak – California Sage Scrub	Central (Lucian) Coastal Scrub (32200) Poison Oak Chaparral (37F00)	<i>Artemisia californica</i> Shrubland Alliance (California Sage Scrub) (32.015.00)	Coastal Scrub
			<i>Toxicodendron diversilobum</i> Shrubland Alliance (Poison Oak Scrub) (37.940.00) <i>Toxicodendron diversilobum</i> – <i>Artemisia californica</i> Shrubland Association (Poison Oak – California Sage Scrub) (37.940.02) S3	
	Rubus Thickets	Mesic North Slope Chaparral (37E00)	<i>Rubus (parviflorus, spectabilis, ursinus)</i> Shrubland Alliance (Coastal Brambles) (63.910.00) S3	Coastal Scrub
	Toyon Scrub	Northern Mixed Chaparral (37110)	<i>Heteromeles arbutifolia</i> Provisional Shrubland Association (Toyon Chaparral) (37.912.01) S3	Coastal Scrub
Utah Serviceberry Scrub	Northern Mixed Chaparral (37110)	<i>Amelanchier utahensis</i> Shrubland Association (Utah Serviceberry Scrub) (76.300.04) S3	Coastal Scrub	

Vegetation Community Classification Systems				
Habitat Types	EBRPD Types ¹	Terrestrial Communities ²	California Vegetation ^{3,4}	CNPS Inventory ⁵
Chaparral	Chamise Chaparral	Chamise Chaparral (37200) Diablan Sage Scrub (32600)	<i>Adenostoma fasciculatum</i> Shrubland Alliance (Chamise Chaparral) (37.101.00) <i>Adenostoma fasciculatum</i> – <i>Salvia</i> spp. Shrubland Alliance (Chamise – Sage Chaparral) (37.110.00)	Chaparral
	Manzanita Chaparral	Northern Mixed Chaparral (37110) Northern Maritime Chaparral (37C10)	<i>Arctostaphylos crustacea</i> Shrubland Association (Brittle Leaf Manzanita Chaparral) S3 (37.308.03) <i>Arctostaphylos pallida</i> Provisional Special Stand (Pallid Manzanita Special Stand)	Chaparral
	Rabbitbrush Chaparral	Rabbitbrush Scrub (35400)	<i>Ericameria nauseosa</i> Shrubland Alliance (Rubber Rabbitbrush Scrub) (35.310.00)	Chaparral
	Scrub Oak Chaparral	Scrub Oak Chaparral (37900)	<i>Quercus berberidifolia</i> Shrubland Alliance (Scrub Oak Chaparral) (34.407.00)	Chaparral
Oak Savanna Woodland	Blue Oak Woodland	Blue Oak Woodland (71140)	<i>Quercus douglasii</i> Forest & Woodland Alliance (Blue Oak Woodland and Forest) (71.020.00)	Cismontane Woodland
	Blue Oak – Gray Pine Woodland	Blue Oak Woodland (71140)	<i>Pinus sabiniana</i> Woodland Alliance (Gray Pine Woodland) (87.130.00) <i>Quercus douglasii</i> Forest and Woodland Alliance (Blue Oak Woodland and Forest) (71.020.00)	Cismontane Woodland

Vegetation Community Classification Systems				
Habitat Types	EBRPD Types ¹	Terrestrial Communities ²	California Vegetation ^{3,4}	CNPS Inventory ⁵
Oak Savanna Woodland (Cont'd)	Blue Oak – Valley Oak Woodland	Valley Oak Woodland (71130)	<i>Quercus douglasii</i> Forest and Woodland Alliance (Blue Oak Woodland and Forest) (71.020.00) <i>Quercus lobata</i> Forest and Woodland Alliance (Valley Oak Woodland and Forest) (71.040.00) S3	Cismontane Woodland
	Valley Oak Woodland	Valley Oak Woodland (71130)	<i>Quercus lobata</i> Forest and Woodland Alliance (Valley Oak Woodland and Forest) (71.040.00) S3	Cismontane Woodland
Hardwood Forest	Black Oak Forest	Black Oak Woodland (71120)	<i>Quercus kelloggii</i> Forest and Woodland Alliance (Black Oak Woodland and Forest) (71.010.00)	Cismontane Woodland
	California Bay Forest	California Bay Forest (81200)	<i>Umbellularia californica</i> Forest (California Bay Forest) (74.100.00) S3	Cismontane Woodland
	California Bay – Oak Forest	California Bay Forest (81200)	<i>Umbellularia californica</i> Forest (California Bay Forest) (74.100.00) S3	Cismontane Woodland
	California Buckeye Woodland	Interior Live Oak Woodland (71150)	<i>Aesculus californica</i> Woodland Alliance (California Buckeye Groves) (75.100.00) S3 <i>Quercus</i> sp. Forest and Woodland Alliance (Mixed Oak Woodland and Forest) (71.100.00)	Cismontane Woodland
	Canyon Live Oak Woodland	Canyon Live Oak Forest (81320)	Canyon Live Oak Forest (81320)	Cismontane Woodland
	Coast Live Oak Woodland	Coast Live Oak Woodland (71160)	<i>Quercus agrifolia</i> Woodland Alliance (Coast Live Oak Woodland) (71.060.00)	Cismontane Woodland

Vegetation Community Classification Systems				
Habitat Types	EBRPD Types ¹	Terrestrial Communities ²	California Vegetation ^{3,4}	CNPS Inventory ⁵
Hardwood Forest (Cont'd)	Coast Live Oak – Blue Oak Woodland	Blue Oak Woodland (71140)	<i>Quercus agrifolia</i> Woodland Alliance (Coast Live Oak Woodland) (71.060.00)	Cismontane Woodland
		Coast Live Oak Woodland (71160)	<i>Quercus douglasii</i> Forest and Woodland Alliance (Blue Oak Woodland and Forest) (71.020.00)	
	Coast Live Oak – California Bay Woodland	California Bay Forest (81200)	<i>Quercus agrifolia</i> Woodland Alliance (Coast Live Oak Woodland) (71.060.00)	Cismontane Woodland
		Coast Live Oak Woodland (71160)	<i>Umbellularia californica</i> – <i>Quercus agrifolia</i> Forest Association (California Bay Forest) (74.100.05) S3 <i>Umbellularia californica</i> Forest (California Bay Forest) (74.100.00) S3	
	Coast Live Oak – Valley Oak Woodland	Coast Live Oak Woodland (71160)	<i>Quercus agrifolia</i> Woodland Alliance (Coast Live Oak Woodland) (71.060.00)	Cismontane Woodland
		Valley Oak Woodland (71130)	<i>Quercus lobata</i> Forest and Woodland Alliance (Valley Oak Woodland and Forest) (71.040.00) S3	
Mixed Hardwood Forest	California Bay Forest (81200) Coast Live Oak Forest (81310)	<i>Quercus</i> sp. Forest and Woodland Alliance (Mixed Oak Woodland and Forest) (71.100.00)	Cismontane Woodland	
Mixed Oak Woodland	Coast Live Oak Forest (81310)	<i>Quercus</i> sp. Forest and Woodland Alliance (Mixed Oak Woodland and Forest) (71.100.00)	Cismontane Woodland	

Vegetation Community Classification Systems				
Habitat Types	EBRPD Types ¹	Terrestrial Communities ²	California Vegetation ^{3,4}	CNPS Inventory ⁵
Conifer Forest and Woodland	Gray Pine Woodland	Open Gray Pine Woodland (71310)	<i>Pinus sabiniana</i> Woodland Alliance (Gray Pine Woodland) (87.130.00)	Cismontane Woodland
	Gray Pine – Blue Oak Woodland	Open Gray Pine Woodland (71310)	<i>Pinus sabiniana</i> Woodland Alliance (Gray Pine Woodland) (87.130.00) <i>Quercus douglasii</i> Woodland Alliance (Blue Oak Woodland and Forest) (71.020.00) <i>Quercus douglasii</i> – <i>Pinus sabiniana</i> Woodland Association (Blue Oak – Gray Pine Woodland and Forest) (71.020.02)	Cismontane Woodland
	Gray Pine – Mixed Hardwood Woodland	Open Gray Pine Woodland (71310)	<i>Pinus sabiniana</i> Woodland Alliance (Gray Pine Woodland) (87.130.00) <i>Quercus</i> (<i>agrifolia</i> , <i>douglasii</i> , <i>garryana</i> , <i>kelloggii</i> , <i>lobata</i> , <i>wislizeni</i>) – <i>Pinus sabiniana</i> /grass Woodland Association (Mixed Oak – Gray Pine/Grass Woodland) (71.100.07)	Cismontane Woodland
	Mixed Conifer Forest	Not Described	<i>Pinus sabiniana</i> Woodland Alliance (Gray Pine Woodland) (87.130.00) <i>Pinus radiata</i> Forest Semi-Natural Alliance (Monterey Pine Stands) (79.400.00)	Cismontane Woodland
	Redwood Forest	Upland Redwood Forest (82320)	<i>Sequoia sempervirens</i> Forest Alliance (Redwood Forest and Woodland) (86.100.00) S3	North Coast Coniferous Forest

Vegetation Community Classification Systems				
Habitat Types	EBRPD Types ¹	Terrestrial Communities ²	California Vegetation ^{3,4}	CNPS Inventory ⁵
Riparian	Alder Riparian	White Alder Riparian Forest (61510)	<i>Alnus rhombifolia</i> Forest and Woodland Alliance (White Alder Groves) (61.420.00)	Riparian Forest
	Cottonwood Riparian	Great Valley Cottonwood Riparian Forest (61410)	<i>Populus fremontii</i> Forest Alliance (Fremont Cottonwood Forest and Woodland) (61.130.00) S3	Riparian Forest Riparian Woodland
	Hardwood Riparian	Central Coast Live Oak Riparian Forest (61220)	<i>Acer macrophyllum</i> Forest Alliance (Bigleaf Maple Forest) (61.450.00) S3 <i>Quercus</i> spp. Forest and Woodland Alliance (Mixed Oak Forest and Woodland) (71.100.00) <i>Umbellularia californica</i> Forest (California Bay Forest) (74.100.00) S3	Riparian Forest Riparian Woodland
	Mixed Riparian	California Bay Forest (81200) Central Coast Live Oak Riparian Forest (61220) Central Coast Riparian Scrub (63200)	<i>Acer macrophyllum</i> Forest Alliance (Bigleaf Maple Forest) (61.450.00) S3 <i>Quercus</i> spp. Forest and Woodland Alliance (Mixed Oak Forest and Woodland) (71.100.00) <i>Umbellularia californica</i> Forest (California Bay Forest) (74.100.00) S3 <i>Salix laevigata</i> – <i>Salix lasiolepis</i> Riparian Woodland Association (Arroyo Willow – Red Willow Riparian Woodland) (61.205.02) S3 <i>Salix lasiolepis</i> Thickets Alliance (Arroyo Willow Thickets) (61.210.00)	Riparian Forest Riparian Scrub Riparian Woodland

Vegetation Community Classification Systems				
Habitat Types	EBRPD Types ¹	Terrestrial Communities ²	California Vegetation ^{3,4}	CNPS Inventory ⁵
Riparian (Cont'd)	Sycamore Riparian	Sycamore Alluvial Woodland (62100)	<i>Platanus racemosa</i> Woodland Alliance (California Sycamore Woodland) (61.310.00) S3	Riparian Woodland
	Sycamore – California Bay Riparian	California Bay Forest (81200) Sycamore Alluvial Woodland (62100)	<i>Platanus racemosa</i> Woodland Alliance (California Sycamore Woodland) (61.310.00) S3 <i>Umbellularia californica</i> Forest (California Bay Forest) (74.100.00) S3	Riparian Forest Riparian Woodland
	Sycamore – Oak Riparian	Central Coast Live Oak Riparian Forest (61220) Sycamore Alluvial Woodland (62100)	<i>Platanus racemosa</i> Woodland Alliance (California Sycamore Woodland) (61.310.00) S3 <i>Quercus</i> spp. Forest and Woodland Alliance (Mixed Oak Forest and Woodland) (71.100.00)	Riparian Forest Riparian Woodland
	Willow Riparian	Central Coast Arroyo Willow Riparian Forest (61230) Central Coast Riparian Scrub (63200)	<i>Salix laevigata</i> – <i>Salix lasiolepis</i> Riparian Woodland Association (Arroyo Willow – Red Willow Riparian Woodland) (61.205.02) S3 <i>Salix lasiolepis</i> Thickets Alliance (Arroyo Willow Thickets) (61.210.00)	Riparian Forest Riparian Scrub

Vegetation Community Classification Systems				
Habitat Types	EBRPD Types ¹	Terrestrial Communities ²	California Vegetation ^{3,4}	CNPS Inventory ⁵
Non-Native or Ornamental	Acacia Stands	Urban Mix (Holland and Keil 1995)	<i>Acacia</i> spp. Woodland Provisional Semi-Natural Alliance (Australian Wattle Ruderal Patches) (32.220.00)	Not Described
	Broom Scrub	Ruderal (Not Described)	<i>Cytisus scoparius</i> – <i>Genista monspessulana</i> – <i>Cotoneaster</i> spp. Shrubland Semi-Natural Alliance (Broom Patches) (32.180.00)	Not Described
	Developed/Urban	Urban Mix (Holland and Keil 1995)	Not Described	Not Described
	Eucalyptus Forest	Urban Mix (Holland and Keil 1995)	<i>Eucalyptus</i> spp. Woodland Semi-Natural Alliance (Eucalyptus Groves) (79.100.02)	Not Described
	Himalayan Blackberry Thickets	Urban Mix (Holland and Keil 1995)	<i>Rubus armeniacus</i> – <i>Sesbania punicea</i> – <i>Ficus carica</i> Shrubland Semi-Natural Alliance (Himalayan Blackberry – Rattlebox – Edible Fig Riparian Scrub) (63.906.01)	Not Described
Barren or Rock	Barren or Rock	Not Described	Not Described	Not Described
Developed	Agriculture	Agriculture (Not Described)	Not Described	Not Described
	Developed/Urban	Urban (Not Described)	Not Described	Not Described

Vegetation Community Classification Systems				
Habitat Types	EBRPD Types ¹	Terrestrial Communities ²	California Vegetation ^{3,4}	CNPS Inventory ⁵
Aquatic Communities				
Open Water	Open Water	Not Described	<p><i>Lemna (minor)</i> and Relatives Provisional Herbaceous Alliance (Duckweed Blooms) (52.105.00)</p> <p><i>Azolla (filiculoides, microphylla)</i> Herbaceous Alliance (Mosquito Fern Mats) (52.106.00)</p> <p><i>Hydrilla verticillata</i> – <i>Myriophyllum spicatum</i> Herbaceous Alliance (Ruderal Water-Thyme – Eurasian Water Milfoil Aquatic) (52.127.00)</p> <p><i>Ludwigia (hexapetala, peploides)</i> Provisional Herbaceous Semi-Natural Alliance (Water Primrose Wetlands) (52.118.00)</p>	Not Described
Wetland	Alkali Scrub	Valley Sink Scrub (36210)	<i>Allenrolfea occidentalis</i> Shrubland Alliance (Iodine Bush Scrub) (36.120.00) S3	Chenopod Scrub
	Pickleweed Salt Marsh	Coastal and Valley Freshwater Marsh (52410)	<i>Sarcocornia pacifica</i> Herbaceous Alliance (Pickleweed Mats) (52.215.00) S3	Marshes and Swamps
	Bulrush Marsh	Coastal and Valley Freshwater Marsh (52410)	<i>Schoenoplectus (acutus, californicus)</i> Herbaceous Alliance (52.128.00) S3S4	Marshes and Swamps

Vegetation Community Classification Systems				
Habitat Types	EBRPD Types ¹	Terrestrial Communities ²	California Vegetation ^{3,4}	CNPS Inventory ⁵
Wetland (Cont'd)	Sedge Patches	Freshwater Seep (45400)	<i>Carex barbarae</i> Herbaceous Alliance (White-Root Beds) (45.142.00) S2? <i>Carex densa</i> Herbaceous Alliance (Dense Sedge Marshes) (45.165.00) S2? <i>Carex serrotodens</i> Herbaceous Alliance (Twotooth Sedge Seeps) (45.180.03) S3?	Meadows and Seeps
	Cattail Marsh	Northern Coastal Salt Marsh (52110) Coastal Brackish Marsh (52200) Coastal and Valley Freshwater Marsh (52410)	<i>Typha (angustifolia, domingensis, latifolia)</i> Herbaceous Alliance (Cattail Marshes) (52.050.00)	Marshes and Swamps
	Cord Grass Patches	Northern Coastal Salt Marsh (52110) Coastal Brackish Marsh (52200)	<i>Spartina (alterniflora, densiflora)</i> Herbaceous Alliance (Smooth or Chilean Cordgrass Marshes) (41.070.00) <i>Spartina foliolosa</i> Herbaceous Alliance (California Cordgrass Marsh) (52.020.00) S3	Marshes and Swamps
	Juncus Patches	Freshwater Seep (45400)	<i>Juncus ixiioides</i> Herbaceous Alliance (Iris-Leaf Rush Seeps) (45.568.00) S2? <i>Juncus arcticus</i> (var. <i>balticus, mexicanus</i>) Herbaceous Alliance (Baltic and Mexican Rush Marshes) (45.562.00) <i>Juncus effusus</i> Herbaceous Alliance (Soft Rush Marshes) (45.561.00)	Meadows and Seeps

Vegetation Community Classification Systems				
Habitat Types	EBRPD Types ¹	Terrestrial Communities ²	California Vegetation ^{3,4}	CNPS Inventory ⁵
Wetland (Cont'd)	Salt Grass Flats	Alkali Meadow (45310) Coastal and Valley Freshwater Marsh (52410) Northern Coastal Salt Marsh (52110) Coastal Brackish Marsh (52200)	<i>Distichlis spicata</i> Grassland Alliance (Salt Grass Flats) (41.200.00) <i>Frankenia salina</i> Herbaceous Alliance (Alkali Heath Marsh) (52.500.00) S3	Marshes and Swamps Meadows and Seeps
	Seasonal Wetland	Freshwater Seep (45400)	<i>Hordeum brachyantherum</i> Herbaceous Alliance (Meadow Barley Patches) (42.052.00) S2	Meadows and Seeps
	Tule Beds	Northern Coastal Salt Marsh (52110) Coastal Brackish Marsh (52200)	<i>Schoenoplectus (acutus, californicus)</i> Herbaceous Alliance (52.128.00) S3S4	Marshes and Swamps
	Unclassified Wetland	Coastal and Valley Freshwater Marsh (52410) Freshwater Seep (45400)	Not Described	Marshes and Swamps Meadows and Seeps

Appendix D: Sensitive Natural Communities

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Table D-1. Sensitive Natural Communities Potentially Occurring on EBRPD Lands

Program Type	Mapped Community	Potential to Occur
Upland Vegetation Types		
Grassland	Ashy ryegrass – creeping ryegrass turfs (S3)	Possible
	Bushy spikemoss mats (S3)	Possible
	California brome – blue wildrye prairie (S3)	Possible
	Coastal tufted hair grass – Meadow barley – California oatgrass wet meadow (S3)	Possible
	Deer grass beds (S2?)	Possible
	Goldenaster patches (S3)	Possible
	Gum plant patches (S2)	Possible
	Idaho fescue – California oatgrass grassland (S3)	Possible
	Monolopia – leafy-stemmed tickseed fields (S3)	Possible
	Needle grass – Melic grass grassland (S3)	Possible
	Tar plant fields (S2)	Possible
Coastal Scrub	Bush monkeyflower scrub (S3?)	Possible
	California coffee berry – western azalea scrub – Brewer's willow (S3)	Possible
	California rose briar patches (S3)	Possible
	Golden chinquapin thickets (S2)	Possible
	Hazelnut scrub (S2?)	Possible
	Oak gooseberry thickets (S2?)	Possible
	Wax myrtle scrub (S3)	Not Expected
Chaparral	Basket bush – river hawthorn – desert olive patches (S3.2?)	Possible
	Brittle leaf – woolly leaf manzanita chaparral (S3)	Possible
	California match weed patches (S3?)	Possible
	Canyon live oak – Interior live oak chaparral (S3)	Possible
	Hairy leaf – woolly leaf ceanothus chaparral (S3)	Possible
	Hoary, common, and Stanford manzanita chaparral (S3)	Possible
	Mount Diablo manzanita provisional special stand (NA)	Possible
	Pallid manzanita provisional special stand (NA)	Possible
	Wright's buckwheat – Heermann's buckwheat – Utah butterfly-bush scrub (S3)	Possible
	Valley oak woodland and forest (S3)	Possible

Program Type	Mapped Community	Potential to Occur
Hardwood Forest	California bay forest and woodland (S3)	Possible
	California buckeye groves (S3)	Possible
	Hinds's walnut and related stands (S1.1)	Possible
	Madrone forest (S3.2)	Possible
	Shreve oak forests (S2)	Possible
Conifer Forest and Woodland	Redwood forest and woodland (S3.2)	Possible
Riparian	Bigleaf maple forest and woodland (S3)	Possible
	Box-elder forest and woodland (S2.2)	Possible
	Button willow thickets (S2)	Possible
	California sycamore woodlands (S3)	Possible
	Fremont cottonwood forest and woodland (S3.2)	Possible
	Goodding's willow – red willow riparian woodland and forest (S3)	Possible
	Mesquite thickets (S3)	Possible
	Oregon ash groves (S3.2)	Not Expected
	Red osier thickets (S3?)	Possible
	Scale broom scrub (S3)	Possible
	Shining willow groves (S3.2)	Possible
	Wild grape shrubland (S3)	Possible
Aquatic Vegetation Types		
Open Water	Ditch-grass or widgeon-grass mats (S2)	Possible
	Eelgrass beds (S3)	Possible
	Mats of floating pennywort (S3?)	Possible
	Pondweed mats (S3?)	Possible

Program Type	Mapped Community	Potential to Occur
Wetland	Alkali heath marsh (S3)	Possible
	Alkali sacaton – scratchgrass – alkali cordgrass alkaline wet meadow (S2)	Possible
	Alkali weed – salt grass playas and sinks (S2)	Possible
	American bulrush marsh (S3.2)	Possible
	Arrow weed thickets (S3.3)	Possible
	Bush seepweed scrub (S3)	Possible
	California button-celery patches (S2)	Not Expected
	California cordgrass marsh (S3.2)	Possible
	Common monkey flower seeps (S3?)	Possible
	Dune mat (S3)	Not Expected
	Field horsetail – scouring rush horsetail – variegated scouring rush wet meadow (S3)	Possible
	Fountain thistle seeps (S1)	Possible
	Fremont's goldfields – Downingia vernal pools (S2)	Possible
	Fremont's goldfields – salt grass alkaline vernal pools (S2)	Possible
	Fremont's tidy-tips – blow wives vernal pools (S3?)	Not Expected
	Hardstem and California bulrush marshes (S3)	Possible
	Iodine bush scrub (S3.2)	Possible
	Iris-leaf rush seeps (S2?)	Possible
	Mats of bur-reed leaves (S3?)	Possible
	Northwest manna grass marshes (S3?)	Not Expected
	Pacific silverweed marshes (S2)	Possible
	Parish's glasswort patches (S2)	Possible
	Pickleweed mats (S3)	Possible
	Quillwort beds (S3?)	Possible
Salt marsh bulrush marshes (S3)	Possible	
Smooth goldfields vernal pool bottoms (S2)	Not Expected	

Program Type	Mapped Community	Potential to Occur
	Twotooth sedge seeps (S3?)	Possible
	Water-parsley marsh (S2?)	Possible
	Western sea-purslane marshes (S2.2?)	Possible
	White-root beds (S2?)	Possible
	Yerba mansa – Nuttall's sunflower – Nevada goldenrod alkaline wet meadows (S2)	Possible
	Parish's glasswort patches (S2)	Possible
	Pickleweed mats (S3)	Possible
	Quillwort beds (S3?)	Possible
	Salt marsh bulrush marshes (S3)	Possible
	Smooth goldfields vernal pool bottoms (S2)	Not Expected
	Twotooth sedge seeps (S3?)	Possible
	Water-parsley marsh (S2?)	Possible
	Western sea-purslane marshes (S2.2?)	Possible
	White-root beds (S2?)	Possible
	Yerba mansa – Nuttall's sunflower – Nevada goldenrod alkaline wet meadows (S2)	Possible

Appendix E: Special-Status Plants

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In evaluating habitat suitability and occurrence potential for special-status plant species within the Peninsula Watershed, relevant literature, knowledge of the regional flora, and observations made during the field investigations were applied to analysis criteria. Criteria determinations for occurrence potential of special-status plant species are divided into the four categories described below. These determination categories appear in the table below, which provides a summary of the status, habitat affinities, flowering phenology, habitat suitability and local distribution, and potential for occurrence for each of special-status plant species known from the region. It should be noted that CNDDDB population references refer to the Occurrence Number (EO). The EO is a unique number assigned to each population and used within the CNDDDB for its GIS relational database. Factors influencing which determination criteria are applied to target species is described below. **It should be noted that EOs that appear in *italics* followed by an “H” are historic not specific occurrences that may be present in a number of parks. Codes in the following table are further explained at the end of the document.**

- None denotes a complete lack of habitat suitability, local range restrictions, and/or regional extirpations.
- Not Expected denotes situations where partial habitat elements may be present but are of poor quality or is isolated from the nearest extant occurrences. Incomplete habitat elements refer to a lack of one or more of the following: appropriate elevation, preferred geology, preferred soil chemistry and type, suitable vegetation communities, or necessary microhabitats. The site conditions may also be degraded or significantly altered. These factors create unsuitable ecological conditions for the consideration of even a low occurrence potential within the study area, therefore they are not considered targets for protocol-level rare plant surveys.
- Possible indicates the presence of suitable habitat or key habitat elements that potentially support a specific species or taxa.
- Present indicates the target species was observed directly during field investigations.

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Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
Federal/State Endangered or Threatened Species					
<i>Amsinckia grandiflora</i> large-flowered fiddleneck	FED: FE CA:SE CEQA: 1B.1	Occurs in cismontane woodland and valley and foothill grassland between 270 and 550 meters. Known from fewer than 9 natural occurrences around ALA and SJQ counties. Presumed extirpated from CCA.	April-May annual herb	BS: Outside of known range and lacks appropriate climatic conditions.	BS: None
				D/SJV: Although close to old localities these locations are on valley bottoms or on the Delta's edge, where this species does not occur.	D/SJV: None
				EBH: Outside of known range and lacks appropriate climatic conditions.	EBH: None
				MH: Outside of known range and lacks appropriate climatic conditions.	MH: None
				MDR: Suitable vegetation associations present. Known from historic collections in the vicinity of BDMRP. Attempted reintroduction sites also occur at BDMRP. Suitable habitat present within open grassland slopes in the rain shadow of Mount Diablo. <u>Occurrence Data</u> BDMRP = 3 occurrences (Occ # 2H, 3, 9)	MDR: Present at BDMRP and possible at parks on the edge of the San Joaquin Valley.

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Arctostaphylos pallida</i> pallid manzanita	FED: FT CA: SE CEQA: 1B.1	Occurs on siliceous shale, sandy, or gravelly sites in broad-leafed upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, and coastal scrub between 185 and 465 meters. Known from fewer than nine locations in ALA and CCA counties.	December- March perennial evergreen shrub	BS: Outside of known range and lack of suitable vegetation associations.	BS: None
				D/SJV: Outside of known range, lacks appropriate climatic conditions, and lack of suitable vegetation associations.	D/SJV: None
				EBH: Suitable vegetation associations and climatic conditions present. <u>Occurrence Data</u> HBRP = 1 occurrence (OCC# 4) SRBRP = 1 occurrence (OCC# 1) SVRP = 1 occurrence (OCC# 4, 15) TRP = 2 occurrences (OCC# 2, 13) TRPRPBG = 1 occurrence (OCC# 13) RRRA = 1 occurrence (OCC# 3) RRRP = 2 occurrences (OCC# 3, 8)	EBH: Present and possible at parks north of 580.
				MH: Outside of known range, lacks appropriate climatic conditions, and lack of suitable vegetation associations.	MH: None
				MDR: Outside of known range and lack of suitable vegetation associations.	MDR: None
<i>Cholropyron molle</i> subsp. <i>molle</i> soft bird's-beak	FED: FE CA: SR CEQA: 1B.2	Occurs in coastal salt marshes and swamps between 0 and 3 meters. Known from fewer than 27 locations in CCA, NAP, and SOL counties. Presumed extirpated in MRN, SAC, and SON counties.	July-November annual herb (hemiparasitic)	BS: Suitable vegetation associations, host plants, and tidally influenced habitat present. <u>Occurrence Data</u> MRSP = 1 occurrence (Occ # 4H) PPRS = 1 occurrence (Occ # 1, 15H)	BS: Present and possible at parks along the shoreline.
				D/SJV: Suitable vegetation associations, host plants, and tidally influenced habitat present.	D/SJV: Possible at BPRS
				EBH: No suitable vegetation associations, host plants, or tidally influenced habitat present	EBH: None
				MH: No suitable vegetation associations, host plants, or tidally influenced habitat present	MH: None
				MDR: No suitable vegetation associations, host plants, or tidally influenced habitat present	MDR: None

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Chloropyron palmatum</i> palmate-bracted bird's beak	FED: FE CA: SE CEQA: 1B.1	Occurs on alkaline sites in chenopod scrub and valley and foothill grassland between 5 and 155 meters. Known from fewer than 25 locations in ALA, COL, FRE, GLE, MAD, and YOL counties. Presumed extirpated from SJQ county.	May-October annual herb (hemiparasitic)	BS: Outside of known range, lacks appropriate climatic conditions, lack of suitable vegetation associations, and absence of alkaline substrate.	BS: None
				D/SJV: Suitable vegetation associations, host plants and alkaline habitat present.	D/SJV: Possible at parks with suitable habitat in the Livermore Valley
				EBH: Outside of known range, lacks appropriate climatic conditions, lack of suitable vegetation associations, and absence of alkaline substrate.	EBH: None
				MH: Outside of known range, lacks appropriate climatic conditions, lack of suitable vegetation associations, and absence of alkaline substrate.	MH: None
				MDR: Suitable vegetation associations, host plants, and alkaline substrate present.	MDR: Possible in parks south of Oakland Airport.

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<p><i>Chorizanthe robusta</i> var. <i>robusta</i> robust spineflower</p>	<p>FED: FE CA: None CEQA: 1B.1</p>	<p>Occurs on sandy or gravelly sites in maritime chaparral, cismontane woodland, coastal dunes and coastal scrub between 3 and 300 meters. Known from fewer than 20 locations in MNT, SCR, and SFO counties. Uncertain about distribution or identity in MRN county; presumed extirpated from ALA, SCL, and SMT counties.</p>	<p>April-September annual herb</p>	<p>BS: In the East Bay this taxon was only known from ALA County but is now considered extirpated due to habitat loss. <u>Occurrence Data</u> CMSB = 1 occurrence (Occ # 1H) MLKJRS = 1 occurrence (Occ # 1H)</p>	<p>BS: Not Expected</p>
				<p>D/SJV: Outside of known range, lacks appropriate climatic conditions, and lack of suitable vegetation associations.</p>	<p>D/SJV: None</p>
				<p>EBH: Outside of known range, lacks appropriate climatic conditions, lack of suitable vegetation associations, and absence of sandy substrate.</p>	<p>EBH: None</p>
				<p>MH: Outside of known range, lacks appropriate climatic conditions, lack of suitable vegetation associations, and absence of sandy substrate.</p>	<p>MH: None</p>
				<p>MDR: Outside of known range, lacks appropriate climatic conditions, lack of suitable vegetation associations, and absence of sandy substrate.</p>	<p>MDR: None</p>

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Clarkia franciscana</i> Presidio clarkia	FED: FE CA: SCE CEQA: IB.I	Occurs on serpentine sites in coastal scrub, and valley and foothill grassland between 25 and 335 meters. Known from fewer than four locations in ALA and SFO counties.	May-July annual herb	BS: Outside of known range, lack of suitable vegetation associations, and absence of serpentine substrate.	BS: None
				D/SJV: Outside of known range, lack of suitable vegetation associations, and absence of serpentine substrate.	D/SJV:
				EBH: Suitable vegetation associations and substrate present. <u>Occurrence Data</u> RRRP = 1 occurrence (Occ # 4)	EBH: Present at RRRP
				MH: Although suitable vegetation associations and substrate are present, MH is outside of its narrow distribution.	MH: Not Expected
				MDR: Although suitable vegetation associations and substrate are present, MDR is outside of its narrow distribution.	MDR: Not Expected
<i>Cordylanthus nidularis</i> Mt. Diablo bird's-beak	FED: None CA: SR CEQA: IB.I	Occurs on serpentine sites in chaparral between 600 and 800 meters. Know from fewer than two locations in CCA County.	July-August annual herb (hemiparasitic)	BS: Outside of known range, lack of suitable vegetation associations, and absence of serpentine substrate.	BS: None
				D/SJV: Outside of known range, lack of suitable vegetation associations, and absence of serpentine substrate.	D/SJV: None
				EBH: Although suitable vegetation associations and substrate are present, EBH is outside of its narrow distribution.	EBH: Not Expected
				MH: Although suitable vegetation associations and substrate are present, MH is outside of its narrow distribution.	MH: Not Expected
				MDR: Although suitable vegetation associations and substrate are present, MDR is outside of its narrow distribution.	MDR: Not Expected

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Deinandra bacigalupii</i> Livermore tarplant	FED: None CA: SE CEQA: 1B.1	Occurs in alkaline meadows and seeps between 150 and 185 meters. Known from fewer than four locations in ALA County.	June-October annual herb	BS: Outside of known range, lacks appropriate climatic conditions, lack of suitable vegetation associations, and absence of alkaline substrate.	BS: None
				D/SJV: No suitable vegetation associations, or alkaline substrate present.	D/SJV: None
				EBH: Outside of known range, lacks appropriate climatic conditions, lack of suitable vegetation associations, and absence of alkaline substrate.	EBH: None
				MH: Outside of known range, lack of suitable vegetation associations, and absence of alkaline substrate.	MH: None
				MDR: Suitable vegetation associations and alkaline substrate present.	MDR: Possible in parks near the Livermore Valley.
<i>Eryngium racemosum</i> Delta button-celery	FED: None CA: SE CEQA: 1B.1	Occurs in vernal mesic clay depressions in riparian scrub between 3 and 30 meters. Known from fewer than 26 locations in CAL, CCA, MER, and STA counties. Presumed extirpated SJQ County.	June-October annual/ perennial herb	BS: Outside of known range, lacks appropriate climatic conditions, and lack of suitable vegetation associations and Deltaic hydrology.	BS: None
				D/SJV: Suitable vegetation associations and Deltaic hydrology present.	D/SJV: Possible at in parks on the edge of the San Joaquin Valley.
				EBH: Outside of known range, lacks appropriate climatic conditions, and lack of suitable vegetation associations and Deltaic hydrology.	EBH: None
				MH: Outside of known range, lacks appropriate climatic conditions, and lack of suitable vegetation associations and Deltaic hydrology.	MH: None
				MDR: Outside of known range, lacks appropriate climatic conditions, and lack of suitable vegetation associations and Deltaic hydrology.	MDR: None

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Erysimum capitatum</i> var. <i>angustatum</i> Contra Costa wallflower	FED: FE CA: SE CEQA: 1B.1	Occurs in inland dunes between 3 and 20 meters. Known only from fewer than four locations in CCA County.	March-July perennial herb	BS: Outside of known range, lacks appropriate climatic conditions, and lack of suitable vegetation associations.	BS: None
				D/SJV: Suitable vegetation associations and sandy substrate present. <u>Occurrence Data</u> BI = 1 occurrence (Occ # 4H)	D/SJV: Present at BI and possible in parks along the San Joaquin River.
				EBH: Outside of known range, lacks appropriate climatic conditions, lack of suitable vegetation associations, and absence of sandy substrate.	EBH: None
				MH: Outside of known range, lacks appropriate climatic conditions, lack of suitable vegetation associations, and absence of sandy substrate.	MH: None
				MDR: Outside of known range, lacks appropriate climatic conditions, lack of suitable vegetation associations, and absence of sandy substrate.	MDR: None

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Holocarpha macradenia</i> Santa Cruz tarplant	FED: FT CA: SE CEQA: 1B.1	Occurs often on clay and sandy sites in coastal prairie, coastal scrub and valley and foothill grassland between 10 and 220 meters. Known from fewer than 37 locations in MNT, SCR, and SOL Counties. Presumed extirpated from ALA, CCA, and MRN counties.	June-October annual herb	BS: In the East Bay this taxon is now considered extirpated from natural populations due to habitat loss. However, translocated populations survive such as the one in MESP. <u>Occurrence Data</u> MESP = 1 occurrence (Occ # 20H)	BS: Not Expected
				D/SJV: Outside of known range, lacks appropriate climatic conditions, such as located in the coastal fog belt.	D/SJV: None
				EBH: Translocated populations present so suitable vegetation associations and substrates present. <u>Occurrence Data</u> SRRP = 1 occurrence (Occ # 44) WCRP = 6 occurrences (Occ # 27, 28, 29, 30, 31, 38)	EBH: Present at WCRP and possible in parks on the west slope of the Oakland/Berkeley Hills.
				MH: Outside of known range, lacks appropriate climatic conditions, namely located in the coastal fog belt.	MH: None
				MDR: Outside of known range, lacks appropriate climatic conditions, namely located in the coastal fog belt.	MDR: None

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Lasthenia conjugens</i> Contra Costa goldfields	FED: FE CA: None CEQA: 1B.1	Occurs on mesic sites in cismontane woodland, alkaline playas, valley and foothill grassland, and vernal pools between 0 and 470 meters. Known from fewer than 36 locations in ALA, CCA, MNT, MRN, NAP, SOL, and SON counties. Presumed extirpated from MEN, SBA, and SCL counties.	March-June annual herb	BS: Suitable vegetation associations and vernal hydrology present.	BS: Possible at parks with suitable habitat south of Oakland Airport.
				D/SJV: Although suitable vegetation associations are present, this location is outside of known range, lacks appropriate climatic conditions, namely located in the coastal fog belt.	D/SJV: Not Expected
				EBH: Suitable vegetation associations, vernal hydrology and climatic conditions are present.	EBH: Possible within parks between Highway 4 and the Carquinez Strait.
				MH: Although suitable vegetation associations are present, this location is outside of known range, lacks appropriate climatic conditions, namely located in the coastal fog belt.	MH: Not Expected
				MDR: Although suitable vegetation associations are present, this location is outside of its known local range, and lacks appropriate climatic conditions, namely located in the coastal fog belt.	MDR: Not Expected

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Lilaeopsis masonii</i> Mason's lilaeopsis	FED: None CA: SR CEQA: IB.I	Occurs in brackish or freshwater marshes and swamps, and riparian scrub between 0 and 10 meters. Known from fewer than 198 locations in ALA, CCA, MRN, NAP, SAC, SJQ, SOL, and YOL counties.	April- November perennial herb (rhizomatous)	BS: Although suitable vegetation associations and hydrology are present this area is outside of its known range, as it prefers Deltaic hydrology.	BS: Not Expected
				D/SJV: Suitable vegetation associations, water salinity, and Deltaic hydrology present. <u>Occurrence Data</u> AORS = 1 occurrence (Occ # 218) BBRS = 4 occurrences (Occ # 92, 94, 95, 97) BI = 2 occurrences (Occ # 21, 175) BPRS = 1 occurrence (Occ # 81)	D/SJV: Present at AORS, BBRS, BI, and BRPS and possible in parks along the San Joaquin River east of the Carquinez Strait.
				EBH: No suitable vegetation associations or tidally influenced habitat present.	EBH: None
				MH: No suitable vegetation associations or tidally influenced habitat present.	MH: None
				MDR: No suitable vegetation associations or tidally influenced habitat present.	MDR: None

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Oenothera deltooides</i> subsp. <i>howellii</i> Antioch Dunes evening- primrose	FED: FE CA: SE CEQA: IB.I	Occurs on inland dunes between 0 and 30 meters. Known only from fewer than 10 locations in CCA County. An occurrence in SAC County is introduced.	March-September perennial herb	BS: Outside of known range, lacks appropriate climatic conditions, and lack of suitable vegetation associations.	BS: None
				D/SJV: Suitable vegetation associations and sandy substrate present. The BI population is introduced. <u>Occurrence Data</u> BI = 2 occurrences (Occ # 7, 8)	D/SJV: Present at BI and possible in parks with sandy habitat in the Delta Region.
				EBH: Outside of known range, lacks appropriate climatic conditions, lack of suitable vegetation associations, and absence of sandy substrate.	EBH: None
				MH: Outside of known range, lacks appropriate climatic conditions, lack of suitable vegetation associations, and absence of sandy substrate.	MH: None
				MDR: Outside of known range, lacks appropriate climatic conditions, lack of suitable vegetation associations, and absence of sandy substrate.	MDR: None

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Plagiobothrys diffusus</i> San Francisco popcorn- flower	FED: None CA: SE CEQA: 1B.1	Occurs in coastal prairie and valley and foothill grassland between 60 and 360 meters. Known from fewer than 17 locations in ALA, SBT, SCR, and SMT counties. Presumed extirpated from SFO County.	March-June annual herb	BS: Suitable vegetation associations present.	BS: Possible at all BS parks in CCA with appropriate habitat.
				D/SJV: Lack of suitable vegetation associations, outside of known range, lacks appropriate climatic conditions, namely located in the immediate coastal fog belt.	D/SJV: None
				EBH: Suitable vegetation associations present	EBH: Possible in parks in the vicinity of Skyline Boulevard.
				MH: Although suitable vegetation associations are present, this location is outside of known range, lacks appropriate climatic conditions, namely located in the immediate coastal fog belt.	MH: Not Expected
				MDR: Although suitable vegetation associations are present, this location is outside of known range, lacks appropriate climatic conditions, namely located in the immediate coastal fog belt.	MDR: Not Expected

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Sanicula maritima</i> adobe sanicle	FED: None CA: SR CEQA: 1B.1	Occurs on clay or serpentine sites in chaparral, coastal prairie, meadows and seeps, and valley and foothill grassland between 30 and 240 meters. Known from fewer than 17 locations in MNT and SLO counties. Presumed extirpated from ALA and SFO counties.	February-May perennial herb	BS: Suitable vegetation associations present. Known from historic collections in the vicinity of CMSB and MLKJRS. Suitable habitat present within intact valley bottom or coastal terrace habitat. <u>Occurrence Data</u> CMSB = 1 occurrence (Occ # 6H) MLKJRS = 1 occurrence (Occ # 6H)	BS: Possible at any BS parks with suitable habitat.
				D/SJV: Although suitable vegetation associations are present, this location is outside of known range and lacks appropriate climatic conditions, namely located in the coastal fog belt.	D/SJV: Not Expected
				EBH: Although suitable vegetation associations are present, this location is outside of known range and lacks appropriate climatic conditions, namely located in the coastal fog belt.	EBH: Not Expected
				MH: Although suitable vegetation associations are present, this location is outside of known range and lacks appropriate climatic conditions, namely located in the coastal fog belt.	MH: Not Expected
				MDR: Although suitable vegetation associations are present, this location is outside of known range, lacks appropriate climatic conditions, namely located in the coastal fog belt.	MDR: Not Expected

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Sanicula saxatilis</i> rock sanicle	FED: None CA: SR CEQA: 1B.2	Occurs on rocky, scree, and talus sites in broad-leaved upland forest, chaparral, and valley and foothill grassland between 620 and 1,175 meters. Known from fewer than 9 occurrences in CCA and SCL counties.	April-May perennial herb	BS: Outside of known range, lacks appropriate climatic conditions, lack of suitable vegetation associations, and absence of rocky substrate.	BS: None
				D/SJV: Outside of known range, lacks appropriate climatic conditions, lack of suitable vegetation associations, and absence of rocky substrate.	D/SJV: None
				EBH: Outside of known range, lacks appropriate climatic conditions, lack of suitable vegetation associations, and absence of rocky substrate.	EBH: None
				MH: Suitable vegetation associations and rocky substrate present. <u>Occurrence Data</u> OWRP = EBRPD Data	MH: Present at MH and possible within all MH parks.
				MDR: Although suitable vegetation associations and rocky substrates are present parks in MDR do not reach the appropriate elevations.	MDR: Not Expected

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Suaeda californica</i> California seablite	FED: FE CA: None CEQA: 1B.1	Occurs in coastal salt marshes and swamps between 0 and 15 meters. Known from fewer than 18 locations in SLO county. Presumed extirpated from ALA, CCA, SCL, and SFO counties.	July-October perennial evergreen shrub	BS: Suitable vegetation associations and hydrology present. Known from historic collections in the vicinity of the Bay shoreline. Reintroduction sites occur at OBRS. <u>Occurrence Data</u> MERP = 1 occurrence (Occ # 10H, 23H) MLKJRS = 1 occurrence (Occ # 9H) OBRS = 1 occurrence (Occ # 13)	BS: Present at OBRS and possible at BS parks with coastal marshes and swamps.
				D/SJV: Although suitable vegetation associations and hydrology are present, this location is outside of known range, lacks appropriate climatic conditions, namely located in the coastal fog belt.	D/SJV: Not Expected
				EBH: No suitable vegetation associations or tidally influenced habitat present	EBH: None
				MH: No suitable vegetation associations or tidally influenced habitat present	MH: None
				MDR: No suitable vegetation associations or tidally influenced habitat present	MDR: None
California Native Plant Society Rank One and Two					
<i>Allium sharsmithiae</i> Sharsmith's onion	FED: None CA: None CEQA: 1B.3	Occurs on serpentine and rocky sites in chaparral and cismontane woodland between 400 and 1,200 meters. Known from fewer than nine locations in ALA, SCL, and STA counties.	March-May perennial bulbiferous herb	BS: No suitable vegetation associations or appropriate substrate present.	BS: None
				D/SJV: No suitable vegetation associations or appropriate substrate present.	D/SJV: None
				EBH: Although suitable vegetation associations and substrates are present this location is outside of this species range.	EBH: Not Expected
				MH: Suitable vegetation associations and appropriate substrate present.	MH: Possible in all MH parks.
MDR: Although suitable vegetation associations and substrates are present this location is outside of this species range.	MDR: Not Expected				

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Amsinckia lunaris</i> bent-flowered fiddleneck	FED: None CA: None CEQA: 1B.2	Occurs in coastal bluff scrub, cismontane woodland and valley and foothill grassland between 3 and 500 meters. Many collections are old. Known from fewer than 93 locations in ALA, CCA, COL, LAK, MRN, NAP, SBT, SCL, SCR, SMT, SON, SUT, and YOL counties. May be present in SIS and SHA counties.	March-June annual herb	BS: This taxon prefers to occupy the ecotone of listed vegetation types; this location is also outside of its known local range.	BS: None
				D/SJV: Outside of known range, inappropriate climatic conditions, and lack of appropriate vegetation ecotones.	D/SJV: None
				EBH: Suitable vegetation associations and ecotone habitat. <u>Occurrence Data</u> BART = 1 occurrence (Occ # 40H) BRP = 3 occurrences (Occ # 30, 41, 75) KGRRA = 1 occurrence (Occ # 40H) LCRP = (Occ # 38H) LTWRP = 2 occurrences (Occ # 7, 36) RRRR = 1 occurrence (Occ # 38H) RRRP = 1 occurrence (Occ # 38H) SVRP = 1 occurrence (Occ # 8) TRP = 2 occurrences (Occ # 44H, 45)	EBH: Possible in All EBH parks.
				MH: Outside of known range, does not occur in the ALA County portion of the Mount Hamilton Range.	MH: None
				MDR: Outside of known range, does not occur east of Ygnacio Valley in Contra Costa County.	MDR: None

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Arctostaphylos auriculata</i> Mt. Diablo manzanita	FED: None CA: None CEQA: 1B.3	Occurs on sandstone in chaparral and cismontane woodland between 135 and 650 meters. Known from fewer than 17 locations in CCA county.	January-March perennial evergreen shrub	BS: Outside of known range, lacks appropriate climatic conditions, lack of suitable vegetation associations, and absence of appropriate substrate.	BS: None
				D/SJV: Outside of known range, lacks appropriate climatic conditions, lack of suitable vegetation associations, and absence of appropriate substrate.	D/SJV: None
				EBH: Outside of known range, not known west of Ygnacio Valley.	EBH: None
				MH: Outside of known range, not known south of Mount Diablo.	MH: None
				MDR: Suitable habitat and bedrock present. <u>Occurrence Data</u> BDMRP = 7 occurrences (Occ # 7, 8, 9, 10, 17, 18, 19) CRRP = 1 occurrence (Occ # 20H) MTRP = 1 occurrence (Occ # 12)	MDR: Present, and possible in other locations of BDMRP, CRRP, MTRP

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Arctostaphylos manzanita</i> subsp. <i>laevigata</i> Contra Costa manzanita	FED: None CA: CEQA: 1B.2	Occurs on rocky soils in chaparral between 430 and 1,100 meters. Known only from fewer than 10 locations in CCA county.	January-April perennial evergreen shrub	BS: Outside of known range, lacks appropriate climatic conditions, lack of suitable vegetation associations, and absence of appropriate substrate.	BS: None
				D/SJV: Outside of known range, lacks appropriate climatic conditions, lack of suitable vegetation associations, and absence of appropriate substrate.	D/SJV: None
				EBH: Outside of known range, not known west of Ygnacio Valley.	EBH: None
				MH: Outside of known range, not known south of Mount Diablo.	MH: None
				MDR: Suitable habitat and bedrock present. <u>Occurrence Data</u> CRRP = EBRPD Data BDMRP = 1 occurrence (Occ # 8) DFRP = 1 occurrence (Occ # 7) DVRP = EBRPD Data MTRP = 1 occurrence (Occ # 9) RVRP = 1 occurrence (Occ # 10H)	MDR: Present, and possible in other locations of BDMRP, CRRP, DFRP, DVRP, MTRP, and RVRP

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<p><i>Astragalus tener</i> var. <i>tener</i> alkali milk-vetch</p>	<p>FED: None CA: None CEQA: 1B.2</p>	<p>Occurs on alkaline substrates in playas, valley and foothill grassland on adobe clay, and vernal pools. Known from ALA, MER, NAP, SOL and YOL counties between 1 and 60 meters. Presumed extirpated from CCA, MNT, SBT, SCL, SFO, SJQ, SON, and STA counties.</p>	<p>March-June annual herb</p>	<p>BS: Suitable vegetation associations and alkaline habitat present. Known from historic collections in the vicinity of Oakland. <u>Occurrence Data</u> CMSB = 1 occurrence (Occ # 17H) MESP = 1 occurrence (Occ # 67H) MLKRS = 1 occurrence (Occ # 15H)</p>	<p>BS: Possible at parks with suitable habitat south of Oakland Airport.</p>
				<p>D/SJV: Suitable vegetation associations, host plants and alkaline habitat present.</p>	<p>D/SJV: Possible at parks with suitable habitat in the Livermore Valley</p>
				<p>EBH: Although suitable vegetation associations are present, this location is above elevational preferences, and lacks appropriate alkaline habitat.</p>	<p>EBH: Not Expected</p>
				<p>MH: Although suitable vegetation associations are present, this location is above elevational preferences, and lacks appropriate alkaline habitat.</p>	<p>MH: Not Expected</p>
				<p>MDR: Suitable vegetation associations and alkaline habitat present. Known from historic collections in the vicinity of BPRP. <u>Occurrence Data</u> BPRP = 1 occurrence (Occ # 8H)</p>	<p>MDR: Possible in BPRP</p>

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Atriplex cordulata</i> var. <i>cordulata</i> heartscale	FED: None CA: None CEQA: 1B.2	Occurs on saline or alkaline substrates in chenopod scrub, meadows and seeps, and sandy sites in valley and foothill grassland. Known from ALA, BUT, CCA, COL, FRE, GLE, KRN, MAD, MER, SOL, and TUL counties between 0 and 560 meters. Presumed extirpated from SJQ, STA, and YOL counties.	April-October annual herb	BS: This taxon does not occur in the East Bay. Mis-identifications have led to its potential for occurrence in CCA and ALA counties. Actually, <i>Atriplex coronata</i> var. <i>coronata</i> .	BS: None
				D/SJV: This taxon does not occur in the East Bay. Mis-identifications have led to its potential for occurrence in CCA and ALA counties. Actually, <i>Atriplex coronata</i> var. <i>coronata</i> .	D/SJV: None
				EBH: This taxon does not occur in the East Bay. Mis-identifications have led to its potential for occurrence in CCA and ALA counties. Actually, <i>Atriplex coronata</i> var. <i>coronata</i> .	EBH: None
				MH: This taxon does not occur in the East Bay. Mis-identifications have led to its potential for occurrence in CCA and ALA counties. Actually, <i>Atriplex coronata</i> var. <i>coronata</i> .	MH: None
				MDR: This taxon does not occur in the East Bay. Mis-identifications have led to its potential for occurrence in CCA and ALA counties. Actually, <i>Atriplex coronata</i> var. <i>coronata</i> . <u>Occurrence Data</u> BPRP = 2 occurrences (Occ # 68, 85) VCRP = EBRPD Data	MDR: None

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Atriplex depressa</i> brittlescale	FED: None CA: None CEQA: 1B.2	Occurs on alkaline substrates in chenopod scrub, meadows and seeps, playas, valley and foothill grassland, and vernal pools between 1 and 320 meters. Known from ALA, CCA, COL, FRE, GLE, KRN, MER, SOL, STA, TUL, and YOL counties.	April-October annual herb	BS: Outside of known range, lacks appropriate climatic conditions, and absence of alkaline habitat.	BS: None
				D/SJV: Suitable vegetation associations and alkaline habitat present.	D/SJV: Possible at parks with suitable habitat in the Livermore Valley
				EBH: Outside of known range, lacks appropriate climatic conditions, and absence of alkaline habitat.	EBH: None
				MH: Outside of known range, lacks appropriate climatic conditions, and absence of alkaline habitat.	MH: None
				MDR: <u>Occurrence Data</u> BPRP = 1 occurrence (Occ # 5) BVPRP = 1 occurrence (Occ # 78) VCRP = 2 occurrence (Occ # 1, 4)	MDR: Present at BPRP, BVRRP, and VCRP.
<i>Atriplex minuscula</i> lesser saltscale	FED: None CA: None CEQA: 1B.1	Occurs on alkaline and sandy soils in chenopod scrub, playas, and valley and foothill grassland. Known from ALA, BUT, FRE, KRN, MAD, MER, and TUL counties between 15 and 200 meters. Presumed extirpated from STA county.	May-October annual herb	BS: Outside of known range, lacks appropriate climatic conditions, and absence of alkaline habitat.	BS: None
				D/SJV: Suitable vegetation associations and alkaline habitat present.	D/SJV: Possible at parks with suitable habitat in the Livermore Valley
				EBH: Outside of known range, lacks appropriate climatic conditions, and absence of alkaline habitat.	EBH: None
				MH: Outside of known range, lacks appropriate climatic conditions, and absence of alkaline habitat.	MH: None
				MDR: Suitable vegetation associations and alkaline habitat present. <u>Occurrence Data</u> BPRP = 1 occurrence (Occ # 59)	MDR: Present at BPRP

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Balsamorhiza macrolepis</i> big-scale balsamroot	FED: None CA: None CEQA: 1B.2	Occurs often on serpentine sites in chaparral, cismontane woodland, and valley and foothill grassland. Known from ALA, AMA, BUT, COL, ELD, LAK, MPA, NAP, PLA, SCL, SHA, SOL, SON, TEH, and TUO counties between 90 and 1,555 meters.	March-June perennial herb	BS: No suitable vegetation associations with preferred substrate are present. This taxon also occurs at higher elevations than available in this region.	BS: None
				D/SJV: No suitable vegetation associations with preferred substrate are present. This taxon also occurs at higher elevations than available in this region.	D/SJV: None
				EBH: Suitable vegetation associations and serpentine substrate present. <u>Occurrence Data</u> LCRP = 1 occurrence (Occ # 2)	EBH: Present at LCRP and possible at other parks in the EBH.
				MH: Suitable vegetation associations and serpentine substrate present.	MH: Possible at OWRP and SWRP.
				MDR: Suitable vegetation associations and serpentine substrate present.	MDR: Possible at DFRP.

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Blepharizonia plumosa</i> big tarplant	FED: None CA: None CEQA: 1B.1	Occurs in valley and foothill grassland, usually on clay substrates. Known from ALA and CCA, SJQ, and STA counties between 30 and 505 meters. Presumed extirpated in SOL county.	July-October annual herb	BS: Outside of known range, inappropriate climatic conditions, restricted to Great Valley Sequence substrates.	BS: None
				D/SJV: Outside of known range, inappropriate climatic conditions, restricted to Great Valley Sequence substrates.	D/SJV: None
				EBH: Outside of known range, inappropriate climatic conditions, restricted to Great Valley Sequence substrates.	EBH: None
				MH: Outside of known range, inappropriate climatic conditions, restricted to Great Valley Sequence substrates.	MH: None
				MDR: Suitable vegetation associations and clay substrates present but only in parks that include Great Valley Sequence substrates. <u>Occurrence Data</u> BDMRP = 11 occurrences (Occ # 30, 31, 32, 33, 34, 35, 36, 39, 56H, 57, 67, 64, 67) CLRP = 1 occurrence (Occ # 56H) CRRP = 3 occurrences (Occ # 44H, 65, 66, 68) CRHT = 1 occurrence (Occ # 55H) VCRP = 1 occurrence (Occ # 38H, 62H)	MDR: Present at BDMRP, DVPRP, CLRP, CRRP, CRHT, and VCRP and possibly occurs at BPRP and BVPRP.

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Calochortus pulchellus</i> Mt. Diablo fairy-lantern	FED: None CA: None CEQA: 1B.2	Occurs in chaparral, cismontane woodland, riparian woodland, and valley and foothill grassland between 30 and 840 meters. Known from ALA and CCA counties.	April-June perennial herb (bulbiferous)	BS: Outside of known range, inappropriate climatic conditions, and lack of appropriate vegetation ecotones.	BS: None
				D/SJV: Outside of known range, inappropriate climatic conditions, and lack of appropriate vegetation ecotones.	D/SJV: None
				EBH: Suitable vegetation associations and ecotones present. <u>Occurrence Data</u> BLTRT = 1 occurrence (Occ # 22) BRP = 4 occurrences (Occ # 23, 25, 31, 58) CSRS = 2 occurrences (Occ # 26, 27) LTWRP = 1 occurrence (Occ # 28)	EBH: Present in BLTRT, BRP, CSRS, and LTWRP and possible in EBH parks on the leeward side of the Oakland/Berkley Hills from LTWRP north.
				MH: Outside of known range, does not occur south of LTWRP.	MH: None
MDR: Suitable vegetation associations and ecotones present. <u>Occurrence Data</u> BDMRP = 2 occurrences (Occ # 42, 44) CRRP = 1 occurrence (Occ # 41) DFRP = 2 occurrences (Occ # 4, 39) MTRP = 8 occurrences (Occ # 2, 30, 34, 35, 36, 37, 46, 47)	MDR: Present at BDMRP, CRRP, DFRP, MTRP and possibly occurs in other parks north of MTRP.				

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Calystegia purpurata</i> subsp. <i>Saxicola</i> coastal bluff morning- glory	FED: None CA: None CEQA: 1B.2	Occurs in coastal bluff scrub, coastal dunes, coastal scrub, and north coast coniferous forest between 0 and 105 meters. Known from CCA, LAK, MEN, MRN, and SON counties.	March- September perennial herb	BS: Suitable vegetation associations and climatic conditions. <u>Occurrence Data</u> BIRP = 1 occurrence (Occ # 1)	BS: Present at BIRP, where its only known East Bay occurrence lies.
				D/SJV: Outside of known range, inappropriate climatic conditions, and lack of suitable vegetation associations.	D/SJV: None
				EBH: Outside of known range, inappropriate climatic conditions, and lack of suitable vegetation associations.	EBH: None
				MH: Outside of known range, inappropriate climatic conditions, and lack of suitable vegetation associations.	MH: None
				MDR: Outside of known range, inappropriate climatic conditions, and lack of suitable vegetation associations.	MDR: None
<i>Campanula exigua</i> chaparral harebell	FED: None CA: None CEQA: 1B.2	Occurs in rocky and serpentine soils in chaparral from 275 and 1,250 meters in elevation. Known from ALA, CCA, MER, SBT, SCL, and STA counties.	May-June annual herb	BS: Outside of known range, lack of suitable vegetation associations, and absence of serpentine substrate.	BS: None
				D/SJV: Outside of known range, lack of suitable vegetation associations, and absence of serpentine substrate.	D/SJV: None
				EBH: Suitable vegetation associations and rocky substrates present. Known from historic collections in the vicinity of PRRP. <u>Occurrence Data</u> PRRP = 1 occurrence (Occ # 23H)	EBH: Possible in PRRP.
				MH: Suitable vegetation associations and rocky substrates present.	MH: Possible in OWRP and SWRP
				MDR: Suitable vegetation associations and rocky substrates present.	MDR: Possible in MTRP.

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Carex comosa</i> bristly sedge	FED: None CA: None CEQA: 2B.1	Occurs in coastal prairie, on the lake margins of marshes and swamps, and valley and foothill grassland. Known from CCA, LAK, MEN, SAC, SCR, SHA, SJQ, and SON counties between 0 and 625 meters. Presumed extirpated from SBD and SFO counties.	May- September perennial rhizomatous herb	BS: Outside of known local range, only occurs in interior CCA, not known from ALA County.	BS: None
				D/SJV: Suitable vegetation associations and hydrology present.	D/SJV: Possible in parks in the vicinity of the San Joaquin River.
				EBH: Outside of known local range, only occurs in interior CCA, not known from ALA County.	EBH: None
				MH: Outside of known local range, not known from ALA County.	MH: None
				MDR: Outside of known local range, only occurs in interior CCA.	MDR: None
<i>Castilleja rubicundula</i> var. <i>rubicundula</i> pink creamsacs	FED: None CA: None CEQA: 2B.1	Occurs on serpentines sites in openings of chaparral, cismontane woodlands, meadows and seeps, and valley foothills and grasslands between 20 and 910 meters. Known from fewer than 42 locations in BUT, CCA, COL, GLE, LAK, NAP, SCL, and SHA counties.	April-June annual herb (hemiparasitic)	BS: Out of range in the East Bay, no voucher collections for this taxon exist, CNPS/CNDDDB error.	BS: None
				D/SJV: Out of range in the East Bay, no voucher collections for this taxon exist, CNPS/CNDDDB error.	D/SJV: None
				EBH: Out of range in the East Bay, no voucher collections for this taxon exist, CNPS/CNDDDB error.	EBH: None
				MH: Out of range in the East Bay, no voucher collections for this taxon exist, CNPS/CNDDDB error.	MH: None
				MDR: Out of range in the East Bay, no voucher collections for this taxon exist, CNPS/CNDDDB error.	MDR: None

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Caulanthus lemmonii</i> Lemmon's jewelflower	FED: None CA: None CEQA: 2B.1	Occurs in pinyon and juniper woodland, and valley and foothill grassland between 80 and 1,580 meters. Known from fewer than 91 locations in FRE, KNG, KRN, MER, MNT, SBA, SBT, SJQ, SLO, STA, and VEN counties. Presumed extirpated from ALA County.	February-May annual herb	BS: Occurs in extreme eastern ALA County where it reaches its northern limit, away from any nearby parks.	BS: None
				D/SJV: Occurs in extreme eastern ALA County where it reaches its northern limit, away from any nearby parks.	D/SJV: None
				EBH: Occurs in extreme eastern ALA County where it reaches its northern limit, away from any nearby parks.	EBH: None
				MH: Occurs in extreme eastern ALA County where it reaches its northern limit, away from any nearby parks.	MH: None
				MDR: Occurs in extreme eastern ALA County where it reaches its northern limit, away from any nearby parks.	MDR: None

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Centromadia parryi</i> subsp. <i>congdonii</i> Congdon's tarplant	FED: None CA: None CEQA: 1B.2	Occurs on alkaline soils in valley and foothill grassland. Known from ALA, CCA, MNT, SCL, SLO, and SMT counties between 1 and 230 meters. Presumed extirpated from SCR and SOL counties.	June- November annual herb	BS: Suitable vegetation associations and alkaline habitat present. <u>Occurrence Data</u> WRP = 1 occurrence (Occ # 73)	BS: Present at WRP and possible at shoreline parks south of Oakland Airport.
				D/SJV: Suitable vegetation associations and alkaline habitat present.	D/SJV: Possible in parks with appropriate alkaline habitat.
				EBH: Suitable vegetation associations and alkaline habitat present. <u>Occurrence Data</u> PRRP = 1 occurrence (Occ # 92)	EBH: Present at PRRP.
				MH: Outside of known range, inappropriate climatic conditions, and absence of alkaline habitat.	MH: None
				MDR: Suitable vegetation associations and alkaline habitat present. <u>Occurrence Data</u> IHRT = 1 occurrence (Occ # 2H) TCRP = 1 occurrence (Occ # 91)	MDR: Present at IHRT and TCRP and possible at in low elevation and alkaline portions of other MDR parks.

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Chlorogalum pomeridianum</i> var. <i>minus</i> dwarf soaproot	FED: None CA: None CEQA: 2B.1	Occurs in serpentinite chaparral between 305 and 1,000 meters. Known from fewer than 31 locations in ALA, COL, GLE, LAK, SCL, SLO, SON, and THE counties.	May-August perennial bulbiferous herb	BS: Outside of known range, lacks appropriate climatic conditions, lack of suitable vegetation associations, and absence of serpentine substrate.	BS: None
				D/SJV: Outside of known range, lacks appropriate climatic conditions, lack of suitable vegetation associations, and absence of serpentine substrate.	D/SJV: None
				EBH: Outside of known range, lacks appropriate climatic conditions, lack of suitable vegetation associations, and absence of serpentine substrate.	EBH: None
				MH: Suitable vegetation associations and substrates present.	MH: Possible in SWRP.
				MDR: No suitable vegetation associations and serpentine habitat present.	MDR: None.
<i>Chloropyron maritimum</i> subsp. <i>palustre</i> Point Reyes bird's-beak	FED: None CA: None CEQA: 1B.2	Occurs in coastal salt marshes and swamps between 0 and 10 meters. Known from fewer than 76 locations in HUM, MRN, SFO, and SON counties. Presumed extirpated from ALA, SCL, and SMT counties.	June-October annual herb (hemiparasitic)	BS: Suitable vegetation associations, host plants, and tidally influenced habitat present. Known from historic collections in the vicinity of Alameda. <u>Occurrence Data</u> MESP = 1 occurrence (Occ # 21H, 63) MLKJRS = 1 occurrence (Occ # 20H)	BS: Possible at parks with suitable habitat south of Oakland Airport.
				D/SJV: Although suitable vegetation associations and hydrology are present, this location is outside of known range, namely located around the Bay.	D/SJV: Not Expected
				EBH: No suitable vegetation associations, host plants, and hydrology are present.	EBH: None
				MH: No suitable vegetation associations, host plants, and hydrology are present.	MH: None
				MDR: No suitable vegetation associations, host plants, and hydrology are present.	MDR: None

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Chloropyron molle</i> subsp. <i>hispidum</i> hispid bird's-beak	FED: None CA: None CEQA: 1B.1	Occurs on alkaline soils in meadows and seeps, playas, and valley and foothill grassland between 1 and 155 meters. Known from ALA, FRE, KRN, MER, PLA, and SOL counties.	June-September annual herb (hemiparasitic)	BS: Outside of known range, lacks appropriate climatic conditions, lack of suitable vegetation associations with alkaline substrate.	BS: None
				D/SJV: Suitable vegetation associations, host plants, and alkaline habitat present.	D/SJV: Possible at parks with suitable habitat in the Livermore Valley
				EBH: Outside of known range, lacks appropriate climatic conditions, lack of suitable vegetation associations, and absence of alkaline substrate.	EBH: None
				MH: Outside of known range, lacks appropriate climatic conditions, lack of suitable vegetation associations, and absence of alkaline substrate.	MH: None
				MDR: Suitable vegetation associations, host plants, and alkaline substrate present.	MDR: Possible at BPRP, VCRP, and VHRP
<i>Chorizanthe cuspidata</i> var. <i>cuspidata</i> San Francisco Bay spineflower	FED: None CA: None CEQA: 1B.2	Occurs on sandy sites in coastal bluff scrub, coastal dunes, coastal prairie, and coastal scrub between 3 and 215 meters. Known from fewer than 17 locations in MRN, SFO, and SMT counties. Presumed extirpated from ALA County; uncertain about distribution or identity in SON County.	April-August annual herb	BS: In the East Bay this taxon was only known from ALA County but is now considered extirpated due to habitat loss.	BS: Not Expected
				D/SJV: Outside of known range, lacks appropriate climatic conditions, and lack of suitable vegetation associations.	D/SJV: None
				EBH: Outside of known range, lacks appropriate climatic conditions, lack of suitable vegetation associations, and absence of sandy substrate.	EBH: None
				MH: Outside of known range, lacks appropriate climatic conditions, lack of suitable vegetation associations, and absence of sandy substrate.	MH: None
				MDR: Outside of known range, lacks appropriate climatic conditions, lack of suitable vegetation associations, and absence of sandy substrate.	MDR: None

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Cicuta maculata</i> var. <i>bolanderi</i> Bolander's water- hemlock	FED: None CA: None CEQA: 2B.1	Occurs in coastal marshes and swamps in fresh or brackish water between 0 and 200 meters. Known from fewer than 17 locations in CCA, MRN, SAC and SOL counties. Presumed extirpated from SBA County.	July-September perennial herb	BS: Suitable vegetation associations and tidally influenced habitat present. Known from a historic collection near Martinez. <u>Occurrence Data</u> MRS = 1 occurrence (Occ # 4H)	BS: Possible in parks along the Carquinez Strait.
				D/SJV: Suitable vegetation associations and tidally influenced habitat present. Known from a historic collection near between Big Break and Browns Island. <u>Occurrence Data</u> BBRS = 1 occurrence (Occ # 15H) BI = 1 occurrence (Occ # 2H)	D/SJV: Possible in parks along the San Joaquin River.
				EBH: No suitable vegetation associations or tidally influenced habitat present.	EBH: None
				MH: No suitable vegetation associations or tidally influenced habitat present.	MH: None
				MDR: No suitable vegetation associations or tidally influenced habitat present.	MDR: None
<i>Cirsium andrewsii</i> Franciscan thistle	FED: None CA: None CEQA: 1B.2	Occurs on mesic and sometimes serpentine sites in broad-leaved upland forest, coastal bluff scrub, and coastal prairie, and coastal scrub between 0 and 150 meters. Known from fewer than 31 locations in CCA, MRN, SFO, and SMT counties. Occurrence confirmed, but possibly extirpated from SON County.	March-July perennial herb	BS: Although suitable vegetation associations are present this species prefers higher elevations locally on the east slope of the EBHs. Also not known from ALA County.	BS: Not Expected
				D/SJV: No suitable vegetation associations and preferred substrate present.	D/SJV: None
				EBH: Suitable vegetation associations and preferred substrate present.	EBH: Possible in parks north of the Caldecott Tunnel.
				MH: Although suitable vegetation associations are present this species is not known from ALA County.	MH: Not Expected
				MDR: Although suitable vegetation associations are present this species is not known from ALA County.	MDR: Not Expected

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Cirsium fontinale</i> var. <i>campylon</i> Mt. Hamilton fountain thistle	FED: None CA: None CEQA: 1B.2	Occurs on serpentine seep sites in chaparral, cismontane woodland, and valley and foothill grassland between 100 and 890 meters. Known from fewer than 36 locations in ALA, SCL and STA counties.	February- October perennial herb	BS: No suitable vegetation associations, hydrology, or serpentine substrate present.	BS: None
				D/SJV: No suitable vegetation associations, hydrology, or serpentine substrate present.	D/SJV: None
				EBH: Although suitable vegetation associations, hydrology, or serpentine substrate are present, this species also occurs in the southeastern portion of ALA County.	EBH: None
				MH: No suitable vegetation associations, hydrology, or serpentine substrate present.	MH: Possible in SWRP.
				MDR: No suitable vegetation associations, hydrology, or serpentine substrate present. This species also occurs in the southeastern portion of ALA County.	MDR: None
<i>Cryptantha hooveri</i> Hoover's cryptantha	FED: None CA: None CEQA: 1A	Occurs in inland dunes and sandy valley and foothill grassland between 9 and 150 meters. Known from fewer than four locations in KRN County. Presumed extirpated from CCA, MAD and STA counties.	April-May annual herb	BS: Although suitable vegetation association and sandy substrate may be present, this species only occurs on interior stabilized dunes on the edge of San Joaquin Valley.	BS: Not Expected
				D/SJV: Suitable vegetation associations and sandy substrate present.	D/SJV: Possible in parks along in the vicinity of the San Joaquin River.
				EBH: No suitable vegetation associations or sandy substrates present.	EBH: None
				MH: No suitable vegetation associations or sandy substrates present.	MH: None
				MDR: No suitable vegetation associations or sandy substrates present.	MDR: None

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Delphinium californicum</i> subsp. <i>interius</i> Hospital Canyon larkspur	FED: None CA: None CEQA: 1B.2	Occurs in openings of chaparral, mesic cismontane woodland, and coastal scrub between 195 and 1,095 meters. Known from ALA, CCA, MER, MNT, SBT, SCL, SJQ, and STA counties.	April-June perennial herb	BS: No suitable vegetation associations present, taxon also prefers higher elevations than available in this region.	BS: None
				D/SJV: No suitable vegetation associations present, taxon also prefers higher elevations than available in this region.	D/SJV: None
				EBH: Although suitable vegetation associations are present, this taxon only occurs in the interior hills and mountains of the East Bay.	EBH: Not Expected
				MH: Suitable vegetation associations present. <u>Occurrence Data</u> OWRP = EBRPD Data	MH: Possible in all parks in MH.
				MDR: Suitable vegetation associations present. Known from a historic collection on the north side of Mount Diablo. <u>Occurrence Data</u> CRHT = 1 occurrence (Occ # 17H)	MDR: Possible in parks surrounding Mount Diablo with appropriate vegetation types.

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Delphinium recurvatum</i> recurved larkspur	FED: None CA: None CEQA: 1B.2	Occurs on alkaline substrate in chenopod scrub, cismontane woodland, and valley and foothill grassland. Known from ALA, CCA, FRE, GLE, KNG, KRN, MAD, MER, MNT, SJQ, SLO, SOL, SUT, and TUL counties between 3 and 790 meters.	March-June perennial herb	BS: Although suitable vegetation association and alkaline substrate may be present, this species only occurs on the edge of San Joaquin Valley.	BS: Not Expected
				D/SJV: Suitable vegetation associations and alkaline habitat present.	D/SJV: Possible in parks in the eastern portion of CCA County.
				EBH: No suitable vegetation associations with alkaline substrate may be present, this species also only occurs on the edge of San Joaquin Valley.	EBH: None
				MH: No suitable vegetation associations with alkaline substrate may be present, this species also only occurs on the edge of San Joaquin Valley.	MH: None
				MDR: No suitable vegetation associations with alkaline substrate may be present, this species also only occurs on the edge of San Joaquin Valley.	MDR: None

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Eriastrum erterae</i> Lime ridge eriastrum	FED: None CA: None CEQA: 1B.1	Occurs on volcanic or sandy substrates in chaparral and cismontane woodland. Known from COL, GLE, LAK, SCL, SHA, SMT, THE, and TRI counties between 305 and 1,030 meters. Identity of CCA occurrence needs confirmation.	April-August annual herb	BS: No suitable vegetation associations and preferred substrates present. Species also occurs at higher elevations than available in this region.	BS: None
				D/SJV: No suitable vegetation associations and preferred substrates present. Species also occurs at higher elevations than available in this region.	D/SJV: None
				EBH: Although suitable vegetation associations are present, this location is outside of known range, which is restricted to the foothills of Lime Ridge.	EBH: Not Expected
				MH: Although suitable vegetation associations are present, this location is outside of known range, which is restricted to the foothills of Lime Ridge.	MH: Not Expected
				MDR: Although suitable vegetation associations are present, and this species is known from this region, it is highly restricted to specialized soils on Lime Ridge.	MDR: Not Expected
<i>Eriogonum luteolum</i> var. <i>caninium</i> Tiburon buckwheat	FED: None CA: None CEQA: 1B.2	Occurs on serpentinitic, sandy or gravelly sites in chaparral, cismontane woodland, coastal prairie, and valley and foothill grassland. Known from ALA, CCA, and MRN counties between 0 and 700 meters. Possibly occurs in SON County. Not clearly distinguishable from var. <i>luteolum</i> north of Tiburon. <i>E. luteolum</i> is similar to <i>E. gracile</i> to the south and <i>E. vimineum</i> to the northeast.	May- September annual herb	BS: Not suitable vegetation associations with necessary substrate are present.	BS: None
				D/SJV: Not suitable vegetation associations with necessary substrate are present.	D/SJV: None
				EBH: Suitable vegetation associations and substrates present. <u>Occurrence Data</u> RRRP = 1 occurrence (Occ # 1)	EBH: Present in RRRP
				MH: Although suitable vegetation associations and substrates are present this species does not occur south of Oakland.	MH: Not Expected
				MDR: Although suitable vegetation associations and substrates are present this species does not occur east of the EBH.	MDR: Not Expected

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<i>Eriogonum nudum</i> var. <i>psychicola</i> Antioch Dunes buckwheat	FED: None CA: None CEQA: 1B.1	Occurs in inland dunes between 0 and 20 meters. Known from only one location in CCA County.	July-October perennial herb	BS: Although suitable vegetation association and sandy substrate may be present, this species only occurs on interior stabilized dunes on the edge of San Joaquin Valley.	BS: Not Expected
				D/SJV: Suitable vegetation associations and sandy substrate present.	D/SJV: Possible in parks along in the vicinity of the San Joaquin River.
				EBH: No suitable vegetation associations or sandy substrates present.	EBH: None
				MH: No suitable vegetation associations or sandy substrates present.	MH: None
				MDR: No suitable vegetation associations or sandy substrates present.	MDR: None
<i>Eriogonum truncatum</i> Mt. Diablo buckwheat	FED: None CA: None CEQA: 1B.1	Occurs in sandy soils in chaparral, coastal scrub, and valley and foothill grassland between 3 and 350 meters. Known from CCA counties. Presumed extirpated from SOL county.	April- December annual herb	BS: Although suitable vegetation association and sandy substrate may be present, this species is restricted to the foothills of Mt. Diablo.	BS: Not Expected
				D/SJV: Although suitable vegetation association and sandy substrate may be present, this species is restricted to the foothills of Mt. Diablo.	D/SJV: Not Expected
				EBH: Although suitable vegetation association and sandy substrate may be present, this species is restricted to the foothills of Mt. Diablo.	EBH: Not Expected
				MH: Although suitable vegetation association and sandy substrate may be present, this species is restricted to the foothills of Mt. Diablo.	MH: Not Expected
				MDR: Suitable vegetation associations and sand substrates present. <u>Occurrence Data</u> BDMRP = 1 occurrence (Occ # 9) DVRP = 1 occurrence (Occ # 3H)	MDR: Present at BDMRP and possible in parks east of Mt. Diablo.

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Eryngium aristulatum</i> var. <i>hooveri</i> Hoover's button-celery	FED: None CA: None CEQA: 1B.1	Occurs in vernal pools between 3 and 45 meters. Known from fewer than 16 locations in ALA, SBT, SDG, and SLO counties. Presumed extirpated in SCL County.	June-August annual/ perennial herb	BS: Suitable vegetation associations and vernal hydrology may be present.	BS: Possible at parks with suitable habitat south of Oakland Airport.
				D/SJV: Outside of known range, inappropriate climatic conditions, namely outside the coastal fog belt. This species has also never been recorded in CCA County.	D/SJV: None
				EBH: Outside of known range and inappropriate climatic conditions. This taxon also occurs at lower elevations than available in this region	EBH: None
				MH: Outside of known range and inappropriate climatic conditions, namely outside the coastal fog belt. This taxon also occurs at lower elevations than available in this region	MH: None
				MDR: Outside of known range and inappropriate climatic conditions, namely outside the coastal fog belt. This taxon also occurs at lower elevations than available in this region	MDR: None

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Eryngium jepsonii</i> Jepson's coyote thistle	FED: None CA: None CEQA: 1B.2	Occurs on clay sites in valley and foothill grassland and vernal pools between 3 and 300 meters. Known from fewer than 10 location in ALA, AMA, CAL, CCA, FRE, NAP, SMT, SOL, STA, TUO and YOL counties.	April-August perennial herb	BS: Outside of known local range and inappropriate climatic conditions.	BS: None
				D/SJV: Outside of known local range and inappropriate climatic conditions.	D/SJV: None
				EBH: Suitable vegetation associations and clay substrate present. <u>Occurrence Data</u> BROS RP = 1 occurrence (Occ # 3) CRHRP = 1 occurrence (Occ # 12) CSRS = 2 occurrences (Occ # 10, 11) LCRP = 1 occurrence (Occ # 5)	EBH: Present and Possible in EBH parks east of the Oakland/Berkeley Hills and north of LTWRP
				MH: Although suitable vegetation associations and substrates are present this species does not occur south of LTWRP.	MH: Not Expected
				MDR: Suitable vegetation associations and clay substrate present. <u>Occurrence Data</u> BDMRP = 1 occurrence (Occ # 4)	MDR: Present and Possible in MDR parks east of Mount Diablo.

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<i>Eryngium spinosepalum</i> spiny-sepaled button- celery	FED: None CA: None CEQA: 1B.2	Occurs in valley and foothill grassland and vernal pools between 80 and 975 meters. Known from CCA, FRE, KRN, MAD, MER, SLO, STA, TUL, and TUO counties.	April-June annual/ perennial herb	BS: Although suitable vegetation associations and vernal hydrology may be present this species is restricted to the edge of the San Joaquin Valley.	BS: Not Expected
				D/SJV: Suitable vegetation associations and hydrology are present.	D/SJV: Possible in parks in the vicinity of the San Joaquin River.
				EBH: Although suitable vegetation associations and vernal hydrology may be present this species is restricted to the edge of the San Joaquin Valley.	EBH: Not Expected
				MH: Although suitable vegetation associations and vernal hydrology may be present this species is restricted to the edge of the San Joaquin Valley.	MH: Not Expected
				MDR: Suitable vegetation associations and hydrology are present. <u>Occurrence Data</u> VHRP = EBRPD Data	MDR: Present in lower elevations along the edge of the San Joaquin Valley.

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Eschscholzia rhombipetala</i> diamond-petaled California poppy	FED: None CA: None CEQA: 1B.1	Occurs on alkaline, clay, valley and foothill grassland. Known from ALA, SJQ, and SLO counties between 0 and 975 meters. Presumed extirpated from CCA, COL, and STA counties.	March-April annual herb	BS: Although suitable vegetation associations and alkaline habitat may be present this species is restricted to the edge of the San Joaquin Valley.	BS: Not Expected
				D/SJV: Although suitable vegetation associations and alkaline habitat may be present this species prefers low hills and slopes on edge the San Joaquin Valley.	D/SJV: Not Expected
				EBH: No suitable vegetation associations or alkaline habitat present.	EBH: None
				MH: No suitable vegetation associations or alkaline habitat present.	MH: None
				MDR: Suitable vegetation associations and alkaline habitat present. Known from a historic occurrence near Byron Hot Springs. <u>Occurrence Data</u> VCRP = 1 occurrence (Occ # 4H)	MDR: Present in lower elevations along the edge of the San Joaquin Valley.

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Extriplex joaquinana</i> San Joaquin spearscale	FED: None CA: None CEQA: 1B.2	Occurs on alkaline substrate in chenopod scrub, meadows and seeps, playas, and valley and foothill grassland. Known from ALA, CCA, COL, FRE, GLE, MER, MNT, NAP, SBT, SOL, and YOL counties between 1 and 835 meters. Presumed extirpated from SCL and SJQ counties. Uncertain about distribution or identity of occurrences in SLO county. Uncertain about distribution in TUL county but presumed extirpated if once present.	April-October annual herb	BS: Although suitable vegetation associations and alkaline habitat may be present this species is restricted to the edge of the San Joaquin Valley.	BS: Not Expected
				D/SJV: Suitable vegetation associations and hydrology are present.	D/SJV: Possible in parks in the vicinity of the San Joaquin River.
				EBH: Suitable vegetation associations and alkaline habitat may be present. Known from a historic occurrence near Dublin. <u>Occurrence Data</u> LTWRP = 1 occurrence (Occ #62H)	EBH: Possible near the lower elevations on the east side of LTWRP.
				MH: Suitable vegetation associations and alkaline habitat may be present. Known from a historic occurrence near Fremont. <u>Occurrence Data</u> MPRP = 1 occurrence (Occ #65H)	MH: Possible near the lower elevations on the west side of MPRP.
				MDR: Suitable vegetation associations and alkaline habitat present. <u>Occurrence Data</u> BPRP = 2 occurrences (Occ # 1, 131) BVPRP = 6 occurrences (Occ # 5, 7, 9, 14, 120, 121) VCRP = 7 occurrences (Occ # 6, 8, 12, 101, 122, 123, 124)	MDR: Present in BPRP, BVPRP, and VCRP and possible in lower elevations at parks south of DVRP.

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<i>Fissidens pauperculus</i> fissidens moss	FED: None CA: None CEQA: 1B.2	Occurs in North coast coniferous forest between 10 and 1,024 meters. Known from ALA, BUT, DNT, HUM, MEN, MRN, SCR, SMT, SON, and YUB counties.	Wet Season	BS: No suitable vegetation associations present.	BS: None
				D/SJV: No suitable vegetation associations present.	D/SJV: None
				EBH: Suitable vegetation associations present.	EBH: Possible in TRP and CCRP.
				MH: No suitable vegetation associations present.	MH: None
				MDR: No suitable vegetation associations present.	MDR: None
<i>Fritillaria falcata</i> talus fritillary	FED: None CA: None CEQA: 1B.2	Occurs on serpentine and talus sites in chaparral, cismontane woodland, and lower montane coniferous forest between 300 and 1,525 meters. Known from fewer than 16 locations in ALA, MNT, SBT, SCL, and STA counties.	March-May perennial bulbiferous herb	BS: No suitable vegetation associations or appropriate substrate present. This taxon also occurs at higher elevations than available in this region.	BS: None
				D/SJV: No suitable vegetation associations or appropriate substrate present. This taxon also occurs at higher elevations than available in this region.	D/SJV: None
				EBH: Although suitable vegetation associations and substrates are present this location is outside of this species range, which is in the southeastern corner of ALA County.	EBH: Not Expected
				MH: Suitable vegetation associations and appropriate substrate present.	MH: Possible in all MH parks.
				MDR: Although suitable vegetation associations and substrates are present this location is outside of this species range, which is in the southeastern corner of ALA County.	MDR: Not Expected

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Fritillaria liliacea</i> Fragrant fritillary	FED: None CA: None CEQA: 1B.2	Occurs on clay or serpentine sites in cismontane woodland, coastal prairie, coastal scrub, valley, and foothill grassland near the coast between 3 and 410 meters. Known from ALA, CCA, MNT, MRN, SBT, SCL, SFO, SMT, SOL and SON counties.	February-April perennial herb (bulbiferous)	BS: Although this species is known from historic collections near Stege, it is now considered extirpated in BS due to habitat loss and degradation, However, Miller Knox may still support this species. <u>Occurrence Data</u> MESP = 1 occurrence (Occ # 57H) MKRS = 1 occurrence (Occ # 52H)	BS: Possible at MKRS.
				D/SJV: Although suitable vegetation associations are present, this location is outside of known range, lacks appropriate climatic conditions, near the influence of coastal fog.	D/SJV: Not Expected
				EBH: Suitable vegetation associations and substrates present. <u>Occurrence Data</u> HBRP = 1 occurrence (Occ # 66) LCRP = 4 occurrences (Occ # 38, 39, 67, 68) LTWRP = 1 occurrence (Occ # 81) SVRP = 1 occurrence (Occ # 66) TNA = 1 occurrence (Occ # 65) WCRP = 1 occurrence (Occ # 50)	EBH: Present and Possible at EBH parks west of Mount Diablo.
				MH: Although suitable vegetation associations are present MH is outside of the known range for this species.	MH: Not Expected
				MDR: Suitable vegetation associations and substrates present. <u>Occurrence Data</u> DFRP = 2 occurrences (Occ # 34, 74)	MDR: Present and possible at DFRP.

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<i>Gilia millefoliata</i> dark-eyed gilia	FED: None CA: None CEQA: 1B.2	Occurs in coastal dunes between 2 and 30 meters. Known from fewer than 54 locations in ALA, DNT, HUM, MEN, MRN, SMT, and SON counties. Presumed extirpated from SFO County.	April-July annual herb	BS: Although this species is known from historic collections from the vicinity of Oakland, it is now considered extirpated in BS due to habitat loss and degradation. <u>Occurrence Data</u> CMSB = 1 occurrence (Occ # 43H) MESP = 1 occurrence (Occ # 43H) MLKJRS = 1 occurrence (Occ # 43H)	BS: Not Expected
				D/SJV: No suitable vegetation associations or sandy substrates present.	D/SJV: None
				EBH: No suitable vegetation associations or sandy substrates present. This taxon also occurs at lower elevations than available in this region.	EBH: None
				MH: Outside of known range, inappropriate climatic conditions, and lack of suitable vegetation associations. This taxon also occurs at lower elevations than available in this region.	MH: None
				MDR: Outside of known range, inappropriate climatic conditions, and lack of suitable vegetation associations. This taxon also occurs at lower elevations than available in this region.	MDR: None

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<i>Grimmia torenii</i> Toren's grimmia	FED: None CA: None CEQA: 1B.3	Occurs openings, rocky, boulder and rock walls, carbonate, volcanic, in chaparral, cismontane woodland, and lower montane coniferous forest between 325 and 1,160. Known from CCA, COL, LAK, MEN, MNT, SCR, and SMT counties.	None	BS: No suitable vegetation associations and substrates present. This taxon also occurs at higher elevations than available in this region.	BS: None
				D/SJV: No suitable vegetation associations and substrates present. This taxon also occurs at higher elevations than available in this region.	D/SJV: None
				EBH: Suitable vegetation associations and substrates present.	EBH: Possible at all EBH parks at elevations around 1,000 feet and higher.
				MH: Suitable vegetation associations and substrates present.	MH: Possible at all MH parks at elevations around 1,000 feet and higher.
				MDR: Suitable vegetation associations and substrates present.	MDR: Possible at all MDR parks at elevations around 1,000 feet and higher.

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<p><i>Helianthella castanea</i> Diablo helianthella</p>	<p>FED: None CA: None CEQA: 1B.2</p>	<p>Occurs in broadleaved upland forest, chaparral cismontane woodland, coastal scrub, riparian woodland, and valley and foothill grassland between 60 and 1,300. Known from ALA, CCA, and SMT counties. Presumed extirpated from MRN and SFO counties.</p>	<p>March-June perennial herb</p>	<p>BS: No suitable vegetation associations present. This taxon also occurs at higher elevations than available in this region.</p>	<p>BS: None</p>
				<p>D/SJV: Outside of known range and inappropriate climatic conditions.</p>	<p>D/SJV: None</p>
				<p>EBH: Suitable vegetation associations present. <u>Occurrence Data</u> CHRP = 1 occurrence (Occ # 58) CSRS = 1 occurrence (Occ # 56, 59) BRP = 4 occurrences (Occ # 9, 46, 48, 49, 64H, 77) GDCPRP = 1 occurrence (Occ # 10H) KGRRRA = 1 occurrence (Occ # 73) LCRP = 1 occurrence (Occ # 10H, 36) LTWRP = 9 occurrences (Occ # 8, 37, 38, 39, 40, 43, 44, 100, 101) RRRP = 1 occurrence (Occ # 10H) SRBRP = 1 occurrence (Occ # 106) TRP = 4 occurrences (Occ # 6, 51, 53, 54) RP = 2 occurrences (Occ # 67, 87)</p>	<p>EBH: Present and possible in parks from GDCPRP and LTWRP north.</p>
				<p>MH: Although suitable vegetation associations are present MH is outside of its known range and is replaced by <i>H. californica</i> var. <i>californica</i> here.</p>	<p>MH: Not Expected</p>
				<p>MDR: Suitable vegetation associations <u>Occurrence Data</u> BDMRP = 5 occurrences (Occ # 5, 15, 25, 29, 114) CRRP = 6 occurrences (Occ # 95, 81, 110, 111, 112, 113) DFRP = 2 occurrences (Occ # 96, 97) DVRP = 2 occurrences (Occ # 70, 71) MTRP = 7 occurrences (Occ # 14, 79, 89, 90, 91, 107, 108)</p>	<p>MDR: Present and possible at parks from MTRP north.</p>

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Hesperolinon breweri</i> Brewer's western flax	FED: None CA: None CEQA: 1B.2	Occurs in chaparral, cismontane woodland, and valley and foothill grassland usually on serpentinite at elevations from 30 to 900 meters. Known from CCA, NAP, and SOL counties.	May-July annual herb	BS: No suitable vegetation associations present. This taxon also occurs at higher elevations than available in this region.	BS: None
				D/SJV: Outside of known range and inappropriate climatic conditions.	D/SJV: None
				D/SJV: Outside of known range and inappropriate climatic conditions.	D/SJV: None
				MH: Although suitable vegetation associations are present MH is outside of its known range.	MH: Not Expected
				MDR: Suitable vegetation associations present. <u>Occurrence Data</u> CRRP = 1 occurrence (Occ # 33H) BDMRP = 2 occurrences (Occ # 7, 32H) MTRP = 2 occurrences (Occ # 19, 25)	MDR: Present and possible at parks from MTRP north
<i>Hesperolinon tehamense</i> Tehama County western flax	FED: None CA: None CEQA: 1B.3	Occurs on serpentine sites in chaparral and cismontane woodland between 100 and 1,250 meters. Known from fewer than 16 locations in ALA, GLE, LAK, NAP, STA, and TEH counties.	May-July annual herb	BS: Out of range in the East Bay, no voucher collections for this taxon exist, CNPS/CNDDDB error.	BS: None
				D/SJV: Out of range in the East Bay, no voucher collections for this taxon exist, CNPS/CNDDDB error.	D/SJV: None
				EBH: Out of range in the East Bay, no voucher collections for this taxon exist, CNPS/CNDDDB error.	EBH: None
				MH: Out of range in the East Bay, no voucher collections for this taxon exist, CNPS/CNDDDB error.	MH: None
				MDR: Out of range in the East Bay, no voucher collections for this taxon exist, CNPS/CNDDDB error.	MDR: None

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i> woolly rose-mallow	FED: None CA: None CEQA: 1B.2	Occurs in freshwater marshes and swamps, often in riprap on sides of levees between 0 and 120 meters. Known from BUT, CCA, COL, GLE, SAC, SJQ, SOL, SUT, and YOL counties from.	June- September perennial herb (rhizomatous, emergent)	BS: Suitable vegetation associations and Deltaic hydrology present.	BS: Possible in parks with Delta levees.
				D/SJV: No suitable vegetation associations and Deltaic hydrology present.	D/SJV: None
				EBH: No suitable vegetation associations and Deltaic hydrology present. This taxon also occurs at lower elevations than available in this region.	EBH: None
				MH: No suitable vegetation associations and Deltaic hydrology present. This taxon also occurs at lower elevations than available in this region.	MH: None
				MDR: No suitable vegetation associations and Deltaic hydrology present. This taxon also occurs at lower elevations than available in this region.	MDR: None

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Hoita strobilina</i> Loma Prieta hoita	FED: None CA: None CEQA: 1B.1	Occurs usually on serpentine and mesic sites in chaparral, cismontane woodland, and riparian woodland. Known from CCA, SCL, and SCR counties between 30 and 860 meters. Presumed extirpated from ALA County	May-October perennial herb	BS: No suitable vegetation associations or substrates present. This taxon also occurs at higher elevations than available in this region.	BS: None
				D/SJV: No suitable vegetation associations or substrates present. This taxon also occurs at higher elevations than available in this region and is outside of its known range.	D/SJV: None
				EBH: Suitable vegetation associations and substrates present. Known from historic collections in the vicinity of the Oakland Hills. <u>Occurrence Data</u> CCRP = 1 occurrence (Occ # 30H) LCOSP = 1 occurrence (Occ # 30H) LCRP = 1 occurrence (Occ # 30H) RRRP = 1 occurrence (Occ # 30H) RRRR = 1 occurrence (Occ # 30H)	EBH: Possible in parks from LCRP north.
				MH: Suitable vegetation associations and substrates present.	MH: Possible in all MH parks.
				MDR: Although suitable vegetation associations and substrates are present, MDR is outside of this species local range.	MDR: Not Expected

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<p><i>Horkelia cuneata</i> var. <i>sericea</i> Kellogg's horkelia</p>	<p>FED: None CA: None CEQA: 1B.1</p>	<p>Occurs on sandy or gravelly sites in openings of closed-cone coniferous forest, maritime chaparral, coastal dunes, and coastal scrub. Known from MNT, SBA, SCR, SLO, and SMT counties between 10 and 200 meters. Presumed extirpated from ALA, MRN, SFO counties. The remaining plants are less distinct from subsp. <i>cuneata</i> than those formerly occurring near San Francisco.</p>	<p>April-September perennial herb</p>	<p>BS: Although this species is known from historic collections near Oakland and Alameda, it is now considered extirpated in BS due to habitat loss and degradation. <u>Occurrence Data</u> CMSB = 1 occurrence (Occ # 34H) MLKJRS = 1 occurrence (Occ # 34H)</p>	<p>BS: Not Expected</p>
				<p>D/SJV: Outside of known range, inappropriate climatic conditions, and lack of suitable vegetation associations.</p>	<p>D/SJV: None</p>
				<p>EBH: Suitable vegetation associations and substrates present. This taxon also prefers to occupy the ecotone of listed vegetation types.</p>	<p>EBH: Possible in park on the west slope of EBH, from LCRP north.</p>
				<p>MH: Outside of known range, inappropriate climatic conditions, and lack of suitable vegetation associations.</p>	<p>MH: None</p>
				<p>MDR: Outside of known range, inappropriate climatic conditions, and lack of suitable vegetation associations.</p>	<p>MDR: None</p>

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<p><i>Lathyrus jepsonii</i> var. <i>jepsonii</i> Delta tule pea</p>	<p>FED: None CA: None CEQA: 1B.2</p>	<p>Occurs in freshwater and brackish marshes and swamps. Known from CCA, NAP, SAC, SJQ, SOL, SON, and YOL counties between 0 and 5 meters.</p>	<p>May-July perennial herb</p>	<p>BS: Suitable vegetation associations and tidal hydrology present. <u>Occurrence Data</u> MSRP = 1 occurrence (Occ # 5) WRP = 1 occurrence (Occ # 160)</p>	<p>BS: Present and possible in parks east of the Carquinez Strait.</p>
				<p>D/SJV: Suitable vegetation associations and tidal hydrology present. <u>Occurrence Data</u> BI = 1 occurrence (Occ # 1H)</p>	<p>D/SJV: Present and possible in parks from BPRS east.</p>
				<p>EBH: Outside of known range, inappropriate climatic conditions, and lack of suitable vegetation associations and tidal hydrology.</p>	<p>EBH: None</p>
				<p>MH: Outside of known range, inappropriate climatic conditions, and lack of suitable vegetation associations and tidal hydrology.</p>	<p>MH: None</p>
				<p>MDR: Outside of known range, inappropriate climatic conditions, and lack of suitable vegetation associations and tidal hydrology.</p>	<p>MDR: None</p>

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Legenere limosa</i> legenere	FED: None CA: None CEQA: 1B.1	Occurs in vernal pools between 1 and 880 meters. Known from ALA, LAK, MNT, NAP, PLA, SAC, SCL, SHA, SJQ, SMT, SOL, SON, TEH and YUB counties; presumed extirpated from STA county.	April-June annual herb	BS: Outside of known local range, inappropriate climatic conditions, and lack of suitable vegetation associations and vernal hydrology.	BS: None
				D/SJV: Suitable vegetation associations and vernal hydrology present.	D/SJV: Possible in parks with suitable habitat
				EBH: Outside of known local range, inappropriate climatic conditions, and lack of suitable vegetation associations and vernal hydrology.	EBH: None
				MH: Suitable vegetation associations and vernal hydrology present. <u>Occurrence Data</u> OWRP = 1 occurrence (Occ # 55)	MH: Possible in all MH parks.
				MDR: Outside of known local range, inappropriate climatic conditions, and lack of suitable vegetation associations and vernal hydrology.	MDR: None

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Leptosyne hamiltonii</i> Mt. Hamilton coreopsis	FED: None CA: None CEQA: 1B.2	Occurs in rocky soils in cismontane woodland between 550 and 1,300 meters. Known from ALA, SCL, and STA counties.	March-May annual herb	BS: Outside of known range, inappropriate climatic conditions, and lack of suitable vegetation associations. This taxon also occurs at higher elevations than available in this region.	BS: None
				D/SJV: Outside of known range, inappropriate climatic conditions, and lack of suitable vegetation associations. This taxon also occurs at higher elevations than available in this region.	D/SJV: None
				EBH: Although suitable vegetation associations are present, this location is outside of known range, as its northern limit is the Mount Hamilton Range	EBH: Not Expected
				MH: Suitable vegetation associations and substrates present. <u>Occurrence Data</u> OWRP = EBRPD Data	MH: Present and possible in OWRP.
				MDR: Although suitable vegetation associations are present, this location is outside of known range, as its northern limit is the Mount Hamilton Range	MDR: Not Expected

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Limosella australis</i> Delta mudwort	FED: None CA: None CEQA: 2B.1	Usually occurs on mudbanks in freshwater or brackish marshes and swamps, and riparian scrub between 0 and 3 meters. Known from CCA, SAC, SJQ, and SOL counties. Native status in CA is inconclusive; definitive study needed. Treated as naturalized in TJM (1993) and TJM 2.	May-August perennial herb (stoloniferous)	BS: Although suitable vegetation associations and hydrology are present this area is outside of its known range, as it prefers Deltaic hydrology.	BS: Not Expected
				D/SJV: Suitable vegetation associations and Deltaic hydrology present. <u>Occurrence Data</u> BBRS = 3 occurrences (Occ # 15, 16, 17) BI = 1 occurrence (Occ # 30)	D/SJV: Present at BBRS and BI and possible in parks along the San Joaquin River east of the Carquinez Strait.
				EBH: No suitable vegetation associations or tidally influenced habitat present.	EBH: None
				MH: No suitable vegetation associations or tidally influenced habitat present.	MH: None
				MDR: No suitable vegetation associations or tidally influenced habitat present.	MDR: None

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Madia radiata</i> showy golden madia	FED: None CA: None CEQA: 1B.1	Occurs in cismontane woodland and valley and foothill grassland between 25 and 1,215 meters. Known from fewer than 100 locations in FRE, KRN, SBT, SCL, SLO, and STA counties. Presumed extirpated from CCA, KNG, MNT SBA, and SJQ counties.	March-May annual herb	BS: Outside of known range, inappropriate climatic conditions, restricted to Great Valley Sequence substrates.	BS: None
				D/SJV: Outside of known range, inappropriate climatic conditions, restricted to Great Valley Sequence substrates.	D/SJV: None
				EBH: Outside of known range, inappropriate climatic conditions, restricted to Great Valley Sequence substrates.	EBH: None
				MH: Outside of known range, inappropriate climatic conditions, restricted to Great Valley Sequence substrates.	MH: None
				MDR: Suitable vegetation associations and clay substrates present but only in parks that include Great Valley Sequence substrates. Known from a historic occurrence near Antioch. <u>Occurrence Data</u> BDMRP = 1 occurrence (Occ # 27H)	MDR: Possible in parks on the east slope of Mount Diablo from VCRP north.
<i>Malacothamnus hallii</i> Hall's bush-mallow	FED: None CA: None CEQA: 1B.2	Occurs in chaparral and coastal scrub between 10 and 760 meters. Known from CCA, MER, SCL, SMT, and STA counties.	May-October perennial evergreen shrub	BS: Outside of known range and inappropriate climatic conditions.	BS: None
				D/SJV: Outside of known range and inappropriate climatic conditions.	D/SJV: None
				EBH: Outside of known range and inappropriate climatic conditions.	EBH: None
				MH: Suitable vegetation associations present.	MH: Possible in all MH parks.
MDR: Suitable vegetation associations present. <u>Occurrence Data</u> BDMRP = 1 occurrence (Occ # 36H) DFRP = 1 occurrence (Occ # 21)	MDR: Present at BDMRP and DFRP and possible at parks from MTRP north.				

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Meconella oregana</i> Oregon meconella	FED: None CA: None CEQA: 1B.1	Occurs in coastal prairie and coastal scrub between 250 and 620 meters. Known from CCA and SCL counties.	March-April annual herb	BS: Outside of known range, inappropriate climatic conditions, and lack of suitable vegetation associations. This taxon also occurs at higher elevations than available in this region.	BS: None
				D/SJV: Outside of known range, inappropriate climatic conditions, and lack of suitable vegetation associations. This taxon also occurs at higher elevations than available in this region.	D/SJV: None
				EBH: Suitable vegetation associations and elevations present. <u>Occurrence Data</u> SVRP = 1 occurrence (Occ # 2)	EBH: Possible in parks from SVRP north, on the west slope of the Oakland/Berkeley Hills.
				MH: Although Suitable vegetation associations are not present, collections from the Mount Hamilton Range indicate suitable habitat. and elevations present.	MH: Possible in all MH parks.
				MDR: Outside of known range, inappropriate climatic conditions, and lack of suitable vegetation associations.	MDR: None

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<p><i>Monolopia gracilens</i> woodland woollythreads</p>	<p>FED: None CA: None CEQA: 1B.2</p>	<p>Occurs on serpentine soil in broadleaved upland forest, chaparral, cismontane woodland, North Coast coniferous forest, and valley and foothill grassland between 100 and 1,200 meters elevation. Known from ALA, CCA, MNT, SBT, SCL, SCR, SLO, and SMT counties.</p>	<p>February-July annual herb</p>	<p>BS: Outside of known range, inappropriate climatic conditions, and lack of suitable vegetation associations. This taxon also occurs at higher elevations than available in this region.</p>	<p>BS: None</p>
				<p>D/SJV: Outside of known range, inappropriate climatic conditions, and lack of suitable vegetation associations. This taxon also occurs at higher elevations than available in this region.</p>	<p>D/SJV: None</p>
				<p>EBH: Suitable vegetation associations present. Known from a historic collection in the Oakland Hills. This species is a known fire follower locally. <u>Occurrence Data</u> HBRG = 1 occurrence (Occ # 45H) RRRP = 1 occurrence (Occ # 45H) RRRA = 1 occurrence (Occ # 45H) LCOSP = 1 occurrence (Occ # 45H) LCRP = 1 occurrence (Occ # 45H) LTWRP = 1 occurrence (Occ # 45H)</p>	<p>EBH: Present and possible in all EBH parks after fire.</p>
				<p>MH: Suitable vegetation associations present.</p>	<p>MH: Possible in all MH parks after fire.</p>
				<p>MDR: Suitable vegetation associations present</p>	<p>MDR: Possible in MDR parks from MTRP north, after fire.</p>

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Navarretia gowenii</i> Lime Ridge navarretia	FED: None CA: None CEQA: 1B.1	Occurs on chaparral between 180 and 305 meters. Known only from four occurrences CCA and STA counties.	May-June annual herb	BS: Outside of known range, inappropriate climatic conditions, and lack of suitable vegetation associations.	BS: None
				D/SJV: Outside of known range, inappropriate climatic conditions, and lack of suitable vegetation associations.	D/SJV: None
				EBH: Although suitable vegetation associations are present this species is very restricted in its local range and is not known to occur west of Lime Ridge.	EBH: Not Expected
				MH: Although suitable vegetation associations are present this species is very restricted in its local range and is not known to in the Mount Hamilton Range.	MH: Not Expected
				MDR: Suitable vegetation associations present. <u>Occurrence Data</u> BDMRP = EBRPD Data CRRP = EBRPD Data	MDR: Present and possible in BDMRP and CRRP.

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Navarretia nigelliformis</i> subsp. <i>radians</i> shining navarretia	FED: None CA: None CEQA: 1B.2	Sometimes occurs on clay substrate in cismontane woodland, valley and foothill grassland and vernal pools. Known from ALA, CCA, COL, FRE, MAD, MER, MNT, SBT, SJQ, SLO, STA, and TUL counties between 65 and 1,000 meters.	April-June annual herb	BS: Outside of known range, inappropriate climatic conditions, and lack of suitable vegetation associations.	BS: None
				D/SJV: Outside of known range, inappropriate climatic conditions, and lack of suitable vegetation associations.	D/SJV: None
				EBH: Although suitable vegetation associations are present this species is very restricted in its local range and is not known to occur west of BDMRP.	EBH: Not Expected
				MH: Although suitable vegetation associations are present this species is restricted in its local range and is not known to be in the Mount Hamilton Range.	MH: Not Expected
				MDR: Suitable vegetation associations and substrates present. <u>Occurrence Data</u> CLRP = 1 occurrence (Occ # 63) DVRP = 1 occurrence (Occ # 62)	MDR: Present and possible in parks north and west of DVRP.

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<i>Navarretia prostrata</i> prostrate vernal pool navarretia	FED: None CA: None CEQA: 1B.1	Occurs in mesic soils in coastal scrub, meadows and seeps, alkaline valley and foothill grassland, and vernal pools between 3 and 1,210 meters. Known from ALA, FRE, LAX, MER, MNT, ORA, SBT, SCL, SDG, and SLO counties.	April-July annual herb	BS: Suitable vegetation associations and vernal hydrology present.	BS: Possible at parks with suitable habitat south of Oakland Airport.
				D/SJV: Suitable vegetation associations and vernal hydrology present.	D/SJV: Possible in parks with suitable habitat in the Livermore Valley.
				EBH: Although suitable vegetation associations are present, this location is outside of known range, lacks appropriate climatic conditions.	EBH: Not Expected
				MH: Although suitable vegetation associations are present, this location is outside of known range, lacks appropriate climatic conditions.	MH: Not Expected
				MDR: Although suitable vegetation associations are present, this location is outside of its known local range, and lacks appropriate climatic conditions.	MDR: Not Expected

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Phacelia phacelioides</i> Mt. Diablo phacelia	FED: None CA: None CEQA: 1B.2	Occurs on rocky substrates in chaparral and cismontane woodland counties between 500 and 1,370 meters. Known from CCA, SBT, SCL, and STA. This taxon is a fire-follower.	April-May annual herb	BS: Outside of known range, inappropriate climatic conditions, and lack of suitable vegetation associations. This taxon also occurs at higher elevations than available in this region.	BS: None
				D/SJV: Outside of known range, inappropriate climatic conditions, and lack of suitable vegetation associations. This taxon also occurs at higher elevations than available in this region.	D/SJV: None
				EBH: Although suitable habitat and substrates are present this species is outside of its known range here as it does occur west Mount Diablo.	EBH: Not Expected
				MH: Suitable vegetation associations and substrates present.	MH: Possible in all MH parks.
				MDR: Suitable vegetation associations and substrates present.	MDR: Possible in all MDR parks with the appropriate elevation.

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Plagiobothrys chorisianus</i> var. <i>chorisianus</i> Choris' popcornflower	FED: None CA: None CEQA: 1B.2	Occurs on mesic sites in chaparral, coastal prairie, and coastal scrub between 3 and 160 meters. Known from fewer than 32 locations in MNT, SCL, SCR, SFO and SMT counties. Presumed extirpated from ALA County.	March-June annal herb	BS: Although, suitable vegetation associations and hydrology present, this taxon is only known from a historic collection near Oakland that is extirpated.	BS: Not Expected
				D/SJV: Outside of known range, inappropriate climatic conditions, and lack of suitable vegetation associations.	D/SJV: None
				EBH: Although suitable vegetation associations and hydrology are present, this taxon is only known from a historic collection near Oakland that is extirpated.	EBH: Not Expected
				MH: Although suitable vegetation associations and hydrology are present, this taxon is only known from a historic collection near Oakland that is extirpated, and it is not known to occur away from the coastal fog belt.	MH: Not Expected
				MDR: Although suitable vegetation associations and hydrology are present, this taxon is only known from a historic collection near Oakland that is extirpated, and it is not known to occur away from the coastal fog belt.	MDR: Not Expected

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Plagiobothrys glaber</i> Hairless popcorn flower	FED: None CA: None CEQA: IA	Occurs in alkaline meadows and seeps and coastal salt marshes and swamps between 15 and 180 meters. Presumed extirpated from ALA, MRN, SBT, and SCL counties- last confirmed sighting in 1954.	March-May annual herb	BS: Suitable vegetation associations, alkaline habitat, and vernal hydrology present.	BS: Possible at parks with suitable habitat south of Oakland Airport.
				D/SJV: Suitable vegetation associations, alkaline habitat, and vernal hydrology present.	D/SJV: Possible in parks with suitable habitat in the Livermore Valley.
				EBH: Although suitable vegetation associations are present, this location is outside of known range, and lacks appropriate climatic conditions and alkaline habitat.	EBH: Not Expected
				MH: Although suitable vegetation associations are present, this location is outside of known range, and lacks appropriate climatic conditions and alkaline habitat.	MH: Not Expected
				MDR: Although suitable vegetation associations are present, this location is outside of known range, and lacks appropriate climatic conditions and alkaline habitat.	MDR: Not Expected

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Polemonium carneum</i> Oregon polemonium	FED: None CA: None CEQA: 2B.2	Occurs in coastal prairie, coastal scrub, and lower montane coniferous forest between 0 and 1,830 meters. Known from ALA, DNT, HUM, MRN, SFO, SMT, SIS, and SON counties.	April-September perennial herb	BS: Although suitable vegetation associations are present this region is outside of its local range.	BS: Not Expected
				D/SJV: No suitable vegetation associations present.	D/SJV: None
				EBH: Suitable vegetation associations present. <u>Occurrence Data</u> PRRP = 1 occurrence (Occ # 1)	EBH: Present in PRRP.
				MH: Although suitable vegetation associations are present, this region is beyond the southernmost location in this part of its range.	MH: Not Expected
				MDR: Although suitable vegetation associations are present, this region is outside of its local range, where it does not occur east of Pleasanton Ridge.	MDR: Not Expected
<i>Potamogeton zosteriformis</i> eel-grass pondweed	FED: None CA: None CEQA: 2B.2	Occurs in assorted freshwater marshes and swamps between 0 and 1,860 meters. Known from CCA, LAK, LAS, MER, MNO, MOD, and SHA counties.	June-July annual herb (aquatic)	BS: Although suitable vegetation associations are present, this region is outside of its local range, where it does not occur east of west of Big Break.	BS:
				D/SJV: Suitable vegetation associations and aquatic habitat is present.	D/SJV: Possible in parks near the San Joaquin River.
				EBH: No suitable vegetation associations or aquatic habitat.	EBH: None
				MH: No suitable vegetation associations or aquatic habitat.	MH: None
				MDR: No suitable vegetation associations or aquatic habitat.	MDR: None

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Puccinellia simplex</i> California alkali grass	FED: None CA: None CEQA: 1B.2	Occurs on alkaline and vernal mesic sinks, flats and lake margins in chenopod scrub, meadows and seeps, valley and foothill grassland, and vernal pools between 2 and 930 meters. Known from ALA, BUT, CCA, COL, FRE, GLE, KING, SBD, SCL, SCR, SLO, SOL, STA, TUL, and YOL counties.	March-May annual herb	BS: Although suitable vegetation association and alkaline substrate may be present, this species only occurs on the edge of San Joaquin Valley.	BS: Not Expected
				D/SJV: Suitable vegetation associations and alkaline substrate present.	D/SJV: Possible in parks with alkaline valley bottoms.
				EBH: Although suitable vegetation associations are present the preferred alkaline habitat is absent.	EBH: Not Expected
				MH: Although suitable vegetation associations are present the preferred alkaline habitat is absent.	MH: Not Expected
				MDR: Suitable vegetation associations and alkaline habitat present. <u>Occurrence Data</u> VCRP = 1 occurrence (Occ # 78)	MDR: Possible in parks with alkaline valley bottoms.

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Senecio aphanactis</i> chaparral ragwort	FED: None CA: None CEQA: 2B.2	Occurs in chaparral, cismontane woodland, and coastal scrub sometimes on alkaline soils between 15 and 800 meters. Known from ALA, CCA, FRE, LAX, MER, MNT, ORA, RIV, SBA, SBD, SBT, SCL, SCR, SCT, SCZ, SDG, SFO, SLO, SMT, SOL, SRO, TUL and VEN counties.	January-April annual herb	BS: Suitable vegetation associations and alkaline habitat present. <u>Occurrence Data</u> CMSB = 1 occurrence (Occ # 49H) MLKJRS = 1 occurrence (Occ # 49H)	BS: Possible at parks with suitable habitat south of Oakland Airport.
				D/SJV: No suitable vegetation associations with preferred alkaline habitat present.	D/SJV: None.
				EBH: Although suitable vegetation associations are present, the preferred alkaline habitat is absent. This taxon is also outside of its local range here.	EBH: Not Expected
				MH: Although suitable vegetation associations are present, the preferred alkaline habitat is absent. This taxon is also outside of its local range here.	MH: Not Expected
				MDR: Suitable vegetation associations and alkaline habitat present. <u>Occurrence Data</u> BDMRP = 1 occurrence (Occ # 14H)	MDR: Present at BDMRP and possible at all MDR parks from MTRP north.

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<p><i>Spergularia macrotheca</i> var. <i>longistyla</i> long-styled sand-spurrey</p>	<p>FED: None CA: None CEQA: 1B.2</p>	<p>Occurs on alkaline substrate in meadows and seeps and marshes and swamps between 0 and 255 meters. Known from ALA, CCA, NAP, and SOL counties.</p>	<p>February- May perennial herb</p>	<p>BS: Suitable vegetation associations and alkaline habitat present. Known from historic locations all along the BS. <u>Occurrence Data</u> QLRRRA = 1 occurrence (Occ # 1H) MLKJRS = 1 occurrence (Occ # 14H) MRS = 1 occurrence (Occ # 16H) NRRS = 1 occurrence (Occ # 15H) WCT = 1 occurrence (Occ # 15H)</p> <p>D/SJV: Suitable vegetation associations and alkaline habitat present.</p> <p>EBH: No suitable vegetation associations and alkaline habitat present.</p> <p>MH: No suitable vegetation associations and alkaline habitat present.</p> <p>MDR: Suitable vegetation associations and alkaline habitat present. <u>Occurrence Data</u> VCRP = EBRPD Data</p>	<p>BS: Possible at any BS parks with appropriate habitat.</p> <p>D/SJV: Possible at any D/SJV parks with appropriate habitat.</p> <p>EBH: None</p> <p>MH: None</p> <p>MDR: Possible in parks with alkaline valley bottoms.</p>

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Streptanthus albidus</i> subsp. <i>peramoenus</i> most beautiful jewelflower	FED: None CA: None CEQA: 1B.2	Occurs on serpentine soils in chaparral, cismontane woodland, and valley and foothill grassland from 95 and 1,000 meters elevation. Known from ALA, CCA, MNT, SCL and SLO counties. This species is no longer recognized in TJM2, as it has been synonymized with <i>Streptanthus glandulosus</i> subsp. <i>glandulosus</i>	March-October annual herb	BS: Although suitable vegetation associations are present the preferred serpentine substrates is absent. This taxon also occurs at higher elevations than available in this region.	BS: Not Expected
				D/SJV: Outside of known range, lacks appropriate climatic conditions, and absence of serpentine substrate.	D/SJV: None
				EBH: Suitable vegetation associations and serpentine substrate present. <u>Occurrence Data</u> GDCPRP = 1 occurrence (Occ # 67) LCRP = 1 occurrence (Occ # 25H) SVRP = 1 occurrence (Occ # 65)	EBH: Present a possible at EBH parks with suitable substrates.
				MH: Suitable vegetation associations and serpentine substrate present. <u>Occurrence Data</u> MPRP = 1 occurrence (Occ # 26H) SWRP = 5 occurrences (Occ # 19, 20, 21, 22, 26H, 58)	MH: Present and possible at MPRP an SWRP.
MDR: Although suitable vegetation associations are present, the preferred serpentine substrates is absent.	MDR: Not Expected				

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Streptanthus hispidus</i> Mt. Diablo jewelflower	FED: None CA: None CEQA: 1B.3	Occurs in rocky soils in chaparral and valley and foothill grassland between 365 and 1,200 meters elevation. Known from CCA county.	March-June annual herb	BS: Although suitable vegetation associations are present, the preferred rocky substrates is absent. This taxon also occurs at higher elevations than available in this region.	BS: Not Expected
				D/SJV: Outside of known range, lacks appropriate climatic conditions, and absence of rocky substrate.	D/SJV: None
				EBH: Although suitable vegetation associations and substrate are present, this is a narrowly endemic species that only occurs on the Mount Diablo.	EBH: Not Expected
				MH: Although suitable vegetation associations and substrate are present, this is a narrowly endemic species that only occurs on the Mount Diablo.	MH: Not Expected
				MDR: Although suitable vegetation associations and substrate are present, this is a narrowly endemic species that only occurs on the Mount Diablo.	MDR: Not Expected

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Stuckenia filiformis</i> subsp. <i>alpina</i> slender-leaved pondweed	FED: None CA: None CEQA: 2B.2	Occurs in assorted shallow freshwater marshes and swamps from 300 and 2,150 meters. Known from ALA, BUT, CCA, ELD, LAS, MER, MNO, MOD, MPA, NEV, PLA, SCL, SHA, SIE, SMT, SOL, and SON counties.	May-July perennial rhizomatous herb	BS: Suitable vegetation associations and hydrology present. Known from a historic collection from near Fremont. <u>Occurrence Data</u> QLRRRA = 1 occurrence (Occ # 15)	BS: Possible at all BS parks with appropriate habitat.
				D/SJV: Suitable vegetation associations and hydrology present.	D/SJV: Possible in parks along the San Joaquin River.
				EBH: Suitable vegetation associations and hydrology present. <u>Occurrence Data</u> SVRP = 1 occurrence (Occ # 7)	EBH: Possible at all EBH parks with appropriate habitat.
				MH: Suitable vegetation associations and hydrology present.	MH: Possible at all MH parks with appropriate habitat.
				MDR: Suitable vegetation associations and tidal habitat present. <u>Occurrence Data</u> DFRP = 1 occurrence (Occ # 16)	MDR: Possible at all MDR parks with appropriate habitat.

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Symphotrichum lentum</i> Suisun Marsh aster	FED: None CA: None CEQA: 1B.2	Occurs in brackish and freshwater marshes and swamps between 0 and 3 meters. Known from CCA, NAP, SAC, SJQ, SOL, and YOL counties. Intergrades into <i>Aster chilensis</i> . USFWS uses the name <i>A. chilensis</i> var. <i>lentus</i> .	May- November perennial herb (rhizomatous)	BS: Suitable vegetation associations and tidal habitat present.	BS: Possible in parks along the margins of the Bay through the Carquinez Strait.
				D/SJV: Suitable vegetation associations and tidal habitat present. <u>Occurrence Data</u> AORS = 1 occurrence (Occ # 168) BBRS = 1 occurrence (Occ # 45, 148H) BI = 2 occurrences (Occ # 3, 197)	D/SJV: Possible in parks along the margins of the San Joaquin River.
				EBH: No suitable vegetation associations and tidal habitat present.	EBH: None
				MH: No suitable vegetation associations and tidal habitat present.	MH: None
				MDR: No suitable vegetation associations and tidal habitat present.	MDR: None

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Trifolium hydrophilum</i> saline clover	FED: None CA: None CEQA: 2B.2	Occurs in marshes and swamps, on mesic and alkaline sites in valley and foothill grassland, and in vernal pools. Known from ALA, CCA, LAK, MNT, NAP, SAC, SBT, SCL, SCR, SJQ, SLO, SMT, SOL, SON, and YOL counties between 0 and 300 meters. Possibly occurs in COL County.	April-June annual herb	BS: Suitable vegetation associations, alkaline habitat, and vernal hydrology present <u>Occurrence Data</u> CMSB = 1 occurrence (Occ # 28H) MESP = 1 occurrence (Occ # 30H) MKRP = 1 occurrence (Occ # 31H) MLKJRS = 1 occurrence (Occ # 28H)	BS: Possible at parks with suitable habitat south of Oakland Airport.
				D/SJV: Suitable vegetation associations, alkaline habitat, and vernal hydrology present.	D/SJV: Possible in parks with suitable habitat in the Livermore Valley.
				EBH: Although suitable vegetation associations are present, this location is outside of known range, and lacks appropriate climatic conditions and alkaline habitat.	EBH: Not Expected
				MH: Although suitable vegetation associations are present, this location is outside of known range, and lacks appropriate climatic conditions and alkaline habitat.	MH: Not Expected
				MDR: Although suitable vegetation associations are present, this location is outside of known range, and lacks appropriate climatic conditions and alkaline habitat.	MDR: Not Expected

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Triquetrella californica</i> coastal triquetrella	FED: None CA: None CEQA: 1B.2	Occurs on soil in coastal bluff scrub and coastal scrub between 10 and 100 meters. Known from CCA, DNT, MEN, MRN, SDG, SFO, SMT, and SON counties.	Moss wet season	BS: Although suitable habitat is present, this species is only known from CCA County from a collection from the 1800s from Mount Diablo that has not been relocated and is presumed extirpated.	BS: Not Expected
				D/SJV: Although suitable habitat is present, this species is only known from CCA County from a collection from the 1800s from Mount Diablo that has not been relocated and is presumed extirpated.	D/SJV: Not Expected
				EBH: Although suitable habitat is present, this species is only known from CCA County from a collection from the 1800s from Mount Diablo that has not been relocated and is presumed extirpated.	EBH: Not Expected
				MH: Although suitable habitat is present, this species is only known from CCA County from a collection from the 1800s from Mount Diablo that has not been relocated and is presumed extirpated.	MH: Not Expected
				MDR: Although suitable habitat is present, this species is only known from CCA County from a collection from the 1800s from Mount Diablo that has not been relocated and is presumed extirpated.	MDR: Not Expected

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Tropidocarpum capparideum</i> caper-fruited tropidocarpum	FED: None CA: None CEQA: 1B.1	Occurs on alkaline hills in valley and foothill grassland. Known from FRE, MNT, and SLO counties between 1 and 455 meters. Presumed extirpated from ALA, CCA, GLE, SCL, and SJQ counties. Rediscovered in 2000 on Ft. Hunter Liggett.	March-April annual herb	BS: Although suitable vegetation association and alkaline substrate may be present, this species only occurs on the edge of San Joaquin Valley.	BS: Not Expected
				D/SJV: Suitable vegetation associations and alkaline substrate present.	D/SJV: Possible in parks with alkaline valley bottoms.
				EBH: Although suitable vegetation associations are present the preferred alkaline habitat is absent.	EBH: Not Expected
				MH: Although suitable vegetation associations are present the preferred alkaline habitat is absent.	MH: Not Expected
				MDR: Suitable vegetation associations and alkaline habitat present. Known from a historic location near Livermore. <u>Occurrence Data</u> BPRP = 1 occurrence (Occ # 11H)	MDR: Possible in MDR parks on the edge of the San Joaquin Valley with an alkaline influence.
<i>Viburnum ellipticum</i> oval-leaved viburnum	FED: None CA: None CEQA: 2B.3	Occurs on chaparral, cismontane woodland, and lower montane coniferous forest between 215 and 1,400 meters. Known from CCA, FRE, ELD, GLE, HUM, MEN, NAP, SHA, and SON counties.	May-June shrub (deciduous)	BS: No suitable habitat associations present.	BS: None
				D/SJV: No suitable habitat associations present.	D/SJV:
				EBH: Suitable vegetation associations present. <u>Occurrence Data</u> BRP = 1 occurrence (Occ # 21)	EBH: Present at BRP and possible throughout the EBH.
				MH: Suitable vegetation associations present.	MH: Possible in all MH parks.
				MDR: Suitable vegetation associations present	MDR: Possible in MDR parks from MTRP north and west.

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
California Native Plant Society Rare Plant Rank Three and Four					
<i>Acanthomintha lanceolata</i> Santa Clara thorn-mint	FED: None CA: None CEQA: 4.2	Occurs in rocky soils and sometimes serpentine sites in chaparral, cismontane woodland, and coastal scrub between 80 and 1,200 meters. Known from ALA, FRE, MER, MNT, SBT, SCL, SJQ, and STA counties.	March-June annual herb	BS: Outside of known range, inappropriate climatic conditions, and lack of suitable vegetation associations.	BS: None
				D/SJV: Outside of known range, inappropriate climatic conditions, and lack of suitable vegetation associations.	D/SJV: None
				EBH: Although suitable vegetation associations and substrate are present, this species does not occur north of the Mount Hamilton Range.	EBH: Not Expected
				MH: <u>Occurrence Data</u> OWRP = EBRPD Data SWRP = EBRPD Data	MH: Present in OWRP and SWRP, possible in DVRP.
				MDR: Although suitable vegetation associations and substrate are present, this species does not occur north of the Mount Hamilton Range.	MDR: Not Expected
<i>Androsace elongata</i> subsp. <i>acuta</i> California androsace	FED: None CA: None CEQA: 4.2	Occurs in chaparral, cismontane woodland, coastal scrub, meadows and seeps, pinyon and juniper woodland, and valley and foothill grassland between 150 and 1,200 meters. Known from throughout California, Baja, and Oregon.	March-June annual herb	BS: Although suitable vegetation associations may be present, this taxon is out of its local range here and occurs at higher elevations than available in this region.	BS: Not Expected
				D/SJV: Although suitable vegetation associations may be present, this taxon is out of its local range here and occurs at higher elevations than available in this region.	D/SJV: Not Expected
				EBH: Suitable vegetation associations present.	EBH: Possible in all EBH parks.
				MH: Suitable vegetation associations present.	MH: Possible in all MH parks.
				MDR: Suitable vegetation associations present.	MDR: Possible in all MDR parks.

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Anomobryum julaceum</i> slender silver moss	FED: None CA: None CEQA: 4.2	Occurs on damp rock and soil on outcrops, usually on roadcuts, in broadleaved upland forest, lower montane coniferous forest, and North Coast coniferous forest between 100 and 1,000 meters. Known in BUT, CCA, HUM, LAX, MPA, SBA, SCR, SHA, and SON counties.	Wet Season moss	BS: No suitable vegetation associations present.	BS: None
				D/SJV: No suitable vegetation associations present.	D/SJV: None
				EBH: Suitable vegetation associations present.	EBH: Possible in parks with suitable habitat.
				MH: Although suitable vegetation associations present, this taxon has never been collected in ALA County.	MH: Not Expected
				MDR: Suitable vegetation associations present.	MDR: Possible in parks with suitable habitat.
<i>Arabis blepharophylla</i> coast rockcress	FED: None CA: None CEQA: 4.3	Occurs on rocky sites in broadleaved upland forest, coastal bluff scrub, coastal prairie, and coastal scrub between 3 and 1,100 meters. Known in CCA, LAK, MNT, MRN, SFO, SMT and SON counties. Uncertain about distribution or identity in SCR County	February-May perennial herb	BS: Suitable vegetation associations and substrates present	BS: Possible at MKRS.
				D/SJV: No suitable vegetation associations with appropriate substrates present.	D/SJV: None
				EBH: Although suitable vegetation associations and substrate are present, this species does not occur east of the BS.	EBH: Not Expected
				MH: Although suitable vegetation associations and substrate are present, this species does not occur east of the BS.	MH: Not Expected
				MDR: Although suitable vegetation associations and substrate are present, this species does not occur east of the BS.	MDR: Not Expected

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Aspidotis carlotta-halliae</i> Carlotta Hall's lace fern	FED: None CA: None CEQA: 4.3	Occurs on serpentine sites in chaparral and cismontane woodland between 100 and 1,400 meters. Known in ALA, MNT, MRN, SBT, and SLO counties.	January- December perennial rhizomatous herb	BS: No suitable vegetation associations with serpentine substrate present.	BS: None
				D/SJV: No suitable vegetation associations with serpentine substrate present.	D/SJV: None
				EBH: Although suitable vegetation associations and serpentine substrates are present, this species has never been recoded from CCA County.	EBH: Not Expected
				MH: Although suitable vegetation associations and serpentine substrates are present, this species has never been recoded from CCA County.	MH: Not Expected
				MDR: Suitable vegetation associations with serpentine substrate present.	MDR: Possible at OWRP and SWRP.
<i>Astragalus nuttallii</i> var. <i>nuttallii</i> ocean bluff milk-vetch	FED: None CA: None CEQA: 4.2	Occurs in coastal bluff scrub and coastal dunes between 3 and 120 meters. Known in MNT, MRN, SBA, SLO, and SMT counties. Presumed extirpated from ALA and SFO counties.	January- November perennial herb	BS: Suitable vegetation associations present	BS: Possible at MKRS.
				D/SJV: No suitable vegetation associations present.	D/SJV: None
				EBH: No suitable vegetation associations present.	EBH: None
				MH: No suitable vegetation associations present.	MH: None
				MDR: No suitable vegetation associations present.	MDR: None

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Atriplex coronata</i> var. <i>coronata</i> crownscale	FED: None CA: None CEQA: 4.2	Occurs on alkaline, often clay substrates in chenopod scrub, valley and foothill grassland, and vernal pools. Known from ALA, CCA, FRE, GLE, KNG, KRN, MER, MNT, SLO, SOL, and STA counties between 1 and 590 meters. Uncertain about distribution or identity in SJQ county.	March-October annual herb	BS: Although suitable vegetation associations and alkaline habitat may be present, this species is restricted to the edge of the San Joaquin Valley.	BS: Not Expected
				D/SJV: Suitable vegetation associations and alkaline habitat are present.	D/SJV: Possible in parks in the vicinity of the San Joaquin River.
				EBH: Although suitable vegetation associations and alkaline habitat may be present, this species is restricted to the edge of the San Joaquin Valley.	EBH: Not Expected
				MH: Although suitable vegetation associations and alkaline habitat may be present, this species is restricted to the edge of the San Joaquin Valley.	MH: Not Expected
				MDR: Suitable vegetation associations and alkaline habitat present. <u>Occurrence Data</u> BDMRP = EBRPD Data BPRP = EBRPD Data	MDR:
<i>Calandrinia breweri</i> Brewer's calandrinia	FED: None CA: None CEQA: 4.2	Occurs on sandy or loamy disturbed sites and burn in chaparral and coastal scrub between 10 and 1,220 meters. Known from CCA, LAX, MEN, MNT, MPA, MRN, NAP, ORA, RIV, SBA, SBD, SCL, SCR, SCZ, SDG, SHA, SLO, SMT, SON, SRO, and VEN counties.	January-June annual herb	BS: Outside of known range, inappropriate climatic conditions, and lack of suitable vegetation associations. T	BS: None
				D/SJV: Outside of known range, inappropriate climatic conditions, and lack of suitable vegetation associations.	D/SJV: None
				EBH: Suitable vegetation associations present. This species is a known fire follower locally.	EBH: Present and possible in all EBH parks after fire.
				MH: Suitable vegetation associations present.	MH: Possible in all MH parks after fire.
				MDR: Suitable vegetation associations present	MDR: Possible in MDR parks from MTRP north, after fire.

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Calochortus umbellatus</i> Oakland star-tulip	FED: None CA: None CEQA: 4.2	Occurs often on serpentinite sites in broad-leafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, and valley and foothill grassland between 100 and 700 meters. Known in ALA, CCA, LAK, MRN, SCL, SMT, and STA counties. Presumed extirpated from SCR County.	March-May perennial bulbiferous herb	BS: No suitable vegetation associations or serpentine habitat present.	BS: None
				D/SJV: No suitable vegetation associations or serpentine habitat present.	D/SJV: None
				EBH: Suitable vegetation associations or serpentine habitat present. <u>Occurrence Data</u> LCRP = EBRPD Data LCOSRP = EBRPD Data LTWRP = EBRPD Data RRRP = EBRPD Data WCRP = EBRPD Data	EBH: Present and possible from RRRP and north.
				MH: Although suitable vegetation associations and serpentine substrates are present, this species has never been recorded in the Mount Hamilton Range	MH:
				MDR: Suitable vegetation associations or serpentine habitat present.	MDR: Possible in MTRP and BDMRP.
<i>Calochortus uniflorus</i> pink star-tulip	FED: None CA: None CEQA: 4.2	Occurs in coastal prairie, coastal scrub, meadows and seeps, north coast coniferous forest between 10 and 1,710 meters. Known from CCA, COL, LAK, MEN, MNT, MRN, NAP, SCR, SLO, SMT, SON, THE, and TRI counties.	April-June perennial bulbiferous herb	BS: Out of range in the EB, no voucher collections for this taxon exist, CNPS/CNDDDB error.	BS: None
				D/SJV: Out of range in the EB, no voucher collections for this taxon exist, CNPS/CNDDDB error.	D/SJV: None
				EBH: Out of range in the EB, no voucher collections for this taxon exist, CNPS/CNDDDB error.	EBH: None
				MH: Out of range in the EB, no voucher collections for this taxon exist, CNPS/CNDDDB error.	MH: None
				MDR: Out of range in the EB, no voucher collections for this taxon exist, CNPS/CNDDDB error.	MDR: None

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Castilleja ambigua</i> var. <i>ambigua</i> johnny-nip	FED: None CA: None CEQA: 4.2	Occurs in coastal bluff scrub, coastal prairie, coastal scrub, and marshes and swamps between 0 and 435 meters. Known from ALA, CCA, DNT, HUM, MEN, MRN, NAO, SCR, SLO, SMT, and SON counties. Uncertain about distribution or identity in SFO County.	March-August annual herb (hemiparasitic)	BS: Suitable vegetation associations and tidal hydrology present	BS: Possible in all BS parks.
				D/SJV: Although suitable vegetation associations and tidal hydrology present, this taxon only occurs along BS habitats.	D/SJV: Not Expected
				EBH: Suitable vegetation associations and tidal hydrology present	EBH: None
				MH: Suitable vegetation associations and tidal hydrology present	MH: None
<i>Clarkia breweri</i> Brewer's clarkia	FED: None CA: None CEQA: 4.2	Occurs often on serpentine sites in chaparral, cismontane woodland, and coastal scrub between 215 and 1,115 meters. Known from ALA, FRE, MER, MNT, SBT, SCL, and STA counties.	April-June annual herb	MDR: Suitable vegetation associations and tidal hydrology present	MDR: None
				BS: No suitable vegetation associations or serpentine habit present.	BS: None
				D/SJV: No suitable vegetation associations or serpentine habit present.	D/SJV: None
				EBH: Although suitable vegetation associations and serpentine substrate are present, this species is restricted to the Mount Hamilton Range in the East Bay..	EBH: Not Expected
				MH: Suitable vegetation associations and serpentine substrate are present.	MH: Possible in all MH parks east of Mission Peak.
MDR: Although suitable vegetation associations and serpentine substrate are present, this species is restricted to the Mount Hamilton Range in the East Bay.	MDR: Not Expected				

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Clarkia concinna</i> subsp. <i>automixa</i> Santa Clara red ribbons	FED: None CA: None CEQA: 4.3	Occurs in chaparral and cismontane woodland between 90 and 1,500 meters. Known from ALA, SCL, and SCR counties.	April-July annual herb	BS: No suitable vegetation associations present.	BS: Not Expected
				D/SJV: No suitable vegetation associations present.	D/SJV: Not Expected
				EBH: Suitable vegetation associations present. <u>Occurrence Data</u> LCRP = 1 occurrence (Occ # 20H) PRRP = EBRPD Data RRRP = 1 occurrence (Occ # 20H) RRRR = 1 occurrence (Occ # 20H)	EBH: Present and possible in EBH parks between RRRP and PRRP.
				MH: Suitable vegetation associations present. <u>Occurrence Data</u> OWRP = EBRPD Data	MH: Possible in all MH parks east of Mission Peak.
				MDR: Although suitable vegetation associations and serpentine substrate are present, this species does not occur in the Mount Diablo area.	MDR: Not Expected
<i>Collomia diversifolia</i> serpentine collomia	FED: None CA: None CEQA: 4.3	Occurs on serpentine, rocky, or gravelly sites in chaparral and cismontane woodland between 200 and 600 meters. Known in CCA, COL, GLE, LAK, MEN, NAP, SHA, STA, and YOL counties.	May-June annual herb	BS: No suitable vegetation associations or serpentine substrates present.	BS: None
				D/SJV: No suitable vegetation associations or serpentine substrates present.	D/SJV: None
				EBH: Although suitable vegetation associations and serpentine substrate are present, this species only occurs in the Mount Diablo area.	EBH: Not Expected
				MH: Although suitable vegetation associations and serpentine substrate are present, this species only occurs in the Mount Diablo area.	MH: Not Expected
				MDR: Suitable vegetation associations or serpentine substrates present.	MDR: Possible in all MDR parks with suitable habitat.

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Convolvulus simulans</i> small-flowered morning glory	FED: None CA: None CEQA: 4.2	Occurs on clay soils and serpentine seeps in chaparral, coastal scrub, and valley and foothill grassland between 30 and 700 meters in elevation. Known from CCA, FRE, KRN, LAX, ORA, RIV, SBA, SBT, SCM, SCT, SCZ, SDG, SJQ, SLO, and STA counties.	March-July annual herb	BS: Although suitable vegetation associations and clay habitat may be present this species is restricted to the edge of the San Joaquin Valley.	BS: Not Expected
				D/SJV: Suitable vegetation associations and clay habitat are present.	D/SJV: Possible in parks with intact grassland habitat.
				EBH: Although suitable vegetation associations and clay habitat may be present this species is restricted to the edge of the San Joaquin Valley.	EBH: Not Expected
				MH: Although suitable vegetation associations and clay habitat may be present this species is restricted to the edge of the San Joaquin Valley.	MH: Not Expected
				MDR: Suitable vegetation associations and clay habitat are present. <u>Occurrence Data</u> BDMRP = EBRPD Data DVRP = EBRPD Data VCRP = EBRPD Data	MDR: Present in lower elevations along the edge of the San Joaquin Valley.
<i>Eleocharis parvula</i> small spikerush	FED: None CA: None CEQA: 4.3	Occurs in marshes and swamps between 1 and 3,020 meters. Known from BUT, CCA, GLE, HUM, MNO, NAP, ORA, PLU, SIS, SLO, SON, and VEN counties.	April- September perennial herb	BS: Suitable vegetation associations and hydrology present.	BS: Possible in parks on the immediate shoreline.
				D/SJV: Suitable vegetation associations and hydrology present.	D/SJV: Possible in parks on the immediate shoreline.
				EBH: No suitable vegetation associations and hydrology present.	EBH: None
				MH: No suitable vegetation associations and hydrology present.	MH: None
				MDR: No suitable vegetation associations and hydrology present.	MDR: None

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Eriogonum umbellatum</i> var. <i>bahiiforme</i> bay buckwheat	FED: None CA: None CEQA: 4.2	Occurs on rocky often serpentine sites in cismontane woodland and lower montane coniferous forest between 700 and 2,000 meters. Known from ALA, CCA, COL, GLE, HUM, LAK, MEN, MNT, NAP, SBT, SCL, SIS, SJQ, and STA counties.	July-September perennial herb	BS: No suitable vegetation associations or serpentine substrates present.	BS: None
				D/SJV: No suitable vegetation associations or serpentine substrates present.	D/SJV: None
				EBH: Although suitable vegetation associations and serpentine substrate are present, this species only occurs in the highest elevations of the Mount Diablo and Mount Hamilton areas.	EBH: Not Expected
				MH: Suitable vegetation associations and serpentine substrate present. <u>Occurrence Data</u> OWRP = EBRPD Data	MH: Possible at higher elevations in all MH parks.
				MDR: Suitable vegetation associations or serpentine substrates present.	MDR: Possible at higher elevations at all MDR parks with suitable habitat.
<i>Eriophyllum jepsonii</i> Jepson's woolly sunflower	FED: None CA: None CEQA: 4.3	Occurs occasionally on serpentine sites in chaparral, cismontane woodland, and coastal scrub between 200 and 1,025 meters. Known from ALA, CCA, KRN, MNT, SBT, SCL, STA, and VEN counties.	April-June subshrub	BS: No suitable vegetation associations with serpentine substrates present.	BS: None
				D/SJV: No suitable vegetation associations with serpentine substrates present.	D/SJV: None
				EBH: Although suitable vegetation associations and serpentine substrate are present, this species only in the Mount Diablo and Mount Hamilton areas.	EBH: Not Expected
				MH: Suitable vegetation associations and serpentine substrate present. <u>Occurrence Data</u> OWRP = EBRPD Data	MH: Possible at all MH parks.
				MDR: Suitable vegetation associations or serpentine substrates present.	MDR: Possible at all MDR parks with suitable habitat.

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Frittilaria agrestis</i> stinkbells	FED: None CA: None CEQA: 4.2	Occurs on clay, sometimes serpentine soils, in chaparral, cismontane woodland, pinyon and juniper woodland, and valley and foothill grassland between 10 and 1,555 meters. Known from ALA, CCA, FRE, KRN, MEN, MER, MNT, MPA, PLA, SAC, SBA, SBT, SCL, SLO, STA, TUO, VEN and YUB counties. Presumed extirpated from SCR and SMT counties.	March-June perennial bulbiferous herb	BS: Although suitable vegetation associations and substrates may be present this species is restricted to the edge of the San Joaquin Valley.	BS: Not Expected
				D/SJV: Suitable vegetation associations and substrates are present.	D/SJV: Possible in parks with intact grassland habitat.
				EBH: Although suitable vegetation associations and substrates may be present this species is restricted to the edge of the San Joaquin Valley.	EBH: Not Expected
				MH: Although suitable vegetation associations and substrates may be present this species is restricted to the edge of the San Joaquin Valley.	MH: Not Expected
				MDR: Suitable vegetation associations and substrates present. <u>Occurrence Data</u> BPRP = EBRPD Data CLRP = EBRPD Data	MDR: MDR: Present and possible in lower elevations along the edge of the San Joaquin Valley.

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Galium andrewsii</i> subsp. <i>gatense</i> phlox-leaf serpentine bedstraw	FED: None CA: None CEQA: 4.2	Occurs on serpentine and rocky sites in chaparral, cismontane woodland, and lower montane coniferous forest between 150 and 1,450 meters. Known from ALA, CCA, COL, FRE, LAX, MNT, SBT, SCL, and SLO counties.	April-July perennial herb	BS: No suitable vegetation associations present.	BS: None
				D/SJV: No suitable vegetation associations present.	D/SJV: None
				EBH: Although suitable vegetation associations and substrates may be present, this taxon is out of its local range here as it only occurs in the Mount Diablo and Mount Hamilton areas.	EBH: Not Expected
				MH: Suitable vegetation associations and substrates present.	MH: Possible in all MH parks.
				MDR: Suitable vegetation associations and substrates present. <u>Occurrence Data</u> CRRP = EBRPD Data DVRP = EBRPD Data MTRP = EBRPD Data	MDR: Present and possible from MTRP and north.
<i>Hesperervax caulescens</i> hogwallow starfish	FED: None CA: None CEQA: 4.2	Occurs sometimes on alkaline soils in mesic valley and foothill grassland and shallow vernal pools between 0 and 505 meters. Known from ALA, AMA, BUT, CCA, COL, FRE, GLE, KRN, MER, MNT, SAC, SJQ, SLO, SOL, STA, SUT, THE, and YOL counties. Presumed extirpated from NAP and SDG counties.	March-June annual herb	BS: Although suitable vegetation associations and substrates may be present this species is restricted to the edge of the San Joaquin Valley.	BS: Not Expected
				D/SJV: Suitable vegetation associations and substrates are present.	D/SJV: Possible in parks with intact grassland habitat.
				EBH: Although suitable vegetation associations and substrates may be present this species is restricted to the edge of the San Joaquin Valley.	EBH: Not Expected
				MH: Although suitable vegetation associations and substrates may be present this species is restricted to the edge of the San Joaquin Valley.	MH: Not Expected
				MDR: Suitable vegetation associations and substrates present.	MDR: Possible in lower elevations along the edge of the San Joaquin Valley.

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Iris longipetala</i> coast iris	FED: None CA: None CEQA: 4.2	Occurs in coastal prairie, lower montane coniferous forest, and mesic meadows and seeps between 0 and 600 meters. Known from ALA, CCA, HUM, MEN, MNT, MRN, NAP, SBT, SCL, SFO, SMT, SOL, and SON.	March-May rhizomatous herb	BS: Suitable vegetation associations are present.	BS: Possible in any BS parks with intact habitat.
				D/SJV: Although suitable vegetation associations are present this location is outside of known range, lacks appropriate climatic conditions, namely located in the coastal fog belt	D/SJV: Not Expected
				EBH: Suitable vegetation associations are present.	EBH: Possible in all EBH parks.
				MH: Although suitable vegetation associations are present this location is outside of known range, lacks appropriate climatic conditions, namely located in the coastal fog belt	MH: Not Expected
				MDR: Although suitable vegetation associations are present this location is outside of known range, lacks appropriate climatic conditions, namely located in the coastal fog belt	MDR: Not Expected

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Lasthenia ferrisiae</i> <i>Ferris' goldfields</i>	FED: None CA: None CEQA: 4.2	Occurs in vernal pools on alkaline and clay substrates between 20 and 700 meters. Known from ALA, BUT, CCA, COL, FRE, KNG, KRN, MER, MNT, SAC, SBT, SJQ, SLO, SOL, STA, TUL, VEN, and YOL counties.	February-May annual herb	BS: Although suitable vegetation associations and substrates may be present this species is restricted to the edge of the San Joaquin Valley.	BS: Not Expected
				D/SJV: Suitable vegetation associations and substrates are present.	D/SJV: Possible in parks with intact grassland habitat.
				EBH: Although suitable vegetation associations and substrates may be present this species is restricted to the edge of the San Joaquin Valley.	EBH: Not Expected
				MH: Although suitable vegetation associations and substrates may be present this species is restricted to the edge of the San Joaquin Valley.	MH: Not Expected
				MDR: Suitable vegetation associations and substrates present.	MDR: Possible in lower elevations along the edge of the San Joaquin Valley.
<i>Leptosiphon acicularis</i> bristly leptosiphon	FED: None CA: None CEQA: 4.2	Occurs in chaparral, cismontane woodland, coastal prairie, and valley and foothill grassland between 55 and 1,500 meters. Known from ALA, BUT, FRE, HUM, LAK, MEN, MRN, NAP, SCL, SMT, and SON counties.	April-July annual herb	BS: Although suitable vegetation associations are present this species occurs at higher elevations than available in this region.	BS: Not Expected
				D/SJV: Although suitable vegetation associations are present this species occurs at higher elevations than available in this region.	D/SJV: Not Expected
				EBH: Suitable vegetation associations present. <u>Occurrence Data</u> PRRP = EBRPD Data	EBH: Present in PRRP and possible in all EBH parks.
				MH: Suitable vegetation associations present.	MH: Possible in all MH parks.
				MDR: Although suitable vegetation associations are present this species is not known to occur in the vicinity of Mount Diablo.	MDR: Not Expected

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Leptosiphon ambiguus</i> serpentine leptosiphon	FED: None CA: None CEQA: 4.2	Occurs often in serpentine soils in cismontane woodland, coastal scrub, and valley and foothill grassland between 120 and 1,130 meters. Known from ALA, CCA, MER, SBT, SCL, SCR, SJQ, SMT, and STA counties.	March-June annual herb	BS: Although suitable vegetation associations are present, preferred serpentine substrates are absent. This taxon also occurs at higher elevations than available in this region.	BS: Not Expected
				D/SJV: Although suitable vegetation associations are present, preferred serpentine substrates are absent. This taxon also occurs at higher elevations than available in this region.	D/SJV: Not Expected
				EBH: Suitable vegetation associations and serpentine substrates are present.	EBH: Possible in EBH parks with serpentine habitat.
				MH: Suitable vegetation associations and serpentine substrate are present. <u>Occurrence Data</u> OWRP = EBRPD Data	MH: Present in OWRP and possible in MH parks with suitable habitat.
				MDR: Although suitable vegetation associations are present this location is outside of known local range, lacks appropriate climatic conditions, namely located in the coastal fog belt	MDR: Not Expected
<i>Leptosiphon grandiflorus</i> large-flowered leptosiphon	FED: None CA: None CEQA: 4.2	Occurs usually on sandy site in coastal bluff scrub, closed-cone coniferous forest, cismontane woodland, coastal dunes, coastal prairie, coastal scrub, and valley and foothill grassland between 5 and 1,220 meters. Known from ALA, KRN, MAD, MER, MNT, MRN, SCL, SCR, SFO, SLO, SMT, and SON counties. Presumed extirpated from SBA County.	April-August annual herb	BS: Although suitable vegetation associations and substrate may be present this species prefers higher elevations than provided in the region.	BS: Not Expected
				D/SJV: Although suitable vegetation associations and substrate may be present this species does not occur on the edge of the San Joaquin Valley or Delta vicinity.	D/SJV: Not Expected
				EBH: Suitable vegetation associations and substrates are present.	EBH: Possible in EBH parks.
				MH: Suitable vegetation associations and substrates are present.	MH: Possible in MH parks.
				MDR: Suitable vegetation associations and substrates are present.	MDR: Possible in MDR parks.

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Lessingia hololeuca</i> woolly-headed lessingia	FED: None CA: None CEQA: 3	Occurs on clay and serpentine sites in broad-leafed upland forest, coastal scrub, lower montane coniferous forest, and valley and foothill grassland between 15 and 305 meters. Known from ALA, MNT, MRN, NAP, SCL, SMT, SOL SON, and YOL counties.	June-October annual herb	BS: Although suitable vegetation associations are present, this species prefers serpentine habitat locally.	BS: Not Expected
				D/SJV: Although suitable vegetation associations are present, this species prefers serpentine habitat locally.	D/SJV: Not Expected
				EBH: Suitable vegetation associations and substrate present.	EBH: Possible in EBH parks.
				MH: Suitable vegetation associations and substrate present.	MH: Possible in MH parks.
				MDR: Suitable vegetation associations and substrate present.	MDR: Possible in MDR parks.
<i>Lessingia tenuis</i> spring lessingia	FED: None CA: None CEQA: 4.3	Occurs on openings in chaparral, cismontane woodland, and lower montane coniferous forest between 300 and 2,150 meters. Known from ALA, KRN, MNT, SBA, SBT, SCL, SLO, STA, and VEN counties.	May-July annual herb	BS: No suitable vegetation associations present.	BS: None
				D/SJV: No suitable vegetation associations present.	D/SJV: None
				EBH: Although suitable vegetation associations are present, this species does not occur north of the Mount Hamilton Range.	EBH: Not Expected
				MH: No suitable vegetation associations present.	MH: None
				MDR: Although suitable vegetation associations are present, this species does not occur north of the Mount Hamilton Range.	MDR: Not Expected

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Micropus amphibolus</i> Mt. Diablo cottonweed	FED: None CA: None CEQA: 3.2	Occurs on rocky sites in broad-leafed upland forest, chaparral, cismontane woodland, valley and foothill grassland between 45 and 825 meters. Known from ALA, CCA, COL, LAK, MNT, MRN, NAP, SBA, SCL, SCR, SJQ, SOL, and SON counties.	March-May annual herb	BS: Although suitable vegetation associations and substrates may be present, this taxon also occurs at higher elevations than available in this region.	BS: Not Expected
				D/SJV: Although suitable vegetation associations and substrates may be present, this taxon also occurs at higher elevations than available in this region.	D/SJV: Not Expected
				EBH: Suitable vegetation associations and substrates present.	EBH: Possible in EBH parks.
				MH: Suitable vegetation associations and substrates present.	MH: Possible in MH parks.
				MDR: Suitable vegetation associations and substrates present.	MDR: Possible in MDR parks.
<i>Microseris sylvatica</i> sylvan microseris	FED: None CA: None CEQA: 4.2	Occurs in chaparral, cismontane woodland, great basin scrub, pinyon and juniper woodland, and serpentine sites in valley and foothill grassland between 45 and 1,500 meters. Known from ALA, AMA, BUT, CCA, COL, FRE, GLE, KRN, LAS, MER, NAP, NEV, PLA, SBT, SOL, STA, SUT, TEH, TUL, TUO, and YOL counties. Presumed extirpated from SCL and LAX counties.	March-June perennial herb	BS: Although suitable vegetation associations may be present this species is restricted to the edge of the San Joaquin Valley.	BS: Not Expected
				D/SJV: Suitable vegetation associations and substrates are present.	D/SJV: Possible in parks with intact grassland habitat.
				EBH: Although suitable vegetation associations be present this species is restricted to the edge of the San Joaquin Valley.	EBH: Not Expected
				MH: Although suitable vegetation associations may be present this species is restricted to the edge of the San Joaquin Valley.	MH: Not Expected
				MDR: Suitable vegetation associations and substrates are present. <u>Occurrence Data</u> BDMRP = EBRPD Data CRRP = EBRPD Data	MDR: Possible in lower elevations along the edge of the San Joaquin Valley.

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Monardella antonina</i> subsp. <i>antonina</i> San Antonio Hills monardella	FED: None CA: None CEQA: 3	Occurs in chaparral and cismontane woodland from 320 and 1,000 meters. Known from MNT and FRE, possibly ALA, CCA, SCL and SBT counties. This taxon is no longer recognized in TJM2, it has been synonymized with <i>Monardella villosa</i> subsp. <i>villosa</i>	June-August perennial rhizomatous herb	BS: No suitable vegetation associations present.	BS: None
				D/SJV: No suitable vegetation associations present.	D/SJV: None
				EBH: Suitable vegetation associations are present.	EBH: Possible in EBH parks.
				MH: Suitable vegetation associations are present.	MH: Possible in MH parks.
				MDR: Suitable vegetation associations are present.	MDR: Possible in MDR parks.
<i>Myosurus minimus</i> subsp. <i>apus</i> little mousetail	FED: None CA: None CEQA: 3.1	Occurs in valley and foothill grassland and alkaline vernal pools between 20 and 640 meters. Known from ALA, CCA, COL, LAK, MER, RIV, SBD, SDG, SOL, TUL, and YOL counties.	March-June annual herb	BS: Although suitable vegetation associations and substrates may be present this species is restricted to the edge of the San Joaquin Valley.	BS: Not Expected
				D/SJV: Suitable vegetation associations and substrates are present.	D/SJV: Possible in parks with intact grassland habitat.
				EBH: Although suitable vegetation associations and substrates may be present this species is restricted to the edge of the San Joaquin Valley.	EBH: Not Expected
				MH: Although suitable vegetation associations and substrates may be present this species is restricted to the edge of the San Joaquin Valley.	MH: Not Expected
				MDR: Suitable vegetation associations and substrates present.	MDR: Possible in lower elevations along the edge of the San Joaquin Valley.

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Navarretia cotulifolia</i> cotula navarretia	FED: None CA: None CEQA: 4.2	Occurs on adobe sites in chaparral, cismontane woodland, and valley and foothill grassland between 4 and 1,830 meters. Known from ALA, BUT, CCA, COL, GLE, LAK, MEN, MRN, NAP, SBT, SCL, SOL, SON, SUT, and YOL counties. Uncertain about distribution or identity in SIS County.	May-June Annual herb	BS: Suitable vegetation associations and substrates maybe present.	BS: Possible at parks with suitable habitat south of Oakland Airport.
				D/SJV: Suitable vegetation associations and substrates maybe present.	D/SJV: Possible in parks with suitable habitat in the Livermore Valley.
				EBH: Although suitable vegetation associations are present, this location is outside of known range, lacks appropriate climatic conditions and substrate.	EBH: Not Expected
				MH: Although suitable vegetation associations are present, this location is outside of known range, lacks appropriate climatic conditions and substrate.	MH: Not Expected
				MDR: Suitable vegetation associations and substrates present.	MDR: Possible in lower elevations along the edge of the San Joaquin Valley.

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Navarretia nigelliformis</i> subsp. <i>nigelliformis</i> adobe navarretia	FED: None CA: None CEQA: 4.2	Occurs in clay, sometimes serpentine soils in valley and foothill grassland and vernal pools between 100 and 1,000 meters. Known from ALA, BUT, CCA, COL, FRE, KRN, MER, MNT, PLA, SUT, and TUL counties.	April-June annual herb	BS: Although suitable vegetation associations and substrates may be present this species is restricted to the edge of the San Joaquin Valley.	BS: Not Expected
				D/SJV: Suitable vegetation associations and substrates maybe present.	D/SJV: Possible in parks with suitable habitat in the Livermore Valley.
				EBH: Although suitable vegetation associations and substrates may be present this species is restricted to the edge of the San Joaquin Valley.	EBH: Not Expected
				MH: Although suitable vegetation associations and substrates may be present this species is restricted to the edge of the San Joaquin Valley.	MH: Not Expected
				MDR: Suitable vegetation associations and substrates present.	MDR: Possible in lower elevations along the edge of the San Joaquin Valley.

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Perideridia gairdneri</i> subsp. <i>gairdneri</i> Gairdner's yampah	FED: None CA: None CEQA: 4.2	Occurs on vernal mesic sites in broad-leaved upland forest, chaparral, coastal prairie, valley and foothill grassland and vernal pools between 0 and 610 meters. Known from CCA, KRN, MEN, MNT, MRN, NAP, SBT, SCL, SCR, SLO, SOL, and SON counties. Presumed extirpated from LAX, SDG and SMT counties.	June-October perennial herb	BS: Suitable vegetation associations and vernal hydrology present.	BS: Possible in areas of intact grassland habitat.
				D/SJV: Although suitable vegetation associations are present, this location is outside of known range, lacks appropriate climatic conditions, namely located in the coastal fog belt.	D/SJV: Not Expected
				EBH: Suitable vegetation associations and vernal hydrology present.	EBH: Possible in EBH parks.
				MH: Although suitable vegetation associations are present, this location is outside of known range, lacks appropriate climatic conditions, namely located in the coastal fog belt.	MH: Not Expected
				MDR: Although suitable vegetation associations are present, this location is outside of known range, lacks appropriate climatic conditions, namely located in the coastal fog belt.	MDR: Not Expected
<i>Piperia michaelii</i> Michael's rein orchid	FED: None CA: None CEQA: 4.2	Occurs in coastal scrub, closed-cone coniferous forest, chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest between 3 and 915 meters. Known from ALA, AMA, BUT, CCA, FRE, HUM, MNT, MRN, SBA, SBT, SCL, SCR, SCZ, SFO, SLO, SMT, STA, TUL, TUO, and YUB counties. Presumed extirpated from LAX and VEN counties.	April-August perennial herb	BS: No suitable vegetation associations present.	BS: None
				D/SJV: No suitable vegetation associations present.	D/SJV: None
				EBH: Suitable vegetation associations present.	EBH: Possible in all EBH parks west of Mission Peak.
				MH: Suitable vegetation associations present.	MH: Possible in MH parks north of MTRP.
				MDR: Suitable vegetation associations present <u>Occurrence Data</u> DVRP = EBRPD Data	MDR: Possible in MH parks north of MTRP.

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Polygonum marinense</i> Marin knotweed	FED: None CA: None CEQA: 3.1	Occurs in coastal salt or brackish marshes and swamps between 0 and 10 meters. Known from fewer than 32 locations in ALA, HUM, MRN, NAP, SOL, and Son counties.	April-October annual herb	BS: Suitable vegetation associations and tidal hydrology present. Known from a historic collection in the vicinity of Alameda. <u>Occurrence Data</u> CMSB = 1 occurrence (Occ # 18H) MESP = 1 occurrence (Occ # 18H) MLKJRS = 1 occurrence (Occ # 18H)	BS: Possible in parks north of the Oakland Airport.
				D/SJV: Although suitable vegetation associations and tidal hydrology present, this species only known to occur in the vicinity of Alameda.	D/SJV: Not Expected
				EBH: No suitable vegetation associations and tidal hydrology present.	EBH: None
				MH: No suitable vegetation associations and tidal hydrology present.	MH: None
				MDR: No suitable vegetation associations and tidal hydrology present.	MDR: None
<i>Psilocarphus brevissimus</i> var. <i>multiflorus</i> Delta woolly-marbles	FED: None CA: None CEQA: 4.2	Occurs in vernal pools between 0 and 500 meters. Known from ALA, NAP, SCL, SDG, SJQ, SOL, STA, and YOL counties.	May-June annual herb	BS: Out of range in the EB, no voucher collections for this taxon exist, CNPS/CNDDDB error.	BS: None
				D/SJV: Out of range in the EB, no voucher collections for this taxon exist, CNPS/CNDDDB error.	D/SJV: None
				EBH: Out of range in the EB, no voucher collections for this taxon exist, CNPS/CNDDDB error.	EBH: None
				MH: Out of range in the EB, no voucher collections for this taxon exist, CNPS/CNDDDB error.	MH: None
				MDR: Out of range in the EB, no voucher collections for this taxon exist, CNPS/CNDDDB error.	MDR: None

Species Name Common Name	Federal, State, and CNPS Listing ¹	Habitat Preferences, Distribution Information, and Additional Notes*	Flowering Phenology/ Life Form	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Ranunculus lobbii</i> Lobb's aquatic buttercup	FED: None CA: None CEQA: 4.2	Occurs on mesic sites in cismontane woodland, north coast coniferous forest, valley and foothill grassland, and vernal pools between 15 and 470 meters. Known from ALA, CCA, MEN, MRN, NAP, SOL, and SON counties. Presumed extirpated from SCR and SMT counties.	February-May annual herb (aquatic)	BS: Although suitable vegetation associations are present this species prefers freshwater ponds, which is absent here.	BS: Not Expected
				D/SJV: Although suitable vegetation associations are present this species prefers freshwater ponds, which is absent here.	D/SJV: Not Expected
				EBH: Suitable vegetation associations and pond habitat present. <u>Occurrence Data</u> BRP = EBRPD Data	EBH: Present in BRP and possible in other EBH parks.
				MH: Although suitable vegetation associations and freshwater ponds are present, this species is outside its local range here.	MH: Not Expected
				MDR: Suitable vegetation associations and pond habitat present.	MDR: Possible in other MDR parks.

1 Explanation of State and Federal Listing Codes

Federal listing codes:

FE Federally listed as Endangered
 FT Federally listed as Threatened
 FPE Federally proposed for listing as Endangered
 FPT Federally proposed for listing as Threatened
 FPD Federally proposed for delisting

California listing codes:

SE State listed as Endangered
 ST State listed as Threatened
 SR State listed as Rare
 SCE State candidate for listing as Endangered
 SCT State candidate for listing as Threatened

California Native Plant Society codes:

1A Presumed extinct in California
 1B Rare or Endangered in California and elsewhere
 2A Rare or Endangered in California, more common elsewhere
 2B Plants presumed extirpated in California, common elsewhere
 3 Plants for which we need more information - Review list
 4 Plants of limited distribution - Watch list

California Native Plant Society Threat Codes:

- .1 Seriously Endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)
- .2 Moderately Endangered in California (20-80% occurrences threatened/moderate degree and immediacy of threat)
- .3 Not very Endangered in California (<20% of occurrences threatened low degree and immediacy of threat or no current threats known)

Abbreviations:

AMA Amador
BUT Butte
CAL Calaveras
CCA Contra Costa
CNPS CA Native Plant Society
COL Colusa
DNT Del Norte
ELD El Dorado
FRE Fresno
GLE Glenn
HUM Humboldt
KRN Kern
LAK Lake
LAS Lassen
LAX Los Angeles
LCP Local Coastal Plan
MAD Madera
MOD Modoc
MEN Mendocino
MER Merced

MNT Monterey
MPA Mariposa
MRN Marin
NAP Napa
NEV Nevada
ORA Orange
OSP Open Space Preserve
PLA Placer
PLU Plumas
RIV Riverside
SAC Sacramento
SBA Santa Barbara
SBD San Bernardino
SBT San Benito
SCL Santa Clara
SCR Santa Cruz
SCT Santa Catalina Island
SCVHP Santa Clara Valley Habitat Plan
SCZ Santa Cruz Island
SDG San Diego
SFO San Francisco

SHA Shasta
SIE Sierra
SIS Siskiyou
SJQ San Joaquin
SMI San Miguel Island
SMT San Mateo
SNI San Nicolas Island
SOL Solano
SON Sonoma
SRO Santa Rosa Island
TEH Tehama
TJM The Jepson Manual
TRI Trinity
TUL Tulare
VEN Ventura
YOL Yolo
YUB Yuba

BS = Bay Shore

ACRT = Alameda Creek Regional Trail
AHF = Ardenwood Historic Farm
BIRP = Brooks Island Regional Preserve
CSRS = Carquinez Strait Regional Shoreline
CHRP = Coyote Hills Regional Park
CMSB = Robert W. Crown Memorial State Beach
HRS = Hayward Regional Shoreline
MLKJRS = Martin Luther King Jr. Regional Shoreline
RMRS = Radke Martinez Regional Shoreline
MESP = McLaughlin Eastshore State Park
MKRS = Miller/Knox Regional Shoreline
MSRP = Martinez Shoreline Regional Park
NRS = North Richmond Shoreline
OBRS = Oyster Bay Regional Shoreline
PIRS = Point Isabel Regional Shoreline
PPRS = Point Pinole Regional Shoreline
QLRRA = Quarry Lakes Regional Recreation Area
SPBT = San Pablo Bay Trail
SFBT = San Francisco Bay Trail
WRP = Waterbird Regional Preserve
WCRP = Wildcat Canyon Regional Park
WCT = Wildcat Creek Trail

D/SJV = Delta/San Joaquin Valley

AORS = Antioch/Oakley Regional Shoreline
BPRS = Bay Point Regional Shoreline
BBRS = Big Break Regional Shoreline
BI = Browns Island
DARP = Delta Access Regional Park
DVRP = Del Valle Regional Park
SCRRA = Shadow Cliffs Regional Recreation Area

EBH = East Bay Hills

ACRP = Anthony Chabot Regional Park
BART = Bay Area Ridge Trail
BROSRP = Bishop Ranch Open Space Regional Preserve
BRP = Briones Regional Park
BLTRT = Briones to Las Trampas Regional Trail
CSRS = Carquinez Strait Regional Shoreline
CCRP = Claremont Canyon Regional Preserve
CHRP = Concord Hills Regional Park
CRHRP = Crockett Hills Regional Park
CCRRA = Cull Canyon Regional Recreation Area
DCRRA = Don Castro Regional Recreation Area
GDCPRP = Garin/Dry Creek Pioneer Regional Parks
DHRP = Dublin Hills Regional Park
HBRP = Huckleberry Botanic Regional Preserve
KGRRA = Kennedy Grove Regional Recreation Area

LMRT = Lafayette-Moraga Regional Trail
LCRP = Lake Chabot Regional Park
LTWRP = Las Trampas Wilderness Regional Preserve
LTMDRT = Las Trampas to Mt. Diablo Regional Trail
LCOSRP = Leona Canyon Open Space Regional Preserve
PRRP = Pleasanton Ridge Regional Park
RRRP = Reinhardt Redwood Regional Park
RP = Rancho Pinole
RRRA = Roberts Regional Recreation Area
SVRP = Sibley Volcanic Regional Preserve
SRBRP = Sobrante Ridge Botanic Regional Preserve
TRP = Tilden Regional Park
TRPRPBG = Tilden Regional Park, Regional Parks Botanic Garden
TNA = Tilden Nature Area
VPRP = Vargas Plateau Regional Park
WCRP = Wildcat Canyon Regional Park

MH = Mount Hamilton

DVRP = Del Valle Regional Park
OWRP = Ohlone Wilderness Regional Preserve
MPRP = Mission Peak Regional Preserve
SWRP = Sunol Wilderness Regional Preserve

MDR = Mt. Diablo Range

BDMRP = Black Diamond Mines Regional Preserve
BMDRT = Briones to Mt. Diablo Regional Trail
BPRP = Brushy Peak Regional Preserve
BVPRP = Byron Vernal Pools Regional Preserve
CRHT = California Riding and Hiking Trail
CRRP = Clayton Ranch Regional Preserve

CHRP = Concord Hills Regional Park
CCCT = Contra Costa Canal Trail
CLRP = Contra Loma Regional Park
DVRP = Deer Valley Regional Park
DART = Delta de Anza Regional Trail
DFRP = Diablo Foothills Regional Park
IHRT = Iron Horse Regional Trail
MTRP = Morgan Territory Regional Preserve
RVRP = Round Valley Regional Preserve
SVOSRP = Sycamore Valley Open Space Regional Preserve
TCRP = Tassajara Creek Regional Park
VCRP = Vasco Caves Regional Preserve (includes Vasco Hills Regional Park)

Other – Not Used

CA = Camp Arroyo
CRRRA = Castle Rock Regional Recreation Area
CCVCA = Crab Cove Visitor Center and Aquarium
EBSNRT = East Bay Skyline National Recreation Trail
FCOS = Five Canyons Open Space
HRS = Hayward Regional Shoreline
JJSRS = Judge John Sutter Regional Shoreline
LHPR = Little Hills Picnic Ranch
MCRT = Marsh Creek Regional Trail
RMRS = Radke Martinez Regional Shoreline
RCMSB = Robert W. Crown Memorial State Beach
TRRA = Temescal Regional Recreation Area

Appendix F: Special-Status Wildlife

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Species Name Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Occurrence Potential on a Routine Maintenance Project Site
Invertebrates				
<i>Andrena blennospermatis</i> Blennosperma vernal pool Andrenid bee	SA	A native solitary bee that specializes in pollinating yellow carpet (<i>Blennosperma</i> spp.) within vernal pools. These bees inhabit the soils in adjacent uplands surrounding vernal pools.	Based on CNDDDB, this species has been documented on District Lands within the Mount Diablo Range ecoregion. May occur surrounding vernal pools within this ecoregion and other locations with suitable habitat.	Possible
<i>Bombus caliginosus</i> Obscure bumble bee	SA	Inhabits open grassy coastal prairies and Coast Range meadows along the Pacific Coast from southern California to southern British Columbia, with scattered records from the east side of California's Central Valley. Nests in burrows underground as well as above ground in abandoned bird nests. Colonies are annual and only new, mated queens overwinter (Hatfield et al. 2014).	Based on CNDDDB, this species has been documented on District Lands within the East Bay Hills and Bay Shore ecoregions. May occur in these and other locations with suitable habitat.	Possible
<i>Bombus crotchii</i> Crotch bumble bee	SCE	This species occurs from coastal California east to the Sierra Nevada Cascade crest. It occurs at relatively warm and dry sites in open grassland and scrub habitats. Colonies are annual and only the new, mated queens overwinter. Nests are often located underground in abandoned rodent nests, or above ground in tufts of grass, old bird nests, rock piles, or cavities in dead trees.	Based on CNDDDB, this species has been documented on District Lands within the East Bay Hills and Delta/San Joaquin Valley ecoregions. May occur in these and other locations with suitable habitat.	Possible
<i>Bombus occidentalis</i> Western bumble bee	SCE	A medium-sized (1 to 2 cm) bumble bee with a short head. The abdomen is color variable, but all individuals have a transverse band of yellow hair on the thorax in front of the wing bases, and the tip of the abdomen is almost always white. This species lives in a diverse range of habitats, including mixed woodlands, farmlands, urban areas, montane meadows, and into the western edge of the prairie grasslands. Like many bumble bee species, it typically nests underground in abandoned rodent burrows or within hollows in decaying wood (COSEWIC 2014). Widespread use of pesticides in agricultural lands and habitat fragmentation are thought to have led to severe declines of the species.	Based on CNDDDB, this species has been documented on District Lands within the Bayshore, East Bay Hills, and Mount Diablo ecoregions. May occur in these and other locations with suitable habitat	Possible

Species Name Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Occurrence Potential on a Routine Maintenance Project Site
<i>Branchinecta longiantenna</i> Longhorn fairy shrimp	FE	Species is extremely rare and endemic to small disjunct areas within Contra Costa, Alameda, Merced and San Luis Obispo counties. In the Livermore Vernal Pool Region of Alameda and Contra Costa counties, inhabits small, clear, sandstone outcrop vernal pools with low alkalinity (USFWS 2005a). Inhabits larger and warmer grassland pools with clear to turbid water in the San Joaquin and Carrizo Vernal Pool Regions from 75 to 2,887 feet (23 to 880 meters) (USFWS 2005a).	Based on the BO (USFWS 2018), this species is assumed present in suitable habitat on the following District Lands: Brushy Peak, Byron Vernal Pool, Vasco Caves, and Vasco Hills.	Possible
<i>Branchinecta lynchi</i> Vernal pool fairy shrimp	FT HCP/NCCP Covered	Inhabit clear to tea-colored freshwater vernal pools in grass or mud bottomed swales, or basalt flow depression pools in unplowed grasslands (59 FR 48136; Eriksen and Belk 1999).	Based on the BO (USFWS 2018), this species is assumed potentially present in suitable habitat on the following District Lands: Brushy Peak, Byron Vernal Pool, Vasco Caves, and Vasco Hills.	Possible
<i>Branchinecta mesovallensis</i> Midvalley fairy shrimp	SA HCP/NCCP Covered	Vernal pools and artificial habitats such as roadside ditches and railroad toe-drains.	Based on CNDDDB, this species has been documented on District Lands at Vasco Hills and Byron Vernal Pools. May occur in these and other locations with suitable habitat.	Possible
<i>Danaus plexippus pop. 1</i> Monarch butterfly (overwintering population)	FC SA	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Host plant is the milkweed (<i>Asclepius</i> spp.). Lifespan reaches >9 months. Fall migration occurs from August-October. Overwintering roosts in California commonly occur on Eucalyptus trees.	Based on CNDDDB, winter roosts of this species have been documented on District Lands within the Bay Shore ecoregion. May occur in this and other locations with suitable habitat.	Possible

Species Name Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Occurrence Potential on a Routine Maintenance Project Site
<i>Efferia antiochi</i> Antioch efferian robberfly	SA	Inhabits sand dunes. Recorded from Contra Costa and Fresno counties.	Based on CNDDDB, this species has been documented on District Lands at Las Trampas and on the Las Trampas to Mount Diablo Trail. May occur in these and other locations with suitable habitat.	Possible
<i>Euphydryas editha bayensis</i> Bay checkerspot butterfly	FT	A California endemic butterfly restricted to open grasslands with serpentine and similar soils supporting larval and adult host plants. Larval host plants include the dwarf plantain (<i>Plantago erecta</i>), owl's clover (<i>Castilleja densiflora</i>), purple owl's clover (<i>Castilleja exserta</i>), and Indian paintbrush (<i>Castilleja affinis</i>). Species also requires variability in slope and aspect to accommodate favorable feeding conditions and larval development due to variations in weather conditions and plant senescence. The adult flight season generally occurs from late February to early May (73 FR 50406). Species is restricted to six locals in San Francisco (San Bruno Mountain State and County Park), San Mateo (Edgewood County Park and El Corte de Madera) and Santa Clara (Kirby, Metcalf, San Felipe and Silver Creek Hills) counties (52 FR 35366; USFWS 1998). Designated critical habitat encompasses 13 units totaling 18,293 acres in Santa Clara and San Mateo counties (73 FR 50406).	The CNDDDB contains historic occurrences in the East Bay Hills ecoregion, but District Lands are outside of the currently accepted range of the species.	Not Present
<i>Helminthoglypta nickliniana bridgesi</i> Bridges' coast range shoulderband (snail)	SA	Inhabits open hillsides in Alameda and Contra Costa counties and lowland grassland areas with thistles, weeds and rock piles. Prefers rock piles. The Bridges' Coast Range shoulderband snail range include Contra Costa County and northern Alameda Counties, as well as on the west slope of the Berkeley Hills, Marsh Creek Canyon, Tilden Park and Point Isabel (Roth 1999).	Based on CNDDDB, this species has been documented on District Lands within the Bay Shore, East Bay Hills, and Mount Diablo Range ecoregions. May occur in these and other locations with suitable habitat.	Possible

Species Name Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Occurrence Potential on a Routine Maintenance Project Site
<i>Hygrotus curvipes</i> Curved-foot hygrotus diving beetle	SA	Inhabits small ponds, roadside ditches, vernal wetlands, and pools in intermittent streams, most of which support alkali-tolerant vegetation and dry up during the summer. Known from western margin of San Joaquin Valley, from Oakley in Contra Costa County south through Alameda County.	Based on CNDDDB, this species has been documented on District Lands within the Delta/San Joaquin Valley and Mount Diablo Range ecoregions. May occur in these and other locations with suitable habitat.	Possible
<i>Lepidurus packardi</i> Vernal pool tadpole shrimp	FE HCP/NCCP Covered	Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid water; such pools are commonly found in grass bottomed swales of unplowed grasslands and are occasionally mud-bottomed and highly turbid (59 FR 48136).	Based on the BO (USFWS 2018), this species is potentially present in suitable habitat on the following District Lands: Brushy Peak, Byron Vernal Pool, Vasco Caves, and Vasco Hills.	Possible
<i>Linderiella occidentalis</i> California linderiella	SA	Inhabits clear large vernal pools and lakes, but are fairly tolerant of high water temperatures and turbidity. Most common fairy shrimp in the Central Valley.	Based on CNDDDB, this species has been documented on District Lands within the Mount Diablo Range ecoregion. May occur in this and other locations with suitable habitat.	Possible
<i>Lytta molesta</i> Molestan blister beetle	SA	Inhabits dry vernal pools from host plants including <i>Lupinus</i> spp. (Halstead and Haines 1992), <i>Trifolium wormskioldii</i> (Holstein 1980), and <i>Eriodium</i> spp. (Selander 1960). Size varies from 11-22 mm in length. Identified by black coloration with orange markings on the thorax. The larvae are nest parasites of solitary bees. Recorded from Tulare, Kern, Yolo, Contra Costa, Fresno, Merced, and Madera counties.	Based on CNDDDB, this species has been documented on District Lands, at Deer Valley, within the Mount Diablo Range ecoregion. May occur in these and other locations with suitable habitat.	Possible
<i>Microcina leei</i> Lee's micro-blind harvestman	SA	Inhabits Franciscan sandstone talus slopes in dense chaparral canopy or open oak grassland. Only one of its genus not found in caves (CDFW 2021).	Based on CNDDDB, this species has been documented on District Lands within the East Bay Hills ecoregion. May occur in this and other locations with suitable habitat.	Possible

Species Name Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Occurrence Potential on a Routine Maintenance Project Site
<i>Microcina lumi</i> Lum's micro-blind harvestman	SA	One of seven members of the Bay Area endemic genus <i>Microcina</i> , the microblind harvestman. Like other member of its genus, it is known in only a few locations and is associated with serpentine grasslands. It is about 1 mm long, lives under rocks, and is most active in the rainy months of winter.	Based on CNDDDB, this species has been documented on District Lands within the East Bay Hills ecoregion. May occur in this and other locations with suitable habitat.	Possible
<i>Perdita scitula antiochensis</i> Antioch adrenid bee	SA	Inhabits sand dunes associated with buckwheat (<i>Eriogonum</i> spp.), snakeweed (<i>Gutierrezia</i> spp.), lessingia (<i>Lessingia glandulifera</i>), and golden-aster (<i>Heterotheca</i> spp.). Recorded from only two locations in eastern Contra Costa County.	Based on CNDDDB, this species has been documented on District Lands within the Delta/San Joaquin Valley ecoregion. May occur in this and other locations with suitable habitat.	Possible
<i>Speyeria callippe callippe</i> Callippe silverspot butterfly	FE	A medium-sized butterfly that is endemic to native grasslands with the host plant Johnny jump-up (<i>Viola pedunculata</i>). Violas typically grow on hilltops. The active adult period occurs between May and July. Current distribution is restricted to seven locals in San Mateo, Sonoma and Alameda counties.	The Species Status Assessment for the Callippe Silverspot Butterfly (USFWS 2020) concludes that <i>Speyeria callippe</i> butterflies within the range of District Lands all genetically group with Comstock's silverspot butterflies, and that the Service considers the range of the Callippe silverspot butterfly to follow results from the most recent genetic study (Hill 2018), with populations in San Bruno Mountain (San Mateo County), Sears Point (Sonoma County), and at least four populations in Solano County. Therefore, District Lands are not within the currently accepted range of the species.	Not Present

Species Name Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Occurrence Potential on a Routine Maintenance Project Site
<i>Tryonia imitator</i> Mimic tyronia	SA	Inhabits perennial brackish water sources including coastal lagoons, estuaries and salt marshes. Ranges from Sonoma County south to San Diego County. Exhibits high salinity tolerance.	Based on CNDDDB, this species has been documented on District Lands within the Bay Shore ecoregion. May occur in this and other locations with suitable habitat.	Possible
Amphibians				
<i>Ambystoma californiense</i> California tiger salamander Central California DPS	FT ST HCP/NCCP Covered	A large terrestrial salamander that inhabits seasonal/semi-permanent water sources and adjacent upland habitat with small fossorial mammal activity in lowland grasslands, oak savannah and mixed woodlands. Species have been documented traveling distances up to 1 mile (1.6 km) (Austin and Shaffer 1992). Primary constituent elements include: (1) standing bodies of fresh water that support inundation during winter rains and hold water for a minimum of 12 weeks in a year of average rainfall; (2) upland habitats adjacent and accessible to breeding ponds that contain small mammal burrows or other underground habitat; and (3) accessible upland dispersal habitat between occupied locations that allow for movement between such sites (70 FR 49380).	Based on District surveys, CNDDDB, and the BO (USFWS 2018), this species is assumed present in suitable habitat on the following District Lands: Black Diamond Mines, Brushy Peak, Byron Vernal Pools, Clayton Ranch, Concord Hills, Contra Loma, Deer Valley, Del Valle, Doolan Canyon, Dry Creek Pioneer, Garin, Mission Peak, Las Trampas, Morgan Territory, Ohlone, Pleasanton Ridge, Round Valley, Sunol, Vargas Plateau, Vasco Caves, and Vasco Hills.	Possible

Species Name Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Occurrence Potential on a Routine Maintenance Project Site
<i>Rana boylei</i> Foothill yellow-legged frog	SE	A medium-sized frog that inhabits rocky, cascading streams in woodland, chaparral and coniferous forests from the Oregon border to San Luis Obispo County and the western foothills of the Sierra Nevada below 6,000 feet. Separated into six distinct genetic clades for conservation with the Feather River and Northeast/Northern Sierra clades listed as CESA threatened, the East/Southern Sierra, West/Central Coast and Southwest/South clades listed as endangered, and the North Coast clade listed as a Species of Special Concern under CDFW. District lands are within the West/Central Coast clade.	Based on District surveys and CNDDDB, the species has historically been documented on District Lands in the East Bay Hills, Mount Diablo Range, and Mount Hamilton ecoregions. However, based on Park District surveys, the species is currently restricted to District Lands within the upper Alameda Creek and Arroyo Del Valle watersheds.	Possible
<i>Rana draytonii</i> California red-legged frog	FT SSC HCP/NCCP Covered	A medium-sized frog that inhabits lowlands and foothills in or near permanent and seasonal sources of deep water with dense, shrubby or emergent riparian vegetation (Jennings and Hayes 1994, Bulger et al. 2003, Stebbins 2003).	Based on District surveys, CNDDDB, and the BO (USFWS 2018), this species is assumed present in suitable habitat on the following District Lands: Black Diamond Mines, Briones, Brushy Peak, Byron Vernal Pools, Clayton Ranch, Concord Hills, Deer Valley, Del Valle, Diablo Foothills, Doolan Canyon, Dry Creek Pioneer, Dublin Hills, Garin, Las Trampas, Mission Peak, Morgan Territory, Ohlone, Pleasanton Ridge, Rancho Pinole, Round Valley, Sobrante Ridge, Sunol, Sycamore Valley, Tilden, Vargas Plateau, Vasco Caves, and Vasco Hills	Possible

Species Name Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Occurrence Potential on a Routine Maintenance Project Site
Reptiles				
<i>Anniella pulchra</i> Northern California legless lizard	SSC HCP/NCCP Covered	Inhabits sandy or loose loamy soils and leaf litter from Contra Costa County to northwestern Baja.	Based on CNDDDB, this species has been documented on District Lands within the Delta/San Joaquin Valley and Mount Diablo Range ecoregions. May occur in these and other locations with suitable habitat.	Possible
<i>Emys marmorata</i> Western pond turtle	SSC HCP/NCCP Covered	Inhabits permanent or nearly permanent bodies of water and low gradient slow-moving streams below 6,000 feet elevation.	Based on District surveys and CNDDDB, this species has been documented on District Lands within the East Bay Hills, Delta/San Joaquin Valley, Mount Diablo Range, and Mount Hamilton ecoregions. More specifically, based on Park District records this species is present in suitable habitat on the following District Lands: Black Diamond Mines, Briones, Clayton Ranch, Del Valle, Shadow Cliffs, Las Trampas, Alameda Creek, Morgan Territory, Ohlone, Pleasanton Ridge, Round Valley, Sunol, Tilden, and may occur in these and other locations with suitable habitat.	Possible

Species Name Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Occurrence Potential on a Routine Maintenance Project Site
<p><i>Masticophis lateralis euryxanthus</i> Alameda whipsnake</p>	<p>FT ST HCP/NCCP Covered</p>	<p>Scrub, chaparral, grassland, and woodland habitat mosaics. Mostly south-facing slopes and ravines, with rock outcrops, deep crevices or abundant rodent burrows, where shrubs form a vegetative mosaic with oak trees and grasses.</p>	<p>Based on District surveys, CNDDDB, and the BO (USFWS 2018), this species is assumed present in suitable habitat on the following District Lands: Anthony Chabot, Bishop Ranch, Black Diamond Mines, Briones, Brushy Peak, Claremont Canyon, Clayton Ranch, Concord Hills, Contra Loma, Cull Canyon, Deer Valley, Del Valle, Diablo Foothills, Don Castro, Dry Creek Pioneer, Dublin Hills, Garin, Huckleberry, Kennedy Grove, Lake Chabot, Las Trampas, Leona Canyon, Little Hills Ranch, Mission Peak, Morgan Territory, Ohlone, Pleasanton Ridge, Rancho Pinole, Redwood, Roberts, Round Valley, Sibley, Sobrante Ridge, Sunol, Tilden, Vargas Plateau, and Wildcat Canyon.</p>	<p>Possible</p>
<p><i>Phrynosoma blainvillii</i> Coast horned lizard</p>	<p>SSC</p>	<p>Inhabits a variety of habitats including scrub, chaparral, grasslands and woodlands with sandy to gravelly substrate. Active from April-October, peaking in April/May. Diet consists of native ants and beetles but may also feed on other insects that are seasonally abundant.</p>	<p>Based on CNDDDB, this species has been documented on District Lands within the Mount Diablo Range ecoregion. Based on Park District records this species is present in suitable habitat at Sunol and Ohlone. May occur in these and other locations with suitable habitat.</p>	<p>Possible</p>

Species Name Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Occurrence Potential on a Routine Maintenance Project Site
<i>Thamnophis gigas</i> Giant garter snake	FT ST	The most aquatic of California garter snakes, this species prefers freshwater marsh and low-gradient streams and has adapted to drainage canals and irrigation ditches predominantly in the Central Valley from Butte County to Fresno County. Currently, 13 populations of giant garter snakes are recognized, which correspond to historic flood plains and tributary streams throughout the Central Valley: Butte Basin, Colusa Basin, Sutter Basin, American Basin, Yolo Basin-Willow Slough, Yolo Basin-Liberty Farms, Sacramento Basin, Badger Creek-Willow Creek, Caldoni Marsh, East Stockton-Diverting Canal and Duck Creek, North and South Grasslands, Mendota, and Burrell-Lanare (Hinds 1952, Hansen 1980, and Brode and Hansen 1992 in USFWS 1993).	Based on CNDDDB, this species has been documented on District Lands within the Delta/San Joaquin Valley ecoregion. May occur in this and other locations with suitable habitat.	Possible
Birds				
<i>Accipiter cooperii</i> Cooper's hawk (nesting)	WL	Typical nest site selection is characterized by mature trees with significant canopy cover; although, species will nest in suburban areas in a variety of trees.	Based on CNDDDB, this species has been documented on District Lands within the Bay Shore and Mount Hamilton ecoregions. This species is widespread and occurs in these and other locations with suitable habitat.	Possible
<i>Accipiter striatus</i> Sharp-shinned hawk (nesting)	WL	This species prefers north-facing slopes in dense stands of deciduous, conifer and mixed hardwood trees, including ponderosa pine, black oak, and Jeffrey pines, preferably in riparian areas; also known to nest in suburban areas.	Based on CNDDDB, this species has been documented on District Lands within the East Bay Hills and Mount Hamilton ecoregions. May occur in these and other locations with suitable habitat.	Possible Nesting

Species Name Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Occurrence Potential on a Routine Maintenance Project Site
<i>Agelaius tricolor</i> Tricolored blackbird (nesting colony)	ST SSC BCC HCP/NCCP Covered	Highly colonial species; nest in emergent vegetation within aquatic and riparian habitats.	Based on CNDDDB, this species has been documented on District Lands within the Bay Shore, East Bay Hills, Mount Diablo Range, and Delta/San Joaquin Valley ecoregions. May occur in these and other locations with suitable habitat.	Possible
<i>Ammodramus savannarum</i> Grasshopper sparrow (nesting)	SSC	Inhabits moderately open grasslands and prairies with patchy bare ground, cultivated fields and forest clearings with short to moderately tall grasses and scattered shrubs. In the West, it prefers more open sites with bare ground and shorter vegetation than savannah sparrows (Vickery 1996).	The CNDDDB does not contain records of this species on District Lands. However, Park District records indicate this species is present in suitable habitat and nesting in the following locations: Sunol, Ohlone, Clayton Ranch, Black Diamond, Pleasanton Ridge and Garin. The species may nest at other locations with suitable habitat.	Possible
<i>Ardea herodias</i> Great blue heron (Nesting colony)	SA	A large wading bird that inhabits a variety of aquatic habitats including shores, tidflats, marshes, swamps, ponds, lakes, rivers and streams. Nests colonially in large trees near water bodies. Breeding begins in March; single-brooded (Baicich and Harrison 2005).	Based on CNDDDB, this species has been documented nesting on District Lands within the Bay Shore and East Bay Hills ecoregions. May nest in these and other locations with suitable habitat.	Possible

Species Name Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Occurrence Potential on a Routine Maintenance Project Site
<i>Asio flammeus</i> Short-eared owl (nesting)	SSC	Inhabits open grasslands, prairies, marshes and agricultural fields with sufficient vegetative cover and abundant small mammal prey. Nests on the ground in a shallow depression. Breeds in Great Basin, Sacramento-San Joaquin Delta, San Joaquin Valley, and isolated areas along the southern California Coast (Shuford and Gardali 2008). Breeds from March through July; single-brooded (Baicich and Harrison 2005, Shuford and Gardali 2008).	Based on CNDDDB, this species has been documented on District Lands within the Bay Shore and East Bay Hills ecoregions. May occur in these and other locations with suitable habitat.	Possible
<i>Asio otus</i> Long-eared owl (nesting)	SSC	Nests and roosts in a variety of woodland habitats including conifer, mixed woodland, oak, and riparian areas especially in areas adjacent to grasslands, shrublands, scrub and marsh habitats (Baicich and Harrison 2005, Shuford and Gardali 2008).	The CNDDDB does not contain records of this species on District Lands. However, Park District records indicate this species is present in suitable habitat at Coyote Hills. The species may nest at other locations with suitable habitat.	Possible
<i>Athene cunicularia</i> Burrowing owl (burrow sites and some wintering sites)	BCC SSC HCP/NCCP Covered	A year-round resident throughout much of California, including the Central Valley, San Francisco Bay region, Carrizo Plain, and Imperial Valley. Burrowing owls that nest at higher elevations (e.g., Modoc Plateau) migrate to lower elevations in winter. In addition, migrants from other parts of western North America may augment resident lowland populations in winter (Shuford and Gardali 2008). Throughout their range, burrowing owls require habitats with three basic attributes: (1) open, well-drained terrain; (2) short, sparse vegetation generally lacking trees; and (3) underground burrows or burrow-like structures (e.g., culverts) (Klute et al. 2003, Shuford and Gardali 2008). Burrowing owls are well adapted to open, relatively flat expanses. Grassland, shrub steppe, and desert are naturally occurring habitat types used by the species (CDFG 2012).	Based on District surveys and CNDDDB, this species has been documented on District Lands within the Bay Shore, Mount Diablo Range, Delta/San Joaquin Valley, and Mount Hamilton ecoregions. May occur in these and other locations with suitable habitat.	Possible

Species Name Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Occurrence Potential on a Routine Maintenance Project Site
<i>Aquila chrysaetos</i> Golden eagle (nesting, wintering)	BCC FP HCP/NCCP No Take	A large diurnal raptor that nests on cliffs and in large trees in open areas. Forages in open terrain including grasslands, deserts, savannahs and early successional stages of forest and shrub habitats (Kochert et al. 2002). A year-round resident in the greater Bay Area. Breeding activities begin in December in California.	Based on District surveys and CNDDDB, this species has been documented on District Lands within the East Bay Hills, Mount Diablo Range, and Delta/San Joaquin Valley ecoregions. May occur in these and other locations with suitable habitat.	Possible
<i>Buteo swainsoni</i> Swainson's hawk (nesting)	BCC ST HCP/NCCP Covered	Breeds in stands of tall trees in open areas. Requires adjacent suitable foraging habitats such as grasslands or alfalfa fields supporting rodents.; breeding occurs from March to August.	Based on District surveys and CNDDDB, this species has been documented on District Lands within the Mount Diablo Range and Delta/San Joaquin Valley ecoregions. It is expected that nesting on District lands is restricted to these ecoregions.	Possible
<i>Buteo regalis</i> Ferruginous hawk (wintering)	BCC WL	Does not breed in California, but winters in the project area. Wintering habitat consists of open grasslands, deserts and cultivated fields.	This species does not nest in the region. Based on CNDDDB, wintering birds have been documented on District Lands within the Mount Diablo Range ecoregion. May occur in this and other locations with suitable habitat.	Possible

Species Name Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Occurrence Potential on a Routine Maintenance Project Site
<i>Charadrius alexandrinus nivosus</i> Western snowy plover (nesting)	FT BCC SSC	Inhabits beaches, mud flats, estuaries, salt evaporation ponds and inland river channels with banks for foraging. Breeds on sandy beaches, dunes, levees, river banks and dry salt evaporation beds along the California coastline typically in areas with minimal human disturbance. San Francisco Bay is within USFWS Recovery Unit 3 (USFWS 2007). Breeding begins in March; double-brooded (Baicich and Harrison 2005). Federal listing applies only to the Pacific coastal population that nests within 50 miles of the Pacific Ocean on the mainland coast, peninsulas, offshore islands, bays, estuaries, or rivers of the U.S. and Baja, California; "Species of Special Concern" designation refers to both the coastal and interior populations (CDFG 2011; USFWS 2007). Critical habitat was revised on June 19, 2012, and encompasses four units and 6,077 acres in Washington, nine units and 2,112 acres in Oregon, and 47 units and 16,337 acres in California. Counties in California with designated critical habitat include: Del Norte, Humboldt, Mendocino, Marin, Napa, Alameda, San Mateo, Santa Cruz, Monterey, San Luis Obispo, Santa Barbara, Ventura, Los Angeles, Orange and San Diego Counties (77 FR 36728).	Based on District surveys and the BO (USFWS 2018), this species is assumed present and to nest in suitable habitat on the following District Lands: Brooks Island, Crown Beach, Hayward Shoreline, MLK Shoreline, and Coyote Hills.	Possible
<i>Circus hudsonius</i> Northern harrier (nesting)	SSC	Inhabits both freshwater and saltwater marshes and adjacent upland grasslands. Nests on the ground in tall grasses in grasslands and meadows.	Based on CNDDDB, this species has been documented on District Lands within the Bay Shore ecoregion. May occur in this and other locations with suitable habitat.	Possible
<i>Coturnicops noveboracensis</i> Yellow rail	SSC	Highly secretive, breeds in northeastern California in wet meadows and sedge marshes. Winters in tidal marshes in the greater San Francisco Bay Area	Based on CNDDDB, this species has been documented on District Lands within the Bay Shore and East Bay Hills ecoregions. However, there are no recent observations of this species on or near District Lands and occurrence is considered unlikely.	Not Expected

Species Name Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Occurrence Potential on a Routine Maintenance Project Site
<i>Egretta thula</i> Snowy egret (nesting colony)	SA	Inhabits shallow estuaries, marshes, ponds, rivers and wetlands. Breeds in rookeries near water in trees often in dense thickets or protected areas. Breeding season varies, typically begins in mid-April in California; single-brooded (Baicich and Harrison 2005).	Based on CNDDDB, this species has been documented on District Lands within the Bay Shore ecoregion. May occur in this and other locations with suitable habitat.	Possible
<i>Elanus leucurus</i> White-tailed kite (nesting)	FP	Inhabits grasslands, agriculture fields, oak woodlands, savannah and riparian habitats in rural and urban areas. Typically nests in trees surrounded by open foraging habitat.	Based on CNDDDB, this species has been documented on District Lands within the Bay Shore ecoregion. May occur in this and other locations with suitable habitat.	Possible
<i>Eremophila alpestris actia</i> California horned lark	WL	Common, abundant resident in a variety of open habitats, usually where large trees and shrubs are absent. Nests in open areas that contain relatively barren ground with short grass and scattered bushes.	The CNDDDB does not contain records of this species on District Lands. However, based on Park District records this species is present in suitable habitat and nesting in the following locations: Sunol, Ohlone, Clayton Ranch, Black Diamond, Vasco Hills, Pleasanton Ridge and Garin. The species may nest at other locations with suitable habitat.	Possible
<i>Falco columbarius</i> Merlin (nonbreeding/wintering)	WL	Merlins winter throughout California and breed in forests and prairies in northern states, Canada and Alaska. Wintering habitat includes open forests, grasslands, agricultural fields, mud flats and urban areas.	The CNDDDB does not contain records of this species on District Lands. However, the species does occur as a winter migrant on District Lands.	Possible

Species Name Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Occurrence Potential on a Routine Maintenance Project Site
<i>Falco mexicanus</i> Prairie falcon (nesting)	BCC WL	Nests on cliffs and at times in old raven or eagle stick nests on cliff, bluff, or rock outcrop. Inhabits perennial grasslands, savannahs, rangeland, some agricultural fields, and desert scrub communities.	Based on District surveys and CNDDDB, this species has been documented on District Lands within the Mount Diablo Range and Mount Hamilton ecoregions. May occur in these and other locations with suitable habitat.	Possible
<i>Falco peregrinus anatum</i> American peregrine falcon (nesting)	BCC FP	Nest on cliffs, rocky outcrops, bare ground and man-made structures such as bridges, buildings and other tall, prominent structures (Baicich and Harrison 2005). They feed primarily on birds; however, they may also consume many small mammals including bats and various rodents.	Based on District surveys and CNDDDB, this species has been documented on District Lands within the Bay Shore, Mount Diablo Range and Mount Hamilton ecoregions. May occur in these and other locations with suitable habitat.	Possible
<i>Geothlypis trichas sinuosa</i> Saltmarsh common yellowthroat	BCC SSC	Year-round resident of the San Francisco Bay Area. Inhabits dense vegetation in wetlands, marshes, estuaries, prairies and riparian areas of San Francisco and San Pablo bays, and along the coastal areas of Marin, San Francisco, and San Mateo counties (Shuford and Gardali 2008). Breeds from mid-March to late July; double-brooded (Baicich and Harrison 2005, Shuford and Gardali 2008).	Based on CNDDDB, this species has been documented on District Lands within the Bay Shore ecoregion. May occur in this and other locations with suitable habitat.	Possible

Species Name Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Occurrence Potential on a Routine Maintenance Project Site
<i>Haliaeetus leucocephalus</i> Bald eagle	BCC SE FP	Bald eagles inhabit forested areas adjacent to large bodies of water including lakes, reservoirs, rivers, estuaries and the coastline (Buehler 2000). They are opportunistic and will feed on carrion, but actively prey on a variety of fish, mammals, and birds (Buehler 2000). Nests are built from sticks and branches in a large tree or a rocky outcrop; they have also been known to nest on the ground on islands (Baicich and Harrison 2005). In California, most nest sites have been within 1 mile of water. Roosts sites are often located in large conifers near aquatic foraging areas; bald eagles usually do not begin nesting if human disturbance is evident.	Based on District surveys and CNDDDB, this species has been documented on District Lands within the Mount Hamilton ecoregions, but is also known to nest in the East Bay Hills and Bay Shore ecoregions. More specifically, based on Park District records this species is present in suitable habitat and nesting in the following locations: Lake Chabot, Lake Del Valle and Ardenwood Historic Farm.	Possible
<i>Hydroprogne caspia</i> Caspian tern (nesting colony)	BCC	The largest of the terns, a colonial breeder and a seasonal migrant to the San Francisco Bay Area. Breeds on beaches and sparsely vegetated shorelines and tidal marshlands. Breeding begins in April; single-brooded (Baicich and Harrison 2005).	Based on District surveys and CNDDDB, this species has been documented on District Lands within the Bay Shore ecoregion. More specifically, based on Park District records this species is present in suitable habitat and nesting at Brooks Island.	Possible

Species Name Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Occurrence Potential on a Routine Maintenance Project Site
<i>Icteria virens</i> Yellow-breasted chat (nesting)	SSC	Inhabits early successional riparian areas, pond margins, marshes, hedgerows, old pastures and edge habitats with dense shrub understories and an open canopy (Shuford and Gardali 2008).	The CNDDDB does not contain records of this species on District Lands, but the species is known to be present and may occur in areas with suitable habitat. However, based on Park District records this species is present in suitable habitat and nesting in the following locations: Sunol, Ohlone and a visitor to Coyote Hills. The species may nest at other locations with suitable habitat.	Possible
<i>Lanius ludovicianus</i> Loggerhead shrike (nesting)	BCC SSC	Inhabits shrublands and open woodlands associated with grasslands with areas bare ground and impaling sites such as thorny vegetation, multi-stemmed plants or barbed wire.	The CNDDDB does not contain records of this species on District Lands. However, based on Park District records this species is present in suitable habitat and nesting in the following locations: Contra Loma, Clayton Ranch and historically at Coyote Hills. The species may nest at other locations with suitable habitat.	Possible

Species Name Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Occurrence Potential on a Routine Maintenance Project Site
<i>Laterallus jamaicensis coturniculus</i> California black rail	BCC ST FP	Smallest of the rails; inhabits tidal marshes, freshwater wetlands and marshes. Wintering habitat similar to breeding habitat. A year-round resident of the San Francisco Bay Area. Breeding begins in March; sometimes double-brooded (Baicich and Harrison 2005).	Based on District surveys and CNDDDB, this species has been documented on District Lands within the Bay Shore ecoregion. More specifically, based on Park District records this species is present in suitable habitat and nesting in the following locations: Bay Point, Point Pinole, MLK Shoreline and at Coyote Hills.	Possible
<i>Melospiza melodia maxillaris</i> Suisun song sparrow	BCC SSC	A medium-sized sparrow that inhabits marshes containing cattails, tules, and other sedges, and <i>Salicornia</i> ; also known to frequent tangles bordering sloughs. One of four subspecies in the San Francisco Bay Area. Endemic to the Suisun Marsh tidal marshlands from the Carquinez Strait to Sherman Island and Big Break (Shuford and Gardali 2008). Breeding begins in April; often treble-brooded (Baicich and Harrison 2005).	Based on CNDDDB, this species has been documented on District Lands within the Bay Shore ecoregion and may nest in marshes in this ecoregion.	Possible
<i>Melospiza melodia pusillula</i> Alameda song sparrow	BCC SCC	A medium-sized sparrow that inhabits marshes containing cattails, tules, and other sedges, and <i>Salicornia</i> ; also known to frequent tangles bordering sloughs. One of four subspecies in the San Francisco Bay Area. Endemic to the southern San Francisco Bay tidal marshlands. Breeding begins in April; often triple-brooded (Baicich and Harrison 2005).	Based on CNDDDB, this species has been documented on District Lands within the Bay Shore ecoregion. and may nest in marshes in this ecoregion	Possible
<i>Melospiza melodia samuelis</i> San Pablo song sparrow	BCC SSC	A medium-sized sparrow that inhabits marshes containing cattails, tules, and other sedges, and <i>Salicornia</i> ; also known to frequent tangles bordering sloughs. One of four subspecies in the San Francisco Bay Area. Endemic to the north San Francisco Bay and San Pablo Bay. Breeding begins in April; often triple-brooded. Breeding begins in April; often treble-brooded (Baicich and Harrison 2005).	Based on CNDDDB, this species has been documented on District Lands within the Bay Shore ecoregion and may nest in marshes in this ecoregion.	Possible

Species Name Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Occurrence Potential on a Routine Maintenance Project Site
<i>Nycticorax nycticorax</i> Black-crowned night heron (nesting colony)	SA	Colonial nester in sites near fresh, brackish, or salt water in all types of vegetation; also in marshes in Phragmites, cattails, grass tussocks, and <i>Scirpus</i> . Breeding begins in winter to April; usually single-brooded (Baicich and Harrison 2005).	Based on CNDDDB, nesting colonies of this species have been documented on District Lands within the Bay Shore ecoregion.	Possible
<i>Pandion haliaetus</i> Osprey (nesting)	SA	Inhabits rivers, lakes and coastal habitats. Nest in tall trees or other platforms near water bodies with sufficient prey. Range is almost cosmopolitan throughout California. Breeding begins in March; single-brooded (Baicich and Harrison 2005).	Based on CNDDDB, this species has been documented on District Lands within the Bay Shore ecoregion and may nest in this and other locations with suitable habitat.	Possible
<i>Phalacrocorax auritus</i> Double-crested cormorant (nesting colony)	SA	Rookery sites are located near large water bodies and on small islands, shorelines, and cliff ledges. Nest consists of a structure of twigs and plant material in a tree or tall manmade structures. Breeding begins in early March to mid-June; single-brooded (Baicich and Harrison 2005).	Based on CNDDDB, nesting colonies of this species have been documented on District Lands within the Bay Shore ecoregion.	Possible
<i>Rallus obsoletus obsoletus</i> California Ridgway's rail	FE SE FP	Restricted to the San Francisco Bay Area. Inhabits coastal wetlands dominated by pickleweed (<i>Salicornia</i> spp.) and cordgrass (<i>Spartina</i> spp.). Wintering habitat similar to breeding habitat. Breeding begins in March; single-brooded (Baicich and Harrison 2005).	Based on the BO (USFWS 2018), this species is assumed present in suitable habitat on the following District Lands: Crown Beach, Hayward Shoreline, MLK Shoreline, Martinez Shoreline, McLaughlin Shoreline, Oyster Bay, Point Isabel, Point Pinole, and San Pablo Bay Shoreline.	Possible
<i>Riparia riparia</i> Bank swallow	ST	Nests in colonies in vertical banks with friable soils. Breeds from April to August. Most of California's nesting colonies occur along the upper Sacramento River. Breeding begins in April; double-brooded (Baicich and Harrison 2005).	Based on CNDDDB, this species has been documented on District Lands within the Bay Shore ecoregion, and may nest in suitable habitat in this and other locations.	Possible

Species Name Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Occurrence Potential on a Routine Maintenance Project Site
<i>Rynchops niger</i> Black skimmer	BCC SSC	The largest of the world's three skimmers, the black skimmer is crow-sized with black above, white below, and a notched tail. It has a bright red knifelike beak unique in that the bottom mandible is one third longer than the top. Found in coastal areas where it hunts fish by skimming the water with its specially-built beak. Nests in small colonies; nestlings are camouflaged by their buff coloring which resembles sand.	Based on CNDDDB, this species has been documented on District Lands within the Bay Shore ecoregion. More specifically, based on Park District records this species is present in suitable habitat and nesting at the Hayward Regional Shoreline.	Possible
<i>Setophaga petechia</i> Yellow warbler (nesting)	BCC SSC	Nests in dense, shrubby thickets dominated by willows along water courses and wet meadows. They build nests in a variety of riparian trees, most commonly willows (<i>Salix</i> spp.) and cottonwoods (<i>Populus</i> spp.). Occasionally yellow warblers breed in mixed-conifer forests with shrubby understories (Shuford and Gardali 2008). Breeds from April to late July and is sometimes double-brooded (Baicich and Harrison 2005, Shuford and Gardali 2008).	Based on CNDDDB, this species has been documented on District Lands within the East Bay Hills ecoregion. More specifically, based on Park District records this species is present in suitable habitat and nesting in the following locations: Sunol, Ohlone and a visitor to Coyote Hills. May nest in these parks and other locations with suitable habitat.	Possible

Species Name Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Occurrence Potential on a Routine Maintenance Project Site
<i>Sternula antillarum browni</i> California least tern (nesting colony)	FE SE FP	Breeds in colonies on bare soil, sand and mudflats along the California coast and the San Francisco Bay Area. Winters south to Mexico. Breeding begins in May; single-brooded (Baicich and Harrison 2005).	Based on District surveys and the BO (USFWS 2018), this species is assumed present in suitable habitat on the following District Lands: Brooks Island and Hayward Shoreline. More specifically, based on Park District records this species is present in suitable habitat and nesting at Hayward Regional Shoreline and observed foraging during the breeding season at the following locations: Crown Beach, MLK Shoreline and Coyote Hills.	Possible
<i>Xanthocephalus xanthocephalus</i> Yellow-headed blackbird	SSC	Inhabits lakes, reservoirs, sloughs, marshes, and ponds with tall emergent vegetation typically cattails (<i>Typha</i> spp.) or tules (<i>Scirpus</i> spp.) (Shuford and Gardali 2008). Nests built in vegetation over water in nesting colonies. Breeds from mid-April through late July; single-brooded (Baicich and Harrison 2005, Shuford and Gardali 2008).	Based on CNDDDB, this species has been documented on District Lands within the Bay Shore ecoregion, and may nest in suitable habitat in this and other locations	Possible

Species Name Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Occurrence Potential on a Routine Maintenance Project Site
Mammals				
<p><i>Antrozous pallidus</i> Pallid bat</p>	<p>SSC WBWG-H</p>	<p>Inhabits rocky terrain in open areas in lowlands, foothills and mountainous areas near water throughout California below 2,000 meters. Roost in caves, rock crevices, mines, hollow trees, buildings and bridges in arid regions in low numbers (<200). Active from March-November; migrates in some areas, but may hibernate locally.</p>	<p>Based on CNDDDB, this species has been documented on District Lands within the Bay Shore, East Bay Hills, Mount Diablo Range, and Mount Hamilton ecoregions. May occur in these and other locations with suitable habitat. Based on Park District records this species is present in suitable habitat at the following locations: Pleasanton Ridge, Sunol, Lake Del Valle, Clayton Ranch and Tilden.</p>	<p>Possible</p>
<p><i>Corynorhinus townsendi</i> Townsend's western big-eared bat</p>	<p>SSC WBWG-H HCP/NCCP Covered</p>	<p>An obligate cave rooster and moth specialist. Inhabits caves and mines, but may also use bridges, buildings, rock crevices and tree hollows in coastal lowlands, cultivated valleys and nearby hills characterized by mixed vegetation throughout California below 3,300 meters. Exhibits high site fidelity and is highly sensitive to disturbance. Forages along edge habitats near water; may travel long distances during foraging bouts.</p>	<p>Based on CNDDDB, this species has been documented on District Lands within the East Bay Hills, Mount Diablo Range, and Mount Hamilton ecoregions. May occur in these and other locations with suitable habitat.</p>	<p>Possible</p>
<p><i>Dipodomys heermanni berkeleyensis</i> Berkeley kangaroo rat</p>	<p>SA</p>	<p>Inhabits open grass hilltops and open spaces in chaparral and blue oak/ foothill pine woodlands; needs fine, deep, well-drained soils for burrowing. Past collections of the species have been made in the vicinity of Mount Diablo, the Berkeley Hills, Strawberry Canyon, Orinda Park Pool, Calaveras Reservoir, and Siesta Valley. More recent – and as-yet unconfirmed – kangaroo rat occurrences have been reported in the Sunol Valley Regional Wilderness well within the species recognized range. Populations in the vicinity of the Berkeley Hills are considered extirpated due to predation by domestic cats.</p>	<p>Based on CNDDDB, this species has been documented on District Lands within the East Bay Hills and Mount Hamilton ecoregions. However, the species has not been documented since 1940 and is presumed extinct.</p>	<p>Not Expected</p>

Species Name Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Occurrence Potential on a Routine Maintenance Project Site
<i>Lasionycteris noctivagans</i> Silver-haired bat	SA	Inhabits conifer and mixed conifer forests, especially old growth throughout the mountainous coastal and Sierra Nevada regions of northern California. Roosts in cavities and hollows in near the tops of trees and in caves. Forages in open areas such as meadows, above the canopy and within riparian zones for a variety of ground and airborne insects and arthropods.	Based on CNDDDB, this species has been documented on District Lands within the East Bay Hills ecoregion. May occur in this and other locations with suitable habitat. Based on Park District records this species is present in suitable habitat at the following locations: Sunol, Lake Del Valle, Roberts, Redwood, and Tilden.	Possible
<i>Lasiurus blossevillii</i> Western red bat	SSC WBWG-H	Primarily associated with intact riparian habitat. Roosts individually in foliage within trees along riparian areas, orchards and suburban areas. Favors cottonwoods, willows, sycamores, and walnut trees (Bolster 2005).	The CNDDDB does not contain records of this species on District Lands, but the species is expected to be present and may occur in areas with suitable habitat. Based on Park District records this species is present in suitable habitat at the following location: Camp Arroyo.	Possible
<i>Lasiurus cinereus</i> Hoary bat	SA WBWG-M	A solitary foliage rooster that prefers evergreens, but will use deciduous trees in forested habitats, particularly in edge habitat (Bolster 2005).	Based on CNDDDB, this species has been documented on District Lands within the Bay Shore, East Bay Hills, and Mount Hamilton ecoregions. May occur in these and other locations with suitable habitat. Based on Park District records this species is present in suitable habitat at the following locations: Sunol, Lake Del Valle, Roberts, Redwood, and Pleasanton Ridge.	Possible

Species Name Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Occurrence Potential on a Routine Maintenance Project Site
<i>Microtus californicus sanpabloensis</i> San Pablo vole	SSC	Inhabits salt marshes of San Pablo Creek, on the south shore of San Pablo Bay; constructs burrows in soft soils, feeds on grasses, sedges, and herbs; forms a network of runways leading from the burrow (CDFW 2021).	Based on CNDDDB, this species has been documented on District Lands within the Bay Shore ecoregion.	Possible
<i>Myotis yumanensis</i> Yuma myotis	SA	A riparian obligate species. Ubiquitous throughout California. Inhabits riparian areas near permanent water sources. Roosts in a variety of habitats including bridges, buildings, caves, mines, cliff crevices and trees. Forages above water and in riparian areas.	Based on CNDDDB, this species has been documented on District Lands within the East Bay Hills ecoregion. May occur in this and other locations with suitable habitat. Based on Park District records this species is present in suitable habitat at the following locations: Sunol, Lake Del Valle, Redwood, Clayton Ranch, Camp Arroyo, and Pleasanton Ridge.	Possible
<i>Neotoma fuscipes annectens</i> San Francisco dusky-footed woodrat	SSC	Inhabits oak and riparian woodlands with a well-developed understory in the San Francisco Bay Area. They exhibit high site fidelity and may live in the same nest community for generations. Nest structures are key indicator of their presence and are easily identified by their conical appearance.	Based on District surveys and the CNDDDB, this species has been documented in the East Bay Hills and Mount Hamilton ecoregions. However, this species is relatively widespread and occurs in suitable habitat in other locations.	Possible

Species Name Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Occurrence Potential on a Routine Maintenance Project Site
<i>Nyctinomops macrotis</i> Big free-tailed bat	SSC	A member of the Molossidae (free-tailed bat) family ranging from sea level to 2,600 meters (8,500 feet) in southern Utah, Nevada, and California, southern and western Texas, north and central Colorado, Arizona and New Mexico southward to South America (Navo 2006). Inhabits rugged and rocky arid landscapes in desert scrub, woodland and evergreen habitats (Navo 2006). Roosts primarily in cliff crevices, but will also use buildings, caves and tree cavities (Navo 2006).	Based on CNDDDB, this species has been documented on District Lands within the Bay Shore and East Bay Hills ecoregions. May occur in these and other locations with suitable habitat. Based on Park District records this species is present in suitable habitat at the following locations: Sunol, Lake Del Valle, Redwood, Camp Arroyo, Coyote Hills, and Pleasanton Ridge.	Possible
<i>Perognathus inornatus</i> San Joaquin pocket mouse	SA	Inhabits grasslands and blue oak woodlands with friable soils in the foothills and valley bottoms of the Central Valley from the Marysville Buttes to the Corrizo Plain.	Based on CNDDDB, this species has been documented on District Lands within the Delta/San Joaquin Valley and Mount Diablo Range ecoregions. Based on Park District records this species is present in suitable habitat at Brushy Peak.	Possible
<i>Reithrodontomys raviventris</i> Salt-marsh harvest mouse	FE SE FP	A small endemic, pickleweed (<i>Salicornia</i> spp.) obligate species of tidal marshes of the San Francisco Bay Area. Requires adjacent upland tidal zones for escape cover during floods. Two recognized subspecies, <i>R. r. halicoetes</i> that inhabits San Pablo and Suisun bays and <i>R. r. raviventris</i> that inhabits the South San Francisco Bay including Corte Madera and Richmond marshes.	Based on District surveys and the BO (USFWS 2018), this species is assumed present in suitable habitat on the following District Lands: Bay Point, Big Break/Delta Rec, Brown's Island, Coyote Hills, Hayward Shoreline, MLK Shoreline, Martinez Shoreline, McLaughlin Eastshore, Oyster Bay, Point Isabel, Point Pinole, San Pablo Shoreline, and Waterbird.	Possible

Species Name Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Occurrence Potential on a Routine Maintenance Project Site
<i>Sorex vagrans halicoetes</i> Salt-marsh wandering shrew	SSC	A small, insectivorous rodent that inhabits tidal marshes of the South San Francisco Bay. Typically found in areas with dense cover dominated by pickleweed (<i>Californian</i> spp.), abundant prey and fairly continuous ground moisture.	Based on CNDDDB, this species has been documented on District Lands within the Bay Shore ecoregion and may occur in suitable habitat within this ecoregion.	Possible
<i>Taxidea taxus</i> American badger	SSC	Inhabits open areas with friable soils within woodland, grassland, savannah and desert habitats. A fossorial mammal that preys predominately on ground squirrels (<i>Ammospermophilus</i> and <i>Spermophilus</i> spp.) and pocket gophers (<i>Thomomys</i> spp.).	Based on CNDDDB, this species has been documented on District Lands within the East Bay Hills, Mount Diablo Range, and Mount Hamilton ecoregions. May occur in these and other locations with suitable habitat.	Possible
<i>Vulpes macrotis mutica</i> San Joaquin kit fox	FE ST HCP/NCCP Covered	Species occupies habitats with open or low vegetation with loose soils. In the northern portion of their range, they occupy grazed grasslands and to a lesser extent valley oak woodlands (USFWS 1998). Kit fox are also found in grazed grasslands including areas adjacent to tilled or fallow fields, and suburban settings (USFWS 1998). Requires loose-textured sandy soils for burrowing, and a suitable prey base.	Based on the BO (USFWS 2018), this species is assumed potentially present in suitable habitat on the following District Lands: Black Diamond Mines, Brushy Peak, Byron Vernal Pools, Contra Loma, Deer Valley, Delta Access, Doolan Canyon, Round Valley, Vasco Caves, and Vasco Hills.	Possible
Fish				
<i>Acipenser medirostris</i> Green sturgeon	FT SSC	Spawn in the Sacramento River and the Klamath River. Preferred spawning substrate is large cobble but can range from clean sand to bedrock. San Francisco Bay and its estuaries are Critical Habitat for the species. The project area does not support spawning habitat for the species, but estuarine areas provides potential foraging habitat,	The Park District does not conduct surveys for this species and the CNDDDB does not track occurrences. Suitable habitat is present in shoreline parks in the Bay Shore and Delta/San Joaquin Valley ecoregions.	Possible

Species Name Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Occurrence Potential on a Routine Maintenance Project Site
<i>Archoplites interruptus</i> Sacramento perch (within native range only)	SSC	Historically found in the sloughs, slow-moving waters, and lakes of the Central Valley; prefers warm water, aquatic vegetation is essential for young. Extant native populations restricted to the Sacramento-San Joaquin Delta, Pajaro and Salinas River drainages, and Clear Lake.	Based on CNDDDB, this species has been documented on District Lands within the East Bay Hills and Delta/San Joaquin Valley ecoregions. However, based on Park District surveys, this species no longer occurs on District Lands.	Not Expected
<i>Eucyclogobius newberryi</i> Tidewater goby	FE	A California endemic fish that inhabits brackish coastal lagoons, estuaries and marshes. Range extends from the Smith River in Del Norte County to Agua Hedionda Lagoon in San Diego County. Species is typically an annual species. The Greater Bay Area recovery unit extends from north of Bodega Head in Sonoma County to the Salinas River Valley in Monterey County (USFWS 2005b). Critical habitat is limited to coastal habitat in Humboldt, Mendocino, Sonoma, Marin, San Mateo, Santa Cruz, Monterey, San Luis Obispo, Santa Barbara, Ventura and Los Angeles Counties in California (73 FR 5920).	Based on CNDDDB, this species has been documented on District Lands within the Bay Shore ecoregion. However, the species has been extirpated from the San Francisco Bay (USFWS 2005b) and thus is not expected to occur on Park District lands.	Not Expected
<i>Hypomesus transpacificus</i> Delta smelt	FT SE	Inhabits brackish water in the Sacramento-San Joaquin Delta. Known from Sacramento/San Joaquin Delta, Sacramento River as high as the confluence with the Feather River, Mokelumne River, Cache Slough, Montezuma Slough, San Pablo Bay, Suisun Bay, Suisun Marsh, Carquinez Strait, and Napa River and Marsh. Spawns in freshwater habitat from February to August in shallow water areas with submersed aquatic plants, suitable substrates and refugia. Important spawning habitat include Barker, Lindsey, Cache, Prospect, Georgiana, Beaver, Hog, and Sycamore sloughs and the Sacramento River in the Delta, and tributaries of northern Suisun Bay. Critical habitat includes: areas of all water and all submerged lands below ordinary high water and the entire water column bounded by and contained in Suisun Bay (including Grizzly and Honker Bays); Goodyear, Suisun, Cutoff, First Mallard and Montezuma sloughs; and the existing contiguous waters contained within the Delta (59 FR 65256).	Based on the BO (USFWS 2018), this species is assumed present in suitable habitat on the following District Lands: Antioch/Oakley Shoreline, Bay Point, Big Break/Delta Recreation, Brown's Island, Carquinez Straight Shoreline, and Martinez Shoreline.	Possible

Species Name Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Occurrence Potential on a Routine Maintenance Project Site
<p><i>Oncorhynchus mykiss irideus</i> pop. 8 and 11 Steelhead central California coast DPS and Central Valley DPS</p>	<p>FT</p>	<p>An anadromous fish that spend several years in the ocean; returning to freshwater rivers to spawn and rear. Listing includes all naturally spawned anadromous steelhead populations (and their progeny) below natural and manmade impassable barriers in the Sacramento and San Joaquin Rivers and their tributaries, excluding steelhead from San Francisco and San Pablo Bays and their tributaries, as well as two artificial propagation programs: the Coleman NFH, and Feather River Hatchery steelhead hatchery programs (70 FR 37160). Stretches of the Tuolumne and Merced Rivers, within the Southern Sierra Nevada range east of Don Pedro Reservoir and Lake McClure, are historical habitat and considered for reintroduction, but are not known to support this species currently (NMFS 2009). Designated critical habitat encompasses 2,308 miles streams, 254 square miles estuary habitat in Tehama, Butte, Glenn, Shasta, Yolo, Sacramento, Solano, Yuba, Sutter, Placer, Calaveras, San Joaquin, Stanislaus, Tuolumne, Merced, Alameda, Contra Costa counties. The North Diablo Range watershed and South San Francisco Bay entire unit were excluded from the designation based on their potential economic impact. Primary constituent elements include: (1) freshwater spawning sites, (2) freshwater rearing sites, (3) freshwater migration corridors free of obstructions, (4) estuarine areas free of obstructions, and (5) nearshore marine areas free of obstructions (70 FR 52488).</p>	<p>Based on CNDDDB, this species has been documented on District Lands within the Bay Shore, East Bay Hills, Delta/San Joaquin Valley, and Mount Hamilton ecoregions. Currently, this species may occur in suitable aquatic habitat within shoreline parks in the Bay Shore and Delta/San Joaquin Valley ecoregions. Steelhead will also be able to use larger portions of Alameda Creek after the fish ladders are completed (anticipated December 2021).</p>	<p>Possible</p>

Species Name Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Occurrence Potential on a Routine Maintenance Project Site
<p><i>Oncorhynchus tshawytscha</i> Chinook salmon Sacramento Winter Run/Central Valley Spring Run ESUs</p>	<p>FE, SE FT, ST</p>	<p>The Chinook salmon is an anadromous fish that spends 1-3 years in the ocean and returns to perennial freshwater streams during the winter to spawn.</p> <p>Sacramento Winter Run ESU includes all naturally spawned populations of winter-run Chinook salmon in the Sacramento River and its tributaries downstream to the Carquinez Strait, as well as two artificial propagation programs: winter-run Chinook from the Livingston Stone National Fish Hatchery (NFH), and winter run Chinook in a captive broodstock program maintained at Livingston Stone NFH and the University of California Bodega Marine Laboratory. Migrates up Sacramento River to spawn primarily upstream of Red Bluff. Juveniles rear in the Sacramento River throughout the year. Spawns and rears in Sacramento River and tributaries where gravelly substrate and shaded riparian habitat occurs.</p> <p>The Central Valley Spring Run ESU includes all naturally spawned populations of spring-run Chinook salmon in the Sacramento River and its tributaries to the Carquinez Strait, including the Feather River, as well as the Feather River Hatchery spring-run Chinook program. Juveniles rear in the Sacramento and San Joaquin Rivers and tributaries throughout the year.</p>	<p>San Francisco Bay is subject to migration events by the species and is considered Essential Fish Habitat for Chinook. Although the Study Area does not contain suitable spawning habitat or a migration corridor, juvenile Chinook may opportunistically forage within open waters of the Study Area.</p>	<p>Possible</p>

Species Name Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Occurrence Potential on a Routine Maintenance Project Site
<p><i>Spirinchus thaleichthys</i> Longfin smelt</p>	<p>FC ST</p>	<p>The longfin smelt is a pelagic (lives in open water) estuarine fish that typically measures 3.5 to 4.3 inches standard length, although third-year females may grow up to 5.9 inches. The longfin smelt (<i>Spirinchus thaleichthys</i>) belongs to the true smelt family Osmeridae, and is one of three species in its genus. Longfin smelt occupy different habitats of the estuary at various stages in their life cycle. Longfin smelt generally spawn in freshwater and then move downstream to brackish water to rear. Juvenile and adult longfin smelt have been found throughout the year in salinities ranging from pure freshwater to pure seawater, although once past the juvenile stage, they are typically collected in waters with salinities ranging from 14 to 28 parts per thousand (ppt) (Baxter 1999). Longfin smelt are thought to be restricted by high water temperatures, generally greater than 22 degrees Celsius (71 degrees Fahrenheit) (Baxter et. al. 2010), and will move down the estuary (seaward) and into deeper water during the summer months, when water temperatures in the Bay-Delta are higher. The known range of the longfin smelt extends from the San Francisco Bay-Delta in California northward to the Cook Inlet in Alaska.</p>	<p>Based on CNDDDB, this species has been documented on District Lands within the Bay Shore and Delta/San Joaquin Valley ecoregions; species may occur in suitable habitat in shoreline parks in these areas.</p>	<p>Possible</p>

Notes:

FE: Federally Endangered

FT: Federally Threatened

FC: Federal Candidate Species

BCC: Federal Bird of Conservation Concern

ST: State Threatened

SCE: State Candidate for Listing as Endangered

SSC: State Species of Special Concern

FP: State Fully Protected Species

SA: Included on CDFW Special Animals List, but has no other rarity designation

WL: CDFW Watch List Species

WBWG-H: Western Bat Working Group High Priority Species; the species is considered imperiled or at high risk of imperilment

WBWG-M: Western Bat Working Group Medium Priority Species; a lack of meaningful information is a major obstacle in adequately assessing these species' status and should be considered a threat

HCP/NCCP Covered: Potential Impacts to Species are covered by the HCP/NCCP

HCP/NCCP No Take: Species addressed by the HCP/NCCP, but no take is authorized

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Appendix G: Parks with Listed Species

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Table 1. Acres of Species Distributional Range on the District Parkland Units and East Contra Costa County Habitat Conservation Plan (ECCCHCP) Preserves District Lands

Parkland Units	Park Acres	ECCC HCP	Total Non-HCP	Federally Listed (Endangered or Threatened) Species														
				Alameda Whip-snake	CA Red-Legged Frog	Central CA Tiger Salamander	Callippe Silver-spot Butterfly	San Joaquin Kit Fox	CA Clapper Rail	Salt Marsh Harvest Mouse	Longhorn Fairy Shrimp	Vernal Pool Fairy Shrimp	Vernal Pool Tadpole Shrimp	Giant Garter Snake	CA Least Tern	Western Snowy Plover	Delta Smelt	Pallid Manzanita
1 ANTHONY CHABOT	3,314.26		3,314.26	3,314.26														
2 ANTIOCH/OAKLEY SHORE	6.32		6.32											6.32				6.32
3 ARDENWOOD	208.00		208.00															
4 BAY POINT	149.70		149.70								149.70							149.70
5 BIG BRK/DELTA REC	1,648.00		1,648.00								1,648.00			1,648.00				1,648.00
6 BISHOP RANCH	806.13		806.13	806.13														
7 BLACK DIAMOND MINES	5,580.20	462.75	5,117.45	5,117.45	5,117.45	5,117.45		5,117.45										
8 BRIONES	6,255.18		6,255.18	6,255.18	6,255.18													
9 BROOKS ISLAND	372.82		372.82												372.82	372.82		
10 BROWN'S ISLAND	595.00		595.00								595.00			595.00				595.00
11 BRUSHY PEAK	1,979.07		1,979.07	1,979.07	1,979.07	1,979.07		1,979.07			1,979.07	1,979.07	1,979.07					
12 BYRON VERNAL POOLS	1,472.45	1,472.45	0.00			0.00		0.00			0.00	0.00	0.00					
13 CARQUINEZ ST SHORE	1,568.27		1,568.27															1,568.27
14 CLAREMONT CANYON	208.31		208.31	208.31														
15 CLAYTON RANCH	4,078.50	3,016.81	1,061.69	1,061.69	1,061.69	1,061.69												
16 CONCORD HILLS	2,608.00	400.90	2,207.10	2,207.10	2,207.10	2,207.10												
17 CONTRA LOMA	779.35		779.35	779.35		779.35		779.35										
18 COYOTE HILLS	1,274.05		1,274.05								1,274.05							
19 CROCKETT HILLS	2,124.75		2,124.75															
20 CROWN BEACH SHORE	386.89		386.89							386.89							386.89	
21 CULL CANYON	360.00		360.00	360.00														
22 DEER VALLEY	3,076.58	3,076.58	0.00	0.00	0.00	0.00		0.00										
23 DEL VALLE	4,395.21		4,395.21	4,395.21	4,395.21	4,395.21	4,395.21											
24 DELTA ACCESS	1,011.95	640.16	371.79					371.79						371.79				
25 DIABLO FOOTHILLS	1,060.00		1,060.00	1,060.00	1,060.00													
26 DON CASTRO	101.00		101.00	101.00														
27 DOOLAN CANYON	640.00		640.00		640.00	640.00		640.00										
28 DRY CREEK PIONEER	1,626.45		1,626.45	1,626.45	1,626.45	1,626.45												
29 DUBLIN HILLS	654.22		654.22	654.22	654.22													
30 GARIN	4,215.24		4,215.24	4,215.24	4,215.24	4,215.24												
31 HAYWARD	1,815.05		1,815.05						1,815.05	1,815.05					1,815.05	1,815.05		

Table 1. Acres of Species Distributional Range on the District Parkland Units and East Contra Costa County Habitat Conservation Plan (ECCCHCP) Preserves District Lands

<i>Parkland Units</i>	<i>Park Acres</i>	<i>ECCC HCP</i>	<i>Total Non-HCP</i>	<i>Federally Listed (Endangered or Threatened) Species</i>														
				Alameda Whip-snake	CA Red-Legged Frog	Central CA Tiger Salamander	Callippe Silver-spot Butterfly	San Joaquin Kit Fox	CA Clapper Rail	Salt Marsh Harvest Mouse	Longhorn Fairy Shrimp	Vernal Pool Fairy Shrimp	Vernal Pool Tadpole Shrimp	Giant Garter Snake	CA Least Tern	Western Snowy Plover	Delta Smelt	Pallid Manzanita
⁶² VARGAS PLATEAU	1,249.02		1,249.02	1,249.02	1,249.02	1,249.02	1,249.02	1,249.02										
⁶³ VASCO CAVES	719.84		719.84		719.84	719.84	719.84	719.84				719.84	719.84	719.84				
⁶⁴ VASCO HILLS	3,662.14	3,499.38	162.76		162.76	162.76		162.76				162.76	162.76	162.76				
⁶⁵ WATERBIRD	197.83		197.83								197.83							
⁶⁶ WILDCAT CANYON	2,789.15		2,789.15	2,789.15														
Parklands (Acres)	121,158.08	13,173.86	107,984.22	88,028.90	76,435.56	59,483.78	34,348.59	11,680.68	8,127.21	11,604.90	2,861.67	2,861.67	2,861.67	2,621.11	2,187.87	3,323.28	4,310.29	5,355.77
Trails (Acres)	1,735.31	0.00	1,735.31	1,441.72	1,116.66	55.42	21.35	55.42	64.48	0.03	0.00	0.00	0.00	15.48	0.00	0.00	83.23	0.00
Total Acres	122,893.39		109,719.53	89,470.62	77,552.22	59,539.20	34,369.94	11,736.10	8,191.69	11,604.93	2,861.67	2,861.67	2,861.67	2,636.59	2,187.87	3,323.28	4,393.52	5,355.77
Percentage of Total Land				81.54%	70.68%	54.26%	31.33%	10.70%	7.47%	10.58%	2.61%	2.61%	2.61%	2.40%	1.99%	2.70%	4.00%	4.88%

¹Potential Regional Park pending land transfer; ²These acreage are to indicate species range and potential presence only, because (1) the entire distributional range overestimates the actual extent of suitable habitat, (2) not all land cover types within the District are natural open space land, and (3) not all potentially suitable habitat is occupied by the covered species.

Appendix H: Woodrat Nest Relocation Plan

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FINAL
San Francisco Dusky-Footed Woodrat Relocation Plan
for the East Bay Regional Park District
Routine Maintenance Activities
Routine Maintenance Agreement No. 1600-2016-0269-R3 and
Minor Amendment

September 2020

Introduction

Within various waterbodies and adjacent upland habitats, the District performs routine maintenance activities designed to maintain existing facilities and structures and improve watersheds and coastal shoreline conditions. Routine maintenance activities are defined in Routine Maintenance Agreement (RMA) (No. 1600-2016-0269-R3) and include activities such as replacement of culverts, repairing or constructing new head and tail walls, installation of energy dissipaters, installation or maintenance of articulated fords, bank stabilization, and dredging of silt basins, ponds and lakes. Although these activities consist of minor construction and maintenance of existing structures or facilities that are mostly small in scale, they have the potential to adversely affect natural resources (Bobzien and Wilson 2017). In September 2016, the California Department of Fish and Wildlife (CDFW) reissued the RMA with the District to perform routine maintenance activities with specific terms and conditions to protect natural resources. This includes the implementation of avoidance and minimization measures to address potential adverse effects that the project(s) could have on fish and wildlife including San Francisco dusky-footed wood rat (*Neotoma fuscipes annectens*).

San Francisco dusky-footed woodrat nests or nest complexes are occasionally located directly in work zones of routine maintenance activities. In most instances, nests can be avoided during work activities through establishment of an adequate work buffer around the nests and associated habitat. However, instances will occur where impacts to nests are unavoidable to complete routine maintenance project work. In light of this, in August 2020 the District was issued a Minor Amendment to the RMA allowing woodrat nest relocation that includes the following condition:

*For projects occurring within suitable habitat for San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), a qualified biologist or biological monitor shall survey the worksite for nests within two weeks of the proposed activities. If nests of the dusky-footed woodrat are found, the biological monitor, in consultation with the qualified biologist, shall determine an appropriate buffer distance based on the type of work being conducted.*

Prior to the initiation of any projects that may disturb woodrat nests, Permittee shall submit a Woodrat Relocation Plan for CDFW review and written approval. At a minimum, the plan shall include: (1) Pre-construction nest monitoring protocols to determine occupancy of nests; (2) methods of nest dismantlement, including timing, duration, and any variances in procedures between occupied and unoccupied houses; (3) placement of artificial shelters for occupied nests; and (4) post-construction monitoring and reporting methods.

If avoidance of woodrat nest(s) is not possible on a project site, Permittee shall request written permission from CDFW to conduct a phased removal of the nest(s) according to the approved Woodrat Relocation Plan. No woodrat nests may be removed without written authorization from CDFW and the qualified biologist removing a nest must be approved for the task by CDFW. If any San Francisco dusky-footed woodrats are detected within the vicinity of the work site during construction, all work shall cease in the vicinity of the individuals until they move out of the area of active construction.

This document serves as the Woodrat Relocation Plan and was approved by CDFW on September 30, 2020.

San Francisco Dusky-Footed Woodrat

The San Francisco dusky-footed woodrat is a California Species of Special Concern that occurs in many District parks and in the San Francisco Bay Area. It is one of 11 subspecies of the dusky-footed woodrat (*Neotoma fuscipes*), a species that range from Oregon to Baja California (Carraway and Verts 1991).

Dusky-footed woodrats are mostly nocturnal and primarily found in closed canopy, wooded habitats with a dense understory (Vestal 1938, Linsdale and Tevis 1951, Carraway and Verts 1991). These rodents are known for their often large and complex nest structures built into the base of trees, shrubs, hills, and rocks, or occasionally elevated in tree limbs. These nests structures are constructed with sticks, leaves, shredded grass, and other vegetation which may include different compartments for food storage, reproduction, and shelter. Dusky-footed woodrats feed on a wide variety of vegetation, including oaks (*Quercus* spp.), willows (*Salix* spp.), California blackberry (*Rubus ursinus*), and poison oak (*Toxicodendron diversilobum*) (Vestal 1938, Linsdale and Tevis 1951, Carraway and Verts, 1991). Woodrats are prey for snakes, owls, bobcats (*Lynx rufus*), coyotes (*Canis latrans*) and near homes, domestic cats and dogs. Research using remote trail cameras revealed that bobcats and especially gray fox (*Urocyon cinereoargenteus*) frequently prey on San Francisco dusky-footed woodrats and the majority of predation events were nocturnal (Bobzien unpubl. data 2018).

Estimates of territory sizes and home ranges differ between subspecies of woodrats and habitats. Based on radio-telemetry of dusky-footed woodrats along a riparian area of the Santa Ynez Valley in southern California, Gerber et al. (2003) measured an average territory radius around a nest as 30m (roughly 100ft), with a core area radius of 15m

(roughly 50ft). Innes et al. (2009) measured home ranges (minimum convex polygon, MCP) of between 0.17-7.38 hectare (ha, 0.42-18.23 acres [ac]) in mixed-conifer forests of the Sierra Nevada, while Cranford (1977) measured home ranges of 0.23ha (0.58ac) and 0.17ha (0.48ac) for male and female woodrats, respectively. Innes et al. (2009) found that home ranges of woodrats overlapped those of multiple, neighboring woodrats of both sexes, whereas “core areas” showed little overlap between same-sex neighbors.

Dusky-footed woodrats have two reproductive periods each year with pups appearing primarily in April and to a lesser extent in August. Woodrats typically bear one litter per year (Vestal 1938, Gerber et al. 2003). Their mating system is considered to be polygynous (Innes et al. 2009). Woodrats may occupy multiple nests or houses within a home range concurrently and frequently move among structures. Innes et al. (2009) found that individual woodrats occupied from two to 11 different nests within a home range for a duration of one to 107 days per occupancy. A woodrat nest is typically occupied by one individual at a time (Fargo and Laudenslayer 1999), unless a female is mating with a male or rearing pups. Generally, once a female is pregnant she will exclude the male from her nest (Lindsdale and Tevis 1951). Gestation period ranges from 23 to 38 days and the pup’s eyes remain closed for 15 days (Ingles 1965). Males may share a nest with other females and tend to move greater distances than females (Innes et al. 2009). In any given woodrat population, not all woodrat nests are occupied at the same time; some nests remain vacant for longer periods while some retain occupancy through multiple generations (Lindsdale and Tevis 1951, Laudenslayer and Fargo 1997, Kelly 1989). For example, in a trapping study at 49 woodrat nests, only 19 of the nests met criteria for having a resident animal (Gerber et al. 2003). Dusky-footed woodrats are semi-territorial and their nests are subject to shifting occupancies and vacancies depending on predation, food supply and breeding status of the inhabitants. Mirroring the life history traits noted above, McEachern et al. (2007) showed that genetic differentiation among neighborhoods of dusky-footed woodrats reflected nonrandom patterns consistent with female philopatry and male-biased dispersal. In essence, matrilineal genetic structure characterizes woodrat neighborhoods.

San Francisco Dusky-Footed Woodrat Nest Relocation Plan

Any and all dismantling and relocation efforts would comply with the San Francisco Dusky-Footed Woodrat Relocation Plan detailed below and will be monitored and directed by a qualified biologist. A qualified biologist will be a professional biologist with working knowledge of San Francisco dusky-footed woodrat ecology and habitat requirements, and with demonstrated experience in implementing nest dismantling and relocations on comparable projects. The qualified biologist removing a nest must be approved for the task by CDFW.

Pre-Construction Monitoring

A qualified biologist will survey the work area and a 100-foot buffer for San Francisco dusky-footed woodrat nests within two (2) weeks of the proposed work activities. Nests observed within and/or immediately adjacent to the project work area will have their location mapped via GPS and will be visually inspected by a qualified biologist and classified as one of the following:

- 1) Occupied – nest or nest structure is currently occupied by woodrats (including pups) as determined by direct visual or audible observation of woodrats within or entering/exiting nest during inspection, or observation of sign of current occupation during inspection including any of the following: deliberate placement of new woody material and/or green vegetation on exterior and in interstices between building material, fresh scat, sign of recent feeding (e.g. fresh acorn shells or seed husks), sculpted entrances, or heavily used ‘patios’ outside of main entrances;
- 2) Active – nest or nest structure that may be periodically used but is not currently occupied during inspection as determined by observation of nearby tracks, fresh scat, or older sign (e.g. placement of woody debris) to a lesser degree than an Occupied nest, but lacking evidence of current occupation;
- 3) Inactive – intact nest or nest structure lacking evidence of recent occupation and available to be colonized in the future as determined by lack of maintenance on entrances and ‘patios’, no sign of recent feeding, scat not observed, among other determinations based on inspection of nest or nest structure;
- 4) Degraded – nest or nest structure is in a state of disrepair, is deteriorated, or is otherwise obviously abandoned and no longer maintained.

The qualified biologist will determine if impacts to any nests within the work area are unavoidable and if dismantling and relocation is required. Nests within the work zone classified as either occupied or active that are unavoidable will be dismantled as described below (see Methods of Phased Nest Dismantlement). Nests classified as inactive or degraded that are unavoidable may be removed by the qualified biologist in a single day; however, if evidence of woodrat activity or occupancy is observed at any time during dismantling, dismantling efforts will cease for the day and resumed using phased dismantling. The use of wildlife camera traps and/or fiber optic cameras to verify woodrat activity at specific nests may be used.

Regardless of nest status determination, the following will be implemented:

- Evidence of occupation (or lack thereof) will be documented and photographed by the qualified biologist prior to initiation of dismantling activities or work activities for reporting purposes.
- If nest dismantling and relocation are required, the District will request written permission from CDFW via email to conduct removal and relocation of the nests in accordance with the San Francisco Dusky-Footed Woodrat Nest Relocation Plan described herein.

Methods of Phased Nest Dismantlement

Only as necessary, and to the minimal extent possible, project site vegetation will be removed to provide access to San Francisco dusky-footed woodrat nests. Small amounts of vegetation may be removed by a qualified biologist using hand tools. If significant amounts of vegetation must be removed to access a nest (e.g. dense poison oak, scrub, tree limbs),

contractors with hand tools will remove vegetation with a qualified biologist monitoring the activity. Gas-powered tools will be used as little as possible to reduce disturbance to nests. If contractors are required to remove vegetation, a qualified biologist will provide them with environmental training pertaining to woodrat life history, biology, and general behavior, how they may be encountered, as well as protection measures to follow if they are encountered. Environmental training will be provided prior to any vegetation removal.

Prior to initiation of nest dismantling activities, at least two temporary photo point locations will be established in the work area which provide clear and informative views of nests to be dismantled following vegetation removal. Color photographs will be taken from photo points during each site visit to provide visual documentation of dismantling process.

Over a two-week period, and prior to any construction activities, occupied and/or active nests will be slowly and progressively dismantled in a manner allowing individuals of an occupied nest to gradually move away from the exposed section of the nest. Following removal of vegetation as discussed above, dismantling will take place in a gradual manner with sections of nests being removed every other day until the nest is completely dismantled. This gradual dismantling will ensure that woodrats are allowed ample time to disperse between site visits. Duration of the dismantling and relocation process will be determined by the size of nests and any reconstruction activity of nests that occurs during the dismantling process. There will be no variation in the dismantling and relocation process of nests classified as occupied or active, as occupancy may not be immediately detectable when dismantling begins.

Dismantling will be done using hand tools and, when necessary, by hand. Sufficient personal protective equipment will be used during dismantling activities (Tyvek suits, gloves, N95 masks, etc.). All dismantling activities will be undertaken by a qualified biologist and will occur during daylight hours between 0700 and 1000 hours to reduce the likelihood of predation and to minimize sunlight exposure. Where feasible, nest material, food caches, and/or woody debris removed from existing nests will be salvaged and used to create artificial nest structures in adjacent habitats for dispersing San Francisco dusky-footed woodrats (see below).

Following complete dismantling of the nest, a minimum of two additional surveys will be done to ensure no new nests have been constructed within the work area and no reconstruction activity has taken place at dismantled nest locations, as well as to continue disturbance of prior nest location to discourage reconstruction. The first of these visits will occur within 24 hours of completion of nest dismantling and will continue until no evidence of new construction or reconstruction are observed.

If a San Francisco dusky-footed woodrat individual is observed during any phase described above, the removal of vegetation and/or dismantling of nest will immediately cease until the individual has dispersed on its own to an area where nest dismantling may continue without causing harm to the individual.

If San Francisco dusky-footed woodrat pups are observed during any phase described above, the removal of vegetation and/or dismantling of nest will immediately cease and all activities will be suspended for a period of two to four weeks in order to allow the pups to develop eyesight and become mobile. Any nest material removed that day will be returned to the nest to re-cover the exposed section of nest with pups. After a two- to four-week period, based on the development of the pups, and in agreement with CDFW, the above described procedure will resume.

Establishment of Artificial Shelters

On the same day that nest dismantling begins, a qualified biologist will begin installation of artificial shelters at a ratio of 1:1 per dismantled nest to provide readily accessible refugia for dispersing individuals and to provide alternatives to reconstruction of dismantled nests within the work area. Artificial shelters will be handmade, vented, pine boxes measuring approximately 12-inches square with two internal chambers and an offset entrance. They will be installed slightly below grade and secured using wooden stakes and wire.

Artificial shelters will be installed approximately 50 to 200 feet from the location of the dismantled nest in appropriate habitat that is sufficiently clear of the work area, as similar to that of the dismantled nest as possible, and which contains biologically suitable habitat features (e.g. stands of poison oak, coast live oaks, dense native brush). The location of each artificial shelter will be mapped, photographed, and will be no closer than 20 feet to existing nests. Where feasible, artificial shelters should not be clearly visible from recreational trails or roads.

Prior to initiation of installation of artificial shelters, at least one temporary photo point location will be established which provides clear and informative views of the artificial shelter location. Color photographs will be taken from the photo point during each site visit to provide visual documentation of installation process.

To encourage occupancy of artificial shelters by dispersing individuals, nest material, food caches, and/or woody debris salvaged from dismantled nests will be placed inside of the shelter, along with supplemental food (e.g. rolled oats, wild bird seed, and/or peanut butter). Woody debris from the dismantled nest as well as vegetation removed to gain access to nests will be placed over and around the artificial shelter in a manner such that there is only a single entrance and which encourages occupancy of artificial shelters. The placement of salvaged nest material, food caches, and/or woody debris over the artificial shelter will take place in a phased process, so that material that is incrementally removed from dismantled nests in the work area is placed incrementally at artificial shelters.

Installed artificial shelters will be inspected during each site visit for signs of occupancy as indicated by observation of woodrat individuals, maintenance of a 'patio' or entrance to nest, presence of fresh scat, sign of recent feeding, or tracks in the immediate vicinity of the artificial shelter. Any evidence of occupancy will be documented and photographed for reporting to CDFW.

Post-Construction Monitoring and Reporting

Following completion of routine maintenance projects, a qualified biologist will conduct two post-construction surveys, one within 72 hours and one approximately 4 weeks following project completion, to determine and document San Francisco dusky-footed woodrat activity at the project site and vicinity. Any signs of nest rebuilding or construction of new nests either at dismantled nest locations or elsewhere in the work area and surrounding 100 feet buffer will be documented and photographed for reporting purposes. Installed artificial shelters will also be visited and assessed for occupancy and/or signs of use by woodrats. Any observed sign of occupancy at artificial shelters will be documented and photographed for reporting purposes.

The District will monitor, document, and report the effects on San Francisco dusky-footed woodrats from the vegetation removal, dismantling and relocation of nest structures, placement of artificial shelters, and construction activities associated with routine maintenance projects. This information will be conveyed to CDFW in electronic format via email within two (2) months of completion of routine maintenance project and will include at least the following information:

- Description of routine maintenance project and work boundaries;
- Description of project location habitat and dominant vegetative and hydrologic features;
- Description of dismantled nests, nests left intact, and installed artificial shelters including associated attributes (e.g. individual nest or nest complex, occupancy/use status, habitat type, ground or arboreal, elevation above ground, tree, shrub, or rock nest, etc.) and any reconstruction noted following completion of the routine maintenance project, and photographs clearly showing sign used to determine occupied, active, inactive, or degraded status of each nest;
- Timeline and details of nest efforts and installation of artificial shelter;
- Map of project location showing work dismantling areas, dismantled nests, nests left intact, and installed artificial shelters;
- Photo appendix showing progressive dismantling of nests and installation of artificial shelters.

Information included in reporting documents, along with input from CDFW, will be used by the District to guide and improve the efficacy of future nest dismantling and relocation efforts.

Documenting the Effects to San Francisco Dusky-Footed Woodrat

If at any time during nest dismantling/relocation or work activities an individual is injured or killed or found to be injured or killed, all activities at the work site will immediately cease and CDFW will be notified within two (2) hours. In addition, if any woodrats are detected within the vicinity of the work site during construction, all work will cease in the vicinity until the individual has dispersed out of the vicinity. The District will submit this report to the Department in electronic format via email. A California Natural Diversity

Database field form also will be prepared and submitted to CDFW, documenting each San Francisco dusky-footed woodrat observation.

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Appendix I: Habitat Compensation Requirements

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MITIGATION RATIOS FOR EBRPD ROUTINE MAINTENANCE ACTIVITIES

ACTIVITY	IMPACT TYPE	MITIGATION	RATIO (LF or Acre basis, as appropriate for the impacted water body)
Culverts			
Replacement of Existing Culverts (replacement culverts with same length as prior culvert and equal or larger diameter).	Temporary	Temporary Impacts: Revegetation of disturbed surfaces with appropriate native seed mixes, shrubs, and/or trees.	Temporary Impacts: 1:1 for restoration of vegetation in temporary impact areas.
Constructing new Head & Tail Walls for culverts (may include replacement culvert with same length as prior culvert and equal or larger diameter).	Temporary and Permanent	Temporary Impacts: Revegetation of disturbed surfaces with appropriate native seed mixes, shrubs, and/or trees. Permanent Impacts: Restoration: Restore lentic, lotic or tidal waters Enhancement: removal of non-native vegetation from lentic, lotic or tidal waters, and successful revegetation with appropriate native species.	Temporary Impacts: 1:1 for restoration of vegetation in temporary impact areas. Permanent Impacts: 1.5:1 to 2.5:1 for Restoration 4:1 to 7:1 for Enhancement
Routine Maintenance of Existing Culvert (sediment and debris removal)	Temporary	Temporary Impacts: Revegetation of disturbed surfaces with appropriate native seed mixes, shrubs, and/or trees	Temporary Impacts: 1:1 for restoration of vegetation in temporary impact areas

ACTIVITY	IMPACT TYPE	MITIGATION	RATIO (LF or Acre basis, as appropriate for the impacted water body)
Installation of Energy Dissipaters (Rock Riprap Armoring at Culvert Inlets or Outlets)	Temporary and Permanent	<p>Temporary Impacts: Revegetation of disturbed surfaces with appropriate native seed mixes, shrubs, and/or trees.</p> <p>Permanent Impacts: Restoration: Restore lentic, lotic or tidal waters Enhancement: removal of non-native vegetation from lentic, lotic or tidal waters and successful revegetation with appropriate native species.</p>	<p>Temporary Impacts: 1:1 for restoration of vegetation in temporary impact areas.</p> <p>Permanent Impacts: 1.5:1 to 2.5:1 for Restoration 4:1 to 7:1 for Enhancement</p>
Dredging			
Routine Maintenance Dredging of silt basins and ponds	Temporary	<p>Temporary Impacts: No mitigation necessary for dredging of silt basins and ponds that provide habitat for special status species.</p>	NA
Streambank, shoreline and Levee Stabilization			
Replacement of existing rip-rap or existing shoreline /levee stabilization	Temporary	<p>No mitigation required for work performed within the prior footprint of bank armoring.</p>	NA
Streambank, shoreline and Levee Stabilization			
Installation of new rip-rap, or other non-bioengineered bank stabilization	Temporary and Permanent	<p>Temporary Impacts: Revegetation of disturbed surfaces with appropriate native seed mixes, shrubs, and/or trees.</p> <p>Permanent Impacts: Restoration: Restore lentic, lotic or tidal waters Enhancement: removal of non-native vegetation of lentic, lotic or tidal waters and successful revegetation with appropriate native species.</p>	<p>Temporary Impacts: 1:1 for restoration of vegetation in temporary impact areas.</p> <p>Permanent Impacts: 1.5:1 to 2.5:1 for Restoration 4:1 to 7:1 for Enhancement</p>

ACTIVITY	IMPACT TYPE	MITIGATION	RATIO (LF or Acre basis, as appropriate for the impacted water body)
Installation of new rip-rap in combination with bioengineered bank stabilization	Temporary and Permanent	<p>Temporary Impacts: Revegetation of disturbed surfaces with appropriate native seed mixes, shrubs, and/or trees.</p> <p>Permanent Impacts: Restoration: Restore lentic, lotic or tidal waters Enhancement: removal of non-native vegetation of lentic, lotic or tidal waters and successful revegetation with appropriate native species.</p>	<p>Temporary Impacts: 1:1 for restoration of vegetation in temporary impact areas.</p> <p>Permanent Impacts: 1:1 to 2:1 for Restoration 2:1 to 4:1 for Enhancement</p>
Installation of bioengineered bank stabilization.	Temporary and Permanent	<p>Temporary Impacts: Revegetation of disturbed surfaces with appropriate native seed mixes, shrubs, and/or trees.</p> <p>Permanent Impacts: Restoration: Restore lentic, lotic or tidal waters Enhancement: removal of non-native vegetation of lentic, lotic or tidal waters and successful revegetation with appropriate native species.</p>	<p>Temporary Impacts: 1:1 for restoration of vegetation in temporary impact areas.</p> <p>Permanent Impacts: 0.5:1 for Restoration 2:1 for Enhancement</p>
Rock Ford Crossings			
Installation of new armored or natural rock ford crossings	Temporary & Permanent	<p>Temporary Impacts: Revegetation of disturbed surfaces with appropriate native seed mixes, shrubs, and/or trees.</p> <p>Permanent Impacts: Restoration: Restore lentic, lotic or tidal waters Enhancement: removal of non-native vegetation of lentic, lotic or tidal waters and successful revegetation with appropriate native species.</p>	<p>Temporary Impacts: 1:1 for restoration of vegetation in temporary impact areas.</p> <p>Permanent Impacts: 1.5:1 to 2.5:1 for Restoration 4:1 to 7:1 for Enhancement</p>

ACTIVITY	IMPACT TYPE	MITIGATION	RATIO (LF or Acre basis, as appropriate for the impacted water body)
Maintenance of existing armored rock fords	Temporary	Temporary Impacts: Revegetation of disturbed surfaces with appropriate native seed mixes, shrubs, and/or trees	Temporary Impacts: 1:1 for restoration of vegetation in temporary impact areas.
Clear Span Bridges, Spring boxes and Existing Shoreline Facilities			
Maintenance and Installation of Clear span bridges	Temporary	Temporary Impacts: Revegetation of disturbed surfaces with appropriate native seed mixes, shrubs, and/or trees	Temporary Impacts: 1:1 for restoration of vegetation in temporary impact areas. Note: Replacement of a culvert with a clear span bridge may create creek restoration credits.
Maintenance of spring boxes	Temporary	Temporary Impacts: Revegetation of disturbed surfaces with appropriate native seed mixes, shrubs, and/or trees	Temporary Impacts: 1:1 for restoration of vegetation in temporary impact areas.
Maintenance of Existing Recreational Shoreline Facilities	Temporary	Temporary Impacts: Revegetation of disturbed vegetated surfaces with appropriate native seed mixes, shrubs, and/or trees	Temporary Impacts: 1:1 for restoration of vegetation in temporary impact areas, if aquatic or shoreline vegetation was disturbed.
Material Removal			
Removal of Vessels from Waterbodies	Temporary	Temporary Impacts: Revegetation of disturbed surfaces with appropriate native seed mixes, shrubs, and/or trees	Temporary Impacts: 1:1 for restoration of vegetation in temporary impact areas, if aquatic or shoreline vegetation was disturbed.
Removal of Debris from Waterbodies (including hazardous man-made structures)	Temporary	Temporary Impacts: Revegetation of disturbed surfaces with appropriate native seed mixes, shrubs, and/or trees	Temporary Impacts: 1:1 for restoration of vegetation in temporary impact areas, if aquatic, shoreline, or riparian vegetation was disturbed.