

**PUBLIC REVIEW DRAFT**

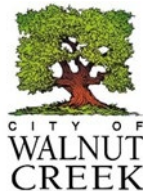


## **Initial Study/Mitigated Negative Declaration**

# **Walnut Creek Flow Trail Project**

## City of Walnut Creek

**August 2023**



# Walnut Creek Flow Trail Project

City of Walnut Creek

## Initial Study/Mitigated Negative Declaration

### Prepared for:

**City of Walnut Creek - Public Works**  
1666 North Main Street  
Walnut Creek, CA 94596

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CITY OF  
WALNUT  
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## MITIGATED NEGATIVE DECLARATION

The City of Walnut Creek, California, a municipal corporation, does hereby prepare, declare, and publish this Mitigated Negative Declaration for the following described project:

**Project Name:** Walnut Creek Flow Trail Project

**Project Location:** The project is located in the southern section of Lime Ridge Open Space just southeast of Boundary Oak Golf Course in western Walnut Creek, Contra Costa County, California. The study area is comprised of approximately 11.65-acres. The trail would begin near the Paraiso Trail's junction with the Manzanita Trail, wind through the low rolling hills, be coterminous with the Timberleaf Trail for approximately 380 feet, and end at the Ohlone trailhead located at the eastern end of Valley Vista Road near the Boundary Oak Golf Course, for a total linear distance of approximately 1.6 miles.

**Project Description:** The City proposes the Walnut Creek Flow Trail Project to construct a recreational flow trail for mountain bikers in the Lime Ridge Open Space. The recreation area is currently used for cattle grazing, horseback riding, hiking, and biking. Mountain bikers have been creating informal trails through sensitive habitats to create a flow trail experience; thus, the proposal is to create a mountain bike flow trail in less sensitive habitat that meets the terrain-induced, biking experience with little pedaling and braking necessary that mountain bikers are seeking. The proposed trail would be designated as one way down only for bikes and would remain open for all users. Mountain bikers would be directed to travel uphill on existing trails to start at the eastern trailhead, which would begin near the Paraiso Trail's junction with the Manzanita Trail. The dirt trail would measure a minimum of 2-feet and a maximum of 4-feet in width with a 5-10 foot wildfire buffer on either side and constructed primarily with hand tools and volunteers.

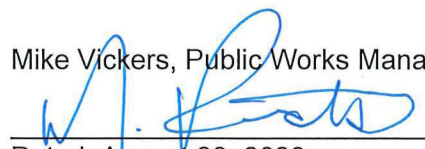
**Findings:** The City of Walnut Creek has reviewed the project and, on the basis of the whole record before it, has determined that there is no substantial evidence that the project, with mitigation measures as identified in the attached Initial Study, will have a significant effect on the environment. This Mitigated Negative Declaration reflects the City's independent judgment and analysis as Lead Agency. An Environmental Impact Report is not required pursuant to the Environmental Quality Act of 1970 (Sections 21000, et seq., Public Resources Code of the State of California).

Mitigation measures necessary to avoid the potentially significant effects on the environment are included in the attached Initial Study, which is hereby incorporated and fully made part of this Mitigated Negative Declaration. The City of Walnut Creek has hereby agreed to implement each of the identified mitigation measures, which would be adopted as part of the Mitigation Monitoring and Reporting Plan.

This Mitigated Negative Declaration has been prepared pursuant to Title 14, Section 15070 of the California Code of Regulations; the Local Environmental Regulations adopted by the City of Walnut Creek, and the City of Walnut Creek Municipal Code.

Copies are also available for review at the City of Walnut Creek-Public Works Office, 1666 North Main Street, Walnut Creek, CA 94596.

Mike Vickers, Public Works Manager

  
Dated: August 30, 2023

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## Executive Summary

The City of Walnut Creek (City) proposes the Walnut Creek Flow Trail Project to construct a recreational flow trail for mountain biking in the Lime Ridge Open Space. The open space is currently used for cattle grazing, horseback riding, hiking, biking, plant and animal habitat, and enjoying nature. Over the past several years, the mountain biking community has grown in the region and around the country. Due to the growth in this recreational activity, the City's Trail Committee recommended that a flow trail be explored to potentially create a mountain bike trail in less sensitive habitat that meets the terrain-induced, biking experience the users are seeking. The City has identified the proposed trail route as the best route to meet this objective.

### Project Description

The approximately 1.6 mile long mountain bike flow trail will be located in the southern section of Lime Ridge Open Space just southeast of Boundary Oak Golf Course in western Walnut Creek, Contra Costa County, California (Figure 1). The general plan and zoning designations for the project area are OSR, Open Space Recreation. The proposed trail would be designated as one way down only for bikes and would remain open for all users. Mountain bikers would be directed to travel uphill on existing trails to start at the trailhead, which would begin near the Paraiso Trail's junction with the Manzanita Trail. The flow trail would wind through the low rolling hills, be coterminous with the Timberleaf Trail for approximately 380 feet, and end at the Ohlone trailhead located at the eastern end of Valley Vista Road.

The project would feature approximately 1.6 miles of hand graded trail designed with bends to use as a mountain bike flow trail. The trail will continue to be open as a multi-use trail and signed for down-only bike use. Construction would involve minimal grading, hand constructed by volunteers overseen by the City Staff and consulting trail designer. Flag stone would be used as an armored crossing as appropriate to prevent erosion and a wooden bridge would be placed over an unnamed creek to avoid impacts to aquatic resources. The 2 to 4 foot wide trail would consist of native soils and will also act as an additional fire break.

### Potential Impacts

Based on the environmental evaluation performed for this Initial Study, the proposed project would have:

- **No Impact** on agricultural resources, land use and planning, mineral resources, population and housing, and wildfire.
- **Less Than Significant Impact** on aesthetics, air quality, cultural resources, energy, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, noise, public services, recreation, transportation, and utilities and service systems.
- **Less Than Significant Impact with Mitigation Incorporated** on biological resources, geology and soils (paleontological resources), and tribal cultural resources. The project will implement

mitigation measures as described herein to reduce potential impacts to a Less Than Significant level.

## Mitigation Measures

The City has agreed to implement the following mitigation measures to reduce project impacts to a “Less than Significant” level:

- Mitigation Measure BIO-1 – Protection Measures for Special-Status Insect Species
- Mitigation Measure BIO-2 – Protection Measures for Migratory Bird Species and Raptors
- Mitigation Measure BIO-3 – Protection Measures for Bat Species
- Mitigation Measure BIO-4 – Protection Measures for American Badger
- Mitigation Measure BIO-5 – Protection Measures for Special-Status Amphibians
- Mitigation Measure BIO-6 – Protection Measures for Special-Status Reptiles
- Mitigation Measure BIO-7 – Protection Measures for Special-Status Wildlife Species During Trail Usage
- Mitigation Measure GEO-1 – Fossil Discovery
- Mitigation Measure TCR-1 – Workers Environmental Awareness Program (WEAP):
- Mitigation Measure TCR-2 – Archaeological Monitoring
- Mitigation Measure TCR-3 – Inadvertent Discoveries
- Mitigation Measure TCR-4 – Human Remains
- Mitigation Measure TCR-5 – Continue Consultation with Responding Tribes



## List of Abbreviations

<b>Abbreviation</b>	<b>Definition</b>
AB	Assembly Bill
ABAG	Association of Bay Area Governments
ADT	Average Daily Traffic
APE	Area of Potential Effect
ARPA	Archaeological Resources Protection Act
BAAQMD	Bay Area Air Quality Management District
BART	Bay Area Rapid Transit
BERD	Built Environment Resource Directory
CAL FIRE	California Department of Forestry and Fire Protection
CAP	Climate Action Plan
CARB	California Air Resources Board
CCCFPD	Contra Costa Fire Protection District
CFG	California Fish and Game
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CPHI	California Points of Historical Interest
CRHR	California Register of Historical Resources
CUL	Cultural
DPR	Department of Parks and Recreation
EPA	Environmental Protection Agency
ESA	Endangered Species Act

List of Abbreviations

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FAR	Floor Area Ratio
FEMA	Federal Emergency Management Agency
FTA	Federal Transit Administration
GEO	Geologic
GHG	Greenhouse Gas
GIS	Graphic Information System
GPS	Global Positioning Sat
HRI	Historic Resources Inventory
IS	Initial Study
LRRRA	Lime Ridge Regional Recreational Area
LSA	Lake and Streambed Alteration
MBTA	Migratory Bird Treaty Act
MLD	Most Likely Descendant
MM	Mitigation Measure
MMRP	Mitigation Monitoring and Reporting Plan
MND	Mitigated Negative Declaration
MTC	Metropolitan Transportation Commission
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NPDES	National Pollutant Discharge Elimination System
NPPA	Nap Native Plant Protection Act pa
NRHP	National Register of Historic Places
NWIC	Northwest Information Center
OPR	Governor’s Office of Planning and Research
OSR	Open Space Recreation
PCE	Primary Constituent Elements
PM	Particulate Matter

List of Abbreviations

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PPV	peak particle velocity
PRC	Public Resources Code
ROG	reactive organic gases
RWQCB	regional water quality control board
SB	Senate Bill
SHPO	State Historical Preservation Office
SLF	Sacred Lands File
SOI	Secretary of Interior’s Standards
SVP	Society of Vertebrate Paleontology
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TMDL	Total Maximum Daily Loads
USACE	United States Army Core of Engineers
USC	Unites States Code
USFWS	Unites States Fish & Wildlife Service
USGS	United States Geological Survey
VHFHSZ	Very High Fire Hazard Severity Zones
VMT	Vehicle Miles Traveled
WCPD	Walnut Creek Police Department
WOUS	Waters of the United States

# 1 Project Information

*Type of Information**Project Details*

<b>1. Project title:</b>	Walnut Creek Flow Trail Project
<b>2. Lead agency name and address:</b>	City of Walnut Creek-Public Works 1666 North Main Street Walnut Creek, CA 94596
<b>3. Contact person and phone number:</b>	Mike Vickers, Public Works Manager, 925-256-3538
<b>4. Project location:</b>	Lime Ridge Open Space, Walnut Creek, California
<b>5. Project sponsor's name and address:</b>	City of Walnut Creek-Public Works 1666 North Main Street Walnut Creek, CA 94596
<b>6. General Plan designations:</b>	OSR-Open Space/Recreation
<b>7. Zoning:</b>	OSR-Open Space/Recreation
<b>8. Description of project:</b>	The City's objective is to create a mountain bike flow trail in a less sensitive habitat that meets the terrain-induced experience mountain biking community is seeking. The trail would be approximately 1.6 miles long and 2-4 feet wide. Construction would involve minimal grading, hand constructed by volunteers, with a simple wooden bridge placed over an unnamed intermittent creek.
<b>9. Surrounding land uses and setting:</b>	The proposed trail is fully within the Lime Ridge Open Space. North and east of the trail there is open space for over a half mile. South of the trail there are single-family homes, the closest of which is approximately 600 feet from the closest point of the proposed trail. The Boundary Oak Golf Course and parking lot is located at the western end of the trail.
<b>10. Other public agencies whose approval is required:</b>	NA

<p><b>11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code Section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?</b></p>	<p>The requested Sacred Land Search was positive. The tribes were initially contacted regarding the project site on November 23, 2022. Wilton Rancheria, the Northern Valley Yokuts Tribe, the Chicken Ranch Rancheria, and the Indian Canyon Mutsun Band of Costanoan deferred consultation to local tribes who claim the land within the APE as their Aboriginal territory, which was determined to be the Confederated Villages of Lisjan. Consultation concluded with a site visit on 8/23/23 with the Confederated Villages of Lisjan representative and the City.</p>
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## 2 Introduction

### 2.1 Focus of the Environmental Review

#### 2.1.1 California Environmental Quality Act

The City of Walnut Creek (City), as the project sponsor and Lead Agency, has prepared this Draft Initial Study (IS) pursuant to the California Environmental Quality Act (CEQA) for the proposed Walnut Creek Flow Trail Project (project). This IS is an informational document provided to help the public and decision-makers understand the effects the project may have on the environment, and how any potential adverse effects may be mitigated. Because this document describes potentially significant impacts that can be reduced to less than significant with the adoption of mitigation measures, a Mitigated Negative Declaration (MND) has been prepared.

The Notice of Intent to Adopt a Mitigated Negative Declaration provides notice to interested agencies and the public that it is the City's intent to adopt an MND and, pending public review, the City expects to determine from this IS/MND that the proposed project would not have a significant effect on the environment as mitigated. This Public Review Draft IS/MND is subject to modification based on comments received by interested agencies and the public.

### 2.2 Summary of Findings

The following environmental factors would be potentially affected by this project, involving at least one impact that would be a "Potentially Significant Impact" without the implementation of mitigation measures:

- Section 4.4 Biological Resources
- Section 4.7 Geology and Soils (inadvertent discovery of fossils)
- Section 4.18 Tribal Cultural Resources (inadvertent discovery)

Based on the environmental evaluation performed for this IS, the proposed project would have:

- **No Impact** on agricultural resources, land use and planning, mineral resources, population and housing, and wildfire.
- **Less Than Significant Impact** on aesthetics, air quality, cultural resources, energy, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, noise, public services, recreation, transportation, and utilities and service systems.
- **Less Than Significant Impact with Mitigation Incorporated** on biological resources, geology and soils (paleontological resources), and tribal cultural resources. The project will implement mitigation measures as described herein to reduce potential impacts to a Less Than Significant level.

## **2.3 Required Permits and Additional Approvals**

### **2.3.1 Permits**

The project would obtain or comply with the following permits:

- Regional Water Control Board, General Construction permit (Notice of Intent)

## 2.4 Lead Agency Determination

On the basis of this initial evaluation:

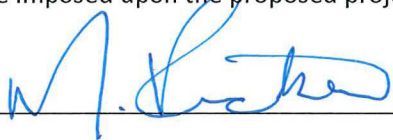
I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

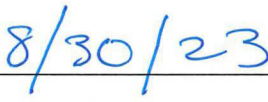
I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT (EIR) 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 EIR 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 EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

  
\_\_\_\_\_  
Signature

  
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Name

  
\_\_\_\_\_  
Title



### 3 Project Description

The City proposes the Walnut Creek Flow Trail Project to construct a recreational flow trail for mountain bikers in the Lime Ridge Open Space. The recreational area is currently used for cattle grazing, horseback riding, hiking, and biking, and mountain bikers have been creating informal trails through sensitive habitats to create a flow trail experience. The proposal is to create a mountain bike flow trail in less sensitive habitat that meets the terrain-induced, biking experience with little pedaling and braking necessary that mountain bikers are seeking.

#### 3.1 Project Location

The project is located in the southern section of Lime Ridge Open Space just southeast of Boundary Oak Golf Course in western Walnut Creek, Contra Costa County, California (Figure 1). The study area is comprised of approximately 11.65-acres. The western trail head is located near the Boundary Oak Golf Course, where there is a parking lot. The current general plan and zoning designations for the project area is OSR, Open Space Recreation. The proposed trail would be designated as one way down only for bikes and would remain open for all users. Mountain bikers would be directed to travel uphill on existing trails to start at the eastern trailhead, which would begin near the Paraiso Trail's junction with the Manzanita Trail. The flow trail would wind through the low rolling hills, be coterminous with the Timberleaf Trail for approximately 380 feet, and end at the Ohlone trailhead located at the eastern end of Valley Vista Road, for a total linear distance of approximately 1.6 miles (Figure 2).

#### 3.2 Background

Lime Ridge Regional Recreational Area (LRRRA) is an approximately 1,225-acre public open space area split by Ygnacio Valley Road at the boundary between the cities of Walnut Creek and Concord. The Lime Ridge Open Space lies within the LRRRA. The LRRRA has been designated for approximately 97 percent open preserve and 3 percent recreational facilities. Currently, 1.95 percent of the LRRRA includes recreational facilities such as trails. The addition of the flow trail would bring this total to 2.1 percent, out of 3% allowed in the LRRRA.

The 1985 Lime Ridge Master Plan has designated that any trail within the LRRRA be unpaved. In 2019, the City of Walnut Creek Open Space Trail Committee was formed to document the state of the Walnut Creek open space trail system and to deliberate over the vision for its future. The Committee's goals are to maintain and enhance open space lands. Three policies were defined as:

- Protect, manage, and improve Opens Space lands
- Protect and enhance the natural environment
- Promote a variety of appropriate activities on Open Space Lands

The Committee documented their findings in a 2020 report entitled *Trail Committee Recommendations for Managing Trails for Safe, Sustainable, and Environmentally Friendly Use*.

Lime Ridge Open Space is highly utilized for hiking and biking, with a relatively even split between the two activities. The open space rangers observed 40% cyclists and 60% hikers on the Montecito trail on Saturday March 13, and 46% cyclists and 54% hikers on the Montecito trail on Sunday March 21, 2021.

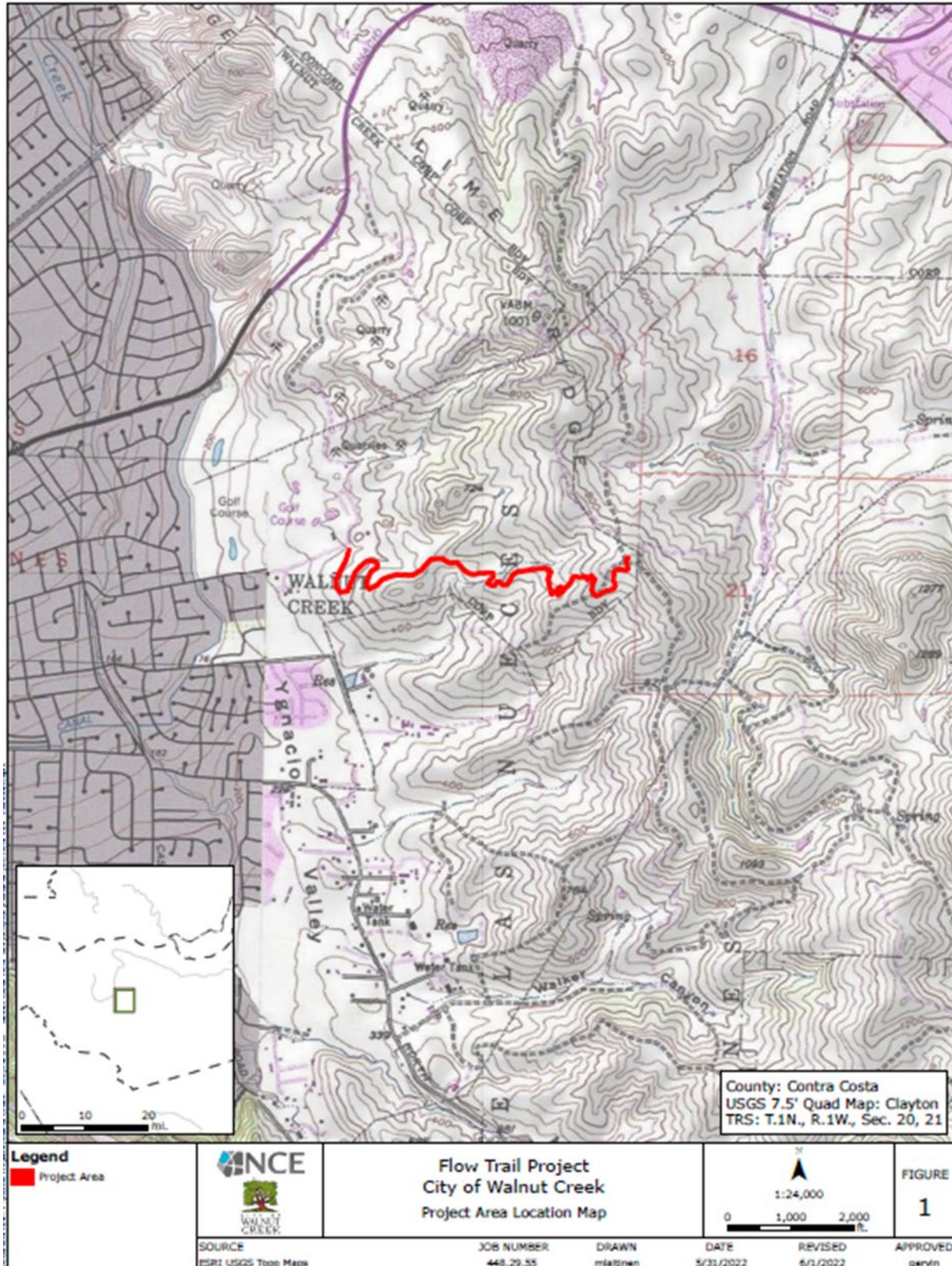


Figure 1. Project Vicinity Map

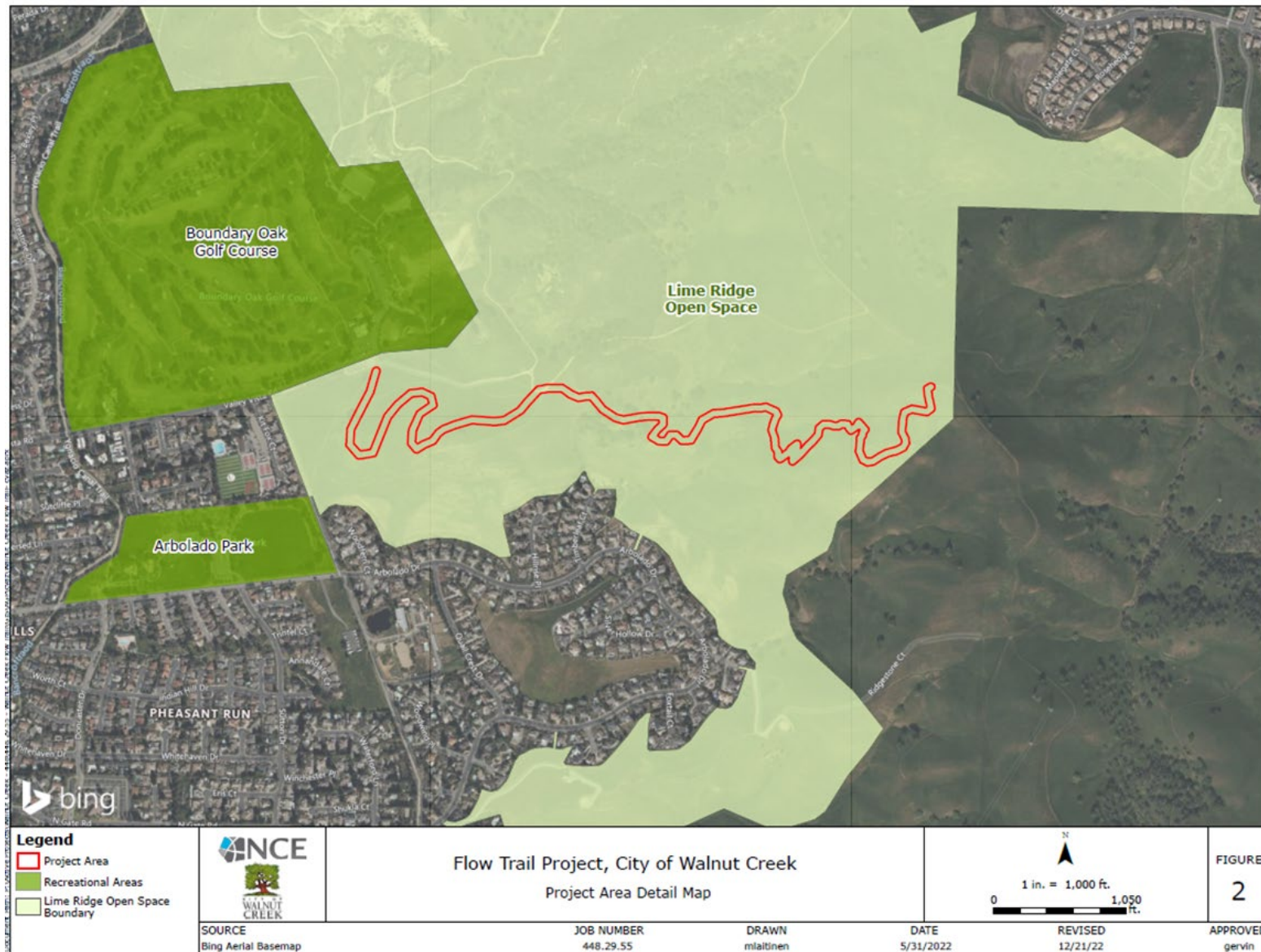


Figure 2 Project Area Map

No equestrians were observed on either day. The rangers have further observed that over the past several years, mountain bikers have been creating unauthorized flow trails through the area's sensitive habitat.

### 3.3 Project Objectives

The primary purpose of the project is to construct a sustainable mountain bike flow trail that provides a specific type of experience while protecting more sensitive habitats in other areas within the Lime Ridge Open Space.

The project objectives are to:

- Provide a high-quality recreational experience for residents and visitors.
- Provide a designated and managed trail in an area actively used by bicyclists and hikers.
- Minimize impacts to the environmental setting caused by unauthorized trails.

### 3.4 Existing Conditions

The topography of the Lime Ridge area is characterized by gentle rolling hills that increase in elevation moving east. There are residential areas approximately 2,000 feet northeast from the top of the trail, and approximately 600 feet south of the trail at the closest point.

This area of Lime Ridge is undeveloped grassland and is primarily used as a recreation area for hiking and biking. Cattle grazing is allowed and has coexisted with the recreational uses without mishap. There is a seasonal wetland in an intermittent stream channel that crosses the proposed trail route, and a seasonal stock pond for cattle adjacent to the trail route. The study area is composed primarily of non-native grassland. Isolated communities of sage scrub, coast live oak woodland, and urban mix are also present.

### 3.5 Project Features

The proposed trail would be designated as one way down only for bikes and would remain open for all users. Mountain bikers would be directed to travel uphill on existing trails to start at the trailhead, which would begin near the Paraiso Trail's junction with the Manzanita Trail. The flow trail would wind through the low rolling hills, be coterminous with the Timberleaf Trail for approximately 380 feet, and end at the Ohlone trailhead located at the eastern end of Valley Vista Road, for a total linear distance of approximately 1.6 miles. The trail would measure a minimum of 2-feet and a maximum of 4-feet in width with a 5-10 foot wildfire buffer on either side consisting of actively managed vegetation. Class 1 and Class 2 e-bikes are allowable by state law, and Municipal Code speed restrictions of maximum 15 mph on all City trails would apply. The trail route has been specifically designed to reduce downhill speeds.

Construction would involve minimal grading, by volunteers and City staff. Work would involve limited grading and hand removal of vegetation with hand tools and rakes. However, a small piece of equipment, a mini tractor, may be needed to move materials around and for construction. A four-foot pedestrian/bike bridge would be constructed to span over the seasonal drainage swale without touching aquatic resources. The installation of flagstones would be placed in the swale of the upper valley to help

prevent erosion near the trail. The trail will be cut to allow water to easily drain across and off the trail rather than directly down the trail. A two-rail fence may be constructed with a powered post hole digger to provide separation between the proposed trail and the existing trails as needed. No trees would be removed. Proposed trail features are identified in Figure 3.

There are two parking options where the public can park to access the flow trail and existing trails in the Lime Ridge Open Space. Public parking options can be found at Boundary Oak Golf Course at the east end of Valley Vista Road and Arbolado Park located southeast of the project area near the existing Ohlone Trail.

### **3.5.1 Construction Schedule**

Construction is scheduled to occur in the dry spring/summer months of 2024 and would take approximately 20-30 workdays. The total disturbed area would be approximately 1.12 acres.

### **3.6 Construction Controls**

The project is required to comply with local, state, and federal regulations pertaining to the protection of human health, safety, and the environment.

The following required construction controls from local, state, and federal agencies are incorporated into the project design and are considered a part of the proposed project.

#### **3.6.1 Minimum Erosion / Sediment Control Guidelines for Small Projects**

Small projects must comply with the City of Walnut Creek's Site Development Ordinance, which requires the use of erosion and sediment controls to protect water quality while the site is under construction. Prior to the issuance of a permit for grading activity that would occur during the rainy season (October 1 to April 30), an Erosion Control Plan must be submitted to the Engineering Division.

#### **3.6.2 Hydrology and Water Quality**

The area of disturbance may be greater than one acre. Therefore, the project must comply with Regional Water Quality Control Board (RWQCB), construction general permit order 2009-0009 DWQ. The Construction General Permit requires the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer.

#### **3.6.3 Cultural Resources**

Should human remains be uncovered, the statutes of State of California Health and Safety Code Section 7050.5 must be followed. The County Coroner must be notified of the find immediately, and no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. If the human remains are determined to be prehistoric, the Coroner would notify the Native American Heritage Commission (NAHC), which would identify and notify a Most Likely Descendent. The Most Likely Descendent shall complete the inspection of the site within 24 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.



Figure 3 Project Features Map

## 4 Environmental Evaluation

The following sections evaluate the potential adverse impacts of the project in compliance with CEQA. Appendix G of the CEQA Guidelines provides a sample checklist with a series of questions designed to enable the lead agency to identify project impacts with respect to 20 environmental topics; this IS generally aligns with this checklist.

Except where a specific threshold has been adopted by a public agency and is specified in the sections below, such as an air quality threshold, Appendix G of the CEQA Guidelines are used as thresholds of significance for the CEQA checklist questions.

Potential environmental impacts are described as follows:

- **Potentially Significant Impact:** An environmental impact that could be significant and for which no feasible mitigation is known. If any potentially significant impacts are identified in this Checklist, an EIR must be prepared.
- **Less than Significant Impact with Mitigation Incorporated:** An environmental impact that requires the implementation of mitigation measures to reduce that impact to a less than significant level.
- **Less than Significant Impact:** An environmental impact may occur; however, the impact would not exceed significance thresholds.
- **No Impact:** No environmental impacts would result from the implementation of the project.

## 4.1 Aesthetics

### 4.1.1 Environmental Setting

The project area is located within the Lime Ridge Open Space that provides panoramic views over the City, the valley, and Mount Diablo. Lime Ridge is the dominant saddle leading to Mount Diablo. This open space area is rich in plants and animals and hosts some of the last remaining chaparral in the area. Lime Ridge is a natural greenbelt between Walnut Creek and cities of Concord/Clayton to the east (City of Walnut Creek 1985).

Ygnacio Valley Road is a designated scenic corridor located north of the project area in the northern portion of the Lime Ridge Open Space (Figure 4 Walnut Creek Designated Scenic Vista Map).

There are no designated scenic vistas or scenic highways within or adjacent to the project site.

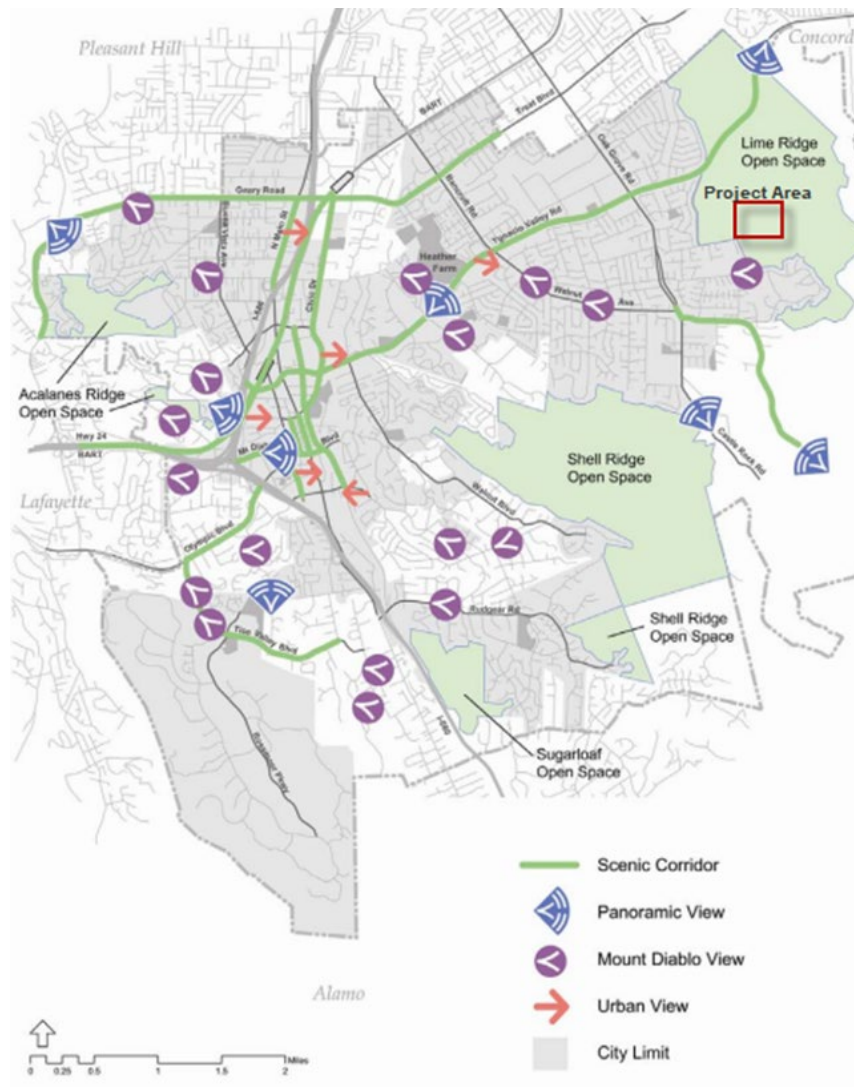


Figure 4 Walnut Creek Designated Scenic Vista Map



### 4.1.2 CEQA Checklist Summary

Except as provided in Public Resources Code Section 21099, would the project:

CEQA Question	Impact Determination
a) Have a substantial adverse effect on a scenic vista?	Less Than Significant Impact
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, within a state scenic highway?	No Impact
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?	Less Than Significant Impact
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	No Impact

### 4.1.3 Answers to CEQA Checklist Questions

Except as provided in Public Resources Code Section 21099:

#### a) Would the project have a substantial adverse effect on a scenic vista?

##### Less Than Significant Impact

The project area is located in a designated open space area near residential and recreational areas. No formally designated scenic vistas have been identified in the vicinity of the project site, and the project site is not a component of any formally designated scenic vista. There are no designated national, state, or regional scenic vistas in proximity to the project or mitigation areas. The project area contains open hills and grassland that are designated as open space.

The trail would be primarily dug out by hand and would be constructed to match existing dirt trails within the Lime Ridge Open Space. The LRRRA is designated for hikers and cyclists. While the introduction of a trail in this location could be perceived as a change for those with regular views of this portion of the recreational area, it would be consistent with the designated and planned use of the recreational area. The visual impact of cyclists, hikers, and/or equestrians would be temporary and intermittent during trail use. Therefore, the project's impact on the open space scenic quality would be less than significant.

#### b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

##### No Impact

According to the California Department of Transportation, a scenic corridor is an area of land generally adjacent to and visible from the highway. The project area is located within an undeveloped area and contains no designated California scenic highways or corridors. The trail will be hand dug and no trees

would be removed or trimmed, no rock outcroppings would be disturbed, and there are no historic buildings within the project area. Therefore, there would be no impact.

**c) In non-urbanized areas, would the project 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?**

**Less Than Significant Impact**

Please also see response to Question a, above. The proposed project lies within an undeveloped open space area with existing trails and is surrounded by urban development. The project would construct a hand-excavated dirt trail for similar to the existing trails within the open space area. A small wooden bridge and split rail fence, and potentially signage, are the only vertical components of the project, and this area is obscured by a grove of mature trees. While these improvements would be visible from publicly accessible locations, they would not obstruct views and would be consistent with the open recreational character currently existing on the site and throughout the LRRRA. The existing Timberlake, Pariso, and Ohlone trails cross the area. The proposed flow trail would not obstruct nor substantially degrade views from publicly accessible vantage points. Therefore, the project would have a less than significant impact on the existing visual character of the site.

**d) Would the project create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?**

**No Impact**

Project implementation would not introduce new sources of light and the trail would not include any reflective surfaces. All construction activities would occur in daytime hours with no temporary nighttime lighting. Therefore, the project would have no impact on day or nighttime views in the area.

## 4.2 Agricultural and Forestry Resources

### 4.2.1 Environmental Setting

According to the General Plan Land Use Element Map, the project area is zoned for OSR-Open Space/Recreation.

There are no agricultural or forestry land uses on or near the project site. The Contra Costa County Important Farmland 2016 Map categorizes the site as grazing land, which is land on which the existing vegetation is suited to the grazing of livestock. The majority of prime farmland or land of regional or state importance is located in the east regions of Contra Costa County (California Department of Conservation 2016). The City allows grazing on the land for fire abatement and fuel management and is not planning on changing their grazing strategies in this area, as the cattle interact with the open space users now without incident. Grazing is expected to continue.

### 4.2.2 CEQA Checklist Summary

Would the project:

CEQA Question	Impact Determination
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?	No Impact
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	No Impact
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code (PRC) § 12220(g)), timberland (as defined by PRC § 4526), or timberland zoned Timberland Production (as defined by Government Code § 51104(g))?	No Impact
d) Result in the loss of forest land or conversion of forest land to non-forest use?	No Impact
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?	No Impact

### 4.2.3 Answers to CEQA Checklist Questions

**a) 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?**

#### **No Impact**

The project is not located in an area of 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. The proposed project location is listed as

grazing land suited for livestock, and the proposed project would not change land use or use of the area for grazing. Therefore, the project would have no impact and would not convert farmland to non-agricultural use.

**b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?**

**No Impact**

There is no Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) in the vicinity; therefore, there are no Williamson Act contracts in the vicinity. Because there are no agricultural zoning designations and no Williamson Act contracts associated with the project, there would be no impact.

**c) Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code (PRC) § 12220(g)), timberland (as defined by PRC § 4526), or timberland zoned Timberland Production (as defined by Government Code § 51104(g))?**

**No Impact**

The project site is within existing open space parkland that does not include forest or timberland land use or zoning designations. The project would not conflict with zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production land. The project would result in no impact to forest land or timberland.

**d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?**

**No Impact**

There are no forestland or timberland land uses or zoning designations in the project vicinity. The nature of the project has no impact on land development or conversion of land use. Therefore, the project does not have the potential to conflict with existing zoning for or cause rezoning of forest land, timberland, or timberland zoned Timberland Production.

**e) 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**

Please refer to Responses a-d. There is no farmland or forest land in the project area. Therefore, there would be no impact on farmland, agricultural, forest land or forest uses.

## 4.3 Air Quality

### 4.3.1 Environmental Setting

The topography of a region can substantially impact air flow and pollutant concentrations. California is divided into 15 air basins with similar topography and meteorology to better manage air quality throughout the state. Each air basin has a local air district that is responsible for identifying and implementing air quality strategies to comply with ambient air quality standards.

Air quality conditions in the Bay Area are compared to ambient air quality standards set at the federal level (i.e., National Ambient Air Quality Standards, or NAAQS) and at the state level (i.e., California Ambient Air Quality Standards). The attainment status is reported for each pollutant.

For the pollutants nitrogen dioxide, carbon monoxide, and sulfur dioxide, the Bay Area is designated as “attainment” under the NAAQS. The Bay Area is classified as “non-attainment” for ozone and particulate matter 2.5 (PM<sub>2.5</sub>). Although the U.S. Environmental Protection Agency (EPA) issued a final rule in 2013 to determine that the Bay Area attains the 24-hour PM<sub>2.5</sub> national standard, the Bay Area continues to be designated as “non-attainment” for the 24-hour PM<sub>2.5</sub> NAAQS standard until the BAAQMD submits a “redesignation request” and a “maintenance plan” to EPA, and EPA approves the proposed redesignation. While BAAQMD monitoring data shows that the region meets the NAAQS for PM<sub>10</sub>, the area is designated “unclassified.” At the state level, the area is classified as “non-attainment” for ozone, PM<sub>2.5</sub>, and PM<sub>10</sub> and “attainment” for all other criteria air pollutants (California Air Resources Board n.d.).

### 4.3.2 Regulatory Setting

#### Air Quality Standards

Air quality within the region is regulated by several agencies including the EPA, the California Air Resources Board (CARB), and the BAAQMD. These agencies develop rules, regulations, policies, and/or plans to achieve the goals and directives imposed through legislation.

The EPA is responsible for implementing the federal Clean Air Act (1970), including establishing health-based NAAQS for air pollutants. NAAQS established for criteria pollutants under the Clean Air Act are ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, PM<sub>10</sub>, and PM<sub>2.5</sub>, and lead. The standards set for criteria pollutants are periodically reviewed and revised as applicable.

In California, the CARB is responsible for implementing the California Clean Air Act (1988) and has established California Ambient Air Quality Standards (CAAQS) which are to date more restrictive than the national standards. In general, the CARB works with local agencies to develop policies, guidance, and regulations related to state and federal ambient air quality standards; coordinates with local agencies on transportation plans and strategies; and aids local districts and transportation agencies to meet air quality standards established under both the federal and California clean air acts.

#### Local – BAAQMD

The BAAQMD is the regional agency tasked with managing air quality in the region. The BAAQMD adopted the 2017 Clean Air Plan to plan for and achieve compliance with federal and state ozone

standards. The 2017 plan updated the 2010 Clean Air Plan pursuant to air quality planning requirements. To fulfill state ozone planning requirements, the 2017 Plan includes a wide range of control measures designed to decrease emissions of harmful air pollutants, such as particulate matter, ozone (measured as reactive organic gases [ROG] and nitrogen oxides [NOx]), and toxic air contaminants; decrease greenhouse gas (GHG) emissions; and decrease emissions of carbon dioxide (CO<sub>2</sub>) by reducing fossil fuel combustion.

The BAAQMD’s most recent CEQA Guidelines (BAAQMD 2022) are used in this analysis to evaluate the potential air quality impacts of the project. The Guidelines provide BAAQMD-recommended procedures for evaluating potential air quality impacts as they relate to CEQA requirements during the environmental review process consistent with CEQA requirements.

BAAQMD has adopted thresholds of significance to assist in the review of projects under CEQA that meet or exceed federal and state standards. These thresholds were designed to establish the level at which BAAQMD believes air pollution emissions would cause significant environmental impacts under CEQA (BAAQMD 2022).

Table 1 presents the significance thresholds used in this analysis for estimated daily construction-related emissions and operational emissions. A project with daily emission rates below these thresholds is considered to have a less than significant effect on air quality.

**Table 1 BAAQMD Construction and Operational Thresholds.**

Pollutant	Construction Threshold	Average Daily Operational	Maximum Annual Emissions
ROG	54 lbs/day	54 lbs/day	10 tons/year
NOx	54 lbs/day	54 lbs/day	10 tons/year
PM <sub>10</sub>	82 lbs/day (exhaust)	82 lbs/day	15 tons/year
PM <sub>2.5</sub>	54 lbs/day (exhaust)	54 lbs/day	10 tons/year
PM <sub>10</sub> /PM <sub>2.5</sub> (fugitive dust)	Best management practices**	None	
Local Carbon Monoxide	None	9.0 ppm (8-hour average)	20.0 ppm (1-hour average)
Risks and hazards for new sources and receptors (cumulative threshold)	Same as operational thresholds	Cancer Risk: > 100 in a million (from all local sources) Non-cancer: > 10.0 Hazard Index (chronic, from all local sources) PM <sub>2.5</sub> : > 0.8 µg/m <sup>3</sup> annual average (from all local sources)	OR Compliance with Qualified Community Risk Reduction Plan

Pollutant	Construction Threshold	Average Daily Operational	Maximum Annual Emissions
Risks and hazards for new sources and receptors (individual project)	Same as operational thresholds	Increased Cancer Risk: > 10.0 in a million Increased Non-cancer: > 10.0 Hazard Index (chronic or acute) PM <sub>2.5</sub> increase: > 0.3 µg/m <sup>3</sup> annual average	OR Compliance with Qualified Community Risk Reduction Plan

Source: (Bay Area Air Quality Management District 2022)

Note: ROG = reactive organic gases, NOx = nitrogen oxides, PM<sub>10</sub> = coarse particulate matter or particulates with an aerodynamic diameter of 10 micrometers (µm) or less, PM<sub>2.5</sub> = fine particulate matter or particulates with an aerodynamic diameter of 2.5µm or less; µg/m<sup>3</sup> = micrograms per cubic meter.

### BAAQMD Screening Criteria

The BAAQMD developed screening criteria for criteria air pollutants and precursors. These screening provide lead agencies with a conservative indication of whether implementing a proposed project could result in potentially significant criteria air pollutants and precursors impacts. If all screening criteria for criteria air pollutants and precursors are met by a proposed project, a detailed assessment of the project’s criteria air pollutant and precursor emissions would not be needed.

The screening table included in the Section 4.1 of the BAAQMD 2022 CEQA Guidelines developed for criteria air pollutants and precursors was derived using the default assumptions in the California Emissions Estimator Model Version 2020.4.0 with mobile source emissions factors from the California Air Resources Board’s EMFAC2021 model. Construction-related fugitive dust was not included in the development of the screening table because these emissions are controlled through best management practices. The most relevant listed land use in the screening table for the proposed project is “City Park”; the screening level is 10 acres for construction and 175 acres for operational. Local carbon monoxide screening levels include an assumption that project-generated traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.

**4.3.3 CEQA Checklist Summary**

Would the project:

CEQA Question	Impact Determination
a) Conflict with or obstruct implementation of the applicable air quality plan?	Less Than Significant Impact
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?	Less Than Significant Impact
c) Expose sensitive receptors to substantial pollutant concentrations?	Less Than Significant Impact
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	No Impact

**4.3.4 Answers to CEQA Checklist Questions**

**a) Would the project conflict with or obstruct implementation of the applicable air quality plan?**

**Less Than Significant Impact**

The project region is designated non-attainment based on the NAAQS for ozone and PM<sub>2.5</sub>, and the CAAQS for ozone, PM<sub>10</sub>, and PM<sub>2.5</sub>.

Project construction would produce minor particulate and ozone precursor emissions during grading activities. Trail construction is estimated to take 20-30 days and would involve only minor grading, which would be carried out approximately 80% by hand tools (McLeod, Pulaski, picks, etc.) and 20% by motorized tools (mini tractor/auger). The maximum depth of excavation would be approximately 30 inches. The total area disturbed during construction would be approximately 1.12 acres. Whereas this is well below the screening criteria of 10 acres, potential emissions are considered less than significant and would not obstruct the implementation of the BAAQMD plan to meet air quality standards.

After construction, the proposed project would be a cycling trail, and no motorized vehicles would be permitted. The operational emissions associated with the project are well below the screening criteria of 175 acres for operational emissions. Therefore, the project would result in a less than significant increase in construction and operational emissions and the project would conflict with or obstruct implementation of the local air quality plan.

**b) Would the project 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?**

**Less Than Significant Impact**

The project region is designated non-attainment based on the NAAQS for ozone and PM<sub>2.5</sub>, and the CAAQS for ozone, PM<sub>10</sub>, and PM<sub>2.5</sub>. The BAAQMD has established that if a project exceeds the identified



significance thresholds, its emissions would be considered cumulatively considerable, and additional analysis to determine cumulative impacts would be unnecessary.

As evaluated in Section 4.3.4(a) above, the project is well under the screening criteria for park uses and would not exceed thresholds for any criteria air pollutant for which the region is in non-attainment; therefore, there would be no cumulatively considerable net increase in criteria pollutants that would adversely impact human health.

**c) Would the project expose sensitive receptors to substantial pollutant concentrations?**

**Less Than Significant Impact**

The BAAQMD definition of sensitive receptors includes residential dwellings such as apartments, houses, and condominiums; schools, colleges, and universities; daycare centers and hospitals, and senior-care facilities. Most of the surrounding area is open space with residential communities to the north and south of the Lime Ridge Open Space.

The nearest sensitive receptors to the project area are homes approximately 600 feet to the south, Woodside Elementary School located approximately 1.2 miles northwest, and other residential uses approximately 0.5 miles north and southwest of the site may be considered sensitive to emissions. The project would not introduce new sensitive receptors.

As discussed in Section 4.3.4(a) above, the air quality emissions associated with the proposed project would be well below the BAAQMD'S screening criteria, and therefore well below construction and operational emissions thresholds (Table 1). Emissions generated during project construction would be less than significant due to the temporary nature of activities, the minimal use of emissions-generating equipment, and the distance between the site and potential receptors. Therefore, the project would not expose sensitive receptors to substantial pollutant concentrations.

**d) Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?**

**No Impact**

Table 3-3 in the BAAQMD's 2022 CEQA Guidelines provides odor screening distances for land uses that have the potential to generate substantial odor complaints. The odor-generating uses in the table include wastewater treatment plants, landfills or transfer stations, refineries, composting facilities, confined animal facilities, food manufacturing, smelting plants, and chemical plants. The proposed project does not include any of the uses identified by the BAAQMD as odor-generating uses. During construction, the project may create temporary odors from small equipment exhaust and the smell of cut wood. The odor of freshly turned soil may also be noticed by the trail crews. Any such odors would not be discernible by residents of the community because emission rates would be low and temporary, and the intervening distance is great. Therefore, there would be no impact.

## 4.4 Biological Resources

### 4.4.1 Environmental Setting

The project area is characterized as a recreational open space and is used by hikers, cyclists and equestrians on both formal and informal trails. The vegetation within the project site is characterized by non-native grassland, dominated by foxtail barley (*Hordeum murinum* subsp. *leporinum*), wild oats (*Avena* spp.), ripgut brome (*Bromus diandrus*), yellow starthistle (*Centaurea solstitialis*), thistle (*Carduus* spp.), Mediterranean barley (*Hordeum marinum* subsp. *gussoneanum*), burclover (*Medicago polymorpha*), needlegrass (*Stipa* spp.), soaproot (*Chlorogalum pomeridianum* var. *pomeridianum*), and shortpod mustard (*Hirschfeldia incana*). In the central portion of the project site, there are small patches of Diablan sage scrub and coast live oak woodland. Diablan sage scrub is dominated by black sage (*Salvia mellifera*), California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), and sticky monkeyflower (*Diplacus aurantiacus*), while coast live oak woodland is dominated by coast live oak (*Quercus agrifolia*), with toyon (*Heteromeles arbutifolia*), gooseberry (*Ribes* spp.), and blue elderberry (*Sambucus mexicana*) in the shrub layer. Lastly, there is a patch of urban mix in the western portion, which consists of blue gum (*Eucalyptus globulus*) and black walnut (*Juglans hindsii*) trees.

Nomad Ecology (Nomad) wildlife biologists conducted a reconnaissance-level site visit of the 11.65-acre study area on February 8, 2021. Additionally, Nomad botanists conducted botanical-specific surveys of the project site on April 16, May 13, June 11, and September 15, 2021. During the surveys, Nomad personnel made efforts to document the biological resources present in the study area by searching for plants, animals, and vegetative communities while walking throughout the study area and making observations from stationary observation points. NCE biologists conducted additional plant and animal surveys on September 9, 2022, and April 5, April 25, and May 9, 2023. Their observations have been documented in a report dated May 16, 2023. The following findings are based on both Nomad and NCE's field surveys.

All proposed impact areas and vegetation communities within the study area were visited and evaluated for their potential to support sensitive biological resources. Protocol-level surveys for special-status animals were not conducted as part of this assessment. All plant species in bloom, or otherwise recognizable, were identified to a level necessary to determine their regulatory status. In addition, all wildlife species observed or recognized by diagnostic signs (e.g., audible call, tracks, scat, carcasses, burrows) were identified and recorded.

NCE delineated the unnamed stream channel and a seasonal wetland located within the stream channel. The stream channel runs northeast-southwest through a portion of the study area and carries water flow only during and immediately following precipitation events. The drainage runs approximately 100 feet through the project site, is approximately 5 feet in width, and is vegetated by ryegrass (*Lolium perenne*), tall flat sedge (*Cyperus eragrostis*), bird's-foot trefoil (*Lotus corniculatus*), vervain (*Verbena lasiostachys*), Italian thistle (*Carduus pycnocephalus* subsp. *Pycnocephalus*), curly dock (*Rumex crispus*), and crane's bill geranium (*Geranium molle*). The stream channel and seasonal wetland cover approximately 0.01 acres within the project site.

Nomad's staff did not identify any special-status plant species but did identify one sensitive vegetative community within the project site (*Stipa pulchra* Herbaceous Alliance). Nomad's biological survey did

not identify any special-status animal species within the project site or buffer area. NCE's botanical surveys did not identify any special-status plant species within the project site and confirmed the findings of the Nomad botanical studies. NCE's focused surveys for special-status wildlife species, however, identified one (1) special-status animal species within the project site (coast horned lizard [*Phrynosoma coronatum*]) and one (1) species just outside of the project site (California red-legged frog [*Rana Draytonii*] tadpoles within a previously unidentified stock pond restored by rains). No nesting avian species were observed during surveys.

#### 4.4.2 Regulatory Setting

##### Federal

###### Clean Water Act

The USACE Regulatory Branch regulates activities that discharge dredged or fill materials into Waters of the United States (WOUS), which includes wetlands under Sections 401 and 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act.

Section 401 requires that an applicant proposing to conduct any activity that may result in a discharge to a WOUS must apply for and secure a Water Quality Certification prior to construction activities. The San Francisco Bay RWQCB will administer the Section 401 Water Quality Certification for this project.

###### Endangered Species Act

The federal Endangered Species Act (FESA) protects plants and wildlife that are listed as endangered or threatened by the United States Fish and Wildlife Service (USFWS). Section 9 of FESA prohibits the taking of endangered wildlife, where taking is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50 Code of Federal Regulations 17.3). Under Section 7 of the FESA, federal agencies are required to consult with the USFWS or National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NOAA Fisheries) as applicable if their actions, including permit approvals or funding, could adversely affect an endangered species (including plants) or its critical habitat.

###### Migratory Bird Treaty Act

The Migratory Bird Treaty Act makes it unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, or kill migratory birds. The law applies to the removal of nests (such as swallow nests on bridges) occupied by migratory birds during the breeding season. California Fish and Game (CFG) Code (Section 3500) also prohibits the destruction of any nest, egg, or nestling.

##### State

###### California Endangered Species Act

Pursuant to the California Endangered Species Act (ESA) and Section 2081 of the CFG Code, an Incidental Take Permit from CDFW is required for projects that could result in the "take" of a State listed threatened or endangered species. Under CESA, "take" is defined as an activity that would directly or indirectly kill an individual of a species proposed for listing (called "candidates" by the state). Section 2080 of the CFG Code prohibits the taking, possession, purchase, sale, and import or export of

endangered, threatened, or candidate species unless otherwise authorized by permit or in the regulations.

### **Birds of Prey and Nesting Birds**

Nesting birds are protected in California under State Fish and Game Code Section 3503. Section 3503 states that, “It is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.” Birds of prey are protected in California under provisions of the State Fish and Game Code, Section 3503.5, which states that it is “unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.” Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered “taking” by the CDFW.

### **Porter-Cologne Water Quality Control Act**

The Porter-Cologne Act provides the State with very broad authority to regulate “Waters of the State” (which are defined as any surface water or groundwater, including saline waters). The State Regional Water Quality Control Board is granted ultimate authority over water quality policy in the State of California. Before allowing discharges that may affect the quality of Waters of the State, a Report of Waste Discharge must be filed with the San Francisco Bay RWQCB.

### **California Native Plant Protection Act**

The Native Plant Protection Act (NPPA) of 1977 (CDFG Code Sections 1900-1913) was created in order to “preserve, protect and enhance rare and endangered plants in this State.” The NPPA is administered by CDFW. The Fish and Wildlife Commission has the authority to designate native plants as “endangered” or “rare” and to protect endangered and rare plants from take. CESA provided further protection for rare and endangered plant species, but the NPPA remains part of the CFG Code.

### **California Fish and Wildlife**

The CDFW is responsible for protecting and conserving fish and wildlife resources, and the habitats upon which they depend. Section 1602 of the California Fish and Game Code requires that the CDFW review any project that may do one or more of the following:

- Divert or obstruct the natural flow of any river, stream, or lake.
- Change the bed, channel, or bank of any river, stream, or lake.
- Use material from any river, stream, or lake.
- Deposit or dispose of material into any river, stream, or lake.

Under the Lake and Streambed Alteration (LSA) Program, entities are required to notify the CDFW of proposed impacts through an LSA Notification. If it is determined by the CDFW that the activity, as described in an LSA Notification, would substantially alter a river, stream, or lake, and may substantially adversely affect existing fish or wildlife resources, then an LSA Agreement must be prepared. The LSA

Agreement includes necessary mitigation measures to protect fish and wildlife resources from significant impacts.

#### 4.4.3 CEQA Checklist Summary

Would the project:

CEQA Question	Impact Determination
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 & Wildlife (CDFW) or U.S. Fish & Wildlife Service (USFWS)?	Less Than Significant Impact with Mitigation Incorporated
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 CDFW or USFWS?	No Impact
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?	No Impact
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?	Less Than Significant Impact
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	No Impact
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?	No Impact

#### 4.4.4 Answers to CEQA Checklist Questions

**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 & Wildlife (CDFW) or U.S. Fish & Wildlife Service (USFWS)?**

**Less Than Significant Impact with Mitigation Incorporated**

A query of federally listed wildlife species for the United States Geological Survey (USGS) 7.5-minute quadrangle encompassing the project area was obtained from the USFWS’s Sacramento Endangered Species Office Information Planning and Conservation System (IPaC) website. Information about the occurrences of special status species within a 1-mile radius of the proposed project alignment was compiled from the CDFW California Natural Diversity Database Information about the distribution of special status species with the potential to occur within the project area was compiled from the California Native Plant Society’s Inventory of Rare and Endangered Plants of California and from published literature.

Twenty-nine state and federally listed wildlife species with the potential to be within the project area were identified:

- Plants: bent-flowered fiddleneck (*Amsinckia lunaris*), big tarplant (*Blepharizonia plumosa*), Mount Diablo fairy lantern (*Calochortus pulchellus*), Oakland star-tulip (*Calochortus umbellatus*), Hospital Canyon larkspur (*Delphinium californicum var. interius*), and Diablo helianthella (*Helianthella castanea*).
- Insects: obscure bumble bee (*Bombus caliginosus*), Crotch bumble bee (*Bombus crotchii*), western bumble bee (*Bombus occidentalis*), and Bridges' Coast Range shoulderband snail (*Helminthoglypta nickliniana bridgesi*)
- Amphibians: California tiger salamander (*Ambystoma californiense*) and California red-legged frog (*Rana draytonii*)
- Reptiles: Alameda whipsnake (*Masticophis lateralis euryxanthus*), and coast horned lizard (*Phrynosoma coronatum*)
- Birds: western burrowing owl (*Athene cunicularia*), ferruginous hawk (*Buteo regalis*), white-tailed kite (*Elanus leucurus*), California horned lark (*Eremophila alpestris actia*), and loggerhead shrike (*Lanius ludovicianus*)
- Mammals: pallid bat (*Antrozous pallidus*), western red bat (*Lasiurus blossevillii*), hoary bat (*Lasiurus cinereus*), long-eared myotis bat (*Myotis evotis*), fringed myotis (*Myotis thysanodes*), long-legged myotis (*Myotis volans*), Yuma myotis (*Myotis yumanensis*), San Francisco dusky-footed woodrat (*Neotoma fuscipes annectans*), and American badger (*Taxidea taxus*).

The official lists are provided within the Biological Findings Letter Report prepared by NCE and the Biological Resources Assessment prepared by Nomad, located in Appendices A and B, respectively.

### Special-Status Plants

The project would be constructed in grassland, coast live oak woodland, and scrub communities that contain suitable habitat for five (5) California Rare Plant Rank 1B species: bent-flowered fiddleneck, big tarplant, Mount Diablo fairy lantern, Hospital Canyon larkspur, and Diablo helianthella. The project area also provides suitable habitat for one California Rare Plant Rank 4 species: Oakland star-tulip (*Calochortus umbellatus*). Focused botanical surveys conducted during the blooming period for these species by both Nomad (2021) and NCE (2023) determined that these species are not present within the project site. Therefore, no impacts to these species are expected, and no mitigation measures are proposed.

### Special-Status Insects

Suitable habitat for the obscure bumble bee, Crotch's bumble bee, western bumble bee, and Bridges' Coast Range shoulderband snail is present within the project site. The project site is within the formerly known ranges for these species, and there are recent verified observations of Crotch's bumble bee in the region. Grading for trail construction and any other ground-disturbing activities associated with the project could damage or destroy underground nests of the 3 bumble bee species, and/or result in injury or mortality to individual Bridge's Coast Range shoulderband snails should they be present within the

project site. In order to avoid or reduce potential impacts to bumble bee nests or individual Bridge's Coast Cange shoulderband snails, the following mitigation measures shall be implemented:

***BIO-1 – Protection Measures for Special-Status Insect Species***

- Prior to the start of any trail construction activities, all construction personnel including volunteers shall participate in a worker environmental awareness training program (WEAP) regarding bumble bees and Bridge's coast range shoulderband snail and their habitat present in the project area. If new construction personnel or volunteers are added to the proposed project, they must receive the mandatory training before starting work. As part of the training, an environmental awareness handout shall be provided to all personnel that describes these species, their preferred habitat, and lists applicable protection measures to protect these species.
- Prior to construction activities a qualified biologist shall conduct a pre-construction survey for these insect species. If a bumble bee hive/nest or individual snails are identified, the resources shall be documented. Individual snails shall be moved to safety outside of the project site. Individual beehives shall be marked clearly in the field, and shall be avoided by all construction activities.
- A qualified biologist shall be on site during construction activities to ensure implementation of, and compliance with avoidance and mitigation measures throughout the length of construction.

**Finding:** The implementation of Mitigation Measure BIO-1 reduces potential adverse effects to special-status insect species to a less than significant level.

**Special-Status Birds**

Grasses, shrubs, and trees in the project area may provide suitable nesting habitat for migratory birds and raptors, including white-tailed kite, loggerhead shrike, western burrowing owl, and California horned lark. No active nests or nesting bird behavior were observed during the 2021 and 2023 surveys; however, this does not preclude birds from establishing active nests between the time of the surveys and project construction.

For any birds nesting within the study area, construction actions associated with the project could result in short-term impacts such as failure to breed, nest abandonment, reduced fecundity, and decreased survivorship from noise and movement of personnel and equipment that exceeds normal background conditions within the study area. The disturbance may alter the birds' behavior in ways that result in injury, mortality, and reduced foraging success, such as the temporary loss of habitat due to avoidance of areas that have suitable habitat but intolerable levels of disturbance and altered activity patterns.

In order to avoid potential impacts or reduce potential impacts to migratory birds and raptor species to a less than significant level, the following mitigation measure shall be implemented:

***BIO-2 – Protection Measures for Migratory Bird Species and Raptors***

- Prior to the start of any trail construction activities, all construction personnel including volunteers shall participate in a worker environmental awareness training program (WEAP) regarding nesting bird species and their habitat present in the project area. If new construction personnel are added to the proposed project, they must receive the mandatory training before

starting work. As part of the training, an environmental awareness handout shall be provided to all personnel that describes these species, their preferred habitat, and lists applicable protection measures to protect these species.

- If project work must occur during the nesting season (February 1 – September 1), the City shall retain a qualified biologist to survey for nesting birds within the project area, no more than 3 days prior to the beginning of tree and vegetation removal or ground-disturbing activities. The results of the survey shall be submitted in a letter report to the City prior to the start of construction activities.
- If nesting birds are detected within the project area during the survey, consultation with CDFW and USFWS is recommended to establish acceptable avoidance or minimization measures to avoid impacts to migratory birds and raptors. Avoidance measures could include the establishment of a suitable activity-free buffer around active nests/roosting sites. An avoidance or minimization plan shall be submitted to the City, CDFW, and USFWS for review and approval prior to the start of construction activities. The avoidance or minimization plan shall be submitted to the project proponent for review and approval prior to the start of construction activities. These measures shall ensure that no nesting birds are impacted by construction activities.
- Preconstruction surveys for burrowing owls shall be conducted regardless of the season that construction occurs, since nesting and wintering owls are protected. If active burrowing owl burrows are found (i.e., sign of use or individuals are observed), they shall be monitored to ensure active status, and a non-disturbance buffer shall be implemented and monitored. The no-work buffer shall be dependent on whether the owl is present during the nesting or wintering seasons. If buffers are established and it is determined that project activities are resulting in burrowing owl disturbance, work shall cease in the nearby vicinity and CDFW shall be contacted for further guidance.

**Finding:** The implementation of Mitigation Measure BIO-2 reduces potential adverse effects to migratory bird and raptor species to a less than significant level.

### **Special-Status Bats**

The proposed project could impact pallid bat, western red bat, hoary bat, long-eared myotis, fringed myotis, long-legged myotis, and Yuma myotis maternity and roosting sites if present in the project area during construction. Noise and vibration created by construction equipment could lead to abandonment of established roost/maternity sites. Such impacts would be considered significant. If bat roost/maternity sites become established in the proposed project buffer area prior to project implementation, the following measures shall be implemented to protect these species from potential impacts:

#### ***BIO-3 – Protection Measures for Bat Species***

- Prior to the start of any trail construction activities, all construction personnel shall participate in a worker environmental awareness training program (WEAP) regarding bat species and their habitat present in the project area. If new construction personnel are added to the proposed project, they must receive the mandatory training before starting work. As part of the training, an environmental awareness handout shall be provided to all personnel that describes these



species, their preferred habitat, and lists applicable protection measures to protect these species.

Prior to the start of construction, a bat habitat assessment should be conducted to identify suitable bat roosting habitat including snags, rotten stumps, and trees with broken limbs, exfoliating bark, cavities, etc. Potential roosting habitat should be avoided to the maximum extent practicable. If no suitable roost sites are identified, no further minimization measures are necessary. No tree removal activities are proposed as part of the proposed project. If suitable roosting habitat is identified within the project buffer area, a qualified biologist should survey suitable roost sites immediately prior to trail construction activities. If any sign of roosting bats or observation of individual bats is observed, CDFW shall be contacted to determine the appropriate path forward to avoid impacts to roosting or nesting bats. If suitable roosting habitat will be disturbed by presence and noise of equipment and workers for more than two hours, a qualified biologist will be present to monitor the bat roosting habitat and will stop work if any disturbance to bats is detected and contact CDFW for further guidance.

**Finding:** The implementation of Mitigation Measure BIO-3 reduces potential adverse effects to bat species to a less than significant level.

#### **American Badger**

No evidence of American badgers, or any potential/known burrows of this species were observed within the project area during surveys, and no “signs” (tracks, scats, active digging, etc.) were documented. However, American badgers may become established in the proposed project site prior to project implementation. Implementation of the proposed project could result in significant impacts on individual American badgers should they take up residence in the project area prior to construction. Impacts to this species would likely occur through:

- Through crushing or injury of individual American badgers if they are present within proposed project work areas during project implementation. This could result in direct mortality to live individuals or small populations of this species.
- Through visual, noise, and vibration. If American badgers become established in burrows adjacent to or within the proposed project site, the presence of project personnel, and the noise and vibration caused by construction activities could lead to the abandonment of actively used burrows/dens. Proposed project activities could cause abandonment of occupied burrows if they become established prior to project implementation.

Impacts to American badgers and their potential burrows/dens would be considered a significant impact. Minimization and avoidance measures to protect American badgers from potential impacts are described below:

#### ***BIO-4 – Protection Measures for American Badger***

- Prior to the start of any trail construction activities, all construction personnel including volunteers shall participate in a worker environmental awareness training program (WEAP) regarding American badgers and their habitat present in the project area. If new construction personnel are added to the proposed project, they must receive the mandatory training before starting work. As part of the training, an environmental awareness handout will be provided to

all personnel that describes these species, their preferred habitat, and lists applicable protection measures to protect these species.

- A pre-construction survey of the project site and areas immediately adjacent to the project site shall be conducted at least two (2) weeks prior to implementation of the proposed project to determine if potentially active or known active den sites are present.
- If potential dens are found during pre-construction surveys, a qualified biologist shall excavate these dens by hand with a shovel to prevent badgers from re-using them during construction.
- If the qualified biologist determines that potential dens may be active, the entrances of the dens shall be blocked with soil, sticks, and debris for three (3) to five (5) days to discourage the use of these dens prior to project disturbance activities. The den entrances shall be blocked to an incrementally greater degree over the three (3) to five (5)-day period. After the qualified biologist determines that badgers have stopped using active dens, the dens shall be hand-excavated with a shovel to prevent re-use during construction.

**Finding:** The implementation of Mitigation Measure BIO-4 reduces potential adverse effects to American badgers to a less than significant level.

#### San Francisco Dusky-Footed Woodrat

The project would be constructed in grassland and coast live oak woodland, communities that do not currently support the San Francisco dusky-footed wood rat in the project area. San Francisco dusky-footed woodrats prefer chaparral areas with dense ground cover because these areas offer a steady food supply, protection from predators, and an abundance of materials to build houses. The project site lacks these characteristics. Therefore, no impacts to these species are expected, and no mitigation measures are proposed.

#### Special-Status Amphibians

NCE's focused surveys for special-status amphibian species identified a stock pond immediately adjacent to the project area that has the potential to support populations of California red-legged frog. NCE identified California red-legged frog tadpoles in the stock pond during their 2023 surveys of the project area. California tiger salamanders were not identified during NCE's focused biological surveys; however, potential habitat is present within the project area.

The proposed project has the potential to impact California red-legged frogs and California tiger salamander should they be present in the project area during construction in upland refuge habitat (found in project site and buffer area). No impacts to the stock pond (aquatic breeding habitat) are proposed during project construction. Direct impacts to individuals of these species could result from project activities when movement across construction areas occurs. Impacts could also occur if individuals of these species are aestivating in underground refugia or under debris should it be present at the time of construction. No project activities are proposed directly within any aquatic breeding habitat or identified aestivation habitat and no burrows or above ground debris aestivation habitat was identified in the project site during the biological surveys. However, trail construction activities have the potential to crush individuals of this species should they be present within the project site during construction activities. These impacts could result in direct mortality of individuals or small populations of these species.

The following measures will be implemented to protect these species from potential impacts:

***BIO-5 – Protection Measures for Special-Status Amphibians***

- Prior to the start of any trail construction activities, all construction personnel including volunteers shall participate in a worker environmental awareness training program (WEAP) regarding special-status amphibian species and their habitat present in the project area. If new construction personnel are added to the proposed project, they must receive the mandatory training before starting work. As part of the training, an environmental awareness handout will be provided to all personnel that describes these species, their preferred habitat, and lists applicable protection measures to protect these species.
- If feasible, initial ground disturbing activities shall be conducted between May 1 and October 31 during dry weather conditions to minimize the potential for encountering these species.
- Due to the potential for sensitive amphibians to move through the project site, project personnel shall at a minimum, check the ground beneath all equipment and stored materials prior to work activities during trail construction activities to prevent take of individuals. If any individual amphibians are discovered, consultation with the USFWS and CDFW will be required. A USFWS approved biologist with the appropriate handling permit to move individual amphibians will be retained should they be present within the project site during project activities.
- Vessels shall be turned over and not made into "pitfall traps" out of which animals cannot escape.
- Construction vehicle speeds should be limited to 5 mph all year, with 3 mph limit during amphibian breeding and migration season, which is October to June.
- A qualified biologist shall be on site during construction activities to ensure implementation of, and compliance with avoidance and mitigation measures throughout the length of construction.
- To ensure that diseases are not conveyed between work sites by the qualified biologist, the fieldwork code of practice developed by the Declining Amphibian Populations Task Force shall be followed at all times.

**Finding:** The implementation of Mitigation Measure BIO-5 will reduce potential adverse effects to special-status amphibians to a less than significant level.

**Special-Status Reptiles**

The study area is located within Alameda whipsnake Critical Habitat Unit 4, which encompasses all of Mount Diablo and much of its adjacent foothills. There are three Primary Constituent Elements (PCE's) of Alameda whipsnake Critical Habitat: 1) Scrub/shrub communities with a mosaic of open and closed canopy; 2) woodland or annual grassland plant communities contiguous to lands containing PCE #1; and 3) lands containing rock outcrops, talus, and small mammal burrows within or adjacent to PCE #1 and/or PCE #2 (USFWS 2006). The Diablan sage scrub habitats within the study area contain PCE #1, and the remainder of the study area contains PCE #2.

Based on their documented presence in scrub habitat that is contiguous with the study area, Alameda whipsnakes have a relatively high potential to occur within the project area. They are most likely to occur within and immediately adjacent to the Diablan sage scrub habitat near the center of the proposed trail alignment, though they may be present anywhere on site, including grasslands, during dispersal movements.

Suitable habitat for coast horned lizards is also present throughout the study area, though areas within and adjacent to Diablan sage scrub represent higher quality habitat for this species than open grasslands. Given the species' documented occurrence in the project area, they may occur anywhere within the study area.

Alameda whipsnakes can persist in areas bisected by hiking and biking trails; however, heavily trafficked and high-density trails can result in occasional disturbance and mortality of Alameda whipsnake (USFWS 2020). Mortality and disturbance of Alameda whipsnakes, if present, from future mountain bike, hiking and equestrian use of the trail would be an indirect impact of the project. Any Alameda whipsnakes or coast horned lizards currently occurring on or near the project site would be exposed to existing user traffic on the numerous informal dirt trails that permeate this portion of Lime Ridge Open Space. The intent of the project is to focus mountain bike flow trail use in this location to eliminate, or at least minimize, unauthorized use, which the City acknowledges has a current adverse effect on native vegetation and wildlife habitat in the open space. The proposed trail is intended to replace existing unofficial, user-created trails that the City plans to close and restore. Although the project would not entirely eliminate the risk of Alameda whipsnakes and coast horned lizards being harassed or killed by mountain bikes and other trail users, it would result in a net reduction in the total linear feet of user created trails within other more sensitive areas of the open space. Therefore, the project is not expected to substantially change Alameda whipsnake and coast horned lizard exposure to human recreational stressors (e.g., mountain bike traffic, hikers and equestrians) from existing conditions, and indirect impacts from future use of the trail would be less than significant.

Grading for trail construction and any other ground-disturbing activities associated with the project could result in injury or mortality to individual Alameda whipsnakes or coast horned lizards that may be present within the trail alignment. Alameda whipsnakes are wary and fast-moving, and coast horned lizards are capable of quickly running away for a short distance at the approach of a predator. Any individual special-status reptiles that are present during project construction will likely be able to move away on their own. Impacts to Alameda whipsnakes and coast horned lizards potentially occurring onsite can be avoided through the implementation of avoidance and minimization measures described below:

***BIO-6 – Protection Measures for Special-Status Reptiles***

- If feasible, initial ground disturbing activities shall be conducted between May 1 and October 31 during dry weather conditions to minimize the potential for encountering these species.
- A pre-construction survey of the project site and areas immediately adjacent to the project site shall be conducted two (2) days prior to implementation of the proposed project to determine if individuals of these species are present within the project site.

- Prior to the start of any trail construction activities, all construction personnel including volunteers shall participate in a worker environmental awareness training program (WEAP) regarding special-status reptile species and their habitat present in the project area. If new construction personnel are added to the proposed project, they must receive the mandatory training before starting work. As part of the training, an environmental awareness handout will be provided to all personnel that describes these species, their preferred habitat, and lists applicable protection measures to protect these species.
- A qualified biologist shall be on site during construction activities to ensure implementation of, and compliance with avoidance and mitigation measures throughout the length of construction.
- If Alameda whipsnake or coast horned lizards are found to be present, CDFW shall be consulted to determine the appropriate course of action.
- To ensure that diseases are not conveyed between work sites by the qualified biologist, the fieldwork code of practice developed by the Declining Amphibian Populations Task Force shall be followed at all times.
- Due to the potential for sensitive reptiles to move through the project site, project personnel shall at a minimum, check the ground beneath all equipment and stored materials prior to work activities during trail construction activities to prevent take of individuals.

**Finding:** The implementation of Mitigation Measure BIO-6 reduces potential adverse effects to special-status reptiles to a less than significant level.

#### **Protection of Special-Status Wildlife Species After Construction of the Project and During Use**

Special-status species may be present within the project site after construction is complete and the trail is being used. They may be present in the trail alignment when it is being used, possibly leading to human-wildlife interactions that could lead to the injury and mortality of protected species. This possibility is considered low, and most wildlife species can react quickly enough to prevent these interactions. These impacts will be avoided or minimized through the implementation of the avoidance and minimization measures described below:

#### ***BIO-7 – Protection Measures for Special-Status Wildlife Species During Trail Usage***

- The City shall develop interpretive signage to be placed along the trail alignment. The purpose of this signage will be to inform trail users of the presence of special-status wildlife species along the trail alignment, and to create awareness among trail users on how to avoid impacts to these species. This signage will be placed in areas of the trail alignment that provide habitat for these species.

**Finding:** The implementation of Mitigation Measure BIO-7 reduces potential adverse effects to special-status wildlife species during operation to a less than significant level.

**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 CDFW or USFWS?**

**No Impact**

Sensitive natural communities are those listed in the CDFW's California Natural Diversity Database due to the rarity of the community. NCE delineated one (1) unnamed stream channel with freshwater emergent wetland on September 9, 2022. The stream feature was identified in the center of the project site, and the proposed trail alignment will cross the stream. A bridge structure is proposed at the crossing and the footings of this structure will be placed outside of the stream feature and associated wetland habitat, therefore avoiding all impacts to the feature. An additional sensitive vegetative community (the *Stipa pulchra* Herbaceous Alliance) was identified on the project site by Nomad during their surveys. This sensitive vegetative community will be avoided by trail construction activities. Therefore, no impacts are anticipated to the any sensitive vegetative communities, and no mitigation measures are proposed.

**c) Would the project 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?**

**No Impact**

See response to 4.4.4(b) above.

**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 Impact**

Because the study area is comprised largely of grasslands, much of the site can be expected to facilitate passage by species adapted to open habitats. The Diablan sage scrub and oak woodland located near the center of the study area represent a movement corridor for species requiring vegetative cover. The trail alignment also crosses an ephemeral drainage that may allow passage of wetland-adapted species while it is flowing. Project construction may temporarily impact wildlife movement during daylight hours but will not construct any barriers to movement. Wildlife will be able to continue utilizing the study area for movement.

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

**No Impact**

No trees or shrubs will be removed as a part of the project. Therefore, the project would not conflict with local policies and ordinances protecting trees. Additionally, the project will be consistent with the recreational use of the Lime Ridge Open Space and General Plan policies to protect biological resources.

**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?**

**No Impact**

There are no identified Habitat Conservation or Natural Community Conservation plans associated with the project area. Therefore, the project would not conflict with any approved local, regional, or state habitat conservation plan.

## 4.5 Cultural Resources

This section describes the existing cultural resources setting and potential effects from project implementation on the project site and its surrounding area. Descriptions and analysis in this section are based on information provided by the Northwest Information Center (NWIC), National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), California Historic Landmarks list, California Built Environment Resource Directory, and a pedestrian survey conducted at the project site.

### 4.5.1 Environmental Setting

#### Cultural Resources Components

The term “cultural resources” encompasses historic, archaeological, and tribal cultural resources as well as burial sites. Below is a summary of each component:

- **Historic Resources:** Historic resources are associated with the recent past. In California, historic resources are typically associated with the Spanish, Mexican, and American periods in the State’s history and are generally less than 200 years old.
- **Archaeological Resources:** Archaeology is the study of artifacts and material culture with the aim of understanding human activities and cultures in the past. Archaeological resources may be associated with prehistoric indigenous cultures (discussed in Section 4.18, Tribal Cultural Resources, below) as well as historic periods.
- **Burial Sites and Cemeteries:** Burial sites and cemeteries are formal or informal locations where human remains have been interred.

#### Records Searches and Pedestrian Survey to Identify Existing Cultural Resources

##### Northwest Information Center

On June 17, 2022, a records search for the project area and a 0.50-mile radius beyond the project Area of Potential Effect (APE) boundaries was conducted at the NWIC at Sonoma State University in Rohnert Park, California. To identify historic properties or resources within this area, the current inventories of the NRHP, the CRHR, the California Historical Landmarks list, the California Points of Historical Interest list, and the California State Historic Resources Inventory for Sonoma County were reviewed for previously documented local historical resources.

##### Cultural Resources Pedestrian Survey

An intensive pedestrian survey focusing on the APE was conducted NCE on September 16, 2022 by a Registered Professional Archaeologist. The objective of the field survey was to locate and describe cultural resources present within and adjacent to the APE. Fieldwork was performed following applicable Federal and State standards. Emphasis was placed on the examination of the undisturbed or relatively undisturbed ground. No cultural resources were identified within the APE during the pedestrian survey.



## Historic Architectural Resources

The architectural and historic resources assessment indicated that no known historic architectural resources are located within the project site boundaries.

## Archaeological Resources

The records search indicated 23 inventories have been conducted that encompass the APE or conducted within 100 meters of the APE. One inventory was previously conducted within a small portion of the western end of the APE (Chavez 1992). Most reports overlapping with the APE were part of small-scale overview studies encompassing one or more counties or regions within California. These included ethnographic community distributions, petroglyphs, and geoarchaeology studies. The only detail provided on the GLO plat maps indicate the APE was part of Lot 38 of the Arroyo De Las Nueces Y Bolbones rancho lands. Early USGS topographic maps only depict the contours of Lime Ridge where the present APE is located. Historic aerial imagery indicates the APE has historically been an untouched open hillscape surrounded by agricultural land.

### 4.5.2 Regulatory Setting

#### Archaeological Resources Protection Act

The Archaeological Resources Protection Act (ARPA) amended the Antiquities Act of 1906 (16 United States Code [USC] 431–433) and set a broad policy that archaeological resources are important to the nation and should be protected and required special permits before the excavation or removal of archaeological resources from public or Indian lands. The purpose of ARPA was to secure, for the present and future benefit of the American people, the protection of archaeological resources and sites that are on public lands and Indian lands, and to foster increased cooperation and exchange of information between governmental authorities, the professional archaeological community, and private individuals having collections of archaeological resources and data that were obtained before October 31, 1979.

#### State

##### California Register of Historical Resources

The California Register of Historical Resources (CRHR) is a guide to cultural resources that must be considered when a government agency undertakes a discretionary action subject to CEQA. The CRHR helps government agencies identify and evaluate California's historical resources and indicates which properties are to be protected, to the extent prudent and feasible, from substantial adverse change (PRC §5024.1(a)). Any resource listed in, or eligible for listing in, the CRHR must be considered during the CEQA process.

**4.5.3 CEQA Checklist Summary**

Would the project:

CEQA Question	Impact Determination
a) Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines § 15064.5?	No Impact
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines § 15064.5?	Less Than Significant Impact
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	Less Than Significant Impact

**4.5.4 Answers to CEQA Checklist Questions**

**a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines § 15064.5?**

**No Impact**

CEQA Guidelines Section 15064.5 defines “historical resources” as resources listed in the CRHR, a local register, determined significant by the lead agency, or determined to be eligible by the California Historical Resources Commission for listing in the CRHR. The criteria for eligibility are generally set by the National Historic Preservation Act (NRHP) of 1966, which recognizes properties that are significant at the federal, State, and local levels. To be eligible for listing in the NRHP and CRHR, a district, site, building, structure, or object must possess integrity of location, design, setting, materials, workmanship, feeling, and association relative to American history, architecture, archaeology, engineering, or culture. In addition, unless the property possesses exceptional significance, it must be at least 50 years old to be eligible.

The records search conducted at the NWIC for the project site revealed no historic resources within 0.5 miles of the project site. Therefore, the project has no potential to impact a historically significant resource.

**b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines § 15064.5?**

**Less Than Significant Impact**

Section 15064.5 of the CEQA Guidelines defines significant archaeological resources as resources that meet the criteria for historical resources, as discussed above, or resources that constitute unique archaeological resources. A project-related significant adverse effect could occur if a project were to affect historic archaeological resources that fall under either of these categories. As a result of the present cultural resources assessment, no historic period resources were identified within the APE, nor are they anticipated. No cultural resources were previously recorded within the APE nor were cultural resources identified during the pedestrian survey. Historic period resources are not anticipated in the project area. Although archaeological resources are often obscured from view and can be uncovered

during construction activities, construction would be mostly very shallow except for bridge footings, and the potential for historic resources is very low. Therefore, the project would have a less than significant impact on historic archaeological resources, and mitigation is not required. In the unlikely event that unanticipated cultural resources are revealed during construction, the archaeological and Native American monitors required in Section 4.18, Tribal Cultural Resources, would be present to ensure no significant loss of unanticipated resources would occur during trail construction.

**c) Would the project disturb any human remains, including those interred outside of dedicated cemeteries?**

**Less Than Significant Impact**

The potential for disturbance of human remains is considered low. While it is highly unlikely that human remains exist within or near the project site, there is always a possibility that subsurface construction activities associated with the proposed project, such as grading or trenching, could damage or destroy previously undiscovered human remains. In the event of the accidental discovery or recognition of any human remains, CEQA Guidelines Section 15064.5, Health and Safety Code Section 7050.5, and Public Resources Code Sections 5097.94 and 5097.98 must be followed, as further described in Section 3.6.3, Construction Controls.

## 4.6 Energy

### 4.6.1 Environmental Setting

Energy use, especially through fossil fuel consumption and combustion, relates directly to environmental quality since it can adversely affect air quality and generate GHG emissions that contribute to climate change. The proposed trail head is located near the Boundary Oak Golf Course, where there is an existing parking lot. There are no existing lights or other energy infrastructure in the project area except for in the existing parking lot that is adjacent to the site.

### 4.6.2 CEQA Checklist Summary

Would the project:

CEQA Question	Impact Determination
a) 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
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	No Impact

### 4.6.3 Answers to CEQA Checklist Questions

**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

The project would not result in the need for the use of energy within the project area once operational. The project is intended to meet an existing need and relocate unofficial trails to a formal trail, thus no significant increase in use, and therefore vehicle trips to the existing parking areas, is anticipated. Minor energy consumption would occur during construction for worker/volunteer vehicle trips and use of a mini tractor and pickup truck over the course of 20 to 30 days; this would not require additional capacity on a local or regional scale. Recommended BAAQMD construction best management practices would reduce the use of fossil fuels and increase energy efficiency of construction vehicles. Because the use of energy would be temporary during construction and would comply with BAAQMD efficiency requirements, the proposed project would not result in wasteful, inefficient, or unnecessary consumption of energy resources during construction or operation. The impact would be less than significant.

**b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?**

**No Impact**

The project does not propose improvements that would involve the use of new energy on-site. Construction would be primarily accomplished using hand tools and human labor. The project would neither conflict with nor obstruct any state or local plan for renewable energy or energy efficiency.

## 4.7 Geology and Soils

### 4.7.1 Environmental Setting

The project is located within a 11.65-acre study area that is within the larger LRRRA, an approximately 830-acre public open space area in the City of Walnut Creek in Contra Costa County. From west to east the proposed trail starts on flat terrain and inclines gradually moving east with slopes up to 10%. The project area varies in elevation between 300 and 800 feet above mean sea level.

#### Regional Geologic Setting

Contra Costa County is situated in the Coast Ranges geomorphic province of California. The Coast Ranges have a complex geological history characterized by Late Tertiary folding and faulting that has resulted in a series of northwest-trending mountain ranges and intervening valleys. Bedrock in the Coast Ranges consists of igneous, metamorphic, and sedimentary rocks that range in age from Jurassic to Pleistocene. The current physiography and geology of the Coast Ranges are the result of deformation and deposition along the tectonic boundary between the North American plate and the Pacific plate. Plate boundary fault movements are largely concentrated along the well-known fault zones, which in the area include the San Andreas Fault, the Hayward Fault, and Calaveras Fault, as well as other lesser-order faults.

#### Local Geologic Setting

The geology underlying the study area is primarily composed of Kreyenhagen Formation Marine deposits laid down as sediments in a shallow sea during the late Miocene epoch (approximately 12,000,000 years ago), and Panoche formation mix of clay, shale, and claystones from the late Cretaceous period. The project crosses both formations. The shell ridge name comes from the shells of the Kreyenhagen Formation.

#### Seismicity and Faulting

The project site is within a seismically active region, and many moderate earthquakes related to the Green Valley system of faults have occurred. Active faults are those that have moved during the past 11,000 years, and generally, only active faults are considered when evaluating seismic risk for building construction. The nearest active fault is the Concord Fault, a strike-slip fault located approximately 0.5 miles west of the western project boundary near the Boundary Oak Golf Course (USGS 2020). Other major faults that could cause significant shaking at the project site are the Franklin Fault, the Southampton Fault, and the Mount Diablo Thrust Fault.

#### Liquefaction

Liquefaction is the condition by which saturated soils lose cohesion during seismic events and settle, lose stability, or amplify the effects of ground shaking. Liquefaction is most associated with alluvium and other young soil types with high sand content. The Seismic Hazards and Liquefaction Map for Walnut Creek identifies the Project area as having low to medium chance of liquefaction throughout the site (City of Walnut Creek 2005).

**Groundwater**

The proposed project area is not located within a recognized California groundwater basin or subbasin. The nearest recognized groundwater basin is the Ygnacio Valley Groundwater Basin, the boundary of which is approximately 0.1 miles west of the subject property (California Water Resources Control Board 2004). No data is available on depth to groundwater.

**Soils**

The soils in the project area are identified as AbE, Altamont clay, AcF Altamont-Fontana complex, BdF Briones loamy sand, and Re Rock outcrops. More details regarding soil properties are available in Appendix C, Custom Soil Report.

**4.7.2 CEQA Checklist Summary**

Would the project:

CEQA Question	Impact Determination
a) Could the project directly or indirectly cause potential substantial adverse effects, including 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.	Less Than Significant Impact
ii. Strong seismic ground shaking?	No Impact
iii. Seismic-related ground failure, including liquefaction?	Less Than Significant Impact
iv. Landslides?	Less Than Significant Impact
b) Result in substantial soil erosion or the loss of topsoil?	Less Than Significant Impact
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?	Less Than Significant Impact
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?	No Impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	No Impact
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	Less Than Significant Impact with Mitigation Incorporated

### 4.7.3 Answers to CEQA Checklist Questions

a) Would the project directly or indirectly cause potential substantial adverse effects, including 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.

#### Less Than Significant Impact

Surface fault rupture is caused by sudden displacement along an active fault where the fault plane intersects the ground surface. The potential for ground rupture to occur in the project area exists primarily along the Concord Fault east of the project site. There is localized evidence of surface ruptures. The proposed project's hand-constructed trail does not include any fill or pavement. None of the proposed improvements would be seriously damaged in the event of a localized rupture which could be repaired with hand tools. The improvements would pose a less than significant risk of any substantial adverse effects, including the risk of loss, injury, or death.

ii. Strong seismic ground shaking?

#### No Impact

The primary geologic hazard in the project area is the potential for moderate to strong ground shaking associated with the nearby faults discussed in Section 4.7.1. Factors determining the characteristics of earthquake ground motion at the project area would depend upon the magnitude of the earthquake, distance from the zone of energy release, travel path, topographic effects, subsurface materials, and rupture/source mechanism.

No buildings currently exist, nor are proposed in the project area; therefore, there is no potential to expose structures to substantial adverse effects of seismic ground shaking or expose people to falling debris or structure collapse during a seismic event.

iii. Seismic-related ground failure, including liquefaction?

#### Less Than Significant Impact

As discussed in Section 4.7.1, the project area has low susceptibility to liquefaction. Liquefaction is associated with alluvium and other young soil types with high sand content. The subject site is composed of clays, sandstone, and residuum shale over shale and limestone beds. Such geologic structures are not susceptible to liquefaction. Further, the proposed project does not include any structure or foundation that would be affected by liquefaction. Therefore, there would be a less than significant risk of exposing people or structures to liquefaction or other seismic related ground failure hazards.



**iv. Landslides?****Less Than Significant Impact**

The hillside areas of the City have slopes greater than 20% and have an increased likelihood of landslides. The proposed project is located in an open space area that contains hills with a slope of 10% or higher and would construct a mountain bike trail within sloping hillsides. No buildings currently exist in the area, nor are proposed as a part of the project; therefore, there is no potential to expose structures or people within structures to substantial adverse effects of a landslide. The potential for risk of loss, injury, or death involving a trail user during a landslide is low, and therefore less than significant.

**b) Would the project result in substantial soil erosion or the loss of topsoil?****Less Than Significant Impact**

During construction, the project may cause erosion or the loss of topsoil during earth-moving and clearing activities. Construction is required to include erosion and sediment BMPs as outlined in Section 3.6, and the project includes the use of native revegetation to stabilize disturbed areas. In addition, the project would include flagstone installation in the swale of the upper valley to help prevent erosion near the trail. These measures would prevent significant soil loss or erosion. Implementation of the project SWPPP would further reduce the potential for erosion and topsoil loss during construction. As proposed the project would create a less than significant risk of soil erosion or loss of topsoil.

**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**

As discussed in the Environmental Setting and item a) above, the project area consists of deep, well-drained soils that formed in material weathered from fine-grained sandstone and shale. No buildings are proposed in the project area. The trail would be unpaved and hand-dug. When cut into a slope, the uphill side of the trail would be sloped back to reduce the potential for collapse or landslide. Therefore, the project would have a less than significant impact on soil stability, landslides, lateral spreading, subsidence, liquefaction, or collapse.

**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?****No Impact**

The project area does not contain expansive soil as defined in Table 18-1-B of the Uniform Building Code (1994) and does not propose to construct buildings. There would therefore be no impact.

**e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?**

**No Impact**

The Project does not propose the use of septic tanks and would not require the use of alternative wastewater disposal services. Therefore, there would be no impact related to these systems.

**f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?**

**Less Than Significant Impact with Mitigation Incorporated**

The project lies above marine deposits from the late Miocene epoch and the Panoche Formation from the late Cretaceous period. The late Miocene was a time of warmer climates and the first development of kelp forests. Diatoms and foraminifera are the primary groups found within marine Miocene formations. While there is a potential for fossil discovery, that potential is very low in this area.

The Cretaceous is usually noted as being the last portion of the "Age of Dinosaurs." The most famous of all mass extinctions marks the end of the Cretaceous period, approximately 65 million years ago. Fossils from the Cretaceous period have been found in the Panoche Formation in the Great Valley sequence around the present-day Coalinga area. Fossils of many insect groups, modern mammal and bird groups, and flowering plants are also found from this period.

The proposed project would include a trail excavated in the topsoil at the project site. The maximum excavation depth expected is 30 inches. At this depth, the project is not likely to reach bedrock. However, in the unlikely event that any significant fossils are unearthed during construction activities, implementation of Mitigation Measure GEO-1 would ensure that unique paleontological resources are protected, and impacts would be less than significant.

**GEO-1 – Fossil discovery**

In the event that fossils or fossil-bearing deposits are discovered during construction activities, excavations within a 50-foot radius of the find shall be temporarily halted or diverted. The City shall notify a qualified Paleontologist to examine the discovery. The Paleontologist shall document the discovery as needed (in accordance with Society of Vertebrate Paleontology [SVP] standards), evaluate the potential resource, and assess the significance of the find under the criteria set forth in CEQA Guidelines Section 15064.5. The Paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction activities are allowed to resume at the location of the find. If the City determines that avoidance is not feasible, the Paleontologist shall prepare an excavation plan for mitigating the effect of construction activities on the discovery. The excavation plan shall be submitted to the City for review and approval prior to implementation, and the City shall adhere to the recommendations in the excavation plan.

**Finding:** GEO-1 provides procedures to avoid the loss of unanticipated paleontological resources during construction that reduce the potential impact to less than significant.

## 4.8 Greenhouse Gas Emissions

The term greenhouse gas (GHG) is used to describe atmospheric gases that absorb solar radiation and subsequently emit radiation in the thermal infrared region of the energy spectrum, trapping heat in the Earth's atmosphere. GHGs of concern include carbon dioxide, methane, nitrous oxide, and fluorinated gases. Unlike emissions of criteria and toxic air pollutants, which have local or regional impacts, emissions of GHGs have a broader, global impact.

GHGs differ by the amount of heat each traps in the atmosphere, known as its global warming potential. Carbon dioxide is the most significant anthropogenic GHG, so amounts of other gases are expressed relative to carbon dioxide using a metric called "carbon dioxide equivalent" (CO<sub>2</sub>e). The global warming potential of carbon dioxide is assigned a value of 1, and the warming potential of other gases is assessed as multiples of carbon dioxide. Generally, estimates of all GHGs are summed to obtain total emissions for a project or given time period, usually expressed in metric tons or million metric tons CO<sub>2</sub>e.

### 4.8.1 Environmental Setting

#### City of Walnut Creek GHG Inventory

A community-wide baseline (2005) GHG emissions inventory was conducted for the City as part of the development of its Climate Action Plan (CAP). The City is currently updating its CAP with a Sustainability Action Plan to demonstrate emission reductions consistent with Senate Bill (SB) 32 legislative reduction targets for 2030. Consistent with Governor's Office of Planning and Research (OPR) guidance on CAP development, a CAP should demonstrate a 15% reduction from the 2005 baseline by 2020. The City's 2005 GHG emissions inventory is the most recent GHG emissions inventory which may be used to determine future reduction targets consistent with SB 32 legislative reduction targets. It should be noted that the City's CAP does not meet the requirements established by CEQA Guidelines Section 15183.5(b) to be considered a "qualified" reduction strategy capable for future project-specific tiering. Nonetheless, the City's CAP stands as its current reduction strategy for general consistency purposes employed under Impact GHG-2. Table 2 provides the estimated 2005 GHG baseline by sector for the City.

**Table 2. 2005 Walnut Creek Community-Wide GHG Emissions Baseline by Sector**

Sector	Metric Tons CO <sub>2</sub> e/Year	Percent of Total
Residential	117,868	18
Commercial/Industrial	117,312	18
Transportation—Highway	174,369	27
Transportation—Local Road	202,936	32
Waste	9,892	2
Water	6,736	1
Off-Road	12,293	2
BART	2,191	<1

Sector	Metric Tons CO <sub>2</sub> e/Year	Percent of Total
Notes: BART = Bay Area Rapid Transit CO <sub>2</sub> e = carbon dioxide equivalent Source: City of Walnut Creek. 2012. Climate Action Plan. April. Website: <a href="https://www.walnutcreek.org/home/showpublisheddocument/6479/635766153865270000">https://www.walnutcreek.org/home/showpublisheddocument/6479/635766153865270000</a> . Accessed May 12, 2023		

**Project Site**

The project site is a publicly owned open space area used by the public for recreation in the form of hiking and non-motorized cycling riding. There are currently no GHG emissions in these categories from the project site.

**4.8.2 Regulatory Setting**

**Federal**

The EPA has no regulations or legislation enacted specifically addressing GHG emissions reductions and climate change at the project level. In addition, the EPA has not issued explicit guidance or methods to conduct project-level GHG analysis.

**State**

The State of California has taken several legislative steps including assembly bills and Executive Orders to reduce increases in GHG emissions. CARB is the lead agency in the development of reduction strategies for GHGs in California. California’s GHG reduction requirements aim to reduce vehicle miles traveled, thereby improving air quality by reducing GHG emissions from automobiles.

**Local**

On April 20, 2022, the BAAQMD Board of Directors held a public meeting and adopted updated CEQA thresholds for evaluating the significance of climate impacts from land use projects and plans. The new thresholds encourage expanding and improving community recreation amenities such as parks, pedestrian trails, and connection to regional trail facilities (BAAQMD 2022) The revised thresholds recognize trails as having a beneficial impact on air quality.

**4.8.3 CEQA Checklist Summary**

Would the project:

CEQA Question	Impact Determination
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Less Than Significant Impact
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	No Impact

#### 4.8.4 Answers to CEQA Checklist Questions

**a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?**

##### **Less Than Significant Impact**

The proposed project would generate minor GHG emissions during construction activities resulting from emission sources such as small construction equipment and worker/volunteer vehicles. These emissions would be temporary and short-term in nature.

As discussed in Air Quality Section 4.3, most of the tools and equipment used for construction would be handheld, however, some construction equipment would use fossil fuels. Burning 1 gallon of gasoline produces approximately 20 pounds of CO<sub>2</sub> and burning 1 gallon of diesel fuel produces approximately 22 pounds of CO<sub>2</sub>. Construction equipment would also produce small amounts of oxides of nitrogen, another GHG.

Trail builders may reside elsewhere and travel to the worksite in cars and trucks, creating temporary GHG emissions. Project construction would take approximately 20 – 30 days to complete. The trail designers estimate that the total ground disturbance would be no more than 1.2 acres.

Given the relatively small size of the area impacted during construction and the minor use of powered equipment, the GHGs emitted during construction are considered less than significant.

Operationally, the project does not involve construction of buildings or parking. Whereas the trail is replacing existing informal user trails and connects to existing trails, the number of new trail users who drive to the trail would be low and an increase in vehicle miles traveled would be low.

Since the project has a very limited potential to generate GHG emissions, it is consistent with the updated BAAQMD thresholds and would have a less than significant impact related to GHG emissions.

**b) Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?**

##### **No Impact**

The operation of the proposed project would not generate significant GHG emissions and would not conflict with applicable plans and regulations adopted for the purpose of reducing GHG emissions.

## 4.9 Hazards and Hazardous Materials

### 4.9.1 Environmental Setting

The State Water Resources Control Board (SWRCB) GeoTracker website and the Department of Toxic Substances Control EnviroStor website were searched for information on the project area. The search revealed that most hazardous waste sites in the region (pursuant to Government Code 65962.5) are located west and northwest of the project site, in the center of the City. No sites in the project vicinity were identified on EnviroStor or the SWRCB GeoTracker website.

### 4.9.2 CEQA Checklist Summary

Would the project:

CEQA Question	Impact Determination
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Less Than Significant Impact
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?	Less Than Significant Impact
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	No Impact
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	No Impact
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two 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
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	No Impact
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	Less Than Significant Impact

### 4.9.3 Answers to CEQA Checklist Questions

**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

The project's use of hazardous materials would be limited to those used during construction, including fuels and other maintenance-related chemicals for the small machinery. Materials would be managed according to the City's MS4 stormwater requirements. For example, the required Stormwater Control Plan would ensure that equipment fueling and maintenance, if performed at the job site, be performed

in a designated area utilizing secondary containment with a spill kit nearby. No disposal of hazardous materials is anticipated as part of this project. No dewatering is anticipated during construction.

The California Department of Transportation limits the volume of hazardous waste that can be transported at 1 time to 15 gallons (combined total). Therefore, the use of hazardous materials during construction and operation would be limited and would not create a significant hazard to the public or the environment.

**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 Impact**

No hazardous waste sites in the project vicinity were identified on EnviroStor or the SWRCB GeoTracker website. As described in Section 4.9.1(a), hazardous material used to maintain construction vehicles would be minimal and the required on-site SWPPP would manage the use of fuels and chemicals. Should a spill occur, spill procedures in the SWPPP would be followed. No hazardous materials would be used during operation.

**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?**

**No Impact**

The nearest school to the project area is the Woodside Elementary School, located approximately 1.2 miles northwest. As discussed above, hazardous material use as part of project construction is anticipated to be limited and very localized.

**d) Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or the environment?**

**No Impact**

EnviroStor is the Department of Toxic Substances Control's data management system for tracking cleanup, permitting, enforcement, and investigation efforts at hazardous waste facilities and sites with known contamination or sites where there may be reasons to investigate further, also known as the Cortese List. As noted above, no sites in the project vicinity were identified on EnviroStor, and the project site has no known historical uses that require investigation.

**e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two 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 nearest airport, Buchanan Field Airport, is more than 4 miles from the project site. The project area is not located within a comprehensive land use planning area, and the project would not involve habitable improvements that would be sensitive to airport operations.

**f) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?**

**No Impact**

The City's adopted emergency plan includes prearranged emergency response procedures. Emergency routes for the evacuation of Walnut Creek include Interstate 680. The project involves the construction of a trail within an open space area and would not have an impact on the existing adopted emergency response plan or evacuation plan.

**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 Impact**

The project would include construction of a dirt trail in an open space area adjacent to other trails and urban uses in the vicinity. The trail would maintain a 5-10 foot wildfire buffer through actively managing vegetation growth on either side of the trail to eliminate the potential for a rare chance spark from a pedal strike. Therefore, the project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires. See Section 4.20 below.



## 4.10 Hydrology and Water Quality

### 4.10.1 Environmental Setting

#### Watershed and Water Quality

The proposed project area is in the Pine Creek Basin, which is a subunit of the Walnut Creek Basin. Walnut Creek is the principal stream system in the area and is located approximately 3 miles north of the site. The Walnut Creek watershed covers approximately 146 square miles. It extends from the headwaters at Walnut Creek, southwest of the property, northward to its terminus at Pacheco Creek.

Surface waters onsite consists of an east to west unnamed drainage that crosses through the project area approximately 500 feet east of the junction of the proposed trail and the existing Timberleaf Trail (Figure 5. Project Area Surface Waters). This drainage is ephemeral and appears to carry flow only during and immediately following precipitation events. The drainage flows west and south through the proposed trail until it enters a culvert under the residential development of Timberleaf Court. Some surface flows from the project area drain into this unnamed drainage.

There is also a seasonal wetland in the stream channel where it crosses the trail. The seasonal wetland is confined to the bottom of the channel and appears to be in a low area where water pools because the stream levels out where the trail crossing is proposed and the down gradient decreases.

The proposed project does not lie within a recognized California groundwater basin or subbasin. The nearest groundwater basin is the Ygnacio Valley Groundwater Basin.

#### Flood, Tsunami, and Seiche Hazards

The project area is delineated on Federal Emergency Management Agency (FEMA) map panel 06013C0315F, effective June 16, 2009. The project area is designated as Zone X, an area determined to be outside the 0.2-percent-annual-chance (or 500-year) flood. The project area is not located in an area near the ocean nor a large body of water that would be affected by a seiche, tsunami, or mudflow.

### 4.10.2 Regulatory Setting

#### Federal

##### Clean Water Act and NPDES Permit

Section 402 of the CWA requires National Pollutant Discharge Elimination System (NPDES) permits for stormwater discharges into waters of the United States. The Water Quality Control Plan for the San Francisco Bay Basin (San Francisco Bay RWQCB 2017; Basin Plan) is the Water Board's planning document. The Water Board issues municipal stormwater NPDES permits to address stormwater impairments and recommend actions. The City of Walnut Creek and 15 other cities and towns, Contra Costa County, and the Contra Costa County Clean Water Program are co-permittees under a single stormwater NPDES Permit (No. CAS0029912 or successor permit).

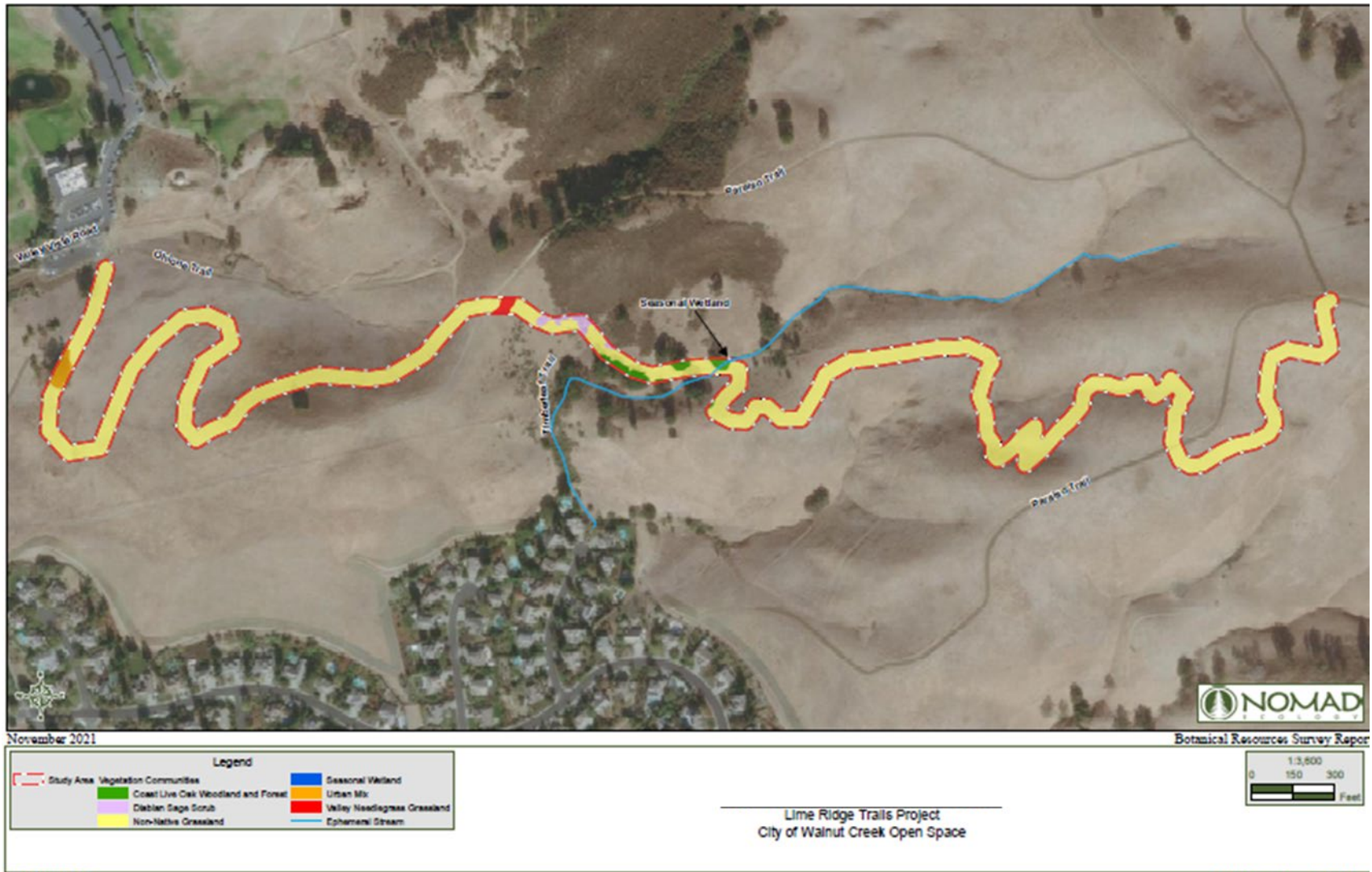


Figure 5. Project Area Surface Waters

**State****Statewide Construction General Permit**

Because the proposed project would disturb more than 1 acre, it is subject to the statewide Construction General Permit Order 2009-0009-DWQ, which regulates stormwater leaving construction sites. Under this order, site owners must notify the state and implement a SWPPP prepared by a Qualified SWPPP Developer. The SWPPP must outline measures that would protect hydrology and water quality resources, including groundwater, from negative impacts during construction through the implementation of BMPs and monitoring the effectiveness of BMPs. This permit is administered by the State Water Resources Control Board and overseen by the RWQCB.

**4.10.3 CEQA Checklist Summary**

Would the project:

CEQA Question	Impact Determination
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	Less Than Significant Impact
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	No Impact
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:	Less Than Significant Impact
i. result in substantial erosion or siltation on or off-site;	
ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off-site;	Less Than Significant Impact
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	No Impact
iv. impede or redirect flood flows?	No Impact
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	No Impact
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	Less Than Significant Impact

#### 4.10.4 Answers to CEQA Checklist Questions

**a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?**

##### **Less Than Significant Impact**

During construction of the project, grading, excavation, and general ground disturbing activities may result in sediment laden, polluted runoff discharging from the project site and impacting downgradient water courses during rain events. The project is not anticipated to encounter groundwater during construction, therefore, no impacts to groundwater quality are anticipated.

As noted above, because the proposed project would disturb more than 1 acre, it is subject to the statewide Construction General Permit Order 2009-0009-DWQ, which regulates stormwater leaving construction sites. The City is required to implement an approved SWPPP and Stormwater Management Plan to implement BMPs and protect against polluted runoff leaving the site during construction. Various monitoring and reporting activities would be established by the San Francisco RWQCB depending on the project's risk level.

The trail will remain a permeable dirt surface, with the installation of flagstones placed in the swale of the upper valley to help prevent erosion near the trail. Because the project is required to comply with state requirements for the protection of surface and groundwater quality during construction, and the trail is designed to minimize erosion, required controls would ensure that the project would not result in a violation of water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.

**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 project would not use groundwater for construction or build facilities requiring a groundwater supply and would not encounter groundwater during the construction of the trail. The project would not construct impervious surfaces such as asphalt that would decrease groundwater recharge from pervious surfaces. Therefore, the proposed project would have no impact on groundwater recharge or management of the groundwater basin.

**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 Impact**

Erosion related to construction activities would be controlled through the SWPPP and Stormwater Management Plan to prevent erosion and siltation. Although poorly designed and maintained trails can

cause significant erosion and sedimentation problems, erosion control has been incorporated into the project features. The project proposes no alteration of the existing drainage patterns; natural drainage patterns would not be disrupted or moved. The bridge would be preconstructed and placed across the unnamed creek to avoid touching wetlands or interfering with stream flow during wet periods. Park rangers would survey the trail during wet months to help determine drainage patterns and the location of saturated soils. No impervious surfaces are proposed that would increase runoff, other than the placement of flagstones to reduce erosion near some areas of the trail. The trail is designed to allow water to easily drain across and off the trail rather than directly down a trail. Therefore, the project is not anticipated to cause substantial erosion or siltation and would result in a less than significant impact on erosion or siltation.

**ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off-site?**

**Less Than Significant Impact**

The proposed project could slightly increase surface runoff within the project area depending on the extent of flagstone placement, the only impervious surface proposed. The project would be constructed in an area designated as open space and would be surrounded by vegetation on all sides. Additionally, the unpaved 5 – 10 foot shoulders of the trail would allow for infiltration of runoff from the trail surface as well as decrease runoff velocities. Therefore, the project would have a less than significant impact on surface runoff and flooding.

**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?**

**No Impact**

The proposed project includes construction of an unpaved trail in the Lime Ridge Open. There would be no alteration of existing surface flows or natural drainage in the area. The project will therefore not create or contribute runoff water to an existing stormwater drainage system within the vicinity. Polluted runoff related to construction activities is unlikely to occur during the short summer construction period and would be controlled by the SWPPP.

**iv) Impede or redirect flood flows?**

**No Impact**

The proposed trail is not located within a floodplain, and the bridge over the intermittent stream will not impede flows or cause flooding. The project area is located within Zone X, which is an area of minimal flood hazard. Therefore, the project would not impede or redirect flood flows.

**d) In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?**

**No Impact**

The project is not located in a designated flood hazard zone and the City is at low risk of a seiche or tsunami. Operation of the trail involves no hazardous substances or structures that could release pollutants. Therefore, there would be no impact.

**e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?**

**Less Than Significant Impact**

The Basin Plan sets forth water quality standards for the surface and ground waters of the region. The project is not anticipated to conflict with water quality standards and would therefore not obstruct implementation of a water quality control plan.

The State Sustainable Groundwater Management Act requires local agencies of groundwater basins in high or-medium priority areas to implement sustainable groundwater management plans. The project area is not within a priority groundwater basin (DWR 2020) and therefore there are no applicable sustainable groundwater management plans associated with the project.

## 4.11 Land Use and Planning

### 4.11.1 Environmental Setting

The project area is located within the City of Walnut Creek, Contra Costa County, California. The City is divided into zoning districts that correspond with General Plan land use designations. The entire project area and the surrounding areas are designated for Open Space. The primary land-use for regional open space is recreation in the form of hiking and biking.

To the north, south, and east of the open space lie residential subdivisions. The Concord campus of California State University East Bay is also located to the northeast across Crystal Ranch Drive, although this parcel is mostly undeveloped open space that is grazed. To the south lies private grazing land and homes approximately 600 feet from the closest point of the proposed trail. The Boundary Oak Golf Course borders the open space to the west.

### 4.11.2 CEQA Checklist Summary

Would the project:

CEQA Question	Impact Determination
a) Physically divide an established community?	No Impact
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?	No Impact

### 4.11.3 Answers to CEQA Checklist Questions

#### a) Would the project physically divide an established community?

##### No Impact

The project would construct a multi-use mountain bike flow trail within the existing open space, consistent with the plans and policies for the recreation area. There are no structures proposed that would physically divide an established community.

#### 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 project area is designated as open space/recreational use. The designation applies to existing publicly owned open spaces, parks, and golf courses, and includes some County-owned land. The proposed project is a recreational use consistent with the open space/recreation designation and has been specifically designed to relocate mountain bikes away from more sensitive habitat areas within the open space to an area of lower resource value.

The project would be consistent with the land use plan, policies, and regulations adopted for the purpose of avoiding or mitigating environmental effects by implementing controls to protect or avoid impacts to sensitive resources as outlined in this initial study. The project would therefore not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.



## 4.12 Mineral Resources

### 4.12.1 Environmental Setting

Minerals are naturally occurring chemical elements or compounds, or groups of elements and compounds, formed from inorganic processes and organic substances including, but not limited to, coal, peat, and oil-bearing rock, but excluding geothermal resources, natural gas, and petroleum.

A Mineral Resource Zones and Resources Sectors map prepared by the USGS indicates that the project site is located in an area that does not contain any known mineral occurrences (California Geological Survey Division of Mines and Geology 1983). In addition, the General Plan EIR concluded that mineral resources could be excluded from discussion in the EIR through the scoping process because it was determined that development in the City would not have an impact on mineral resources (City of Walnut Creek 2005).

### 4.12.2 CEQA Checklist Summary

Would the project:

CEQA Question	Impact Determination
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
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

### 4.12.3 Answers to CEQA Checklist Questions

**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**

There are no known mineral resources at the project site and its immediate vicinity. Although the area was historically mined for limestone, no mining has occurred in the area for more than 50 years, and the area has been designated open space since 1974. Therefore, the proposed project would not result in the loss of availability of known mineral resources that would be valued by the region and the residents of the State.

**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**

No known mineral resource recovery site is delineated in the General Plan at the project site or in its immediate vicinity. Therefore, the proposed project would not result in the loss of the availability of any locally important mineral resource recovery sites.

### 4.13 Noise

#### 4.13.1 Environmental Setting

The existing noise environment in the project area is quiet open space, interrupted by human voices along the trails and urban noise sources along the urban interface.

Noise is unwanted sound. Excessive noise can cause hearing loss and interfere with human activity. It can disrupt communication and affect a person’s performance. Which sounds are considered noise is subjective and varies from person to person and with the time of day and setting.

Sensitivity to noise increases in the evening and at night. Excessive noise interferes with the ability to sleep, so 24-hour descriptors were developed to add artificial noise penalties to quiet-time noise events. State law requires general plans to use the Community Noise Equivalent Level (CNEL) or the Day/Night Average Sound Level (Ldn) to describe the community noise environment and its effects on the population. The City uses Ldn in the General Plan.

#### 4.13.2 Regulatory Setting

The City of Walnut Creek regulates noise in both its Municipal Code and General Plan.

##### City of Walnut Creek Municipal Code

The City Noise Ordinance is codified in Chapter 6, Article 2 of the City’s Municipal Code. The noise standards that may be applicable to the proposed project include Section 4-6.203(f), which prohibits construction activities other than between the hours of 7:00 a.m. and 6:00 p.m. on non-holiday weekdays, or those precise hours of operation enumerated in individual building and grading permits.

##### Walnut Creek General Plan 2025

The Safety and Noise Element of the General Plan establishes land use compatibility standards for noise which provide the basis for making decisions about land uses in relation to noise sources and for determining noise mitigation requirements. According to the City’s Land Use/Noise Compatibility standards, exterior noise levels up to 65 Ldn are acceptable for outdoor sports and recreation, neighborhood parks and playgrounds. Exterior noise levels between 65 Ldn and 80 Ldn are conditionally acceptable, and exterior noise levels above 80 dBA Ldn are unacceptable for recreational uses. For residential uses in the vicinity, exterior noise levels between 60 Ldn and 75 Ldn are conditionally acceptable, and exterior noise levels above 75 Ldn are unacceptable.

#### 4.13.3 CEQA Checklist Summary

Would the project result in:

CEQA Question	Impact Determination
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?	Less Than Significant Impact

b) Generation of excessive groundborne vibration or groundborne noise levels?	No Impact
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 two 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?	No Impact

#### 4.13.4 Answers to CEQA Checklist Questions

**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 Impact**

For purposes of this analysis, a significant impact would occur if construction activities would result in a substantial temporary increase in ambient noise levels outside of the permissible hours for construction (7:00 a.m. to 6:00 p.m. on non-holiday weekdays, or those precise hours of operation enumerated in individual building and grading permits) that could result in annoyance or sleep disturbance of nearby sensitive receptors. Noise impacts from construction activities associated with the proposed project would be a function of the noise generated by construction traffic, construction equipment, equipment location, sensitivity of nearby land uses, and the timing and duration of the construction activities. A discussion of the potential impacts associated with each of these types of activities is provided below.

##### **Construction-Related Traffic Noise**

One type of short-term noise impact that could occur during project construction would result from the increase in traffic on local streets associated with the transport of workers, equipment, and materials to and from the project site.

The transport of workers and minor construction equipment and materials to the project site would incrementally increase noise levels on access roads leading to the project site. Because workers and construction equipment would use existing routes and parking areas, noise from passing trucks would be similar to existing vehicle-generated noise on these local roadways. Typically, a doubling of the Average Daily Traffic hourly volumes on a roadway segment results in an increase of 3 dBA (the smallest change perceptible to the human ear in outdoor environments) in traffic noise levels. Project-related construction trips would be minor during the 20-30 day construction period and would not double the hourly or daily traffic volumes along any roadway segment in the project vicinity. For these reasons, short-term intermittent noise from construction related vehicles would be minor when averaged over a longer time-period. Therefore, short-term construction-related noise impacts associated with worker commute and equipment transport to the project site would not exceed applicable significance thresholds and would be less than significant.

##### **Construction Equipment Noise**

The second type of short-term noise impact is related to noise generated during construction on the project site. Construction noise levels are rarely steady in nature and often fluctuate depending on the

type and amount of equipment being used at any given time. In addition, there could be times when equipment is not operating, and noise would be at or near normal ambient levels.

Construction is completed in discrete steps, each with its own mix of equipment and its own noise characteristics. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase.

The site preparation phase, which includes excavation and grading activities, tends to generate the most noise because the earthmoving equipment typically used in site preparation is the noisiest construction equipment. The proposed project will be predominantly graded by hand; however, construction of the proposed project is expected to require the use of a mini tractor and a pickup truck. The maximum noise level of a front-end loader, which is louder than a mini tractor (mini tractor is not modeled) is 80 dBA maximum noise/sound level (Lmax) at 50 feet away (Federal Transit Administration 2018).

The closest sensitive receptor to the proposed areas of construction is a single-family residence located over 500 feet south of the project site. The façade of this closest residence would be located over 500 feet from the acoustic center of construction activity where the mini tractor may operate. A 20 – 40 foot tall earth ridge exists between the project site and the residential property line. At this distance, and with the earth shielding reduction provided by the ridge, the worst-case construction noise levels could reach approximately 50 dBA Lmax, intermittently, and could have an hourly average of up to 45 dBA Leq. Noise at these levels would occur for only a short period, and noise levels would drop off at a rate of 6 decibels per doubling of distance as construction equipment moves across the site further away from off-site receptors. Figure 6 **Error! Reference source not found.** is a photo taken from the proposed trail location looking in the direction of the closest homes.

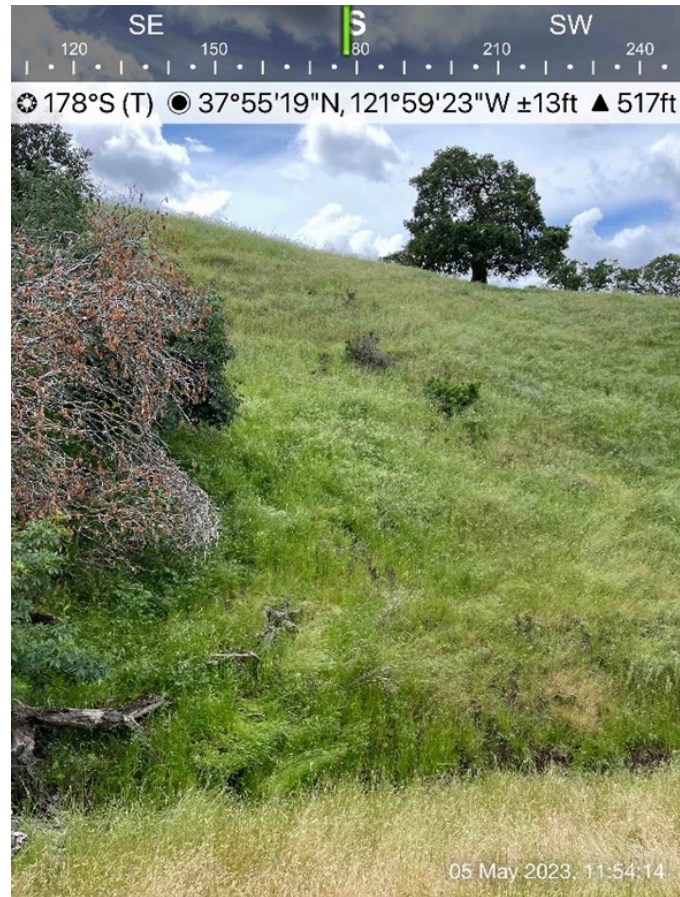
Restricting construction activities to daytime hours only would ensure that construction noise would not exceed the construction noise standards established by Section 4-6.203(f) of the Municipal Code.

### ***Outdoor Use Activities***

The proposed project would include an outdoor multi-use flow trail where people could converse, and loud speaking or shouting could occur. Typical noise levels of people conversing range from approximately 50 dBA to 70 dBA Lmax at 3 feet for normal to loud adult voices. This would result in a reasonable worst-case combined hourly average noise level of 60 dBA Leq within 50 feet of the trail.

The nearest sensitive receptor to the proposed trail is a single-family residence located over 500 feet south of the closest point to the trail. However, the trail would be at an elevation of 517 ft MSL with a ridge that rises between 20 – 40 feet above and between the trail and the sensitive receptor.

In a reasonable worst-case, up to 2 adults could bicycle within 500 feet of the nearest residential receptor, each of them conversing in normal voices 50 percent of the time and shouting 50 percent of the time. This would not exceed the City's exterior noise performance threshold of 60 dBA Ldn for residential uses. Therefore, potential outdoor use activity noise levels would not result in a substantial permanent increase in noise levels in excess of established standards, and the impact on off-site sensitive receptors would be less than significant.



*Figure 6 Photo showing the view from the trail toward the closest homes*

**b) Would the project result in generation of excessive groundborne vibration or groundborne noise levels?**

**No Impact**

A significant impact would occur if the proposed project generated groundborne vibration or groundborne noise levels in excess of established standards. The City does not establish a groundborne vibration threshold, so for purposes of this analysis, Federal Transit Administration (FTA) Construction Vibration Impact Criteria are used. The FTA has established industry-accepted standards for vibration impact assessment in its Transit Noise and Vibration Impact Assessment Manual, dated September 2018.

Groundborne noise is an effect of groundborne vibration and only exists indoors since it is produced from noise radiated from the motion of the walls and floors of a room and may include the rattling of windows or dishes on shelves. In general, if groundborne vibration levels do not exceed levels considered to be perceptible, then groundborne noise levels would not be perceptible in most interior environments. Therefore, this analysis focuses on determining exceedances of groundborne vibration levels.

In extreme cases, groundborne vibration can cause structural damage to buildings. Common sources of groundborne vibration include construction activities such as blasting, pile driving, and operating heavy

earthmoving equipment. However, construction vibration impacts on building structures are generally assessed and expressed in terms of peak particle velocity (PPV).

### ***Short-term Construction Vibration Impacts***

A significant impact would occur if existing structures at the project site or in the project vicinity were exposed to groundborne vibration in excess of levels established by the FTA's Construction Vibration Impact Criteria for the type of structure. Of the variety of equipment proposed to be used during construction, the mini tractor would produce the most groundborne vibration. The smallest piece of equipment tested by the FTA is a small bulldozer. While a mini tractor would produce less vibration than a small bulldozer, the bulldozer is used for this analysis. Small bulldozers produce groundborne vibration levels ranging up to 0.003 inch per second (in/sec) PPV at 25 feet from the operating equipment.

The nearest structure to the proposed project's construction footprint is a single-family home over 500 feet south at the closest point. At this distance, groundborne vibration levels would range up to 0.000225 PPV from the operation of the types of equipment that would produce the strongest vibration. This is below the FTA's Construction Vibration Impact Criteria of 0.2 PPV for buildings. Therefore, there would be no vibration impact associated with construction on off-site receptors.

### ***Operational Vibration Impacts***

A significant impact would occur if the project would generate excessive groundborne vibration at sensitive receptors in the project vicinity.

As the proposed project is a dirt recreational trail, its implementation would not include any permanent sources of vibration that would expose persons in the project vicinity to groundborne vibration that would be perceptible without instruments at any existing sensitive land use in the vicinity of the project site. Therefore, operational groundborne vibration would have no impact on nearby sensitive receptors.

**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 two 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?**

#### **No Impact**

The project site is not located within the vicinity of a private airstrip. The nearest airport to the project site is the Buchanan Field Airport, located approximately 5.4 miles northwest of the project site. The next closest airport to the project site is the Oakland International Airport in Alameda County, located approximately 19 miles southwest of the project site. Because of the distance from these airports and the orientation of the airport runways, the project site is located outside of the 65 dBA CNEL airport noise contours. The project area is not located within a comprehensive land use planning area, and the project does not involve habitable improvements that would be sensitive to airport operations. No impact would occur.

## 4.14 Population and Housing

### 4.14.1 Environmental Setting

As of 2020, the City had an estimated population of 69,695 residents and an estimated housing stock of 32,398 dwelling units (US Census Bureau 2022). There is no residential zoning or housing in the project area. The trail starts near the Boundary Oak Golf Course and can also be accessed by the residential community south of the site.

### 4.14.2 CEQA Checklist Summary

Would the project:

CEQA Question	Impact Determination
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)?	No Impact
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	No Impact

### 4.14.3 Answers to CEQA Checklist Questions

**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)?**

**No Impact**

The proposed project would construct trail improvements within the open space boundary. The proposed project would not construct housing or provide infrastructure that would facilitate housing; therefore, the project would not induce substantial unplanned population growth in the area. The project would have no impact on population growth.

**b) Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?**

**No Impact**

Implementing the proposed project would not influence population growth, either directly or indirectly. The project does not propose any removal or construction of features that would result in displacement of persons and would therefore not require construction or replacement housing elsewhere. There would be no impact.

## 4.15 Public Services

### 4.15.1 Environmental Setting

#### Fire Protection

The project site is served by the Contra Costa Fire Protection District and CAL Fire. Contra Costa Fire Station 7 is approximately 2 miles southwest and provides 24-hour emergency response for medical emergencies, fire suppression, and disaster response to the project area. The Lime Ridge Open Space manages fire risk by 1) Reducing vegetation through rotational cattle and goat grazing; 2) Providing approximately 18 miles of disked fuel breaks where possible along ridge lines, fire roads, and property lines; 3) Providing over 10 miles of additional hand trimmed fuel breaks along Open Space property lines; and 4) Removing hazardous trees and identifying and mitigating potential fire hazards.

#### Police Protection

The project site is served by the Walnut Creek Police Department (WCPD) and Walnut Creek Open Space rangers. The WCPD station is approximately 4.3 miles to the southwest and serves the project area. The proposed project area is within Sector 3. Open Space rules are posted and enforced daily by the Rangers and Fish and Wildlife wardens, and WCPD officers write citations for code or general law violations.

#### Other Public Services

The project is within the Mount Diablo Unified School District, Walnut Creek Arts and Recreation Department, East Bay Regional Park District, and the Contra Costa Library Walnut Creek Branch.

### 4.15.2 CEQA Checklist Summary

Would the project result in:

CEQA Question	Impact Determination
a) Would the project result in substantial adverse physical impacts associated with the need and/or provision of new or physically altered governmental services and/or facilities in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services? i) Fire protection? ii) Police protection? iii) Schools? iv) Parks? v) Other public facilities?	Less Than Significant Impact



### 4.15.3 Answers to CEQA Checklist Questions

**a) Would the project result in substantial adverse physical impacts associated with the need and/or provision of new or physically altered governmental services and/or facilities in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services?**

**i) Fire protection?**

**ii) Police protection?**

**iii) Schools?**

**iv) Parks?**

**v) Other public facilities?**

**Less Than Significant Impact**

The proposed project would construct a recreational trail in an area designated for open space and recreation. Once constructed, the trail would be open to mountain bikers (one way downhill only), hikers and equestrians.

The project would not increase dwelling units or road capacity within the surrounding area and thus involves no increase in demand for public services such as schools, libraries, or parks. During construction, the project may have a negligible temporary increase in emergency services demand to protect construction equipment or personnel that could be adequately served by existing services. Police and fire services are already provided to users in the Open Space area. Whereas the proposed trail is intended to relocate existing users to a less sensitive area, a significant increase in demand is not anticipated. There are adequate fire and police services to protect trail users without affecting emergency services ratios, response times, or other performance objectives. Therefore, the proposed project would not require new or physically altered governmental services and/or facilities to maintain acceptable service ratios, response times, or other performance objectives.

## 4.16 Recreation

### 4.16.1 Environmental Setting

The project is located in the western section of Lime Ridge Open Space just southeast of Boundary Oak Golf Course in western Walnut Creek, Contra Costa County, California (Figure 1). The current general plan and zoning designations for the project area are OSR, Open Space Recreation. Existing trails, both formal designated trails and informal trails created by members of the public, cross the project site and represent less than 2% of the Open Space. The LRRRA is planned for up to 3% recreation and 97% open space. The site is open to pedestrians and non-motorized vehicles.

### 4.16.2 CEQA Checklist Summary

Would the project:

CEQA Question	Impact Determination
a) 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 Impact
b) 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 Impact

### 4.16.3 Answers to CEQA Checklist Questions

**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 Impact

Access to the Lime Ridge Open Space is already established through existing trails and parking areas. The project would construct a mountain bike flow trail to provide the terrain-induced, biking experience with little pedaling and braking necessary that mountain bikers in the Open Space have been seeking. Currently the existing Open Space cyclists have created their own informal flow trails in areas that are damaging sensitive resources, thus many users are already using the Open Space for this purpose. Long-term use of the open space is anticipated to remain nearly the same with a change only in the trail mountain bikers utilize the Lime Ridge open space area for a flow trail experience. An objective of the project is to reduce physical deterioration of the open space by removing informal trails and moving existing cyclists to a flow trail designed to avoid damage. While no usage studies have been conducted in the Bay Area, anecdotal evidence from other park districts indicates that the first few months after opening a flow trail usage did increase, but once the novelty subsided, usage returned to normal levels. Because flow trails are already informally established and used regularly in the Open Space, and such users would be moved to the formal trail and the other trails closed, increased usage is anticipated to be

less than significant. The trail would result in an increase from 1.95% to 2.1% recreation; closing the informal trails would reduce current physical deterioration of the LRRRA.

**b) Would 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 Impact**

Please see response to question 4.16.3(a), above. A key objective of the project is to replace informal trails that are currently damaging sensitive resources. Impacts to the environment are analyzed in each subsection of Chapter 4 and appropriate mitigation measures are proposed as needed. The project is designed to have a beneficial effect on open space habitats and resources.

## 4.17 Transportation

### 4.17.1 Environmental Setting

The project is located within the Lime Ridge Open Space, where motor vehicles are strictly prohibited. The proposed multi-use trail would be designated as one way down only for bikes and would remain open for all users. Mountain bikers would be directed to travel uphill on existing trails to start at the trailhead, which would begin near the Paraiso Trail’s junction with the Manzanita Trail. The flow trail would wind through the low rolling hills, be coterminous with the Timberleaf Trail for approximately 380 feet, and end at the Ohlone trailhead located at the eastern end of Valley Vista Road, for a total linear distance of approximately 1.6 miles. This new trail would increase recreational access within the Lime Ridge Open Space.

### 4.17.2 Regulatory Setting

#### Local and Regional Transportation

Contra Costa's Countywide Bicycle and Pedestrian Plan establishes goals describing existing conditions; prioritizes bike corridors, pedestrian improvements, and regional trails; and outlines implementation tasks (Contra Costa Transportation Authority 2018).

The Plan Bay Area 2050 is a 30-year plan that establishes 35 strategies to improve housing, the economy, transportation, and the environment across the Bay Area's 9 counties - Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma. This long-range plan, developed by the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG), outlines a \$1.4 trillion vision for "a more equitable and resilient future for Bay Area residents." (MTC 2021). The Plan Bay Area 2050 identifies environmental strategies; the strategies applicable to the proposed project include:

- Expand access to parks and open spaces.
- Modernize and expand parks, trails, and recreation facilities. Invest in quality parks, trails, and open spaces that provide inclusive recreation opportunities for people of all backgrounds, abilities, and ages to enjoy.

The City of Walnut Creek's Bicycle Plan outlines a comprehensive vision that supports bicycle use in Walnut Creek by providing facilities that encourage and support bicycle use for travel and recreation in Walnut Creek (City of Walnut Creek 2011).

### 4.17.3 CEQA Checklist Summary

Would the project:

CEQA Question	Impact Determination
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	No Impact

b) Conflict or be inconsistent with CEQA Guidelines §15064.3, subdivision (b)?	Less Than Significant Impact
c) 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 Impact
d) Result in inadequate emergency access?	No Impact

#### 4.17.4 Answers to CEQA Checklist Questions

##### a) Would the project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

###### No Impact

A common goal of the Plan Bay Area 2050 is to modernize and expand parks, trails, and recreation facilities (MTC 2021). This project would support this goal and would improve bicycle recreation access within Walnut Creek (City of Walnut Creek 2011).

Because the project is consistent with the goals of the Walnut Creek General Plan 2025, Contra Costa Countywide Bicycle and Pedestrian Plan, Plan Bay Area 2050, Rethinking Mobility Transportation Strategic Plan, and the Walnut Creek Bicycle Plan, it would not conflict with any ordinance or policy addressing bicycle facilities.

##### b) Would the project conflict or be inconsistent with CEQA Guidelines §15064.3, subdivision (b)?

###### Less Than Significant Impact

CEQA §15064.3(b) pertains to the use of vehicle miles traveled (VMT) to analyze transportation impacts. Per SB 743 criteria, as of July 1, 2020, CEQA guidelines require the evaluation of VMT as a key criterion to determine potentially significant transportation impacts. The project is the construction of a mountain bike flow trail to replace informal trails that are currently damaging sensitive resources. Access to the Lime Ridge Open Space is already established through existing trails and parking areas that serve area users, both regionally and locally from trails extending from surrounding neighborhoods. Mountain bikers already using the area who seek a flow trail experience would be relocated to this new trail and the informal trails would be closed. While some new users may be attracted to the new trail, no new parking is proposed. Long-term use of the open space is expected to remain nearly the same with a change primarily in the way mountain bikers utilize the Lime Ridge area for a flow trail experience, thus the increase in VMT is anticipated to be minor as discussed in Section 4.16(a). Increases in VMT during construction would be temporary for 20-30 days for a small number of volunteers and park employees. Therefore, the project impact on VMT 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 Impact**

The topography of the Lime Ridge Open Space is characterized by gently rolling hills that increase in elevation going towards the east. A flow trail is specifically designed with curves to reduce downhill speeds. Flow Trails take mountain bikers on a terrain-induced roller coaster experience, with little pedaling and braking necessary. This style of trail typically contains features like banked turns, rolling terrain, various types of jumps, and consistent and predictable surfaces. Abrupt corners or unforeseen obstacles are avoided. The proposed project would provide a designated and managed trail that would reduce damage to the Lime Ridge Open Space caused by random unauthorized trails and jumps. The use of trail 'switchbacks' as a design control would also prevent excessive speeds and minimize the slope differentials.

Because the proposed project incorporates design features intended to protect the safety of users and limit excessive slopes, speeds, and hazardous design features, and biking would be limited to one way down only, there would be no substantial increase in hazards due to a geometric design or incompatible uses.

**d) Would the project result in inadequate emergency access?**

**No Impact**

The trail would be approximately 4 feet in width with 5 to 10 feet of fire break and would create a break in the slope and grassy environment. The trail may serve as a small fire break and would not increase the risk associated with wildfire in this area, and somewhat increases emergency access to this area of the open space.

## 4.18 Tribal Cultural Resources

### 4.18.1 Environmental Setting

The APE lies within overlapping Aboriginal territories of the Ohlone and the Bay Miwok. Milliken (1995) compiled extensive ethnographic, historic, and archaeological data describing the Ohlone people as having occupied the Central Californian coast and general vicinity of the APE. The Ohlone occupied the area between San Francisco Bay in the north and the Big Sur and Salinas Rivers in the south. The eastern portions of Contra Costa County from Walnut Creek east to the Sacramento-San Joaquin Delta, including the northern slopes of Mount Diablo, were also occupied by Bay Miwok speakers (FCS 2019). Of the bands of Miwok associated with the area, the Saclan territories are the closest to the APE.

The Ohlone and Bay Miwok engaged in hunting and gathering within coastal and open valley environments (Koenig 2020). They subsisted on resources including acorns, bulbs and tubers, grass seeds, antelope, deer, elk, bear, rabbits, other small mammals, and a variety of bird species. The Ohlone acknowledged private ownership of goods and songs. Monetary payment in the form of clamshell beads enforced village ownership of rights to land and natural resources. The Miwok people considered acorns, of which there were 7 varieties, important resources (Levy 1978). Acorn meat was finely ground in bedrock mortars in preparation for bread, biscuits, mush, and soup.

European contact severely disrupted Ohlone and Bay Miwok societies due to missionization, displacement, and disease (Koenig 2020). Today, the Ohlone and Miwok have a strong presence in the San Francisco Bay Area and East Bay with continued interest and activism for their historic and prehistoric past. Twelve culturally affiliated tribes are associated with the greater Contra Costa County area.

### 4.18.2 Regulatory Setting

#### Assembly Bill 52

Following Assembly Bill 52 (AB-52) as identified in Section 21080.3.1(b)(2) of CEQA, Native American tribes (tribes) identified by the Native American Heritage Commission (NAHC) were invited to consult on the project. Native American correspondence was initiated with a letter and attached maps sent to NAHC on June 8, 2022. The letter requested a search of their Sacred Lands file (SLF) and a contact list for regional tribes that may know of cultural or tribal resources within or immediately adjacent to the APE. A response was received from the NAHC on July 10, 2022, with positive SLF results. Inquiry letters on City letterhead were mailed to the tribes identified by the NAHC on November 23, 2022. On January 6, 2023, follow-up emails were sent to the tribes. To date, five tribes have responded: Wilton Rancheria, the Northern Valley Yokuts Tribe, Chicken Ranch Rancheria of Me-Wuk Indians (Chicken Ranch Rancheria), and the Confederated Villages of Lisjan.

**4.18.3 CEQA Checklist Summary**

Would the project:

CEQA Question	Impact Determination
<p>a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC § 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:</p> <ul style="list-style-type: none"> <li>i. Listed or eligible for listing in CRHR, or in a local register of historical resources as defined in PRC § 5020.1(k), or</li> <li>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 PRC § 5024.1. In applying the criteria set forth in subdivision (c) of PRC § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.</li> </ul>	<p>Less than Significant Impact with Mitigation Incorporated</p>

**4.18.4 Answers to CEQA Checklist Questions**

**a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC § 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 CRHR, or in a local register of historical resources as defined in PRC § 5020.1(k)?**

**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 PRC § 5024.1. In applying the criteria set forth in subdivision (c) of PRC § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?**

**Less Than Significant Impact with Mitigation Incorporated**

The APE is located between the San Francisco Bay margin, the foothills, and nearby creeks that would have been prehistorically and historically environmentally advantageous for indigenous populations. No known ethnographic settlements are known to have been located within or adjacent to the APE. However, the NAHC responded on July 10, 2022 with positive sacred land file results. Although no resources have been recorded within the APE, the NWIC records search noted cultural resources identified within the surrounding areas of Contra Costa County include bedrock mortars or other milling feature sites, lithic scatters, petroglyph sites, habitation sites (including burials), and isolated burial sites.

Tribes identified by the NAHC were sent an inquiry letter on November 23, 2022, on City letterhead. The tribes were sent follow-up emails on January 6, 2023. To date, five tribes have responded: Wilton Rancheria, the Northern Valley Yokuts Tribe, Chicken Ranch Rancheria of Me-Wuk Indians (Chicken



Ranch Rancheria), the Confederated Villages of Lisjan, and the Indian Canyon Mutsun Band of Costanoan.

Four of the tribes requested to consult on the project and the City held meetings with each tribe individually. Discussion topics included the project's location, description, construction methods (i.e., limited grading and removal of vegetation by hand with Travis tool and rakes), historic disturbances (e.g., history of Lime Ridge being mined for limestone and cattle grazing), and goals to restore sensitive habitats where unauthorized flow trails have been established. Meetings were then opened to tribes to discuss the project, known tribal cultural resources, their concerns, and their recommendations to avoid any potential the project may have to impact tribal cultural resources. Wilton Rancheria, the Northern Valley Yokuts Tribe, the Chicken Ranch Rancheria, and the Indian Canyon Mutsun Band of Costanoan deferred consultation to local tribes who claim the land within the APE as their Aboriginal territory, which was determined to be the Confederated Villages of Lisjan.

None of the responding tribes identified known tribal cultural resources within or adjacent to the APE. None of the tribes objected to the project. However, considering the positive SLF result, tribe recommendations have been cautious and consider the APE to be potentially sensitive for tribal cultural resources. A potential to find Native American resources during construction was identified as a potentially significant effect. The Tribes recommended WEAP training of the volunteer crews and supervisors, and tribal monitoring by the Confederated Villages of Lisjan during project implementation in case of inadvertent discoveries. Implementation of the WEAP training and tribal monitoring mitigation measures were deferred to the Confederated Villages of Lisjan.

A consultation site visit by the City and the Confederated Villages of Lisjan occurred on August 23, 2023. Consultation concluded with the Confederated Villages of Lisjan stating that the Tribe is satisfied with the project going forward without a Tribal monitor on site. They requested to be alerted of any inadvertent findings of any cultural materials if anything should arise.

The following mitigation measures have been identified to ensure the protection of inadvertent discoveries during construction:

**TCR-1 – Workers Environmental Awareness Program (WEAP):**

A Tribal Cultural Resources (TCRs) sensitivity and awareness training program (WEAP) shall be provided for all personnel involved in project construction, including field consultants and volunteers. An archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for Archeology and representatives of the Confederated Villages of Lisjan will coordinate during preparation of the WEAP. The WEAP shall occur prior to the onset of project-related construction activities. The WEAP shall include relevant information regarding sensitive cultural resources and TCRs, including applicable regulations, protocols for avoidance, and consequences of violating state laws and regulations.

The WEAP shall also describe appropriate avoidance and impact minimization measures for cultural resources and TCRs outlined in Mitigation Measure CR-2. The WEAP shall emphasize the requirement for confidentiality and culturally appropriate treatment of any discovery of significance to Native Americans and shall discuss appropriate behaviors and responsive actions, consistent with Native American tribal values.

**TCR-2 – Inadvertent Discoveries:**

If any suspected TCR, archaeological, or cultural resource is discovered during ground-disturbing construction activities, all work shall cease within one hundred feet of the find, or an agreed upon distance based on the project area and nature of the find. The monitors shall immediately notify a Tribal Representative from the Confederated Villages of Lisjan and shall determine if the find is a TCR (PRC § 21074). The Tribal Representative or qualified archaeologist shall make recommendations for further evaluation and treatment, as necessary. The City shall implement any measures deemed to be necessary and feasible to preserve in place, avoid, or minimize impacts to the resource, including, but not limited to, facilitating the appropriate tribal treatment of the find, as necessary. Work at the discovery location cannot resume until all necessary investigations and evaluation of the discovery have been satisfied.

**TCR-3 – Human Remains:**

In the event human remains are discovered, all work shall cease immediately. All measures shall be made to secure and protect areas in which human remains and funeral objects are discovered. Construction workers and/or contractors or subcontractors on the job site shall not be permitted to take photographs of human remains, or funeral objects. Archaeological resources are not to be moved or taken from the project site and work should not resume until authorized. The County Coroner and local law enforcement shall be notified within 24 hours of the discovery to conduct proper evaluation and treatment of remains. The coroner and the law enforcement agency shall evaluate the find to determine whether it is a crime scene or a burial. If human remains are determined to be associated with an archaeological site (burial), the City of Walnut Creek shall notify the State Historic Preservation Office (SHPO) and shall work with SHPO to determine measures to take. That office shall contact the appropriate tribal representatives and consult on the disposition of the remains and any associated artifacts.

**Finding:** Implementation of TCR1 to TCR-3 provides procedures to avoid the loss of unanticipated tribal cultural resources during construction that reduce the potential impact to less than significant.

## 4.19 Utilities and Service Systems

### 4.19.1 Environmental Setting

Currently, the project area consists of undeveloped open space with scattered abandoned water wells. There are no existing utilities or service systems within the project area; the nearest utilities are located near the Boundary Oak Golf Course.

### 4.19.2 CEQA Checklist Summary

Would the project:

CEQA Question	Impact Determination
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?	No Impact
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	No Impact
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?	No Impact
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?	Less Than Significant Impact
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	Less Than Significant Impact

### 4.19.3 Answers to CEQA Checklist Questions

**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?**

#### **No Impact**

The proposed project includes the construction of a trail along the surface of an open space area. The project does not involve features that would require the construction or relocation of expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities. Therefore, there is no impact.

**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**

The construction of a trail would have no impact on water usage. The project does not propose features that would require water services, therefore, there would be no impact.

**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**

The proposed project does not include restroom facility construction or direct or indirect discharge of wastewater to a sanitary sewer or on-site septic systems. No demand for wastewater treatment or facilities would occur as a result of the project. The project would not create or discharge wastewater and therefore would have no impact on a wastewater treatment operator.

**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**

Once constructed, the project would provide a new recreational trail through the area and would not create solid waste. Existing waste disposal bins near the golf course would serve trail users. Whereas the trail is intended primarily to relocate existing open space users, no significant increase in solid waste would be generated.

**e) Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?**

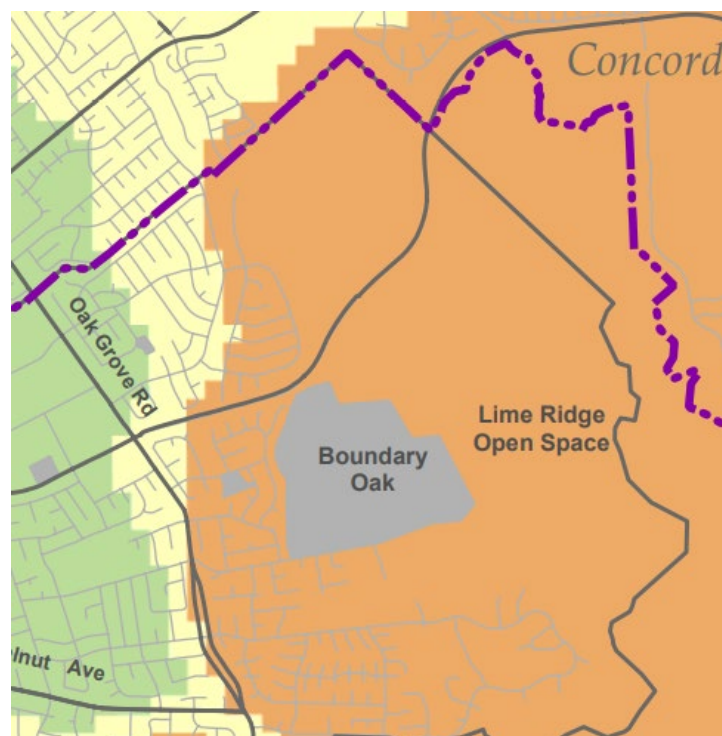
**Less Than Significant Impact**

Construction may result in a marginal temporary increase in green waste and solid waste generation requiring disposal at area landfills. Waste generation would be temporary during construction and would not reduce available capacities at existing landfills. Disposal of construction waste would comply with federal, state, and local statutes and regulations related to solid waste.

## 4.20 Wildfire

### 4.20.1 Environmental Setting

The California Department of Forestry and Fire Protection (CAL FIRE) designates fire hazard severity zones for areas under state jurisdiction. For areas under local jurisdiction, CAL FIRE identifies areas that they consider to be Very High Fire Hazard Severity Zones (VHFHSZs) and the local jurisdiction must choose whether to adopt the CAL FIRE recommendations. The project area is not within a state designated VHFHSZ; however, the City has adopted the recommended local designation of VHFHSZ along with its own established and adjusted fire zones. The project area (outlined in black) is within a VHFHSZ designated “very high” (Figure 7).



**Figure 7. Walnut Creek General Plan 2025, Wildland-Urban Interface**

As discussed above under Public Services, the Lime Ridge Open Space manages fire risk by 1) Reducing vegetation through rotational cattle and goat grazing; 2) Providing approximately 18 miles of disked fuel breaks where possible along ridge lines, fire roads, and property lines; 3) Providing over 10 miles of additional hand trimmed fuel breaks along Open Space property lines; and 4) Removing hazardous trees and identifying and mitigating potential fire hazards.

**4.20.2 CEQA Checklist Summary**

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones:

CEQA Question	Impact Determination
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	No Impact
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?	No Impact
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?	No Impact
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?	No Impact

**4.20.3 Answers to CEQA Checklist Questions**

**a) Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?**

**No Impact**

The City’s adopted emergency plan includes prearranged emergency response procedures. Emergency routes for the evacuation of Walnut Creek include Interstate 680. The project involves the construction of a trail within an open space area and would not have an impact on the existing adopted emergency response plan or evacuation plan. Construction of the project would not require changes to existing evacuation routes. Therefore, the project would have no impact on an adopted emergency response plan or emergency evacuation plan.

**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?**

**No Impact**

The project site currently supports a variety of natural habitats, including oak woodlands and chaparral. Trails throughout the park, including the user-created trails that the proposed project would replace, are frequently used by the general public. The City currently performs vegetation treatments within the open space to reduce the potential for wildfire and would continue to perform these treatments following development of the new trail. The trail would be constructed to be approximately 4 feet in width, with an additional 5 to 10 foot fire break on each side, thus creating a break in the slope and grassy environment that would serve as a fire break should a fire occur in the area. The project would have no impact on any factor that would exacerbate wildfire risk. The proposed project does not include

constructing or modifying habitable structures that could expose occupants to pollutants from wildfire or the uncontrolled spread of a wildfire. The project would have no impact.

**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?**

**No Impact**

The proposed project would not require infrastructure or utilities that would exacerbate fire risk. The proposed project would not require the installation or maintenance of new drainage systems or utility relocations. The trail would be constructed to be approximately 4 feet in width and provides the City an opportunity to include an additional 5 to 10 foot fire break on each side, thus creating a new break in the slope and grassy environment should a fire occur in the area.

**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?**

**No Impact**

The proposed trail would be hand constructed to flow with the terrain. Implementation of the trail project would not require large areas to be graded or disturbed such that they would be susceptible to runoff, post-fire slope instability, or drainage changes in the case of a wildland fire. The project would therefore not expose people or structures to significant risks associated with post fire runoff, slope instability, flooding, landslide, or drainage changes.

## 4.21 Mandatory Findings of Significance

### 4.21.1 CEQA Checklist Summary

CEQA Question	Impact Determination
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?	Less than Significant Impact 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, or the effects of probable future projects.)	Less Than Significant Impact
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	Less Than Significant Impact

### 4.21.2 Answers to CEQA Mandatory Findings of Significance Questions

**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?**

**Less Than Significant Impact with Mitigation Incorporated**

The project site could support special-status plant species, red-legged frogs, and other threatened species. With implementation of Mitigation Measures BIO-1 through BIO-7 identified in Section 4.4 Biological Resources, the project would not reduce habitat for fish or wildlife species, threaten to eliminate a plant or animal community, or adversely affect rare or endangered species. Implementation of Mitigation Measures BIO-1 through BIO-7 would ensure that project impacts to biological resources would be less than significant. As discuss in Section 4.7, Geology and Soils, the area geology is known to contain paleontological resources. Mitigation Measure GEO-1 provides procedures for addressing inadvertent discoveries during construction that would avoid a loss of resources. As discussed in Section 4.5, Cultural Resources, no known cultural resources would be affected by the project; however, the area is considered sensitive for Tribal Cultural Resources, which may be uncovered during construction as discussed in Section 4.18. Implementation of Mitigation Measures TCR-1 through TRC-3 would ensure that appropriate measures are implemented to ensure that impacts to any inadvertent discovery of cultural resources during ground-disturbing activities remain less than significant. These mitigation measures would also ensure compliance with applicable regulations and appropriate protocol should



human remains be unearthed during project construction. With implementation of these mitigation measures, impacts would be less than significant.

**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, or the effects of probable future projects?)**

**Less Than Significant Impact**

The proposed project would construct a formal mountain bike flow trail to replace informal user-created trails within Lime Ridge Open Space. User created trails would be decommissioned as time and budget allow. As discussed in this IS, the proposed project would not generate cumulatively considerable levels of air pollutants or GHG emissions, create new sources of water pollution, directly or indirectly lead to population growth that could increase demands for public services and utilities, or generate substantial increases in traffic or ambient noise. The potential for cumulative losses of biological, paleontological, or tribal cultural resources would be avoided with implementation of the mitigation and avoidance measures identified for those resources.

**c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?**

**Less Than Significant Impact**

The project would be consistent with applicable local ordinances and policies related to land use, noise, and protection of natural resources and the environment, as disclosed in this IS. The analyses of impacts provided throughout this IS demonstrate that the project would not result in a substantial adverse effects on human beings because it would not substantially increase risks associated with seismic activity and soil stability, generate air pollutant or greenhouse gas emissions that could cause adverse health effects, generate hazardous noise levels or those that could result in annoyance or disruption to typical activities, expose people to hazardous materials or wildfire risk, or result in decreases in or interruption of public and utility services in the City.

## 5 Mitigation Monitoring and Reporting Plan

CEQA requires review of any project that could have significant adverse effects on the environment. In 1988, CEQA was amended to require reporting on and monitoring of mitigation measures adopted as part of the environmental review process. This Mitigation Monitoring and Reporting Plan is designed to aid the City in their implementation and monitoring of measures proposed in the IS for the proposed project.

Table 3 provides details of the Mitigation Monitoring and Reporting Plan (MMRP). The mitigation measures are taken from this IS and are assigned the same number as in this IS. The MMRP describes the actions that must take place to implement each mitigation measure, the timing of those actions, and the entities responsible for implementing and monitoring the actions.

**Table 3. Mitigation and Monitoring Plan**

Mitigation Measure	Mitigation Activities	Implemented By	Monitored By	Timing and Frequency	Verification of Compliance
BIO-1	<p><b>Protection Measures for Special-Status Insect Species</b></p> <ul style="list-style-type: none"> <li>• Prior to the start of any trail construction activities, all construction personnel including volunteers shall participate in a worker environmental awareness training program (WEAP) regarding bumble bees and Bridge’s coast range shoulderband snail and their habitat present in the project area. If new construction personnel are added to the proposed project, they must receive the mandatory training before starting work. As part of the training, an environmental awareness handout shall be provided to all personnel that describes these species, their preferred habitat, and lists applicable protection measures to protect these species.</li> <li>• Prior to construction activities a qualified biologist shall conduct a pre-construction survey for these insect species. If a bumble bee hive/nest or individual snails are identified, the resources shall be documented. Individual snails shall be moved to safety outside of the project site. Individual bee hives shall be marked clearly in the field, and shall be avoided by all construction activities.</li> <li>• A qualified biologist shall be on site during construction activities to ensure implementation of, and compliance with avoidance and mitigation measures throughout the length of construction.</li> </ul>	Parks Construction Manager Biologist	City of Walnut Creek Public Works	Prior to and during construction	

<p>BIO-2</p>	<p><b>Protection Measures for Migratory Bird Species and Raptors</b></p> <ul style="list-style-type: none"> <li>• Prior to the start of any trail construction activities, all construction personnel including volunteers shall participate in a worker environmental awareness training program (WEAP) regarding nesting bird species and their habitat present in the project area. If new construction personnel are added to the proposed project, they must receive the mandatory training before starting work. As part of the training, an environmental awareness handout shall be provided to all personnel that describes these species, their preferred habitat, and lists applicable protection measures to protect these species.</li> <li>• If project work must occur during the nesting season (February 1 – September 1), the City shall retain a qualified biologist to survey for nesting birds within the project area, no more than 3 days prior to the beginning of tree and vegetation removal or ground-disturbing activities. Results of the survey shall be submitted in a letter report to the City prior to the start of construction activities.</li> <li>• If nesting birds are detected within the project area during the survey, consultation with CDFW and USFWS is recommended to establish acceptable avoidance or minimization measures to avoid impacts to migratory birds and raptors. Avoidance measures could include the establishment of a suitable activity-free buffer around active nests/roosting sites. An avoidance or minimization plan shall be submitted to the City, CDFW, and USFWS for review and approval prior to the start of construction activities. The avoidance or minimization plan shall be submitted to the project proponent for review and approval prior to the start of construction activities.</li> <li>• Preconstruction surveys for burrowing owls shall be conducted regardless of the season that construction occurs, since nesting and wintering owls are protected. If active burrowing owl burrows are found (i.e., sign of use or individuals are observed), they shall be monitored to ensure active status, and a non-disturbance buffer shall be implemented and monitored. The no-work buffer shall be dependent on whether the owl is present during the nesting or wintering seasons.</li> </ul>	<p>Parks Construction Manager Biologist</p>	<p>City of Walnut Creek Public Works</p>	<p>Prior to and during construction</p>	
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	<p>If buffers are established and it is determined that project activities are resulting in burrowing owl disturbance, work shall cease in the nearby vicinity and CDFW shall be contacted for further guidance.</p>				
<p>BIO-3</p>	<p><b>Protection Measures for Bat Species</b></p> <ul style="list-style-type: none"> <li>• Prior to the start of any trail construction activities, all construction personnel including volunteers shall participate in a worker environmental awareness training program (WEAP) regarding bat species and their habitat present in the project area. If new construction personnel are added to the proposed project, they must receive the mandatory training before starting work. As part of the training, an environmental awareness handout shall be provided to all personnel that describes these species, their preferred habitat, and lists applicable protection measures to protect these species.</li> <li>• Prior to the start of construction, a bat habitat assessment should be conducted to identify suitable bat roosting habitat including snags, rotten stumps, and trees with broken limbs, exfoliating bark, cavities, etc. Potential roosting habitat should be avoided to the maximum extent practicable. If no suitable roost sites are identified, no further minimization measures are necessary. No tree removal activities are proposed as part of the proposed project. If suitable roosting habitat is identified within the project buffer area, a qualified biologist should survey suitable roost sites immediately prior to trail construction activities. If any sign of roosting bats or observation of individual bats is observed, CDFW shall be contacted to determine the appropriate path forward to avoid impacts to roosting or nesting bats. If suitable roosting habitat will be disturbed by presence and noise of equipment and workers for more than two hours, a qualified biologist will be present to monitor the bat roosting habitat and will stop work if any disturbance to bats is detected and contact CDFW for further guidance.</li> </ul>	<p>Parks Construction Manager Biologist</p>	<p>City of Walnut Creek Public Works</p>	<p>Prior to and during construction</p>	

<p>BIO-4</p>	<p><b>Protection Measures for American Badger</b></p> <ul style="list-style-type: none"> <li>• Prior to the start of any trail construction activities, all construction personnel including volunteers shall participate in a worker environmental awareness training program (WEAP) regarding American badgers and their habitat present in the project area. If new construction personnel are added to the proposed project, they must receive the mandatory training before starting work. As part of the training, an environmental awareness handout shall be provided to all personnel that describes these species, their preferred habitat, and lists applicable protection measures to protect these species.</li> <li>• A pre-construction survey of the project site and areas immediately adjacent to the project site shall be conducted at least two (2) weeks prior to implementation of the proposed project to determine if potentially active or known active den sites are present.</li> <li>• If potential dens are found during pre-construction surveys, a qualified biologist shall excavate these dens by hand with a shovel to prevent badgers from re-using them during construction.</li> <li>• If the qualified biologist determines that potential dens may be active, the entrances of the dens shall be blocked with soil, sticks, and debris for three (3) to five (5) days to discourage the use of these dens prior to project disturbance activities. The den entrances shall be blocked to an incrementally greater degree over the three (3) to five (5)-day period. After the qualified biologist determines that badgers have stopped using active dens, the dens shall be hand-excavated with a shovel to prevent re-use during construction.</li> </ul>	<p>Parks Construction Manager Biologist</p>	<p>City of Walnut Creek Public Works</p>	<p>Prior to and during construction</p>	
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<p>BIO-5</p>	<p><b>Protection Measures for Special-Status Amphibians</b></p> <ul style="list-style-type: none"> <li>• Prior to the start of any trail construction activities, all construction personnel including volunteers shall participate in a worker environmental awareness training program (WEAP) regarding special-status amphibian species and their habitat present in the project area. If new construction personnel are added to the proposed project, they must receive the mandatory training before starting work. As part of the training, an environmental awareness handout shall be provided to all personnel that describes these species, their preferred habitat, and lists applicable protection measures to protect these species.</li> <li>• If feasible, initial ground disturbing activities shall be conducted between May 1 and October 31 during dry weather conditions to minimize the potential for encountering these species.</li> <li>• Due to the potential for sensitive amphibians to move through the project site, project personnel shall at a minimum, check the ground beneath all equipment and stored materials prior to work activities during trail construction activities to prevent take of individuals. If any individual amphibians are discovered, consultation with the USFWS and CDFW shall be required. A USFWS approved biologist with appropriate handling permit to move individual amphibians shall be retained should they be present within the proposed project site during project activities.</li> <li>• Vessels shall be turned over and not made into "pitfall traps" out of which animals cannot escape.</li> <li>• Construction vehicle speeds should be limited to 5 mph all year, with 3 mph limit during amphibian breeding and migration season, which is October to June.</li> <li>• A qualified biologist shall be on site during construction activities to ensure implementation of, and compliance with avoidance and mitigation measures throughout the length of construction.</li> <li>• To ensure that diseases are not conveyed between work sites by the qualified biologist, the fieldwork code of practice developed by the Declining Amphibian Populations Task Force shall be followed at all times.</li> </ul>	<p>Parks Construction Manager Biologist</p>	<p>City of Walnut Creek Public Works</p>	<p>Prior to and during construction</p>	
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<p>BIO-6</p>	<p><b>Protection Measures for Special-Status Reptiles</b></p> <ul style="list-style-type: none"> <li>• If feasible, initial ground disturbing activities shall be conducted between May 1 and October 31 during dry weather conditions to minimize the potential for encountering these species.</li> <li>• A pre-construction survey of the project site and areas immediately adjacent to the project site shall be conducted two (2) days prior to implementation of the proposed project to determine if individuals of these species are present within the project site.</li> <li>• Prior to the start of any trail construction activities, all construction personnel including volunteers shall participate in a worker environmental awareness training program (WEAP) regarding special-status reptile species and their habitat present in the project area. If new construction personnel are added to the proposed project, they must receive the mandatory training before starting work. As part of the training, an environmental awareness handout shall be provided to all personnel that describes these species, their preferred habitat, and lists applicable protection measures to protect these species.</li> <li>• A qualified biologist shall be on site during construction activities to ensure implementation of, and compliance with avoidance and mitigation measures throughout the length of construction.</li> <li>• If Alameda whipsnake or coast horned lizards are found to be present, CDFW shall be consulted to determine the appropriate course of action.</li> <li>• To ensure that diseases are not conveyed between work sites by the qualified biologist, the fieldwork code of practice developed by the Declining Amphibian Populations Task Force shall be followed at all times.</li> <li>• Due to the potential for sensitive reptiles to move through the project site, project personnel shall at a minimum, check the ground beneath all equipment and stored materials prior to work activities during trail construction activities to prevent take of individuals.</li> </ul>	<p>Parks Construction Manager Biologist</p>	<p>City of Walnut Creek Public Works</p>	<p>Prior to and during construction</p>	
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<p>BIO-7</p>	<p><b>Protection Measures for Special-Status Wildlife Species During Trail Usage</b></p> <ul style="list-style-type: none"> <li>• The City shall develop interpretive signage to be placed along the trail alignment. The purpose of this signage shall be to inform trail users of the presence of special-status wildlife species along the trail alignment, and to create awareness among trail users on how to avoid impacts to these species. This signage shall be placed in areas of the trail alignment that provide habitat for these species.</li> </ul>	<p>Parks Construction Manager</p>	<p>City of Walnut Creek Public Works</p>	<p>Prior to and during construction</p>	
<p>GEO-1</p>	<p><b>Fossil discovery</b></p> <p>In the event that fossils or fossil-bearing deposits are discovered during construction activities, excavations within a 50-foot radius of the find shall be temporarily halted or diverted. The project contractor shall notify a qualified Paleontologist to examine the discovery. The Paleontologist shall document the discovery as needed (in accordance with Society of Vertebrate Paleontology [SVP] standards), evaluate the potential resource, and assess the significance of the find under the criteria set forth in California Environmental Quality Act (CEQA) Guidelines Section 15064.5. The Paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction activities are allowed to resume at the location of the find. If the applicant determines that avoidance is not feasible, the Paleontologist shall prepare an excavation plan for mitigating the effect of construction activities on the discovery. The excavation plan shall be submitted to the Lead Agency for review and approval prior to implementation, and the applicant shall adhere to the recommendations in the excavation plan.</p>	<p>Parks Construction Manager</p>	<p>City of Walnut Creek Public Works</p>	<p>Prior to and during construction</p>	<p>Verified by: Date:</p>

Mitigation Monitoring and Reporting Plan

<p>TCR-1</p>	<p><b>Workers Environmental Awareness Program (WEAP):</b> A Tribal Cultural Resources (TCRs) sensitivity and awareness training program (WEAP) shall be provided for all personnel involved in project construction, including field consultants and volunteers. An archaeologist meeting the Secretary of the Interior’s Professional Qualifications Standards for Archeology and representatives of the Confederated Villages of Lisjan will coordinate during preparation of the WEAP. The WEAP shall occur prior to the onset of project-related construction activities. The WEAP shall include relevant information regarding sensitive cultural resources and TCRs, including applicable regulations, protocols for avoidance, and consequences of violating state laws and regulations.</p> <p>The WEAP shall also describe appropriate avoidance and impact minimization measures for cultural resources and TCRs outlined in Mitigation Measure CR-2. The WEAP shall emphasize the requirement for confidentiality and culturally appropriate treatment of any discovery of significance to Native Americans and shall discuss appropriate behaviors and responsive actions, consistent with Native American tribal values.</p>	<p>Parks Construction Manager SOI Archaeologist Tribal Monitor</p>	<p>City of Walnut Creek Public Works</p>	<p>Prior to and during construction</p>	<p>Verified by: Date:</p>
<p>TCR-2</p>	<p><b>Inadvertent Discoveries:</b> If any suspected TCR, archaeological, or cultural resource is discovered during ground-disturbing construction activities, all work shall cease within one hundred feet of the find, or an agreed upon distance based on the project area and nature of the find. The monitors shall immediately notify a Tribal Representative from the Confederated Villages of Lisjan and shall determine if the find is a TCR (PRC § 21074). The Tribal Representative or qualified archaeologist shall make recommendations for further evaluation and treatment, as necessary. The City shall implement any measures deemed to be necessary and feasible to preserve in place, avoid, or minimize impacts to the resource, including, but not limited to, facilitating the appropriate tribal treatment of the find, as necessary. Work at the discovery location cannot resume until all necessary investigations and evaluation of the discovery have been satisfied.</p>	<p>Parks Construction Manager SOI Archaeologist Tribal Monitor</p>	<p>City of Walnut Creek Public Works</p>	<p>Prior to and during construction</p>	

Mitigation Monitoring and Reporting Plan

TCR-3	<p><b>Human Remains:</b> In the event human remains are discovered, all work shall cease immediately. All measures shall be made to secure and protect areas in which human remains and funeral objects are discovered. Construction workers and/or contractors or subcontractors on the job site shall not be permitted to take photographs of human remains, or funeral objects. Archaeological resources are not to be moved or taken from the project site and work should not resume until authorized. The County Coroner and local law enforcement shall be notified within 24 hours of the discovery to conduct proper evaluation and treatment of remains. The coroner and the law enforcement agency shall evaluate the find to determine whether it is a crime scene or a burial. If human remains are determined to be associated with an archaeological site (burial), the City of Walnut Creek shall notify the State Historic Preservation Office (SHPO) and shall work with SHPO to determine measures to take. That office shall contact the appropriate tribal representatives and consult on the disposition of the remains and any associated artifacts.</p>	<p>Parks Construction Manager County Coroner Walnut Creek Police Dept</p>	<p>City of Walnut Creek Public Works</p>	<p>Prior to and during construction</p>	
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## **Appendix A**

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### **NCE Botanical Survey Report**



Collaboration. Commitment. Confidence.<sup>SM</sup>

NCE Project No. 448.29.55

May 16, 2023

City of Walnut Creek  
Mike Vickers  
1666 North Main Street  
Walnut Creek, CA 94596

**RE: Walnut Creek Flow Trail Project  
2023 Biological Surveys Findings**

## Introduction

This Biological Survey Findings Report (report) was prepared for the Walnut Creek Flow Trail Project (Project) on behalf of the City of Walnut Creek (City). These surveys and report are intended to provide additional survey data for the Project site and inform the preparation of the biological resources section of the Initial Study. The Project is located in the western portion of Lime Ridge Open Space (Lime Ridge) just southeast of Boundary Oak Golf Course in eastern Walnut Creek, Contra Costa County, California. This report describes the results of three (3) rounds of botanical and wildlife surveys conducted within the Project area during 2023. A previous site visit and survey was conducted on September 9, 2022 to document wildlife species found within the Project area.

## Project Location and Description

The City proposes the Walnut Creek Flow Trail Project to construct a recreational flow trail for mountain bikers in the Lime Ridge Open Space. The recreational area is currently used for cattle grazing, horseback riding, hiking, and biking, and mountain bikers have been creating informal trails to create a flow trail experience through sensitive habitats. The City's objective is to create a mountain bike flow trail in less sensitive habitat that meets the terrain-induced, biking experience with little pedaling and braking necessary that mountain bikers are seeking.

The project is located in the southern section of Lime Ridge Open Space just southeast of Boundary Oak Golf Course in western Walnut Creek, Contra Costa County, California (Figure 1). The study area is comprised of approximately 11.65-acres. The trail head is located near the Boundary Oak Golf Course, where there is a parking lot. The current general plan and zoning designations for the project area is OSR, Open Space Recreation. The trail would begin at the trailhead located at the eastern end of Valley Vista Road utilizing existing trails and wind

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through the low rolling hills and connect to the Paraiso Trail at the junction with the Manzanita Trail. The trail would be approximately 1.6 miles in length (Figure 2).

The trail would begin at the trailhead located at the eastern end of Valley Vista Road, wind through the low rolling hills, and connect to the Paraiso Trail Head at its junction with the existing Manzanita Trail for a total linear distance of approximately 1.6 miles. The trail would measure a minimum of 2-feet and a maximum of 4-feet in width with a 5-10 foot wildfire buffer on either side.

Construction would involve minimal grading, by volunteers and City staff. Work would involve limited grading and hand removal of vegetation with hand tools and rakes. However, a small piece of equipment may be needed to move materials around and for construction. A four-foot pedestrian bridge would be constructed to span over the seasonal drainage swale without touching aquatic resources. The installation of flagstones would be placed in the swale of the upper valley to help prevent erosion near the trail. The trail will be cut to allow water to easily drain across and off the trail rather than directly down the trail. A two-rail fence may be constructed to provide separation between the proposed trail and the existing Timberleaf Trail. No trees would be removed. In mitigation for the project, native plants would be planted in the project vicinity. Construction is scheduled to occur in the dry summer months of 2024 and would take approximately 20-30 workdays. The total disturbed area would be approximately 1.12 acres.

There are a total of three parking options in which the public can park to access the flow trail and existing trails in the Lime Ridge Open Space. Public parking options can be found at Boundary Oak Golf Course at the east end of Valley Vista Road, Arbolado Park located southeast of the project area near the existing Ohlone Trail, and Montecito parking lot off of Ygnacio Valley Road at the central Lime Ridge Open Space boundary. No additional parking would be added by the project.

### **Construction Controls**

The project is required to comply with local, state, and federal regulations pertaining to the protection of human health, safety, and the environment.

The following required construction controls from local, state, and federal agencies are incorporated into the project design and are considered a part of the proposed project.

### **Minimum Erosion / Sediment Control Guidelines for Small Projects**

Small projects must comply with the City of Walnut Creek's Site Development Ordinance, which requires the use of erosion and sediment controls to protect water quality while the site is under construction. Prior to the issuance of a permit for grading activity that would occur during the rainy season (October 1 to April 30), an Erosion Control Plan must be submitted to the Engineering Division.

### **Hydrology and Water Quality**

The area of disturbance will be greater than one acre. Therefore, the project must comply with Regional Water Quality Control Board (RWQCB), construction general permit order 2009-0009 DWQ. The Construction General Permit requires the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer.

### **Cultural Resources**

Should human remains be uncovered, the statutes of State of California Health and Safety Code Section 7050.5 must be followed. The County Coroner must be notified of the find immediately, and no further disturbance shall

occur until the County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. If the human remains are determined to be prehistoric, the Coroner would notify the Native American Heritage Commission (NAHC), which would identify and notify a Most Likely Descendent. The Most Likely Descendent shall complete the inspection of the site within 24 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

## Biological Setting

Vegetation communities in the Project area include non-native grassland, valley needlegrass grassland, Diablan sage scrub, coast live oak woodland, urban mix, and seasonal wetland (Nomad 2021b). Non-native grassland covers a majority of the Project area and is dominated by species such as foxtail barley (*Hordeum murinum*), wild oats (*Avena* spp.), ripgut brome (*Bromus diandrus*), yellow starthistle (*Centaurea solstitialis*), thistle (*Carduus* spp.), burclover (*Medicago polymorpha*), and shortpod mustard (*Hirschfeldia incana*). Native species within this community include miner's lettuce (*Claytonia perfoliata*), purple needlegrass (*Stipa pulchra*), wavy-leafed soap plant (*Chlorogalum pomeridianum*).

A small patch of valley needlegrass grasslands occurs near the junction of the Paraiso Trail and the Timberleaf Trail. Purple needlegrass is dominant and other herbaceous species are present including common buttercup (*Ranunculus californicus*), wavy-leafed soap plant, blue dicks (*Dipterostemon capitatus*), narrowleaf mule ears (*Wyethia angustifolia*), blue-eyed grass (*Sisyrinchium bellum*), and various non-native annual grasses.

The section of the Project area that follows the existing Timberleaf trail contains Diablan sage scrub. The community is dominated by black sage (*Salvia mellifera*) and other species present include Yerba Santa (*Eriodictyon californicum*), California sagebrush (*Artemisia californica*), coyote brush (*Baccharis pilularis*), telegraph weed (*Heterotheca grandiflora*), white horehound (*Marrubium vulgare*), and deerweed (*Acmispon glaber*). Scattered blue elderberry (*Sambucus mexicana*) and coast live oak (*Quercus agrifolia*) individuals are present in low numbers.

Coast live oak woodland is present southeast of the junction of the proposed trail and Timberleaf Trail. The dominant species is coast live oak in the tree canopy with sparse California bay (*Umbellularia californica*) present, and a thin shrub layer consisting largely of coyote brush in the understory. The herbaceous layer is comprised of non-native annual grass species, Italian thistle (*Carduus pycnocephalus*), California manroot (*Marah fabacea*), and bull thistle (*Cirsium vulgare*).

Urban mix is characterized as areas where non-native plants have either escaped or been ornamentally planted. A patch of urban mix occurs towards the western end of the proposed trail, which is dominated by Eucalyptus trees (*Eucalyptus* spp.) and black walnut (*Juglans nigra*). There is no shrub layer present, and the herbaceous layer is comprised of non-native species including Italian thistle, ripgut brome, wild oats, and white horehound, among others.

A seasonal wetland occurs within the Project area as a part of an unnamed drainage that runs east-west and is located approximately 500 feet east of the junction of the proposed trail and Timberleaf Trail. Plant species in the seasonal wetland in the Project area include rye grass (*Festuca perennis*), tall flat sedge (*Cyperus eragrostis*), bird's-foot trefoil (*Lotus corniculatus*), Italian thistle, curly dock (*Rumex crispus*), and crane's-bill geranium (*Geranium molle*).



## Methods

Database research and literature reviews were conducted in support of the determinations outlined in this document. Information requests for biological resources known to occur in the vicinity of the Project area were also made.

The following preliminary research was conducted:

- Database searches for biological resources within the Project area, including:
  - USFWS Information for Planning and Conservation (IPaC) (USFWS 2023)
  - CDFW California Natural Diversity Database (CNDDDB) (CDFW 2023)
  - CNPS Inventory of Rare and Endangered Vascular Plants of California (CNPS 2023)
- Review of previous biological reports prepared for the Project area, including:
  - Nomad Ecology. 2021. “Biological Resources Assessment, Lime Ridge Trails Project”.
  - Nomad Ecology. 2021. “Draft Botanical Resource Survey Report, Lime Ridge Trails Project”.

Table 1 presents a list of special-status plant species that background database research and previous studies indicated may occur in the Project area, and that were therefore targeted during the surveys. The following five plant species are known to occur in the Project vicinity, and have suitable habitat present in the Project area.

**Table 1. Sensitive Plant Species Potentially Present in the Project Area**

Species	Regulatory Status			Habitat Requirements	Blooming Period
	Federal	State	CNPS		
<b><i>Amsinckia lunaris</i></b> bent-flowered fiddleneck	None	None	1B.2	Cismontane woodland, Coastal bluff scrub, Valley and foothill grassland.	Mar-Jun
<b><i>Blepharizonia plumosa</i></b> big tarplant	None	None	1B.1	Valley and foothill grassland. Clay (usually).	Jul-Oct
<b><i>Calochortus pulchellus</i></b> Mount Diablo fairy lantern	None	None	1B.2	Chaparral, Cismontane woodland, Riparian woodland, Valley and foothill grassland.	Apr-Jun
<b><i>Delphinium californicum</i> ssp. <i>interius</i></b> Hospital Canyon larkspur	None	None	1B.2	Chaparral, Cismontane woodland, Coastal scrub.	Apr-Jun
<b><i>Helianthella castanea</i></b> Diablo helianthella	None	None	1B.2	Broadleafed upland forest, Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland, Valley and foothill grassland. Azonal soils, Partial Shade (often), Rocky (usually).	Mar-Jun

## Field Methodology

NCE biologists conducted focused biological field surveys within the Project area on April 5, April 25, and May 9, 2023 to identify special-status plants and wildlife that may occur within the Project area based on their habitat

requirements and the existing site conditions. A previous site visit was conducted on September 9, 2022 to identify sensitive animal and plant species present in the Project area. These surveys were timed within the blooming period for all five (5) of the sensitive plant species potentially present in the Project area. The survey involved walking parallel and meandering transects on the Project site ensuring 100% coverage for potential special-status plants, observing animal tracks and sign, observing and listening for birds and other animals, documenting presence or absence of special-status species, and documenting observed habitat in the Project site and buffer.

The April 5 and April 25, 2023 surveys were conducted by Senior Biologist Cord Hute and Staff Biologist Annabel Li. The May 9, 2023 survey was conducted by Staff Biologists Annabel Li and Catrina Vaz. The September 9, 2022 survey was conducted by Senior Biologist Cord Hute. On the days of the 2023 surveys, the temperature ranged from 58°F – 68°F. The skies were clear with winds at 5 – 8 miles per hour. On the September 9, 2022 survey, the temperature ranged from 70°F – 95°F., skies were clear with winds at 2.5 – 6.3 miles per hour. Survey equipment included a 10x magnification hand lens, binoculars, and smartphone utilizing the ESRI Field Maps application.

## Results

No special-status plant species were observed in the Project site or buffer during the September 9, 2022, or April 5, April 25, and May 9, 2023 surveys. During the May 9, 2023 survey, one Diablo helianthella (*Helianthella castanea*) individual and a population of Mount Diablo fairy lantern (*Calochortus pulchellus*) composed of about 25 individuals were observed about 450 ft north of the Project area along the Paraiso Trail in the oak woodland understory. The individual Diablo helianthella and the Mount Diablo fairy lantern population served as references for the focused biological survey within the Project area.

During the April 5, 2023 survey, a small pond was observed adjacent to an approximately 110-ft section of the proposed trail located approximately 1,500 ft east of the junction of the proposed trail and Timberleaf Trail (Figure 4). The pond was not observed during previous surveys and was likely present this year due to unusually high rainfall. The pond provides suitable habitat for California red-legged frog (CRLF) (*Rana draytonii*), a Federally threatened and California species of special concern, and CRLF tadpoles were observed approximately 1.1 miles southeast of the Project area in 2018 (Nomad 2021). During the April 25, 2023 survey, tadpoles were observed in the pond, but were too small to accurately identify them to the species level. During the May 9, 2023 survey, visual observation of the tadpoles positively identified these tadpoles as California red-legged frog (*Rana draytonii*). No other frog species were identified within the pond.

A single coast horned lizard (*Phrynosoma blainvillii*), a California species of special concern, was observed during the September 9, 2022 survey near the center area of the Project site (Figure 4).

A list of plant species observed in the Project area during each survey is presented in Tables 2, 4, and 6 below. A list of wildlife species observed during each survey is presented in Tables 3, 5, and 7 below.

**Table 2. Plant Species Observed During April 5, 2023 Survey**

Scientific Name	Common Name	Native: Y, N
<i>Acmispon glaber</i>	deerweed	Y
<i>Aesculus californica</i>	California buckeye	Y
<i>Amsinckia lycopsoides</i>	bugloss-flowered fiddleneck	Y

Scientific Name	Common Name	Native: Y, N
<i>Artemisia californica</i>	California sagebrush	Y
<i>Avena</i> spp.	oats	N
<i>Baccharis pilularis</i>	coyote brush	Y
<i>Brassica juncea</i>	India mustard	N
<i>Brassica nigra</i>	black mustard	N
<i>Chlorogalum pomeridianum</i>	wavy-leafed soap plant	Y
<i>Claytonia perfoliata</i>	miner's lettuce	Y
<i>Cynara cardunculus</i>	artichoke thistle	N
<i>Dipterostemon capitatus</i>	blue dicks	Y
<i>Eriodictyon californicum</i>	yerba santa	Y
<i>Erodium</i> spp.	storksbill	N
<i>Eschscholzia californica</i>	California poppy	Y
<i>Eucalyptus citriodora</i>	lemon-scented gum	N
<i>Festuca octoflora</i>	sixweeks grass	Y
<i>Geranium dissectum</i>	cutleaf Geranium	N
<i>Heterotheca grandiflora</i>	telegraph weed	Y
<i>Hieracium murorum</i>	wall hawkweed	N
<i>Hirschfeldia incana</i>	short-pod mustard	N
<i>Hordeum murinum</i>	wall barley	N
<i>Juglans nigra</i>	eastern black walnut	N

Scientific Name	Common Name	Native: Y, N
<i>Lactuca serriola</i>	prickly lettuce	N
<i>Lupinus</i> spp.	lupine	Y
<i>Malva parviflora</i>	cheeseweed	N
<i>Marrubium vulgare</i>	white horehound	N
<i>Medicago polymorpha</i>	burclover	N
<i>Melia azedarach</i>	China berry	N
<i>Monardella villosa</i>	coyote mint	Y
<i>Quercus agrifolia</i>	coast live oak	Y
<i>Quercus lobata</i>	valley oak	Y
<i>Ranunculus californicus</i>	California buttercup	Y
<i>Rumex obtusifolius</i>	bitter dock	N
<i>Salvia mellifera</i>	black sage	Y
<i>Sambucus mexicana</i>	blue elderberry	Y
<i>Scandix pecten-veneris</i>	venus' needle	N
<i>Silybum marianum</i>	milk thistle	N
<i>Sisyrinchium bellum</i>	blue-eyed grass	Y
<i>Stellaria media</i>	chickweed	N
<i>Urtica urens</i>	dwarf nettle	N
<i>Vicia sativa</i>	common vetch	N
<i>Wyethia angustifolia</i>	narrowleaf mule-ears	Y

**Table 3. Wildlife Species Observed During April 5, 2023 Survey**

Scientific Name	Common Name	Native: Y, N
<i>Colaptes auratus</i>	northern flicker	Y
<i>Melanerpes formicivorus</i>	acorn woodpecker	Y
<i>Odocoileus hemionus</i>	mule deer	Y
<i>Otospermophilus beecheyi</i>	ground squirrel	Y
<i>Pipilo maculatus</i>	spotted towhee	Y
<i>Poecile rufescens</i>	chestnut-backed chickadee	Y
<i>Sialia mexicana</i>	western bluebird	Y
<i>Sturnella neglecta</i>	western meadowlark	Y
<i>Sturnus vulgaris</i>	European starling	N
<i>Zonotrichia leucophrys</i>	white crowned sparrow	Y

**Table 4. Plant Species Observed During April 25, 2023 Survey**

Scientific Name	Common Name	Native: Y, N
<i>Achyrachaena mollis</i>	blow wifes	Y
<i>Acmispon glaber</i>	deerweed	Y
<i>Amsinckia lycopsoides</i>	bugloss-flowered fiddleneck	Y
<i>Artemisia californica</i>	California sagebrush	Y
<i>Atriplex patula</i>	spear orach	Y
<i>Avena spp.</i>	wild oats	N
<i>Baccharis pilularis</i>	coyote brush	Y

Scientific Name	Common Name	Native: Y, N
<i>Bellardia trixago</i>	Mediterranean lineseed	N
<i>Brassica juncea</i>	India mustard	N
<i>Brassica nigra</i>	black mustard	N
<i>Bromus diandrus</i>	ripgut brome	N
<i>Bromus hordaceus</i>	soft chess	N
<i>Calystegia collina</i>	coast range false bindweed	Y
<i>Castilleja exserta</i>	purple owl's clover	Y
<i>Centaurea spp.</i>	star-thistle	N
<i>Chlorogalum pomeridianum</i>	wavy-leafed soap plant	Y
<i>Cirsium arvense</i>	Canada thistle	N
<i>Claytonia perfoliata</i>	miner's lettuce	Y
<i>Crassula connata</i>	pygmy-weed	Y
<i>Cynara cardunculus</i>	artichoke thistle	N
<i>Dipterostemon capitatus</i>	blue dicks	Y
<i>Elymus elymoides</i>	bottlebrush squirreltail	Y
<i>Eriodictyon californicum</i>	yerba santa	Y
<i>Erodium botrys</i>	longbeak stork's bill	N
<i>Erodium spp.</i>	storksbill	N
<i>Eschscholzia californica</i>	California poppy	Y
<i>Eucalyptus citriodora</i>	lemon-scented gum	N

Scientific Name	Common Name	Native: Y, N
<i>Festuca octoflora</i>	sixweeks grass	Y
<i>Festuca perennis</i>	rye grass	N
<i>Foeniculum vulgare</i>	fennel	N
<i>Geranium dissectum</i>	cutleaf Geranium	N
<i>Helminthotheca echioides</i>	bristly oxtongue	N
<i>Hirschfeldia incana</i>	short-pod mustard	N
<i>Hordeum murinum</i>	wall barley	N
<i>Juglans nigra</i>	eastern black walnut	N
<i>Krigia virginica</i>	dwarf dandelion	N
<i>Lepidium nitidum</i>	shining pepperweed	Y
<i>Lupinus succulentus</i>	arroyo lupine	Y
<i>Lysimachia arvensis</i>	scarlet pimpernel	N
<i>Malva parviflora</i>	cheeseweed	N
<i>Marah fabacea</i>	California man-root	Y
<i>Marrubium vulgare</i>	white horehound	N
<i>Matricaria discoidea</i>	pineapple weed	Y
<i>Medicago polymorpha</i>	burclover	N
<i>Melia azedarach</i>	China berry	N
<i>Monardella villosa</i>	coyote mint	Y
<i>Quercus agrifolia</i>	coast live oak	Y

Scientific Name	Common Name	Native: Y, N
<i>Quercus lobata</i>	valley oak	Y
<i>Salvia mellifera</i>	black sage	Y
<i>Sambucus mexicana</i>	blue elderberry	Y
<i>Scandix pecten-veneris</i>	venus' needle	N
<i>Silybum marianum</i>	milk thistle	N
<i>Sisyrinchium bellum</i>	blue-eyed grass	Y
<i>Sonchus oleraceus</i>	common sow thistle	N
<i>Succisa pratensis</i>	devil's bit scabious	N
<i>Tragopogon porrifolius</i>	oyster plant	N
<i>Trifolium fragiferum</i>	strawberry clover	N
<i>Trifolium hirtum</i>	rose clover	N
<i>Triteleia laxa</i>	Ithuriel's spear	Y
<i>Urtica urens</i>	dwarf nettle	N
<i>Vicia sativa</i>	common vetch	N
<i>Vicia villosa</i>	hairy vetch	N
<i>Wyethia angustifolia</i>	narrowleaf mule-ears	Y

**Table 5. Wildlife Species Observed During April 25, 2023 Survey**

Scientific Name	Common Name	Native: Y, N
<i>Haemorhous mexicanus</i>	house finch	Y
<i>Melanerpes formicivorus</i>	acorn woodpecker	Y



Scientific Name	Common Name	Native: Y, N
<i>Sturnella neglecta</i>	western meadowlark	Y

**Table 6. Plant Species Observed During May 9, 2023 Survey**

Scientific Name	Common Name	Native: Y, N
<i>Achyrachaena mollis</i>	blow wives	Y
<i>Acmispon glaber</i>	deerweed	Y
<i>Amsinckia lycopsoides</i>	bugloss-flowered fiddleneck	Y
<i>Artemisia californica</i>	California sagebrush	Y
<i>Avena spp.</i>	wild oats	N
<i>Baccharis pilularis</i>	coyote brush	Y
<i>Bellardia trixago</i>	Mediterranean linseed	N
<i>Brassica juncea</i>	India mustard	N
<i>Brassica nigra</i>	black mustard	N
<i>Bromus diandrus</i>	ripgut brome	N
<i>Bromus hordeaceus</i>	soft chess	N
<i>Bromus madritensis</i>	foxtail brome	N
<i>Calystegia macrostegia</i>	coast morning glory	Y
<i>Castilleja exserta</i>	purple owl's clover	Y
<i>Centaurea scabiosa</i>	greater knapweed	N
<i>Chlorogalum pomeridianum</i>	wavy-leafed soap plant	Y
<i>Carduus pycnocephalus</i>	Italian thistle	N

Scientific Name	Common Name	Native: Y, N
<i>Cynara cardunculus</i>	artichoke thistle	N
<i>Dichelostemma congestum</i>	fork-toothed ookow	Y
<i>Dipterostemon capitatus</i>	blue dicks	Y
<i>Elymus elymoides</i>	bottlebrush squirreltail	Y
<i>Eriodictyon californicum</i>	yerba santa	Y
<i>Erodium botrys</i>	longbeak stork's bill	N
<i>Erodium cicutarium</i>	common stork's bill	N
<i>Eschscholzia californica</i>	California poppy	Y
<i>Eucalyptus citriodora</i>	lemon-scented gum	N
<i>Festuca octoflora</i>	sixweeks grass	Y
<i>Festuca perennis</i>	rye grass	N
<i>Foeniculum vulgare</i>	fennel	N
<i>Geranium dissectum</i>	cutleaf Geranium	N
<i>Helminthotheca echioides</i>	bristly oxtongue	N
<i>Heterotheca grandiflora</i>	telegraphweed	Y
<i>Hirschfeldia incana</i>	short-pod mustard	N
<i>Hordeum murinum</i>	wall barley	N
<i>Hypochaeris glabra</i>	smooth cat's-ear	N
<i>Juglans nigra</i>	eastern black walnut	N
<i>Krigia virginica</i>	dwarf dandelion	N

Scientific Name	Common Name	Native: Y, N
<i>Lupinus succulentus</i>	arroyo lupine	Y
<i>Lysimachia arvensis</i>	scarlet pimpernel	N
<i>Malva parviflora</i>	cheeseweed	N
<i>Marah fabacea</i>	California man-root	Y
<i>Marrubium vulgare</i>	white horehound	N
<i>Matricaria discoidea</i>	pineapple weed	Y
<i>Medicago polymorpha</i>	burclover	N
<i>Melia azedarach</i>	China berry	N
<i>Melilotus officinalis</i>	yellow sweet clover	N
<i>Monardella villosa</i>	coyote mint	Y
<i>Quercus agrifolia</i>	coast live oak	Y
<i>Quercus lobata</i>	valley oak	Y
<i>Rumex crispus</i>	curly dock	N
<i>Salvia mellifera</i>	black sage	Y
<i>Sambucus mexicana</i>	blue elderberry	Y
<i>Scandix pecten-veneris</i>	venus' needle	N
<i>Silybum marianum</i>	milk thistle	N
<i>Sisyrinchium bellum</i>	blue-eyed grass	Y
<i>Sonchus oleraceus</i>	common sow thistle	N
<i>Tragopogon porrifolius</i>	oyster plant	N

Scientific Name	Common Name	Native: Y, N
<i>Trifolium fragiferum</i>	strawberry clover	N
<i>Trifolium hirtum</i>	rose clover	N
<i>Triteleia laxa</i>	Ithuriel's spear	Y
<i>Urtica urens</i>	dwarf nettle	N
<i>Vicia sativa</i>	common vetch	N
<i>Vicia villosa</i>	hairy vetch	N
<i>Wyethia angustifolia</i>	narrowleaf mule-ears	Y

**Table 7. Wildlife Species Observed During May 9, 2023 Survey**

Scientific Name	Common Name	Native: Y, N
<i>Agelaius phoeniceus</i>	red-winged blackbird	Y
<i>Bos taurus</i>	cow	N
<i>Cathartes aura</i>	turkey vulture	Y
<i>Melanerpes formicivorus</i>	acorn woodpecker	Y
<i>Meleagris gallopavo</i>	wild turkey	N
<i>Rana draytonii</i>	California red-legged frog	Y
<i>Sturnella neglecta</i>	western meadowlark	Y

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**Prepared by:**



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Staff Scientist I



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Cord Hute  
Senior Biologist II

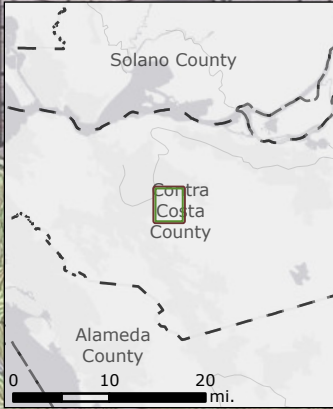
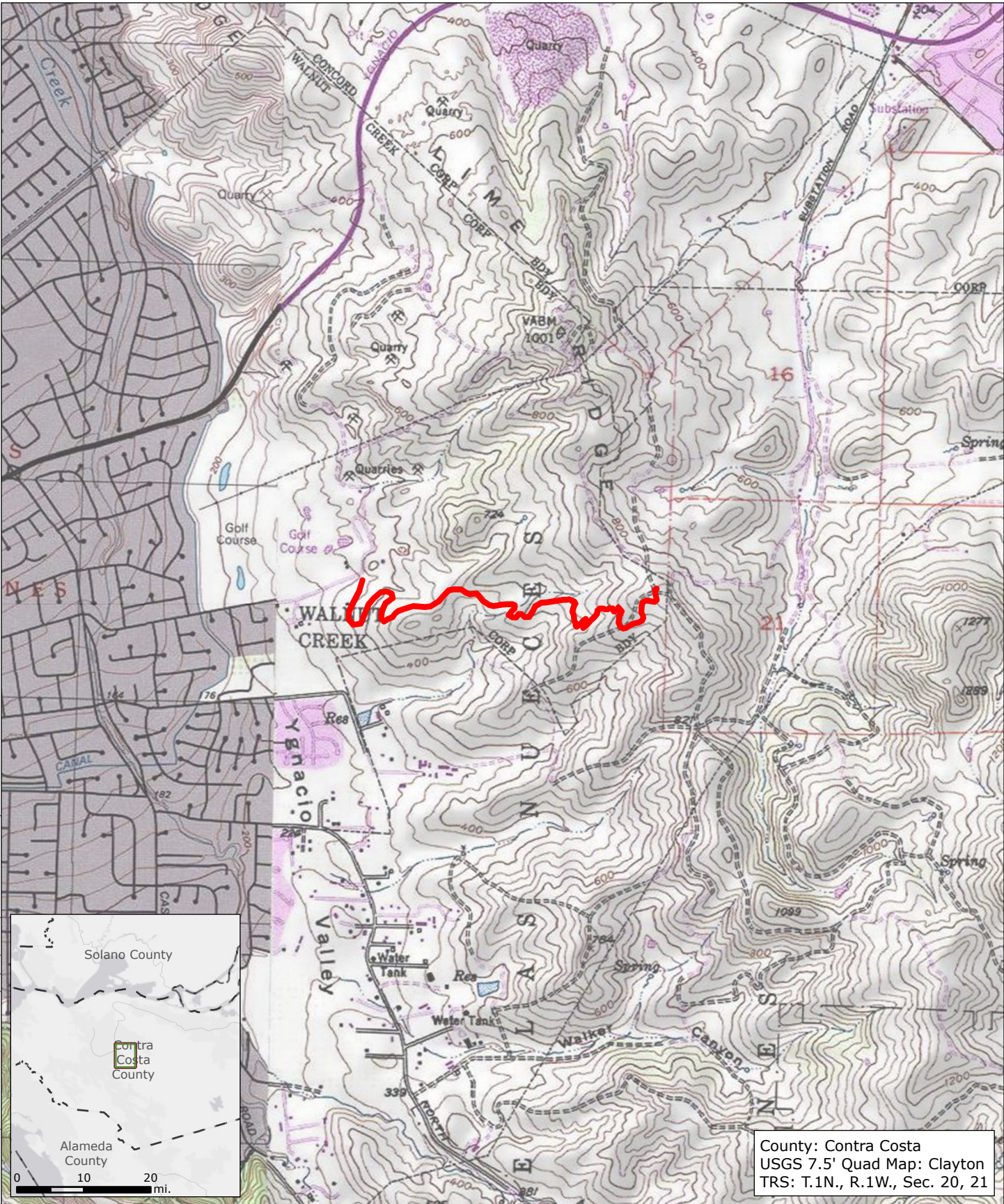
NCE  
501 Canal Blvd., Suite I  
Point Richmond, CA 94804  
(510) 215-3620

**Attachments:**

Attachment A – Figures

**Attachment A**  
**Figures**

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County: Contra Costa  
 USGS 7.5' Quad Map: Clayton  
 TRS: T.1N., R.1W., Sec. 20, 21

**Legend**  
 Project Area



Flow Trail Project  
 City of Walnut Creek  
 Project Area Location Map

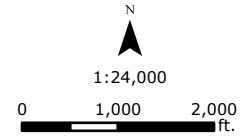


FIGURE  
**1**

SOURCE  
 ESRI USGS Topo Maps

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 448.29.55

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 mlaitinen

DATE  
 5/31/2022

REVISED  
 6/1/2022

APPROVED  
 gervin


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**Legend**

 Project Area



Flow Trail Project, City of Walnut Creek  
Project Area Detail Map

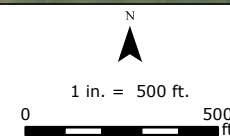


FIGURE  
2

SOURCE  
Bing Aerial Basemap

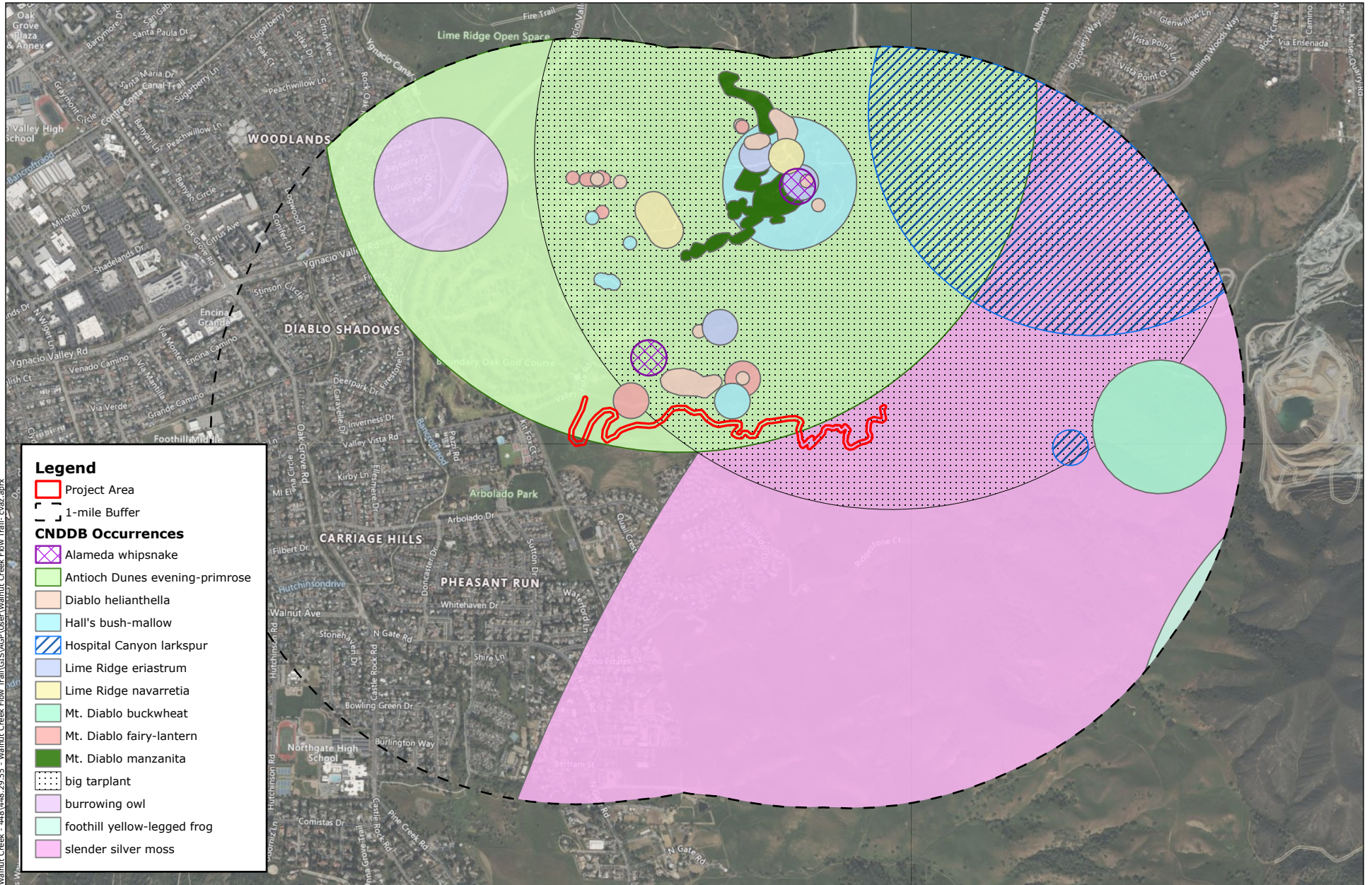
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DATE  
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6/1/2022

APPROVED  
gervin



**Legend**

- Project Area
- 1-mile Buffer
- CNDB Occurrences**
- Alameda whipsnake
- Antioch Dunes evening-primrose
- Diablo helianthella
- Hall's bush-mallow
- Hospital Canyon larkspur
- Lime Ridge eriastrum
- Lime Ridge navarretia
- Mt. Diablo buckwheat
- Mt. Diablo fairy-lantern
- Mt. Diablo manzanita
- big tarplant
- burrowing owl
- foothill yellow-legged frog
- slender silver moss



**Flow Trail Project, City of Walnut Creek**  
CNDB Occurrences Map

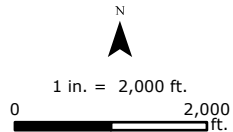


FIGURE  
**3**

SOURCE  
Bing Aerial Basemap

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- Project Area
- 200 ft buffer
- Calochortus pulchellus and Helianthella castanea
- Pond with Rana draytonii
- ★ Phrynosoma blainvillii



SOURCE  
ESRI Aerial Imagery

## Flow Trail Project, City of Walnut Creek

### Biological Findings Map

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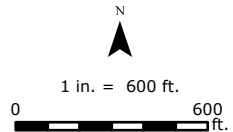
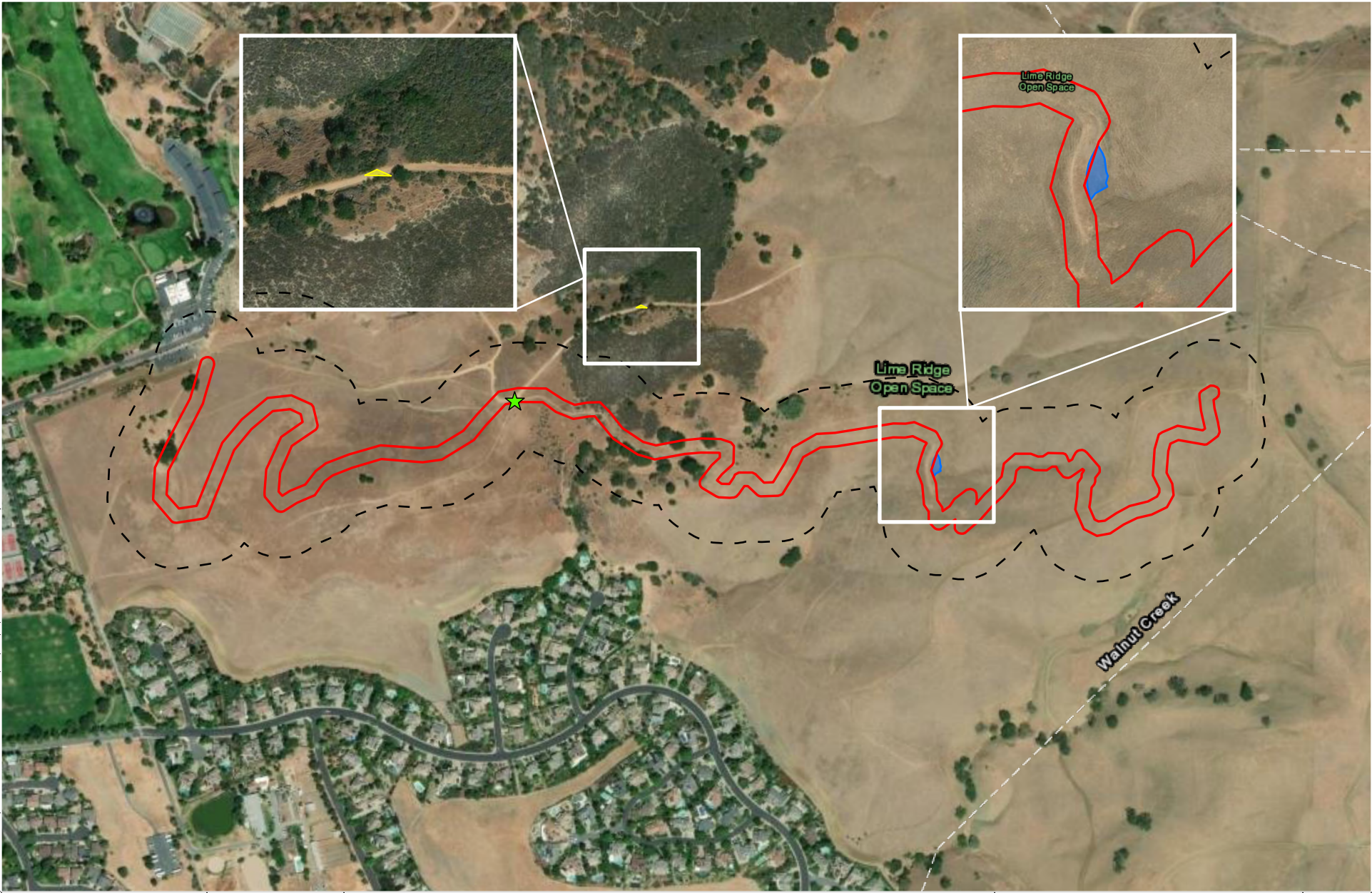


FIGURE  
**4**



## **Appendix B**

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### **Nomad Biological Resources Assessment**

# **BIOLOGICAL RESOURCES ASSESSMENT**

## **LIME RIDGE TRAILS PROJECT**

**CITY OF WALNUT CREEK, CONTRA COSTA COUNTY, CALIFORNIA**



*Prepared for*

City of Walnut Creek Open Space Division  
1666 North Main Street  
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*Prepared by*



822 MAIN STREET  
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**March 2021**

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## **Section 1. INTRODUCTION**

---

Nomad Ecology (Nomad) prepared this Biological Resources Assessment for the proposed Lime Ridge Trails Project (project) on behalf of City of Walnut Creek Open Space Division. The project is located in the western section of Lime Ridge Open Space (Lime Ridge) just southeast of Boundary Oak Golf Course in western Walnut Creek, Contra Costa County, California (Figure 1).

This report provides an assessment of existing conditions, evaluates habitat suitability for special status plant and wildlife species and sensitive natural communities, analyzes potential project impacts to biological resources, and provides recommendations for impact avoidance and minimization.

### **1.1. PROJECT DESCRIPTION**

#### **1.1.1 PURPOSE AND NEED**

The purpose of this project is to construct new trails in this section of Lime Ridge. In its current state, there are no official trails established in this area and new trails will increase recreational access within Lime Ridge.

#### **1.1.2 LOCATION**

The location considered for trail installation under this project is the grassland area south of the Valley Vista Trailhead/Parking area and the existing Ohlone Trail, along the existing Paraiso and Timberleaf trails for approximately 500 feet, then in the grassland areas east of Timberleaf Trail and south of Paraiso Trail. This location has been chosen due to the lack of official trail access in this area of Lime Ridge. Exact trail locations as proposed within the locations defined above may vary as project planning nears completion, however the study area for the Biological Resources Assessment is wide enough to accommodate these refinements.



#### **1.1.3 PROJECT DESCRIPTION**

This project will involve the installation of newly created trails in the western section of Lime Ridge. Low impact grading will occur along the proposed trail corridor. No trees or shrubs will be removed. A generally east-west trending unnamed drainage bisects the proposed trail approximately 500 feet east of its departure from the Timberleaf Trail. A creek crossing structure will be installed at the crossing location.






March 2021

Legend	
	Study Area
	Public Land and Easements

**Figure 1**  
**Project Vicinity Map**  
 Lime Ridge Trails Project  
 City of Walnut Creek Open Space

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Miles	

Sources: National Agriculture Imagery Program, ESRI

## Section 2. STUDY METHODS

### 2.1. DEFINITIONS

The following terms were used to evaluate the sensitivity of onsite biological resources and potential impacts of the proposed project. Terms and definitions are derived from the CEQA Guidelines and regulatory agencies, where applicable. A summary of laws, ordinances, and regulations are included in Appendix A.

<b>Study Area</b>	The 11.65-acre study area consists of a 30-foot buffer along the approximately 1.6-mile proposed trail.
<b>Project Area</b>	The project area includes the area within the limits of work described in the Project Description and is smaller than the study area.
<b>Direct Impact</b>	Impacts (or primary effects), which are caused by the project and occur at the same time and place [CEQA Guidelines, Title 14 CCR, Section 15358(a)(1)].
<b>Indirect Impact</b>	Impacts (or secondary effects), which are caused by the project and are later in time or farther removed in distance but are still reasonably foreseeable. These may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on air and water and other natural systems, including ecosystems [CEQA Guidelines, Title 14 CCR, Section 15358(a)(2)].
<b>Critical Habitat</b>	Defined by the Endangered Species Act (ESA), as amended (Code of Federal Regulations, Title 50, Section 17), as “a specific geographic area(s) that is essential for the conservation of a threatened or endangered species and that may require special management and protection. Critical habitat may include an area that is not currently occupied by the species but that will be needed for its recovery.” Critical habitat designations are published in the Federal Register. The final boundaries of the critical habitat area are also published in the Federal Register for federally listed species by USFWS and NOAA Fisheries.
<b>DPS</b>	A distinct population segment (DPS) is a vertebrate population or group of populations that are distinct from other populations of the species and significant in relation to the entire species. The ESA provides for listing species, subspecies, or distinct population segments of vertebrate species.
<b>ESU</b>	An evolutionarily significant unit (ESU) is a population or group of populations that is substantially reproductively isolated from other conspecific populations and that represents an important component of the evolutionary legacy of the species. The ESU policy for Pacific salmon defines the criteria for identifying a Pacific salmon population as a distinct population segment (DPS), which can be listed under the ESA.

### 2.2. SIGNIFICANCE CRITERIA

The significance criteria are based in part on the Environmental Checklist (CEQA Guidelines Appendix G [Title 14 CCR, Section 15000-15387]). These criteria are used to determine the extent to which the proposed

project would impact sensitive biological resources. The threshold of significance may vary for each species or habitat and is determined by the lead agency. Using these guidelines, the project would result in a significant impact if it would:

- 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 (CDFW) or U.S. Fish and Wildlife Service (USFWS).
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS.
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, *etc.*) through direct removal, filling, hydrological interruption, or other means.
- 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.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

### **2.3. DATA RESOURCES**

Background information for listed and special status plant and wildlife species, and sensitive natural communities was compiled through a review of the following resources:

#### **U.S. Fish and Wildlife Service (USFWS):**

- Information for Planning and Consultation (IPaC) Online System Species List Query (USFWS 2021a) (Appendix E)
- National Wetland Inventory for the Clayton Quadrangle (USFWS 2021b)

#### **National Oceanographic and Atmospheric Administration (NOAA Fisheries):**

- Endangered and Threatened Species; Establishment of Species of Concern List, Addition of Species to Species of Concern List, Description of Factors for Identifying Species of Concern, and Revision of Candidate Species List Under the Endangered Species Act (NOAA 2004)
- Endangered and Threatened Species; Revision of Species of Concern List, Candidate Species Definition, and Candidate Species List (NOAA 2006a)
- Species list for the Clayton quadrangle (NOAA 2016) (Appendix F)

#### **California Department of Fish and Wildlife (CDFW):**

- California Natural Communities List (CDFW 2020)
- State and Federally Listed Endangered, Threatened and Rare Plants of California (CDFW 2021a)
- State and Federally Listed Endangered and Threatened Animals of California (CDFW 2021c)
- Special Vascular Plants, Bryophytes, Lichens List (CDFW 2021b)
- Special Animal List (CDFW 2021d)

- California Natural Diversity Database (CNDDDB) RareFind 5 Query for the Antioch North, Antioch South, Clayton, Diablo, Honker Bay, Las Trampas Ridge, Tassajara, Vine Hill, and Walnut Creek USGS 7 ½ Minute Quads (CDFW 2021e) (Appendix D)

#### Other Sources:

- The California Native Plant Society’s *Inventory of Rare and Endangered Plants of California* (CNPS 2021)
- Consortium of California Herbaria One (CCH1) (CCH1 2021)
- Consortium of California Herbaria Two (CCH2) (CCH2 2022)
- The Jepson eFlora (JFP 2021)
- The Jepson Manual: Vascular Plants of California (Baldwin et al. 2012)
- A Manual of California Vegetation (Sawyer et al. 2009)
- Contra Costa County Breeding Bird Atlas (Glover 2009)
- Contra Costa County Watershed Atlas (CCCCDD 2003)
- Annotated Checklist of the East Bay Flora (CNPS 2013)

Botanical taxonomy and nomenclature conforms to *The Jepson Manual* (Baldwin et al. 2012) with the exception of recent updates posted on the Jepson eFlora (JFP 2021) website. Common names of plant species are derived from the *Calflora Database* (Calflora 2021). Vegetation descriptions conform to the *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986), *California Vegetation* (Holland and Keil 1995), and *A Manual of California Vegetation* (Sawyer et al. 2009); wetland and deepwater habitat classifications conform to *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al. 1979), where appropriate.

Taxonomy and nomenclature for special status plant species conform to the *Inventory of Rare and Endangered Plants of California* (CNPS 2021) and *Special Vascular Plants, Bryophytes and Lichens List* (CDFW 2021b). Nomenclature for common and special status wildlife conforms to the *Complete List of Amphibian, Reptile, Bird and Mammal Species in California* (CDFW 2016) with taxonomic nomenclature updates conforming to the *Special Animals List* (CDFW 2021d).

## 2.4. IDENTIFICATION OF POTENTIALLY OCCURRING SPECIES

The identification of species with potential to occur for this Biological Resources Assessment is based on a background review of data sources described in Section 2.3 and Appendices B and C, Nomad’s expertise with the regional wildlife and flora, and habitats present within the study area. This background review resulted in the determination of the potentially occurring special status plant and wildlife species, out of those known from the region.

## 2.5. REGULATORY FRAMEWORK

The following section summarizes the regulatory framework related to natural resources such as sensitive natural communities and special status plants and animals.

### 2.5.1 SENSITIVE NATURAL COMMUNITIES

Sensitive Natural Communities are characterized as plant assemblages that are unique in constituent components, restricted in distribution, supported by distinctive edaphic conditions, considered locally rare, potentially support special status plant or wildlife species, and/or receive regulatory protection from municipal, county, state and/or federal entities. The regulatory framework that protects sensitive natural

communities is derived from local, state, and federal laws and regulations including Section 10 of the federal Rivers and Harbors Act, sections 401 and 404 of the federal Clean Water Act, Section 1600 et seq. of the California Fish and Game Code, Section 15065 of the CEQA guidelines, and various other city or county codes. Implementation and enforcement of these regulations are conducted by their respective regulatory entities such as the U.S. Army Corps of Engineers, California Regional Water Quality Control Board, California Department of Fish and Wildlife, lead agency, and/or various cities or counties. Natural Communities with ranks of S1, S2, and S3 are considered Sensitive Natural Communities to be addressed in the environmental review processes of CEQA and its equivalents (CDFW 2020).

### 2.5.2 SPECIAL STATUS SPECIES

Special status plant and wildlife species are defined as those species listed as threatened or endangered, are proposed or candidates for listing, or are designated as fully protected species under one or more of the following regulatory statutes: Federal Endangered Species Act (ESA), as amended (Code of Federal Regulations, Title 50, Section 17), California Endangered Species Act (CESA) (California Code of Regulations Title 14, Section 670.5), California Fish and Game Code (Sections 1901, 2062, 2067, 3511, 4700, 5050 and 5515) and the Native Plant Protection Act (NPPA) of 1977. Special status species may also include locally rare species defined by CEQA guidelines 15125(c) and 15380, which may include species that are designated as sensitive, declining, rare, locally endemic or as having limited or restricted distribution by various federal, state, and local agencies, organizations, and watchlists.

The California Native Plant Society (CNPS) has developed and maintains an inventory of Rare, Threatened and Endangered plants of California. This information is published in the Inventory of Rare and Endangered Vascular Plants of California (CNPS 2021). The rarity ranking contained in the CNPS inventory is endorsed by the CDFW and effectively serves as its list of “candidate” plant species. The following identifies the definitions of the CNPS California Rare Plant Ranks:

- Rank 1A: Plants presumed to be extinct in California;
- Rank 1B: Plants that are rare, Threatened, or Endangered in California and elsewhere;
- Rank 2A: Plants presumed extirpated in California, but more common elsewhere;
- Rank 2B: Plants that are rare, Threatened, or Endangered in California, but are more common elsewhere;
- Rank 3: Plants about which more information is needed (a review list);
- Rank 4: Plants of limited distribution (a watch list).

California Rare Plant Rank 1B and 2 species are considered eligible for state listing as Endangered or Threatened pursuant to the California Fish and Game Code. As part of the CEQA process, such species should be fully considered, as they meet the definition of Threatened or Endangered under the NPPA and Sections 2062 and 2067 of the California Fish and Game Code. California Rare Plant Rank 3 and 4 species are considered to be either plants about which more information is needed or are uncommon enough that their status should be regularly monitored. Such plants may be eligible or may become eligible for state listing, and CNPS and CDFW recommend that these species be evaluated for consideration during the preparation of CEQA documents (CNPS 2001, CNPS 2021), as some of these species may meet NPPA and CESA criteria as Threatened or Endangered.

The status of these species is based on their rarity and endangerment throughout all or portions of their range. Such species are referred to as special status species or “target species” herein.

## 2.6. PERSONNEL AND FIELD INVESTIGATION

Nomad wildlife biologists Dana Terry and Devin Hollister, and Nomad botanist Adam Chasey conducted a reconnaissance-level site visit of the 11.65-study area on February 8, 2021. While completing that task, Nomad personnel made efforts to document the biological resources present in the study area. Those efforts included: searching for plants and animals while walking throughout the study area and making observations from stationary observation points.

All proposed impact areas and vegetation communities within the study area were visited and evaluated for their potential to support sensitive biological resources. Protocol-level surveys for special status plants and animals were not conducted as part of this assessment. However, all plant species in bloom, or otherwise recognizable, were identified to a level necessary to determine their regulatory status. In addition, all wildlife species observed or recognized by diagnostic sign (e.g., audible call, tracks, scat, carcasses, burrows) were identified and recorded.

## 2.7. LIMITATIONS

Based on the timing of this assessment, not all potentially occurring special status plant, fish or wildlife species can be conclusively determined to be absent. However, determinations of presence/absence within the study area were possible for: (1) specific special status plant species that would be identifiable during the February 2021 site visit; and (2) the direct observation or presence of diagnostic sign for wildlife species. Negative findings during site assessments or focused surveys may not indicate absence unless field surveys conform to agency approved protocols.

Based on the timing of the surveys, all plant species growing within the study area may not have been observed due to varying flowering phenologies and life forms, such as bulbs, biennials, and annuals. Annuals may be absent in some years due to annual variations in temperature and rainfall, which influence germination and plant phenology. Colonization of new populations within an area may also occur from year to year. The present study is not floristic in nature. A floristic study not only requires every plant observed to be identified to a level necessary to determine their regulatory status, it also necessitates a sufficient number of site visits spaced throughout the growing season within the blooming periods of all plant species, including common taxa, to ensure a complete inventory is obtained (CNPS 2001, CDFW 2018, USFWS 2000).

Since vegetation types are based on samples from one time visits from a single season, and their associate species may be subject to change if additional data are collected, annual species dominance may change depending on the sample season or year. The phrase “in part” is used to signify that vegetation descriptions may include additional annual species present if surveyed during other seasons or years. Other potentially dominant species within vegetation communities on site may be present during other times of the year.

The CNDDDB tracks user-submitted occurrences of all special status species in California and is used extensively as a reference for regulatory and planning purposes (CDFW 2021e). This database may substantially under-represent actual densities of species, particularly for species that are difficult to detect and for areas that are in private land ownership and have not been surveyed. It is also likely to under-represent densities of species that are not prominent in regulatory permitting or environmental planning settings.

Several factors constrained the biologists’ ability to identify all of the wildlife species that occur within the study area. Songbirds are most easily detected in the early morning or late evening, rather than during other times of the day. Similarly, owls and bats are most easily detected at night. Due to the scope of work, biologists were only on site for a short period of time to assess the general habitat within the study area and

could not be present during all the optimal times for wildlife detection. Finally, one reconnaissance visit is not sufficient for identifying all wildlife that may winter, breed, forage, or migrate through the project area.

The proposed activities and work areas evaluated in this report are based on the project area provided by City of Walnut Creek. Significant changes in the project design may warrant further analysis.

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## **Section 3. ENVIRONMENTAL SETTING**

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### **3.1. SETTING**

#### **3.1.1 REGIONAL SETTING**

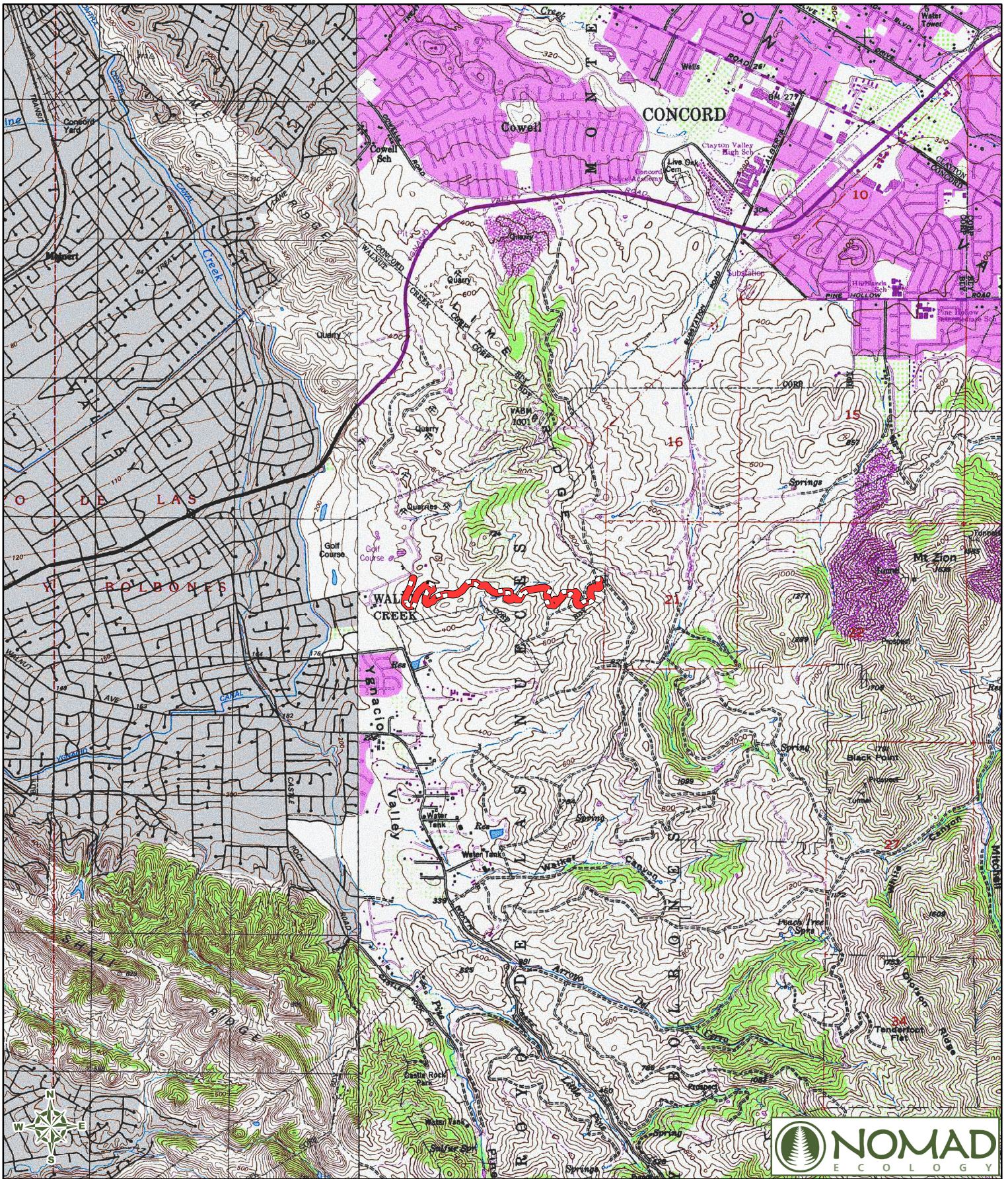
The study area is located within the Arroyo de las Nueces y Bolbones and Monte del Diablo land grants as shown on the Clayton USGS topographic quadrangle (Figure 2). The study area is within the San Francisco Bay Subregion of the California Floristic Province (Baldwin et al. 2012). Lime Ridge is in the Pine Creek/Galindo Creek watershed (Contra Costa County 2003).

As described in the *Ecological Subregions of California* (USDA 1997), the study area is located in the East Bay Hills- Mt. Diablo subsection of the Central California Coast Section. The *Ecological Subregions of California* are the basis for describing regional variation in California alliance descriptions in *A Manual of California Vegetation* (Sawyer et al. 2009) and determining sensitive natural communities.

#### **East Bay Hills – Mount Diablo**


The East Bay Hills consist of steep hills west of Mt. Diablo, between the Diablo Range and San Francisco Bay which are characterized by a hot, sub-humid climate with a moderate marine influence that diminishes moving eastward (USDA 1997). This is a subsection of northwest trending hills with subequal summits, rounded ridges, steep sides, and narrow canyons and ranges from sea-level to about 2,000 feet in elevation in the East Bay Hills. Mass wasting and fluvial erosion are the main geomorphic processes. The East Bay Hills are mainly comprised of Cretaceous, Eocene, and Miocene marine and Pliocene nonmarine sedimentary rocks (USDA 1997). Most of the soils are leached free of carbonates, but calcium carbonates have accumulated in some soils in the Mt. Diablo and Diablo Valley areas (USDA 1997).






March 2021

**Legend**

 Study Area

**Figure 2**  
**Project Location on USGS Topographic Map**  
 Lime Ridge Trails Project  
 City of Walnut Creek Open Space

1:36,000  
 0 1,500 3,000  
 Feet



### 3.1.3 LOCAL SETTING

The 11.65-acre study area consists of a proposed trail and a 30-foot buffer in the area located south and southeast of Boundary Oak Golf Course in eastern Walnut Creek in Contra Costa County, California (Figure 1). The proposed trail begins at the trailhead located at the eastern end of Valley Vista Road and winds through the low rolling hills and connects to the Paraiso Trail at the junction with the existing Manzanita Trail. The proposed trail follows the existing Timberleaf Trail for approximately 500 feet just east of the junction with the Paraiso Trail. The proposed trail is approximately 1.6 miles in length. Photos of the study area are included in Appendix G.

#### Topography

The topography of the study area is characterized by gentle rolling hills that increase in elevation towards the eastern end of the study area (Figure 2). A small, unnamed, north-south oriented drainage runs through the study area and likely carries flow only during and immediately following precipitation events. Elevations range from approximately 300 feet at the western end of the study area to approximately 830 at the eastern end.

#### Climate

For this region the mean annual precipitation ranges from 15 to 25 inches and most of the precipitation is rainfall (USDA 1997). The climate is characterized as Mediterranean with cool, wet winters and warm to hot, dry summers. The mean annual temperature is generally between 54° and 60°F and the mean freeze-free period is from 225 days at higher elevations to 275 days at lower elevations. Hydrologically, runoff is rapid from the hills, but slow from the alluvial plains. All but the larger streams are dry throughout the summer (USDA 1997).

#### Geology and Soils

Geology underlying the study area are Pleistocene and Holocene surficial deposits, Domingene formation, and early Cretaceous sandstone and shale (Graymer et al. 1994).

Four soil mapping units are located within the project area (USDA 2021) (Table 1). None of them are considered hydric, although two contain hydric inclusions in the mapping unit. Altamont clay and Altamont-Fontana complex represent clay soils, while Briones series is sandier than a typical loam in Contra Costa County (USDA 1977). Clay soils found within the study area drive edaphic conditions that influence plant composition.

**Table 1. Soil Mapping Unit Characteristics in the Study Area**

SOIL MAPPING UNIT (SYMBOL)	DRAINAGE CLASS	PERMEABILITY	RUNOFF	HYDRIC
Altamont clay, 15 to 30 percent slopes (AbE)	Well Drained	Slow	Medium	No, but inclusions of minor components are hydric
Altamont-Fontana complex, 30 to 50 percent slopes (AcF)	Well Drained	Slow	Medium to Rapid	No, but inclusions of minor components are hydric
Briones loamy sand, 30 to 50 percent slopes (BdF)	Somewhat Excessively Drained	Rapid	Rapid	No
Rock outcrops – Xerorthents association (Re)	Excessively Drained	Moderate	Very High	No

**Hydrology Characteristics**

Hydrology onsite is influenced by precipitation, surface water runoff, geologic stratigraphy, topography, soil permeability, and plant cover. A generally east-west trending unnamed drainage crosses through the study area approximately 500 feet east of its junction with the existing Timberleaf Trail (Figure 3). This drainage is ephemeral and appears to carry flow only during and immediately following precipitation events. This feature is shown as an ephemeral drainage in the National Hydrogeography Dataset (USGS 2021) and as a blue line stream on the USGS Clayton topographic map. This feature flows west through the study area, and then flows west and south approximately 1,1100 feet until it enters a culvert under the residential development on Timberleaf Court. According to the USGS Clayton topographic map and the National Hydrogeography Dataset (USGS 2021), the feature flows into a pond near the De Vito Equestrian Center on Arbolado Drive.

There is a seasonal wetland in the stream channel where it crosses the study area. The seasonal wetland is confined to the bottom of the channel, and appears to be in a low area where water pools because the creek levels out where the trail crossing is proposed and the down gradient decreases.

**Land Use**

As the study area is located within a regional open space the primary land-use here is recreation in the form of hiking and biking. No cattle grazing is permitted within this open space. To the north and east of the open space lie residential subdivisions. The Concord campus of California State University East Bay is also located to the east across Crystyl Ranch Drive although this parcel is mostly undeveloped open space that is grazed. To the south lies private grazing land. Boundary Oaks Golf Course borders the open space to the west.

**3.2. VEGETATION COMMUNITIES AND LAND COVER TYPES**

Vegetation communities in the study area include non-native grassland, seasonal wetland, Diablan sage scrub, coast live oak woodland, and urban mix (Table 2). The spatial distribution of vegetation types within the study area are depicted in Figure 3.

**Table 2. Vegetation Communities and Land Cover Types in the Study Area**

VEGETATION COMMUNITY/LAND COVER TYPE	AREA (ACRES) <sup>1</sup>
Non-Native Grassland	11.10
Seasonal Wetland	0.01
Diablan Sage Scrub	0.17
Coast Live Oak Woodland	0.22
Urban Mix	0.15
<b>Total</b>	<b>11.65</b>

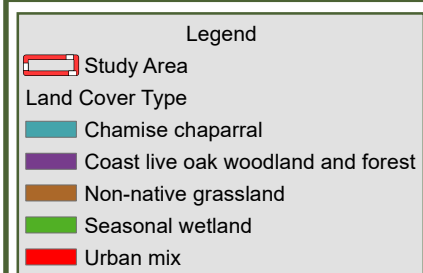
<sup>1</sup>Acreages of vegetation communities are considered preliminary and will be finalized when the Aquatic Resource Delineation is finalized.

This section describes vegetation on-site utilizing three vegetation classification systems: *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986), *California Vegetation* (Holland and Keil 1995) and *Manual of California Vegetation, Second edition* (MCV; Sawyer et al. 2009). Holland (1986) and Holland and Keil (1995) provide generalized natural community-level descriptions for natural communities present within the study area (Table 3). If applicable, each natural community-level is given more detail by providing a description of the vegetation using Sawyer et al. (2009) vegetation classification system based on field observations. MCV vegetation types are listed in the *List of California Vegetation Alliances and Associations* (CDFW 2020).

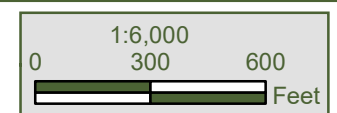
Table 3 relates the Holland or Holland and Keil and MCV vegetation types identified within the study area to the *CNPS Inventory of Rare and Endangered Plants of California* (CNPS 2020), and *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al. 1979). The codes used in Table 3 reflect those associated with Holland (1986) types as well as the *List of California Vegetation Alliances and Associations* (CDFW 2020).



March 2021



**Figure 3**  
Vegetation Communities and Land Cover Types  
 Lime Ridge Trails Project  
 City of Walnut Creek Open Space



**Table 3. Vegetation Community Classification Systems Comparisons**

TERRESTRIAL COMMUNITIES <sup>1</sup>	CALIFORNIA VEGETATION <sup>2</sup>	CNPS INVENTORY <sup>3</sup>	WETLANDS & DEEPWATER HABITATS <sup>4</sup>
Non-Native Grassland (42200)	<i>Avena spp. - Bromus spp.</i> Herbaceous Semi-Natural Alliance (Wild Oats and Annual Brome Grasslands) (42.027.00) <i>Brassica nigra – Centaurea (melitensis, solstitialis)</i> Herbaceous Semi-Natural Alliance (Upland Mustards or Star-Thistle Fields) (42.011.00)	Valley and Foothill Grassland	Upland
Seasonal Wetland (Not described)	<i>Lolium perenne</i> Herbaceous Semi-Natural Alliance (Perennial Rye Grass Fields) (41.321.00)	Valley and Foothill Grassland (in part) Meadows and Seeps (in part)	Palustrine non-persistent emergent wetlands
Diablan Sage Scrub (32600)	<i>Salvia mellifera</i> Shrubland Alliance (Black Sage Scrub) (32.020.00)	Chaparral	Upland
Coast Live Oak Woodland (71160)	<i>Quercus agrifolia</i> Woodland Alliance (Coast Live Oak Woodland) (71.060.00)	Cismontane Woodland	Upland
Urban Mix (Holland and Keil 1995)	<i>Eucalyptus spp.</i> Woodland Semi-Natural Alliance (Eucalyptus Groves) (79.100.02)	Not Described	Upland

<sup>1</sup> Terrestrial Natural Communities of California (Holland 1986) and *California Vegetation* (Holland and Keil 1995)

<sup>2</sup> A Manual of California Vegetation (Sawyer et al. 2009) and California Natural Community List (CDFW 2020)

<sup>3</sup> CNPS Inventory of Rare and Endangered Plants of California Habitat Types (CNPS 2001)

<sup>4</sup> Classification of Wetlands & Deepwater Habitats of the U.S. (Cowardin et al. 1979)

### 3.2.1 NON-NATIVE ANNUAL GRASSLAND

As described by Holland (1986) non-native grassland is dominated by a sparse to dense cover of non-native annual grasses and weedy annual and perennial forbs, primarily of Mediterranean origin, that have replaced native perennial grasslands as a result of human disturbance. However, where not completely outcompeted by weedy non-native plant species, scattered native wildflower species and native perennial grass species considered remnants of the original vegetation, may also be common. This community occurs on fine-textured, usually clay soils, which are moist or waterlogged during the winter rainy season and very dry during the summer and fall. Germination occurs with the onset of the late fall rains while growth, flowering, and seed-set occur from winter through spring. With a few exceptions, the plants are dead through the summer and fall dry season, persisting as seeds. This community usually occurs below 3,000 feet (914 meters) but reaches 4,000 feet (1,219 meters) in the Tehachapi Mountains and interior San Diego County, and intergrades with coastal prairie along the Central Coast.

Non-native grasslands within the study area are characterized as two MCV alliances described below. They are not mapped separately in Figure 3 due to the difficulty in distinguishing between the two alliances in the field.

#### *Avena spp. - Bromus spp.* Herbaceous Semi-Natural Alliance (Wild oats and annual brome grasslands)

As described, wild oats\* and bromes\* is dominant or co-dominant with other non-natives in the herbaceous layer. Emergent trees and shrubs may be present at low cover. Herbs are generally less than 4 feet (1.2 meters) in height and cover is open to continuous (Sawyer et al. 2009). According to membership rules for grasslands to be classified as wild oats and annual brome grassland, oats or bromes must have greater than 50% relative cover and native herbs less than 10% relative cover in the herbaceous layer. Habitat for this

vegetation community in California includes foothills, waste places, rangelands, and openings in woodlands between 0 and 7,218 feet (0-2,200 meters) in elevation (Sawyer et al. 2009). Wild oats and annual brome grassland occur throughout the study area as a component of non-native annual grassland.

*Brassica nigra* – *Centaurea (melitensis, solstitialis)* Herbaceous Semi-Natural Alliance (Upland mustards and star-thistle fields)

As described upland mustards, star-thistle species, or similar ruderal forbs are dominant in the herbaceous layer. Emergent trees and shrubs may be present at low cover. Herbs are generally less than 10 feet (3 meters) in height and cover is open to continuous (Sawyer et al. 2009). According to membership rules for upland mustards occur with non-native plants at greater than 80% relative cover in the herbaceous layer, and mustards are the dominant herbs. Habitat for this vegetation community in California includes fallow fields, grasslands, roadsides, levee slopes, disturbed coastal scrub, riparian areas, cleared roadsides, and waste places between 0 and 4,921 feet (0-1,500 meters) in elevation (Sawyer et al. 2009). Upland mustard and star-thistle fields occur throughout the study area as a component of non-native annual grassland.

Within the study area, non-native grasslands make up a majority of the acreage present and varied from areas highly impacted by non-native and invasive species to areas with less disturbance that retained a fair amount of native integrity. Very small patches of native species not large enough to be mappable units were present throughout non-native grasslands. Dominant species in this vegetation type include foxtail barley (*Hordeum murinum* subsp. *leporinum*\*), wild oats (*Avena* spp.\*), ripgut brome (*Bromus diandrus*\*), yellow starthistle (*Centaurea solstitialis*\*), thistle (*Carduus* spp.\*), Mediterranean barley (*Hordeum marinum* subsp. *gussoneanum*\*), burclover (*Medicago polymorpha*\*), needlegrass (*Stipa* spp.), soaproot (*Chlorogalum pomeridianum* subsp. *pomeridianum*), and summer mustard (*Hirschfeldia incana*\*), in part. Scattered individuals of coyote brush (*Baccharis pilularis* subsp. *consanguinea*) and oaks (*Quercus* spp.) were also present. These were not mapped as shrublands or woodlands where they were considered a component of the larger grassland matrix.

### 3.2.2 SEASONAL WETLAND

Seasonal wetlands, although not specifically described in Holland (1986) or Holland and Keil (1995), would be classified by Cowardin et al. (1979) as seasonally persistent palustrine emergent wetlands. As defined, this classification indicates that surface water is present for extended periods, especially early in the growing season, but is absent by the end of the season in most years. When surface water is absent, the water table is often near the land surface. Vegetation is characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens, and is present for most of the growing season in most years.

This community typically occurs as shallow ephemeral bodies of water that occupy valley bottoms or low-lying depressions on poorly drained clay soils. Typically species of annual and perennial native and non-native grasses and forbs that begin their growth as aquatic or semiaquatic plants, typically resembling a wetland community, that make a transition to a dry-land environment as the pool dries and upland grasses and forbs enroot while wetland species desiccate. The length of time that water persists has a major effect on species composition. During and after the establishment of upland species these sites may no longer resemble wetlands. These plant species usually have a wetland indicator status of hydrophytic or facultative. Although seasonal wetlands and vernal pools share similar hydrologic characteristics, species composition of seasonal wetlands is typically ruderal in nature. Therefore, seasonal wetlands are not considered vernal pools, which support a more specialized and less common native flora.

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\* Denotes a species not native to California.

Within the study area, freshwater marsh/seep is characterized by at least one MCV alliance including *Lolium perenne* Herbaceous Semi-Natural Alliance (perennial rye grass fields), described below.

*Lolium perenne* Herbaceous Semi-Natural Alliance (Perennial rye grass fields)

As described, perennial rye (*Festuca perennis*) is dominant or co-dominant with other non-native herbs or forbs. Emergent trees and shrubs may be present at low cover. Herbaceous species are less than 3 feet (1 meter) in height and cover is intermittent to continuous (Sawyer et al. 2009). According to membership rules, perennial rye grass must comprise more than 50% relative cover, native plants are less than 15% relative, soft chess (*Bromus hordeaceus*\*) or *Hordeum* spp. may be present in lower cover. Habitat for this vegetation community in California includes lowlands with periodic flooding, disked fields, and uplands including serpentine substrates between 0 and 4,347 feet (0-1,325 meters) (Sawyer et al. 2009). In the study area, perennial rye grass fields occur as a component of seasonal wetland.

Within the study area, seasonal wetland is restricted to a small area in the bottom of the unnamed drainage that runs east-west and is located approximately 500 feet east of the junction of the proposed trail and Timberleaf Trail. This area is likely supported by precipitation runoff in the winter months. Plant species in the seasonal wetland in the study area include Italian ryegrass\*, tall flat sedge (*Cyperus eragrostis*), bird's-foot trefoil (*Lotus corniculatus*\*), vervain (*Verbena lasiostachys*), Italian thistle (*Carduus pycnocephalus* subsp. *pycnocephalus*\*), curly dock (*Rumex crispus*\*), and crane's bill geranium (*Geranium molle*\*).

### 3.2.3 DIABLAN SAGE SCRUB

As described by Holland (1986), Diablan sage scrub are dominated by black sage (*Salvia mellifera*), California sagebrush (*Artemisia californica*), or California buckwheat (*Eriogonum fasciculatum*), with plenty of sticky monkeyflower (*Diplacus aurantiacus*) present. Compared to other coastal scrubs, this type has a poorer shrub flora but a greater diversity of perennial herbs. It occurs on shallow, rocky soils, typically on hot southern exposures. Depauperate examples of this community are often found on roadcuts or similarly disturbed areas. This community is distributed in the Inner Coast Ranges from Mount Diablo south to the Cholame Hills, well inland from the coastal fog incursion (Holland 1986).

Diablan sage scrub within the study area is characterized as at least one MCV alliance described below.

*Salvia mellifera* (Black Sage Scrub) Shrubland Alliance

This alliance is described with black sage being dominant or co-dominant in the shrub canopy with chamise (*Adenostoma fasciculatum* var. *fasciculatum*), California sagebrush, coyote brush, sticky monkeyflower, California buckwheat, and other similar shrubby species present. Emergent trees may be present at low cover. Shrubs are less than two meters tall with a continuous or intermittent canopy. The herbaceous layer is variable with grasses and herbs being seasonal. Membership rules for this alliance require relative cover of greater than 60% for black sage in the shrub layer (Sawyer et al. 2009). Habitat for this alliance is found on dry slopes and alluvial fans with shallow soils between elevations of 3 to 4,429 feet (1 to 1,350 meters) (Sawyer et al. 2009).

Within the survey area, Diablan sage scrub is limited to the section of the proposed trail that follows the existing Timberleaf Trail. Black sage is the most dominant species in this vegetation community with smaller amounts of California sagebrush, Yerba Santa (*Eriodictyon californicum*), coyote brush, horehound (*Marrubium vulgare*\*), and deerweed (*Acmispon glaber* var. *glaber*). Scattered black elderberry (*Sambucus nigra* subsp. *caerulnea*) and coast live oak (*Quercus agrifolia* var. *agrifolia*) individuals are present in very low numbers throughout this community.



### 3.2.4 COAST LIVE OAK WOODLAND AND FOREST

Coast live oak woodland and forest is typically dominated by one tree species, coast live oak, which is evergreen and reaches 33-83 feet (10-25 meters). The shrub layer is poorly developed, but may include toyon (*Heteromeles arbutifolia*), gooseberry (*Ribes* spp.), and blue elderberry (*Sambucus nigra* subsp. *caerulea*). The herb component is continuous and dominated by non-native annual grasses. This community typically occurs on north-facing slopes and shaded ravines in the south and more exposed sites in the north. It also intergrades with coastal scrub and mixed chaparral communities on drier sites and with other oak and evergreen forests on moister sites. Coast live oak woodland is distributed throughout the outer south Coast Ranges and coastal slopes of the Transverse and Peninsular Ranges, usually below 4,000 feet (1,219 meters).

Coast live oak woodland and forest within the study area is characterized as at least one MCV alliance described below.

#### *Quercus agrifolia* Woodland and Forest Alliance (Coast live oak woodland and forest)

Coast live oak is dominant or co-dominant in the tree canopy with big leaf maple (*Acer macrophyllum*), boxelder (*Acer negundo*), California buckeye (*Aesculus californica*), madrone (*Arbutus menziesii*), California black walnut (*Juglans californica*), Coulter pine (*Pinus coulteri*), California sycamore (*Platanus racemosa*), Fremont's cottonwood (*Populus fremontii*), blue oak (*Quercus douglasii*), Engelmann oak (*Quercus engelmannii*), black oak (*Quercus kelloggii*), valley oak (*Quercus lobata*), island live oak (*Quercus tomentella*), red willow, and/or California bay. Trees are less than 100 feet (30 meters) tall in height and the canopy is open to continuous. Shrub layer is sparse to intermittent. The herbaceous layer is sparse or grassy. The membership rules in the MCV is coast live oak > 50% relative cover in the tree canopy. If California bay is present it must be < 33% relative cover, otherwise the stand is placed in the California bay forest Alliance.

Within California, coast live oak woodland inhabits alluvial terraces, canyon bottoms, stream banks, slopes, and flats. Soils are deep, sandy, or loamy, with high organic matter (Sawyer et al. 2009). It is known from the following Ecoregions: Central California Coast, Central California Coast Ranges, Great Valley, Northern California Coast, Northern California Coast Ranges, Northern California Interior Ranges, Southern California Coast, and Southern California Mountains and Valleys. It occurs from 0-3,900 feet (0-1,200 meters) in elevation.

Coast live oak woodland and forest is present in the study area just southeast of the junction of the proposed trail and Timberleaf Trail. It is dominated by coast live oak in the tree canopy, with sparse California bay (*Umbellularia californica*). A very thin shrub layer consisting of coyote brush and poison oak (*Toxicodendron diversilobum*) is present in the understory. The herbaceous layer is comprised of non-native annual grass species, Italian thistle\*, California cucumber (*Marah fabacea*), and bull thistle\*, among others. A majority of coast live oak trees within the study area are mature and saplings are present in the study area. Italian thistle\* seedlings were present although it was too early in the season to determine level of infestation.

### 3.2.5 URBAN MIX

Urban mix is characterized as areas where non-native plants have either escaped or been ornamentally planted, for uses such as windrows, in areas around urban or residential developments (Holland and Keil 1995). In open areas surrounded by development it is not uncommon to find mixtures of non-native and native vegetation. Common examples of non-native plants found in urban mix include Monterey cypress (*Hesperocyparis macrocarpa*\*), Monterey pine (*Pinus radiata*\*), Eucalyptus species (*Eucalyptus* spp.\*), and acacias (*Acacia* spp.\*), along with many shrubs, perennials, and ornamental vines.

Urban mix within the study area is characterized as at least one MCV alliance described below.

*Eucalyptus* spp. Woodland Semi-Natural Alliance (*Eucalyptus* groves)

*Eucalyptus* groves are described as eucalyptus [less than 165 feet (50 meters) tall] being dominant in the tree canopy. The canopy is in intermittent to continuous and the shrub layer and herbaceous layer is sparse to intermittent. The membership rules for this alliance require eucalyptus to be > 80% relative cover in the tree layer. Within California, eucalyptus groves are known from the following Ecoregions: Central California Coast, Great Valley, Northern California Coast, Sierra Nevada Foothills, Southern California Coast, and Southern California Mountains and Valleys. It has been planted as trees, groves, and windbreaks; and is naturalized on uplands and stream courses (Sawyer et al. 2009). It occurs from 0-6,200 feet (0-1,900 meters) elevation. *Eucalyptus* groves occur throughout the study area as a component of urban mix.

Within the survey area, urban mix is restricted to a single polygon towards the western end of the study area. It consists of a small number of sizable blue gum (*Eucalyptus globulus*\*) and black walnut (*Juglans hindsii*) trees. No other species are present in the tree canopy. There is no shrub layer present in this community in the study area. The herbaceous layer is thick with non-native species including Italian thistle\*, ripgut brome\*, wild oats\*, and horehound\*, among others.

### 3.3. MOVEMENT CORRIDORS AND WILDLIFE USE

Habitat loss, fragmentation, and degradation resulting from land use changes or habitat conversion can alter the use and viability of wildlife movement corridors (*i.e.* linear habitats that naturally connect and provide passage between two or more otherwise disjunct larger habitats or habitat fragments). In general, studies suggest that habitat corridors provide connectivity for and are used by wildlife, and as such, are an important conservation tool (Beier and Noss 1998). According to Beier and Loe (1992), wildlife habitat corridors should fulfill several functions. They should maintain connectivity for daily movement, travel, mate-seeking, and migration; plant propagation; genetic interchange; population movement in response to environmental change or natural disaster; and recolonization of habitats subject to local extirpation.

The suitability of a habitat as a wildlife movement corridor is related to, among other factors, the habitat corridor's dimensions (length and width), topography, vegetation, exposure to human influence, and the species in question (Beier and Loe 1992). Species utilize movement corridors in several ways. "Passage species" are those species that use corridors as thru-ways between outlying habitats. The habitat requirements for passage species are generally less than those for corridor dwellers. Passage species use corridors for brief durations, such as for seasonal migrations or movement within a home range. As such, movement corridors do not necessarily have to meet any of the habitat requirements necessary for a passage species' everyday survival. Large herbivores, such as deer, and medium-to-large carnivores, such as coyotes, bobcats and mountain lions, are typically passage species. "Corridor dwellers" are those species that have limited dispersal capabilities – a category that includes most plants, insects, reptiles, amphibians, small mammals, and birds – and that use corridors for a greater length of time. As such, wildlife movement corridors must fulfill key habitat components specific to a species' life history requirements in order for them to survive (Beier and Loe 1992). In general, however, the suitability and/or utility of the landscape – specifically, of the landscape as corridor habitat – is best evaluated on a species-level (Beier and Noss 1998).

The study area is within a larger mosaic of natural habitats including grasslands, scrub, and oak woodlands, all of which border dense urban development. These nearby urban areas represent a complete passage barrier to many terrestrial species. While there are no obvious barriers to movement of wildlife within the study area, the heavy human presence on the public trails within and adjacent to the site may have a negative effect on wildlife use of the area.

Because the study area is comprised largely of grasslands, much of the site can be expected to facilitate passage by species adapted to open habitats. However, the Diablan sage scrub and oak woodland near the

center of the study area represent a movement corridor for species requiring vegetative cover. The trail alignment also crosses an ephemeral drainage that may allow passage of wetland-adapted species, though due to its steepness and small size would likely only be usable during heavy rains.

The project may have a temporary effect on wildlife movement during construction due to disturbance from heavy equipment and elevated levels of human activity, but will not introduce any barriers to movement once completed. Wildlife will be able to continue utilizing the study area for movement immediately after project construction is complete.

## Section 4. ASSESSMENT AND FINDINGS

In evaluating on-site habitat suitability for special status plant and wildlife species within the study area, relevant literature, knowledge of regional biota, and observations made during the field investigations were applied as analysis criteria. Criteria determinations for occurrence potential of special status species are divided into the five categories described below. Special status species are discussed below if they were determined to meet the determination criteria for Present, Possible, or if they are Not Expected but suitable habitat is present in the study area and it is a species prominent in the current regulatory environment. It should be noted that species occurrence references refer to the CNDDDB Occurrence number (EONDX #) which is a unique number given to each occurrence record for each species. Factors influencing which determination category is applied to each species are detailed below.

- None denotes a complete lack of habitat suitability, local range restrictions, and/or regional extirpations.
- Not Expected denotes situations where suitable habitat or key habitat elements may be present but may be of poor quality or isolated from the nearest extant occurrences. Incompatible habitat suitability refers to elevation, geology, soil chemistry and type, vegetation communities, microhabitats, and degraded/significantly altered habitats. These factors create unsuitable ecological conditions for the consideration of even a low occurrence potential within the study area.
- Absent indicates specified taxa not observed during field investigations which were consequently ruled out. This category also refers to diagnostic vegetative material of shrubby perennial species not observed on site. *This category refers only to plant species.*
- 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 either observed directly or its presence was confirmed by diagnostic sign (*i.e.* tracks, scat, burrows, carcasses, castings, prey remains, *etc.*) during field investigations.

### 4.1. SENSITIVE NATURAL COMMUNITIES

Although not considered a sensitive natural community by CDFW (2019a), seasonal wetland and stream are treated as sensitive natural communities as they may be jurisdictional wetland features regulated by the Army Corps of Engineers and the California State Water Resources Control Board, and by CDFW as a riparian resource. Location of seasonal wetlands and streams within the project area are shown on Figure 3.

### 4.2. SPECIAL STATUS PLANTS

A total of 78 special status plant species are known to occur in the project vicinity.<sup>1</sup> Based on habitats within the study area, a review of available databases and literature listed in Section 2.3, timing of the site visits and familiarity with the regional flora, it was determined that six special status plant species have the potential to occur within the study area. A complete list of all plant species considered as part of this

<sup>1</sup> Vicinity is defined as the area included within the nine U.S. Geological Survey (USGS) 7.5-minute topographic quadrangles that are centered on the project areas, including Antioch North, Antioch South, Clayton, Diablo, Honker Bay, Las Trampas Ridge, Tassajara, Vine Hill, and Walnut Creek.

assessment, their regulatory status, habitat requirements, local distribution, and potential for occurrence are listed in Appendix B. Special status plant species recorded in the project vicinity from the CNDDDB are depicted in Figure 4. The CNDDDB and USFWS species lists are shown in Appendices D and E.

#### 4.2.1 FEDERALLY AND/OR STATE LISTED AND CALIFORNIA RARE PLANT SPECIES

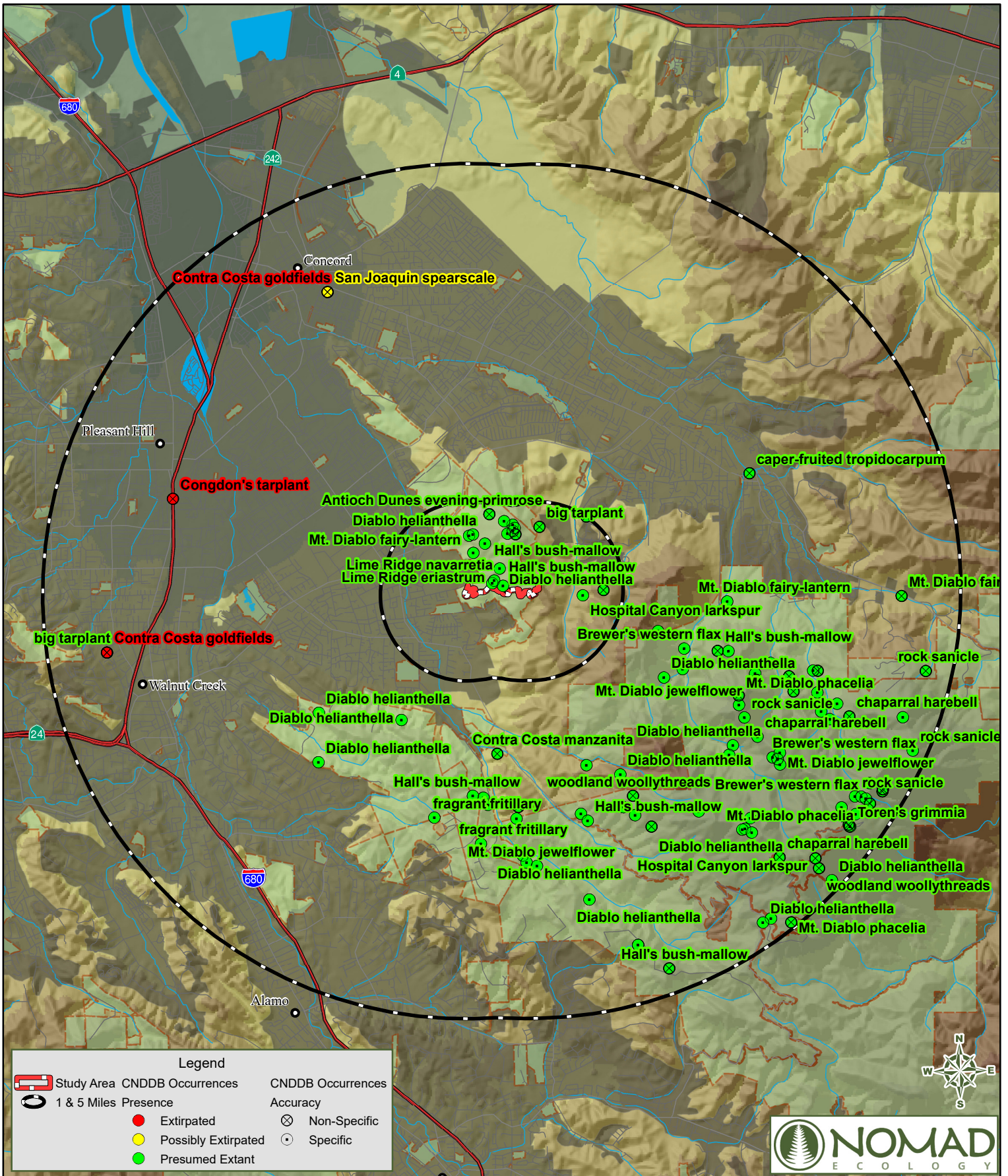
Of the 78 special status plant species known from the vicinity, 10 are federally and/or state listed. Based on the field investigations, review of available databases and literature, familiarity with local flora, on-site habitat suitability, and results of field studies in 2021, none of federally and/or state listed and California rare plant species were considered to have the potential to occur within the study area. No federally and/or state listed species were observed during the 2021 site visit.

#### 4.2.2 CALIFORNIA NATIVE PLANT SOCIETY LISTED PLANT SPECIES

All of the 78 special status plant species known from the immediate vicinity of the study area are included in the California Native Plant Society Rare Plant Inventory (CNPS 2021). Based on the field investigations, review of available databases and literature, familiarity with local flora, and on-site habitat suitability, six of the California Rare Plant Rank (CRPR) plant species were considered to have the potential to occur within the study area (Table 4). The remaining special status plant species were ruled out as occurring on site based on lack of suitable habitat such as vernal pools, playas, coastal dunes, coastal bluff scrub, coniferous forest, pinyon juniper woodland, serpentine soils, clay barrens, or alkaline soils. Species were also ruled out due to the lack of appropriate bedrock substrates, elevation ranges, and distributional limits, or if they would have been recognizable during the February site visit. However, no special status plant species were observed in the study area during the 2021 site visit. As six special status plants have potential to occur within the study area, full floristic surveys are recommended prior to initiation of project activities.

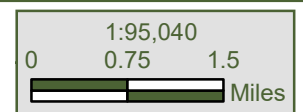
**Table 4. Potentially Occurring Special Status Plant Species**

SPECIES	LISTING STATUS	POTENTIAL FOR OCCURRENCE	RECOMMENDED SURVEY TIMING
<b>California Rare Plant Rank Species</b>			
<i>Amsinckia lunaris</i> bent-flowered fiddleneck	Federal: None State: None CRPR: 1B.2	Possible	April-May
<i>Blepharizonia plumosa</i> big tarplant	Federal: None State: None CRPR: 1B.2	Possible	September
<i>Calochortus pulchellus</i> Mount Diablo fairy lantern	Federal: None State: None CRPR: 1B.2	Possible	May
<i>Calochortus umbellatus</i> Oakland star-tulip	Federal: None State: None CRPR: 4.2	Possible	April
<i>Delphinium californicum</i> var. <i>interius</i> Hospital Canyon larkspur	Federal: None State: None CRPR: 1B.2	Possible	May
<i>Heliathnella castanea</i> Diablo helianthella	Federal: None State: None CRPR: 1B.2	Possible	May



March 2021

**Figure 4**  
 California Natural Diversity Database Special Status  
 Plant Species Occurrences within 5 Miles of the Project  
 Lime Ridge Trails Project  
 City of Walnut Creek Open Space



Sources: ESRI Aerial Imagery Basemap, California Spatial Information Library, Bay Area Open Space Council, California Department of Fish and Wildlife

### 4.3. SPECIAL STATUS WILDLIFE

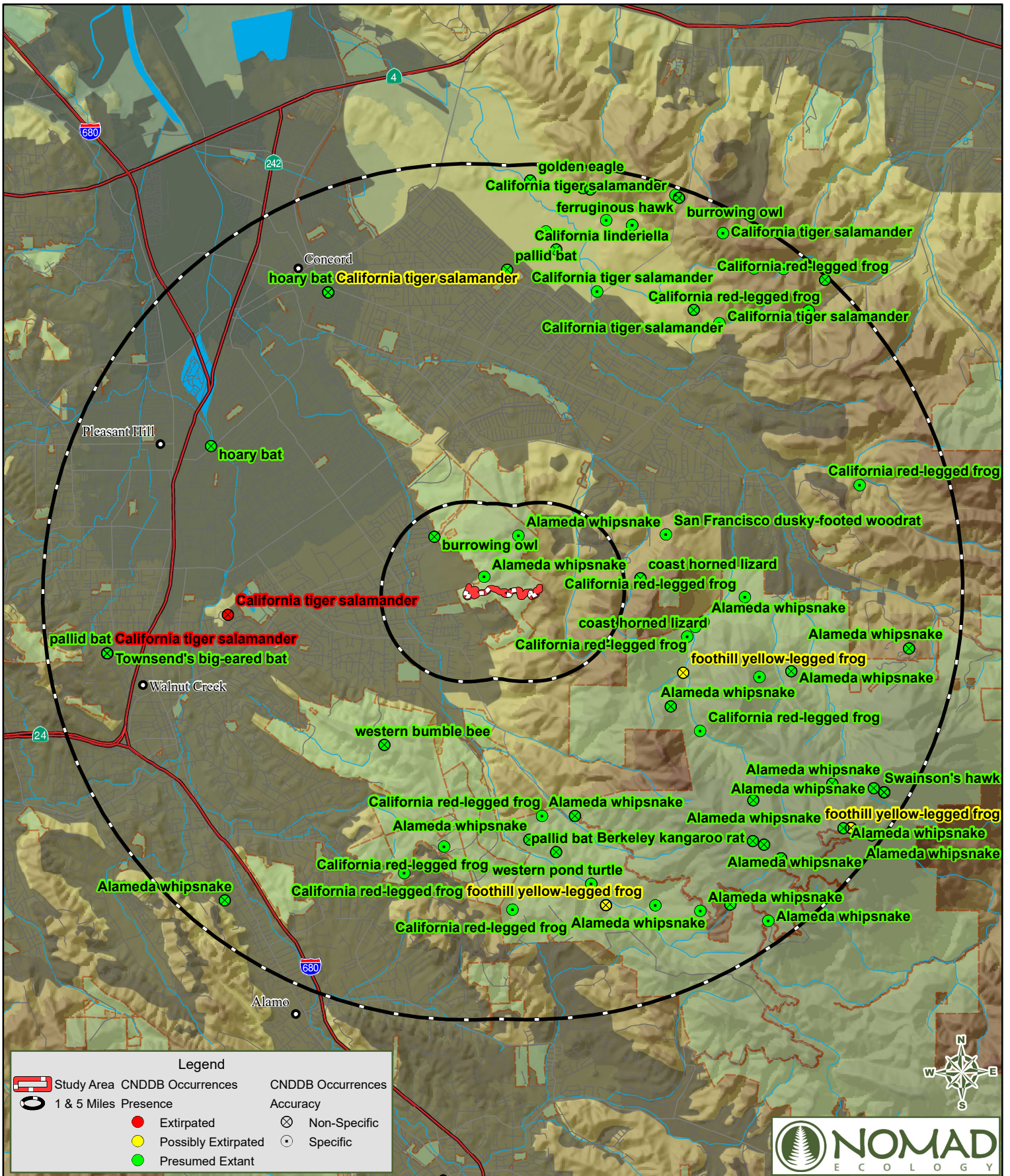
Based on the field investigation, review of available databases and literature listed above in Section 2.3, familiarity with local fauna, and on-site habitat suitability, a total of 73 special status fish and wildlife species were considered as part of this assessment. Of these, 23 were determined to have potential to occur within the study area and could be affected by the project as proposed (Table 5). These include federally or state-listed threatened and endangered species and California Department of Fish and Wildlife designated Species of Special Concern (SSC), which are of concern because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction. The remaining taxa were ruled out based on the lack of suitable habitat (e.g., salt marshes, serpentine, interior sand dunes, vernal pools, mud flats, and shoreline habitats), local extirpations, lack of connectivity between areas of suitable and occupied habitat, incompatible land use, and habitat degradation. A complete list of all 73 species considered as part of this assessment, their regulatory status, habitat requirements, local distribution, and potential for occurrence are listed in Appendix C. The 50 species with no potential to occur within the study area are not discussed further in the body of this report. Special status animal species recorded in the project vicinity from the CNDDDB are depicted in Figure 5. The CNDDDB, USFWS, and NOAA Fisheries species lists are shown in Appendices D, E, and F.

**Table 5. Potentially Occurring Special Status Fish and Wildlife Species**

SPECIES	LISTING STATUS	POTENTIAL FOR OCCURRENCE
<b><u>Invertebrates</u></b>		
<i>Bombus caliginosus</i> obscure bumblebee	Federal: None State: Special Animal	Possible
<i>Bombus crotchii</i> Crotch bumble bee	Federal: None State: Candidate for Listing	Possible
<i>Bombus occidentalis</i> western bumble bee	Federal: None State: Candidate for Listing	Possible
<i>Helminthoglypta nickliana</i> <i>bridgesi</i> Bridges' Coast Range shoulderband snail	Federal: None State: Special Animal	Possible
<b><u>Amphibians</u></b>		
<i>Ambystoma californiense</i> California tiger salamander	Federal: Threatened State: Threatened	Possible
<i>Rana draytonii</i> California red-legged frog	Federal: Threatened State: Species of Special Concern	Possible
<b><u>Reptiles</u></b>		
<i>Masticophis lateralis</i> <i>euryxanthus</i> Alameda whipsnake	Federal: Threatened State: Threatened	Possible
<i>Phrynosoma blainvillii</i> Blainville's horned lizard	Federal: None State: Species of Special Concern	Possible
<b><u>Birds</u></b>		
<i>Athene cunicularia</i> western burrowing owl	Federal: None State: Species of Special Concern	Possible
<i>Buteo regalis</i> Ferruginous hawk	Federal: None State: Watch List	Possible (Wintering)
<i>Elanus leucurus</i> white-tailed kite	Federal: None State: Fully Protected	Possible

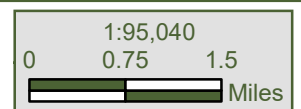
SPECIES	LISTING STATUS	POTENTIAL FOR OCCURRENCE
<i>Eremophila alpestris actia</i> California horned lark	Federal: None State: Special Animal	Possible
<i>Lanius ludovicianus</i> loggerhead shrike	Federal: None State: Species of Special Concern	Possible
<b><u>Mammals</u></b>		
<i>Antrozous pallidus</i> pallid bat	Federal: none State: Species of Special Concern	Possible (roosting)
<i>Lasiurus blossevillii</i> western red bat	Federal: none State: Species of Special Concern	Possible (roosting)
<i>Lasiurus cinereus</i> hoary bat	Federal: none State: Special Animal	Possible (roosting)
<i>Myotis evotis</i> long-eared myotis bat	Federal: none State: Special Animal	Possible (roosting)
<i>Myotis thysanodes</i> fringed myotis	Federal: none State: Special Animal	Possible (roosting)
<i>Myotis volans</i> long-legged myotis	Federal: none State: Special Animal	Possible (roosting)
<i>Myotis yumanensis</i> Yuma myotis	Federal: none State: Special Animal	Possible (roosting)
<i>Neotoma fuscipes annectans</i> San Francisco dusky-footed woodrat	Federal: none State: Species of Special Concern	Possible
<i>Puma concolor</i> Mountain lion (southern California/central coast ESU)	Federal: none State: Candidate for Listing	Possible
<i>Taxidea taxus</i> American badger	Federal: none State: Species of Special Concern	Possible





March 2021

**Figure 5**  
California Natural Diversity Database Special Status  
Wildlife Species Occurrences within 5 Miles of the Project  
 Lime Ridge Trails Project  
 City of Walnut Creek Open Space



Sources: ESRI Aerial Imagery Basemap, California Spatial Information Library, Bay Area Open Space Council, California Department of Fish and Wildlife

### 4.3.1 INVERTEBRATES

Four special status invertebrate species were determined to have the potential to occur within the study area. These species are discussed below.

#### Special Status Bumble Bees

Three special status bumble bee species have the potential to occur within the study area:

- obscure bumble bee (*Bombus caliginosus*) – Included on CDFW’s Special Animals List
- Crotch bumble bee (*Bombus crotchii*) – State candidate for listing as endangered
- western bumble bee (*Bombus occidentalis*) – State candidate for listing as endangered

#### *Status, Distribution and Habitat Requirements*

Specific habitat requirements for each of these species are variable and not fully understood, but they are generally known to nest underground, in abandoned rodent burrows, or in decaying wood and trees. All three of these bumble bee species may occur in grasslands, scrub, or open woodlands. The obscure bumble bee occurs along the Pacific Coast from southern California to southern British Columbia, with scattered records from the east side of California’s Central Valley. The Crotch bumble bee was previously found throughout southern California and the Central Valley, but is now nearly absent from the Central Valley. The western bumble bee was previously found throughout the Coast Ranges and Sierra Nevada, but more recently appears to be largely restricted to high-elevation sites in the Sierras and scattered coastal locations. Widespread use of pesticides in agricultural lands and habitat fragmentation are thought to have led to severe declines of these species (COSEWIC 2014, CDFW 2019).

#### *Occurrence Data and Habitat Suitability*

There are three records of western bumble bee recorded in the CNDDDB within 5 miles of the study area, all of which represent museum specimens collected between the 1910s and 1960s (EONDX #100145, 100092, and 100129). Records of both Crotch bumble bee and obscure bumble bee were recorded in 1951 and 1977, respectively, on Mount Diablo (EONDX #98556 and 97885), approximately 3.8 miles southeast of the study area. (CDFW 2021e).

Occurrences of all bumble bee species are also tracked by Bumble Bee Watch, a collaborative project between several universities and non-profit entities that accepts and vets bumble bee sightings submitted by the public. Bumble Bee Watch has not recorded any recent verified sightings of either obscure bumble bee or western bumble bee anywhere in the greater San Francisco Bay Area. There have, however, been recent verified observations of Crotch bumble bee near Fairfield, Solano County (2014), in Berkeley, Alameda County (2015), and in Santa Teresa County Park, Santa Clara County (2019) (Bumble Bee Watch 2021). This suggests that the Crotch bumble bee is still extant in the region, though the status of the obscure bumble bee and western bumble bee is less certain. Regardless, the study area is within the formerly known range for all three of these species.

Suitable habitat for all three bumble bee species is present within the study area, as they may build nests either underground or in decaying wood anywhere on site.

#### *Potential Project-Related Effects*

Grading for trail construction and any other ground-disturbing activities associated with the project could damage or destroy underground nests of these bumblebee species. Impacts to special status bumblebee species potentially occurring onsite will be avoided through implementation of avoidance and minimization measures, including preconstruction surveys and biological monitoring.

### **Bridges' Coast Range Shoulderband Snail (*Helminthoglypta nickliana bridgesi*)**

#### *Status, Distribution and Habitat Requirements*

The Bridges' coast range shoulderband is included on CDFW's Special Animals list, and has a NatureServe rank of G3T1 S1S2 meaning that: (1) the species is "vulnerable" and the subspecies is "critically imperiled" at the global level, and (2) the subspecies is "critically imperiled" to "imperiled" at the statewide level. The Bridges' coast range shoulderband occurs in rock piles and weedy grasslands on open hillsides in Alameda and Contra Costa counties (CDFW 2021e).

#### *Occurrence Data and Habitat Suitability*

The only CNDDDB occurrence of Bridge's coast range shoulderband snail within 5 miles was recorded on an unspecified date on the eastern slope of Mount Diablo (EONDX #23088), approximately 4.5 miles east of the study area (CDFW 2021e). Suitable habitat is present among grasslands throughout the study area.

#### *Potential Project Related Effects*

Grading for trail construction and any other ground-disturbing activities associated with the project could result in injury or mortality to individual Bridge's coast range shoulderband snails. Impacts from construction will be avoided through implementation of avoidance and minimization measures, including preconstruction surveys and biological monitoring.

## **4.3.2 AMPHIBIANS**

Two special status amphibian species were determined to have the potential to occur within the study area. These species are discussed below.

### **California Tiger Salamander (*Ambystoma californiense*) (Central California DPS)**

#### *Status, Distribution and Habitat Requirements*

The Central California DPS of California tiger salamander is state and federally listed as threatened. They are restricted to the Central Valley and Inner Coast Range from Tulare and San Luis Obispo Counties in the south, to Sacramento and Yolo Counties in the north (USFWS 2014). Within this area, the species is known from sites on the Central Valley floor near sea level, up to a maximum elevation of roughly 3,940 feet (1,200 meters) in the Coast Ranges and 1,640 feet (500 meters) in the Sierra Nevada foothills (USFWS 2014, 2017b).

The California tiger salamander has an obligate biphasic life cycle during which it utilizes both aquatic and terrestrial habitat (USFWS 2017b). Although salamander larvae develop in the vernal pools and ponds in which they were born, once a metamorph leaves its natal pond and enters a burrow, it will then spend the vast majority of its life underground (Trenham et al. 2001). Adult Central California tiger salamanders engage in mass migrations during a few rainy nights per year, typically from November through April, although migrating adults have been observed as early as October and as late as May. During these rain events, adults leave their underground burrows and return to breeding ponds to mate and will then return to their underground burrows. Upland habitats surrounding known Central California tiger salamander breeding pools are usually dominated by grassland, oak savanna, or oak woodland (USFWS 2017b).

Breeding sites are typically fish-free ephemeral ponds that fill during winter and dry by summer (USFWS 2014). Historically, California tiger salamanders utilized vernal pools as breeding sites, but the species now also commonly breeds in livestock ponds (USFWS 2014, 2017b). Vernal pools and ephemeral ponds are better able to support California tiger salamanders than wetlands that hold water year-round because perennial ponds are more likely to support breeding populations of predatory species and typically have higher numbers of hybrid tiger salamanders in areas where hybrids are found (USFWS 2014).

California tiger salamanders have been reported to travel distances up to 1.6 kilometers (1.0 mile) (Austin and Shaffer 1992), but Trenham and Shaffer (2005) estimate that optimal upland habitat is within 630 meters (2,067 feet) of breeding ponds. Eggs are laid singly or in small clusters on the pond bottom or attached to individual strands of vegetation (Storer 1925, Barry and Shaffer 1994, Jennings and Hayes 1994). The larval stage of the Central California tiger salamander usually lasts 3 to 6 months, with metamorphosis beginning in late spring or early summer. Once metamorphosis occurs, juveniles typically depart their natal ponds at night and enter into terrestrial habitat in search of underground burrows (Petranka 1998). Peak periods for metamorphs to leave their natal ponds have been reported from May to July; however, peak timing of migration may vary based on locality, environmental conditions, and degree of hybridization with non-native barred tiger salamanders (USFWS 2017b).

Multiple factors have contributed to population declines of this species, including habitat loss and fragmentation; predation from, and competition with, invasive species; hybridization with non-native barred tiger salamanders (*Ambystoma tigrinum*); mortality from road crossings; contaminants; and small mammal burrow control efforts. Potential threats include introduction of diseases such as ranaviruses and chytrid fungi, and also climate change (USFWS 2017b).

#### *Occurrence Data and Habitat Suitability*

There are 17 occurrences of California tiger salamander within 5 miles of the study area. The closest is a historical occurrence recorded in 1954 in what is now highly urbanized Walnut Creek (EONDX #33390). This occurrence is considered extirpated. The nearest recent occurrences are from a well-documented extant population at the Concord Naval Weapons Station, approximately 3.5 miles north of the study area (CDFW 2021e). The study area is isolated from the Concord Naval Weapons Station population by urbanized areas of Concord and Clayton, and there have been no recent observations of California tiger salamander on the western slope or foothills of Mount Diablo. It is possible that the species has been extirpated from the area, though it is unknown if comprehensive surveys have been conducted to confirm this.

There is no suitable breeding habitat for California tiger salamanders within the study area, as it lacks any ponds or wetland features with sufficient hydroperiod for larval development. Gopher burrows that could serve as suitable upland refugia were observed within the study area, though larger burrows such as those dug by ground squirrels were not. Ground squirrels were observed in the vicinity of the study area however, just east of the intersection of the Ohlone Trail and Paraiso Trail, and new burrows could be dug on site at any time. Although the status of the species in the region is uncertain, if California tiger salamanders are present and breeding in ponds in the vicinity, they could use burrows within the study area as upland refugia.

#### *Potential Project Related Effects*

Grading for trail construction and any other ground-disturbing activities associated with the project could result in injury or mortality to individual California tiger salamanders that may be present in burrows within the trail alignment. Impacts from construction will be avoided through implementation of avoidance and minimization measures, including preconstruction surveys and biological monitoring.

### **California Red-Legged Frog (*Rana draytonii*)**

#### *Status, Distribution and Habitat Requirements*

The California red-legged frog is a federally listed threatened species and a California Species of Special Concern. The California red-legged frog is one of two species of red-legged frog endemic to the Pacific Coast. Historically it occurred from Riverside County to Mendocino County along the Coast Range; from Calaveras County to Butte County in the Sierra Nevada; and in Baja California, Mexico. California red-legged frogs are still locally abundant within portions of the San Francisco Bay area and the central coast. Within the remaining distribution of the species, only isolated populations have been documented in the Sierra Nevada, northern Coast, and northern Transverse ranges. The species is believed to be extinct from

the southern Transverse and Peninsular ranges, but is still present in Baja California, Mexico (USFWS 2017a).

California red-legged frogs predominately inhabit permanent water sources such as streams, lakes, marshes, natural and man-made ponds, and ephemeral drainages in valley bottoms and foothills up to 1,500 meters (4,921 feet) in elevation (Jennings and Hayes 1994, Bulger et al. 2003). Adults breed in a variety of aquatic habitats, while larvae and metamorphs use streams, deep pools, backwaters of streams and creeks, ponds, marshes, sag ponds, dune ponds, and lagoons. Stock ponds are frequently used for breeding when they provide a suitable hydroperiod, pond structure, and vegetative cover, and when they are managed to control nonnative predators such as bullfrogs and exotic fish. Red-legged frog breeding occurs between November and April within still or slow-moving water with light to dense, riparian or emergent vegetation, such as cattails (*Typha* spp.), tules, or overhanging willows (*Salix* spp.) (Hayes and Jennings 1988). Egg masses are attached to vegetation below the surface and hatch after 6 to 14 days (Storer 1925, Jennings and Hayes 1994). Larvae undergo metamorphosis 3.5 to 7 months following hatching and reach sexual maturity at 2 to 3 years of age (Jennings and Hayes 1994).

Some red-legged frogs remain at breeding sites during the non-breeding season, whereas others disperse into adjacent upland habitat or to other aquatic sites (Fellers 2005, Fellers and Kleeman 2007, Tatarian 2008). Tatarian (2008) reported that 57% of frogs fitted with radio transmitters in the Round Valley of eastern Contra Costa County stayed at their breeding pools, whereas 43% moved into adjacent upland habitat or to other aquatic sites. The distance red-legged frogs will travel from breeding sites is site dependent. Fellers and Kleeman (2007) reported that only a few frogs in Marin County moved farther than the nearest suitable non-breeding habitat. In this study, the furthest distance traveled was 1.4 kilometers (0.9-mile) and most dispersing frogs moved through grazed pastures to reach the nearest riparian habitat (Fellers and Kleeman 2007). In general, terrestrial habitats used by red-legged frogs have abundant cover (e.g., burrows, woody debris, and vegetation), and those terrestrial habitats are relatively close to water (USFWS 2002a, Fellers and Kleeman 2007, Tatarian 2008).

Upland movement activities ranged from 3 to 233 feet, averaging 80 feet, and were associated with a variety of refugia including ground squirrel burrows at the bases of trees or rocks, logs, grass thatch, crevices, cow hoof prints, and a downed barn door; others were associated with upland sites lacking refugia (Tatarian 2008). Uplands closer to aquatic sites were more often used and were more commonly associated with areas having abundant sources of cover (e.g., small woody debris, rocks, and vegetation). California red-legged frog diet is site dependent but consists mostly of terrestrial invertebrates (Bishop et al. 2014).

California red-legged frogs are currently threatened by loss of habitat from the growth of cities and suburbs, mining, overgrazing by cattle, invasion of nonnative plants, impoundments, water diversions, stream maintenance for flood control, degraded water quality, and introduced predators, such as bullfrogs. The fragmentation of existing habitat and the continued colonization of existing habitat by nonnative species may represent the most significant threat (USFWS 2017a). Although a positive correlation exists between the absence of California red-legged frogs and the presence of bullfrogs, these two species are known to coexist in some environments (Doubledee et al. 2003, Cook and Currylow 2014).

#### *Habitat Assessment and Occurrence in the Project Vicinity*

There are 14 documented CNDDDB occurrences of California red-legged frog within 5 miles of the study area, the nearest of which was recorded in 2018 in a stock pond (EONDX # 119866), approximately 1.1 miles southeast of the study area. Several other occurrences have been recorded in Mount Diablo State Park to the southeast, and Diablo Foothills Regional Park to the south (CDFW 2021e).

There is no suitable breeding habitat for California red-legged frogs within the study area, as it lacks any ponds or wetland features with sufficient hydroperiod for larval development. Suitable upland habitat is

present under wood debris and leaf litter within and adjacent to the study area. Any California red-legged frogs that may be breeding in ponds in the vicinity could occur within the study area during dispersal movements.

#### *Potential Project Related Effects*

Grading for trail construction and any other ground-disturbing activities associated with the project could result in injury or mortality to individual California red-legged frogs that may be present within the trail alignment. Impacts from construction will be avoided through implementation of avoidance and minimization measures, including preconstruction surveys and biological monitoring.

### **4.3.3 REPTILES**

Two special status reptile species were determined to have the potential to occur within the study area. These species are discussed below.

#### **Alameda Whipsnake (*Masticophis lateralis euryxanthus*)**

##### *Status, Distribution and Habitat Requirements*

The Alameda whipsnake (also known as the Alameda striped racer) is federally and State listed as threatened. It is endemic to California and occurs only in a small region on the east side of the San Francisco Bay in Contra Costa and Alameda counties, and parts of San Joaquin and Santa Clara Counties (Nafis 2021). The historical range of the Alameda whipsnake has been fragmented into five disjunct populations: Tilden-Briones, Oakland-Las Trampas, Hayward-Pleasanton Ridge, Mount Diablo-Black Hills, and Sunol-Cedar Mountain (USFWS 1997). Potential habitat for this species includes mixed chaparral, coastal scrub, and annual grassland and oak woodlands adjacent to scrub habitats (USFWS 2006). Grassland areas linked to scrub by rock outcrops or river corridors are also considered primary constituent elements of habitat (USFWS 2002b). The Alameda whipsnake requires open and partially open, low-growing shrub communities for many of its biological needs. Shrub communities provide cover for snakes during dispersal, cover from predators, and a variety of microhabitats where whipsnakes can move to regulate their body temperature (Swaim 1994). Other important habitat features include small mammal burrows, rock outcrops, talus (a sloping mass of rock debris at the base of a cliff), and other forms of shelter. These features provide whipsnakes with alternative habitats for temperature regulation, predator protection, egg laying, and periods of winter dormancy (Alameda whipsnakes generally spend November through March in winter hibernacula) (USFWS 2006).

Alameda whipsnake populations have declined due to loss of habitat associated with urban expansion (USFWS 2006). Urban development, particularly road and highway construction, has also fragmented Alameda whipsnake populations and made them more vulnerable to extinction. In addition, urban development adjacent to whipsnake habitat can indirectly impact the species by increasing predator populations (including domestic and feral cats) and public recreational use. Other significant threats to the species include grazing and fire suppression practices that degrade chaparral habitats (USFWS 1997).

##### *Occurrence Data and Habitat Suitability*

There are 20 occurrences of Alameda whipsnake within 5 miles of the study area. Two of these occurrences (EONDX # 79966 and 52042) were recorded in 2003 0.1 and 0.6 mile to the north, respectively, in the large patch of Diablan sage scrub habitat within Lime Ridge Open Space that the study area partially overlaps. Numerous other occurrences are present in scrub habitats in Mount Diablo State Park east and south of the study area (CDFW 2021e).

The study area is located within Alameda whipsnake Critical Habitat Unit 4, which encompasses all of Mount Diablo and much of its adjacent foothills. There are three Primary Constituent Elements (PCE's) of Alameda whipsnake Critical Habitat, defined as 1) Scrub/shrub communities with a mosaic of open and closed canopy; 2) woodland or annual grassland plant communities contiguous to lands containing PCE 1; and 3) lands containing rock outcrops, talus, and small mammal burrows within or adjacent to PCE 1 and/or PCE 2 (USFWS 2006). The Diablan sage scrub habitats within the study area contain PCE 1, while the remainder of the study area contains PCE 2, as it contains grassland and woodland habitat adjacent to scrub/shrub habitat.

Based on their documented presence in scrub habitat that is contiguous with the study area, Alameda whipsnakes have a relatively high potential to occur on site. They are most likely to occur within and immediately adjacent to the Diablan sage scrub habitat near the center of the proposed trail alignment, though they may be present anywhere on site, including grasslands, during dispersal movements.

#### *Potential Project Related Effects*

Grading for trail construction and any other ground-disturbing activities associated with the project could result in injury or mortality to individual Alameda whipsnakes that may be present within the trail alignment. Alameda whipsnakes are wary and fast-moving, and any individuals that are present during project construction will likely be able to move away on their own. Impacts to Alameda whipsnakes potentially occurring onsite will be avoided through implementation of avoidance and minimization measures, including preconstruction surveys and biological monitoring.

### **Blainville's Horned Lizard (*Phrynosoma blainvillii*)**

#### *Status, Distribution and Habitat Requirements*

Blainville's horned lizard is a California Species of Special Concern and is endemic to California. Its geographical range extends from Shasta County to the Baja California border, west of the deserts and the Sierra Nevada. Blainville's horned lizards occur in open areas with sandy soil and low vegetation in valleys, foothills, and semiarid mountains. The species is associated with a variety of habitat types, including grasslands, coniferous forests, woodlands, and chaparral. Key habitat elements are loose, fine soils with a high sand fraction; an abundance of native ants; open areas for basking; and areas with low, dense shrubs for refuge. The primary threats to Blainville's horned lizard are habitat destruction from human development and agriculture, and the spread of nonnative ants, which displace native ants that are used as a food source (Nafis 2021).

#### *Occurrence Data and Habitat Suitability*

The nearest CNDDDB occurrence of Blainville's horned lizard was recorded in 2005 near an active mining area (EONDX #66137) approximately one mile east of the study area. Two additional occurrences were recorded in scrub habitat in Mount Diablo State Park, between 1.5 and 3 miles to the east (CDFW 2021e). There are several occurrences of Blainville's horned lizard documented in iNaturalist within and near scrub habitats in Lime Ridge Open Space, immediately adjacent to the study area (iNaturalist 2021).

Suitable habitat for Blainville's horned lizards is present throughout the study area, though areas within and adjacent to Diablan sage scrub represent higher quality habitat for this species than open grasslands. Given the species' documented occurrence in habitats nearby, they may occur anywhere within the study area.

#### *Potential Project Related Effects*

Grading for trail construction and any other ground-disturbing activities associated with the project could result in injury or mortality to individual Blainville's horned lizards that may be present within the trail alignment. Impacts to Blainville's horned lizards potentially occurring onsite will be avoided through

implementation of avoidance and minimization measures, including preconstruction surveys and biological monitoring.

#### **4.3.4 BIRDS**

Five special status bird species were determined to have the potential to occur within the study area. These species are discussed below, along with a general discussion of all migratory birds.

##### **Western Burrowing Owl (*Athene cunicularia*)**

###### *Status, Distribution and Habitat Requirements*

The western burrowing owl is a California Species of Special Concern. It is a year-round resident throughout much of California, including the Central Valley, San Francisco Bay region, Carrizo Plain, and Imperial Valley. Western 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). The western burrowing owl is well adapted to open, relatively flat expanses. Grassland, shrub steppe, and desert are naturally occurring habitat types used by the species (CDFG 2012).

Once considered “abundant” and “common” throughout California, the western burrowing owl has been declining since at least the 1940s (Shuford and Gardali 2008, Wilkerson and Siegel 2010). Analyses of regional patterns for breeding populations of burrowing owls have detected declines both locally in their central and southern coastal breeding areas, and statewide where the species has experienced modest breeding range retraction. In California, threat factors affecting western burrowing owl populations include habitat loss, degradation and modification, and eradication of ground squirrels resulting in a loss of suitable burrows required by burrowing owls for nesting, protection from predators, and shelter (CDFG 2012).

###### *Occurrence Data and Habitat Suitability*

There are two CNDDDB occurrences of burrowing owl within 5 miles of the study area. The closest occurrence was recorded in 1991 (EONDX #48638) between Ygnacio Valley Road and the Contra Costa Canal, approximately 0.5 miles northeast of the study area (CDFW 2021e). Burrowing owls are occasionally observed in the vicinity of the study area during the winter season, but have generally not been detected during the breeding season (eBird 2021). No ground squirrel burrow complexes or burrows with signs of burrowing owl occupancy were found within the study area during the February 2021 site assessment. Ground squirrels were observed in the vicinity of the study area however, just east of the intersection of the Ohlone Trail and Paraiso Trail, and new burrows could be dug on site at any time. Suitable foraging habitat for burrowing owls is present in grasslands throughout the study area.

###### *Potential Project Related Effects*

Grading for trail construction and any other ground-disturbing activities associated with the project could cause injury or mortality to burrowing owls within the study area through direct destruction of occupied burrows or disturbance from crews and equipment leading to nest abandonment. Impacts to burrowing owls potentially occurring onsite will be avoided through implementation of avoidance and minimization measures, including preconstruction surveys and biological monitoring.



### **Ferruginous Hawk (*Buteo regalis*)**

#### *Status, Distribution and Habitat Requirements*

The ferruginous hawk (nonbreeding/wintering) is included on the CDFW and Birds of Conservation Concern watchlists (CDFW 2021d). Ferruginous hawks inhabit open areas including grasslands, shrub steppes and deserts throughout western North America from southern Canada to Central Mexico between the Great Plains and the Rocky Mountains (Ng et al 2020). This species breeds in the northern states and Canada; winters south from California and Texas to Mexico. Wintering habitat consists of open grasslands, deserts and cultivated fields (Baicich & Harrison 2005). The ferruginous hawk is a California winter resident from August to early March. Ferruginous hawks feed primarily on rabbits, ground squirrels, and prairie dogs (Ng et al 2020). Breeding for ferruginous hawks begins in April and are single-brooded (Baicich & Harrison 2005).

#### *Occurrence Data and Habitat Suitability*

There is one CNDDDB occurrence of ferruginous hawk within 5 miles of the study area, which was recorded in 2006 at the Concord Naval Weapons Station (EONDX #72124), approximately 4.6 miles to the north (CDFW 2021e). Ferruginous hawks are regularly observed in this part of Contra Costa County during the wintering season (eBird 2021).

Suitable habitat is present in grasslands throughout the study area, and they may forage anywhere on site during the wintering season. Ferruginous hawks do not breed in California, and are not expected to nest on site.

#### *Potential Project Related Effects*

See ‘Potential Project Related Effects for all Migratory Birds’ below.

### **White-Tailed Kite (*Elanus leucurus*)**

#### *Status, Distribution, and Habitat Requirements*

The white-tailed kite is a California Fully Protected Species. In California, the white-tailed kite is a yearlong resident in coastal and valley lowlands, where it inhabits herbaceous and open stages of most habitat types. It is rarely found away from agricultural areas (CDFW 2014). Nest sites are usually located immediately adjacent to preferred foraging areas and are often in a single, isolated tree (Glover 2009) or near riparian corridors (Niemela 2007). White-tailed kites prey mostly on voles and other small, diurnal mammals, occasionally on birds, insects, reptiles, and amphibians. They forage in undisturbed, open grasslands, meadows, farmlands, and emergent wetlands.

By the 1940’s the white-tailed kite had become restricted to a few sites in California due to habitat loss, shooting, and possibly egg collecting. Since then, however, the range and size of the population has increased substantially. Factors influencing population trends directly or indirectly include: (1) conversion of natural or agricultural lands to urban sprawl or commercial properties, (2) clean farming techniques that leave few residual vegetation areas for prey, (3) increased competition for nest sites with corvids and other raptors, (4) drought, (5) increased disturbance at nests, and (6) removal of suitable nesting habitat (Dunk 1995).

#### *Occurrence Data and Habitat Suitability*

There are no CNDDDB occurrences of white-tailed kite within 5 miles of the study area (CDFW 2021e). However, white-tailed kites are ubiquitous throughout the greater San Francisco Bay Area (eBird 2021).

Suitable nesting habitat for white-tailed kites is present in trees in the oak woodland habitat within and adjacent to the study area, as well as the in the large eucalyptus tree near the western end of the proposed

trail alignment. White tailed kites may also forage anywhere within the grasslands on site. This species is quite common in Contra Costa County, and has a high potential to occur.

*Potential Project-Related Effects*

See ‘Potential Project Related Effects for all Migratory Birds’ below.

**California Horned Lark (*Eremophila alpestris actia*)**

*Status, Distribution and Habitat Requirements*

The California horned lark is included on the CDFW Watchlist (CDFW 2021d). This subspecies ranges from the inner Coast Ranges and San Joaquin Valley to northern Baja California, Mexico (Beason 2020). This species inhabits bare ground, deserts, short-grass prairies, tundra, sandy/stony area, agricultural feed lots, and fallow row crops characterized by open, treeless areas with low vegetation from sea level to 4,000 meters (13,123 feet). Nest sites are built on bare ground often next to tufts of grass or a stone (Beason 1995, Baicich and Harrison 2005). Breeding begins in late February, and pairs may produce two or even three broods in a single season (Baicich & Harrison 2005).

*Occurrence Data and Habitat Suitability*

There are no CNDDDB occurrences of horned lark within 5 miles of the study area (CDFW 2021e), though this species is likely under-reported. They are regularly observed in open areas of Contra Costa County during the breeding season (eBird 2021).

Suitable nesting and foraging habitat for horned larks is present in grasslands throughout the study area, and the species may occur in open areas anywhere on site.

*Potential Project Related Effects*

See ‘Potential Project Related Effects for all Migratory Birds’ below.

**Loggerhead Shrike (*Lanius ludovicianus*)**

*Status, Distribution and Habitat Requirements*

The loggerhead shrike is a California Species of Special Concern. It is a common resident and winter visitor in lowlands and foothills throughout California (CDFW 2014). Loggerhead shrikes breed mainly in shrublands or open woodlands with a fair amount of grass cover and areas of bare ground (Shuford and Gardali 2008). They require tall shrubs or trees (but also use fences or power lines) for hunting perches, territorial advertisement, and pair maintenance; open areas of short grasses, forbs, or bare ground for hunting; and large shrubs or trees for nest placement. Shrikes also need impaling sites for prey manipulation or storage, which can include sharp, thorny, or multi-stemmed plants and barbed-wire fences. The threats responsible for shrike declines in California and the West are poorly understood (Shuford and Gardali 2008). However, habitat loss on breeding and wintering grounds, as well as along migratory routes, is undoubtedly a major threat to the species (Shuford and Gardali 2008).

*Occurrence Data and Habitat Suitability*

There are no CNDDDB occurrences of loggerhead shrike within 5 miles of the study area (CDFW 2021e), though this species is likely under-reported. They are regularly observed in Contra Costa County during the breeding season (eBird 2021).

Suitable nesting habitat for loggerhead shrikes is present in the scrub and oak woodland habitats within and adjacent to the central portion of the study area, as well as in the large eucalyptus tree near the western end. They may also forage anywhere on site, including open grasslands.

*Potential Project Related Effects*

See ‘Potential Project Related Effects for all Migratory Birds’ below.

**Migratory Birds**

In addition to the special status bird species discussed above, numerous bird species that have no special status may also occur within the study area. Protection is afforded to these species by the Migratory Bird Treaty Act (16 U.S.C. 703-712; MBTA) administered by the U.S. Fish and Wildlife Service (Division of Migratory Bird Management), which makes it unlawful, unless expressly authorized by permit pursuant to federal regulations, to “pursue, hunt, take, capture, kill, attempt to take, capture or kill, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export at any time, or in any manner, any migratory bird, or any part, nest, or egg of any such bird.” This includes direct and indirect acts, with the exception of harassment and habitat modification, which are not included unless they result in direct loss of birds, nests or eggs. In addition, the Migratory Bird Treaty Reform Act (Division E, Title I, Section 143 of the Consolidated Appropriations Act, 2005, PL 108-447; MBTRA), excludes all migratory birds non-native or that have been human introduced to the U.S. or its territories. It defines a native migratory bird as a species present within the U.S. and its territories as a result of natural biological or ecological processes. Birds receive further protection under state law through California Fish and Game Code §3503, prohibiting the take, possession, or needless destruction of the nest or eggs of any bird; §3503.5 prohibiting the take, possession, or needless destruction of any nests, eggs or birds in the orders Falconiformes (new world vultures, hawks, eagles, ospreys and falcons, among others) or Strigiformes (owls); §3511 prohibiting the take or possession of fully protected birds; and §3513 prohibiting the take or possession of any migratory nongame bird or part thereof as designated in the federal MBTA. Most birds are protected under the MBTA and California Fish and Game Code except for several nonnative species, including the European starling (*Sturnus vulgaris*) and the house sparrow (*Passer domesticus*).

*Potential Project Related Effects for all Migratory Birds*

For any bird species that are nesting within the study area, construction actions associated with the project could result in short-term impacts such as failure to breed, nest abandonment, reduced fecundity and decreased survivorship from noise and movement of personnel and equipment that exceeds normal background conditions within the study area. Disturbance may alter the bird’s behavior in ways that result in injury, mortality and reduced foraging success, such as the temporary loss of habitat due to avoidance of areas that have suitable habitat but intolerable levels of disturbance, and altered activity patterns.

If work activities cannot be timed to avoid the breeding season then pre-construction surveys for nesting bird species will be conducted as detailed in Section 5.2 to minimize impacts to this species. Active nests will be avoided and a non-disturbance buffer zone will be established around them. Therefore, the project will not adversely affect migratory bird species.

### 4.3.5 MAMMALS

Ten special status reptile species were determined to have the potential to occur within the study area. These species are discussed below.

#### Special Status Bats

Bats are widespread within California and may be found in any habitat. They are nocturnal, aerial predators of insects and other arthropods, and often forage over open water, marshes, and other moist, open areas where flying insects tend to congregate. Different bat species have different roosting requirements, and roosts can be found in a variety of habitats and locations. Day roosts, used from sunrise to sunset, provide a protected and sheltered location for bats to rest and sleep within a short flight to foraging areas and a site to raise their young (Erickson et al. 2002). During the day, bats may use three types of roosts: crevices, cavities, and foliage. Crevice and cavity roosts may be found in natural and human-made features such as caves, cliffs, rock outcrops, trees, mines, buildings, bridges, and tunnels.

During the breeding season (April through September), crevice and cavity roosting species typically gather in groups of mothers and young (maternity colonies) that may number in the thousands or even tens of thousands of individuals. In contrast, foliage-roosting bats may be solitary or occur in small groups while breeding. Roosts used during the day and as maternity roosts tend to be well-hidden and require precise temperature and humidity conditions.

Night roosts, which are used from approximately sunset to sunrise, are primarily sites where animals congregate to rest and digest their food between foraging bouts (Erickson et al. 2002). Night roosts are often located in more open but protected areas such as overhangs on buildings and recessed areas on the undersides of bridges. Seven special status bat species have the potential to occur within the study area based on range, habitat, and recorded occurrences in the region, including:

- pallid bat (*Antrozous pallidus*) – California Species of Special Concern
- western red bat (*Lasiurus blossevillii*) – California Species of Special Concern
- hoary bat (*Lasiurus cinereus*) – Included on CDFW’s Special Animals List
- long-eared myotis bat (*Myotis evotis*) – Included on CDFW’s Special Animals List
- fringed myotis bat (*Myotis thysanodes*) – Included on CDFW’s Special Animals List
- long-legged myotis bat (*Myotis volans*) – Included on CDFW’s Special Animals List
- Yuma myotis bat (*Myotis yumanensis*) – Included on CDFW’s Special Animals List

These bat species may occur in any habitat, although riparian corridors, large trees and snags, and relatively undisturbed parts of human-made structures are generally the most suitable roost locations. CNDDDB occurrences are reported in the individual species descriptions below. Bats in general are very likely under-reported to the CNDDDB relative to their actual abundance in the environment because they are nocturnal, difficult to detect, and difficult to positively identify and assess population levels even when detected. For these reasons they may be present or even abundant in the landscape despite a lack of recorded occurrences.

#### *Potential Project Related Effects to All Bat Species*

Because no trees or shrubs are proposed to be removed, direct loss of roosting habitat is not expected. However, any construction activities associated with the project also have the potential to cause impacts to roosting bats that may be present in trees or vegetation adjacent to the trail alignment through noise and physical disturbance by heavy machinery, vehicles, and increased human presence. This may result in the displacement of individual bats utilizing them. Preconstruction surveys would be required prior to any disturbance of the trees on and adjacent to the site, and any occupied roost features would be avoided during the breeding season.

**Pallid Bat (*Antrozous pallidus*)***Status, Distribution and Habitat Requirements*

The pallid bat is a California Species of Special Concern, and is designated a High Priority species by the Western Bat Working Group (WBWG). They are yearlong residents throughout most of California, except for the high Sierra Nevada and the northwestern corner of the state (CDFW 2014). They occur in a wide variety of habitats (including grasslands, shrublands, and woodlands), although are most abundant in xeric ecosystems (CDFW 2014, WBWG 2021).

Pallid bats may roost alone, in small groups (2 to 20 bats), or gregariously (100s of individuals). Roost sites include crevices in rocky outcrops and cliffs, caves, mines, trees (e.g., in basal hollows, bole cavities, and exfoliating bark), and various human structures such as bridges (especially wooden and concrete girder designs), barns, porches, bat boxes, and human-occupied as well as vacant buildings. Roosts generally have unobstructed entrances/exits, and are high above the ground, warm, and inaccessible to terrestrial predators. Although year-to-year and night-to-night roost reuse is common, pallid bats may switch day roosts on a daily (1-13 day) and seasonal basis. Pallid bats usually emerge late in the evening (30-60 minutes after sunset) to forage on a variety of arthropods (WBWG 2021).

Pallid bats' tendency to roost gregariously and their relative sensitivity to disturbance makes them vulnerable to mass displacement. Roosts and hibernacula can be damaged or destroyed by vandalism, mine closures and reclamation, recreational activities such as rock climbing, forestry practices such as timber harvest, and, where human-made structures are occupied, demolition, modification, chemical treatments, or intentional eradication and exclusion. Maternity colonies and hibernating bats are especially susceptible to disturbance. Loss or modification of foraging habitat due to prescribed fire, urban development, agricultural expansion, and pesticide use pose potential threats. This is especially true in coastal California, where urbanization has reduced roosting and foraging habitat (WBWG 2021).

*Occurrence Data and Habitat Suitability*

There are four CNDDDB occurrences of pallid bat within 5 miles of the study area, the closest of which represents a museum specimen collected in 1917 in Pine Canyon (EONDX #66600), approximately 1.6 miles to the south. The other three occurrences (EONDX # 66593, 66605, and 66591) also represent museum specimens collected in Concord in 1942, in Walnut Creek in 1907, and in Alamo (CDFW 2021e). Suitable day roosting habitat may be present in the larger trees in the oak woodlands within and adjacent to the study area.

*Potential Project Related Effects*

See 'Potential Project Related Effects to All Bat Species' above.

**Western Red Bat (*Lasiurus blossevillii*)***Status, Distribution and Habitat Requirements*

The western red bat is a California Species of Special Concern, and is designated a High Priority Species by the WBWG. The western red bat is primarily a riparian obligate species with a widespread distribution extending from British Columbia to Argentina. They are ubiquitous throughout most of California except the northern Great Basin region. Roosting typically occurs individually in dense clumps of tree foliage in riparian areas, especially willows, cottonwoods and sycamores, and within orchards and suburban areas in trees and shrubs. Roosts are often hidden from view and only accessed from below. Red bats are primarily moth specialists, but individuals will forage for a variety of other insects. The western red bat migrates long distances, but has been reported to overwinter in the San Francisco Bay Area with interspersed winter foraging bouts on warm days. Loss of riparian zones, primarily due to agricultural conversion and creation of water storage reservoirs has reduced both roosting and foraging habitat of red bats (WBWG 2021).

*Occurrence Data and Habitat Suitability*

There are no occurrences of western red bat recorded in the CNDDDB within 5 miles of the study area (CDFW 2021e), though the site is within the species' accepted range (CDFW 2014). Suitable day roosting habitat may be present in the larger trees in the oak woodlands within and adjacent to the study area.

*Potential Project Related Effects*

See 'Potential Project Related Effects to All Bat Species' above.

**Hoary Bat (*Lasiurus cinereus*)**

*Status, Distribution and Habitat Requirements*

The hoary bat is included on CDFW's Special Animals list, and is designated a Medium Priority Species by the WBWG. Hoary bats are ubiquitous throughout California, although their distribution is patchy in the southeastern deserts (CDFW 2014). Hoary bats are solitary and roost primarily in foliage of both coniferous and deciduous trees, near the ends of branches, 3-12 m above the ground and usually at the edge of a clearing (WBWG 2021). Habitats suitable for bearing young include all woodlands and forests with medium to large-size trees and dense foliage (CDFW 2014). Hoary bats usually emerge late in the evening to forage. Hoary bats reportedly have a strong preference for moths, but are also known to eat beetles, flies, grasshoppers, termites, dragonflies, and wasps. Loss of roosting habitat due to timber harvest is likely the greatest threat to this species. Use of pesticides may also be a potential source of mortality to roosting bats and their insect prey (WBWG 2021).

*Occurrence Data and Habitat Suitability*

There are two CNDDDB occurrences of hoary bat within 5 miles of the study area, the closest of which represents a museum specimen collected in 1957 in Concord (EONDX #68776), approximately 3 miles to the north. The other occurrence was recorded in 2001 in Pleasant Hill (EONDX # 68777), approximately 3.4 miles to the west (CDFW 2021e). Suitable day roosting habitat may be present in the larger trees in the oak woodlands within and adjacent to the study area.

*Potential Project Related Effects*

See 'Potential Project Related Effects to All Bat Species' above.

**Long-Eared Myotis Bat (*Myotis evotis*)**

*Status, Distribution and Habitat Requirements*

The long-eared myotis is included on CDFW's Special Animals List, and is designated a Medium Priority Species by the WBWG. It is widespread in California, but generally is believed to be uncommon in most of its range. It avoids the arid Central Valley and hot deserts, occurring along the entire coast and in the Sierra Nevada, Cascades, and Great Basin from the Oregon border south through the Tehachapi Mountains to the Coast Ranges. This species has been found in nearly all brush, woodland, and forest habitats, from sea level to at least 2700 m (9000 ft), but coniferous woodlands and forests seem to be preferred (CDFW 2014). Individuals roost under exfoliating tree bark, and in hollow trees, caves, mines, cliff crevices, sinkholes, and rocky outcrops on the ground. They also sometimes roost in buildings and under bridges. During the summer, females form small maternity colonies, whereas males and non-reproductive females roost alone or in small groups nearby. Threats to the species include closure of abandoned mines, recreational caving, some forest-management practices, and activities that impact cliff faces or rock outcrops (WBWG 2021).

*Occurrence Data and Habitat Suitability*

There are no occurrences of long-eared myotis bat recorded in the CNDDDB within 5 miles of the study area (CDFW 2021e), though the site is within the species' accepted range (CDFW 2014). Suitable day roosting habitat may be present in the larger trees in the oak woodlands within and adjacent to the study area.

*Potential Project Related Effects*

See 'Potential Project Related Effects to All Bat Species' above.

**Fringed Myotis Bat (*Myotis thysanodes*)**

*Status, Distribution and Habitat Requirements*

The fringed myotis bat is included on CDFW's California State Special Animals List and is designated a High Priority Species by the WBWG. The range of the fringed myotis extends through much of western North America from southern British Columbia, Canada, south to Chiapas, Mexico and from Santa Cruz Island in California, east to the Black Hills of South Dakota. It occurs from sea level to 9,350 feet but is most common at middle elevations (3,937 to 6,890 feet). The distribution of the species is patchy. Although it appears to be most common in drier woodlands (oak, pinyon-juniper, ponderosa pine), it is found in a wide variety of habitats including desert scrub, mesic coniferous forest, grassland, and sage-grass steppe (WBWG 2021).

The fringed myotis roosts in crevices in buildings, underground mines, rocks, cliff faces, and bridges. Roosting in decadent trees and snags, particularly large ones, is common throughout its range in the western U.S. and Canada. Fringed myotis roosts have been documented in a large variety of tree species and it is likely that structural characteristics (e.g., height, decay stage) rather than tree species play a greater role in selection of a snag or tree as a roost. Maternity roosts are colonial with colonies ranging from 10 to 2,000 individuals, though large colonies are exceedingly rare. Much less information is available on roosts of males, but it is thought that they roost singly or in small groups. The information available on hibernation is largely limited to an accounting of the types of structures used as hibernacula, which include caves, mines, and buildings (WBWG 2021).

*Occurrence Data and Habitat Suitability*

There are no occurrences of fringed myotis bat recorded in the CNDDDB within 5 miles of the study area (CDFW 2021e), though the site is within the species' accepted range (CDFW 2014). Suitable day roosting habitat may be present in the larger trees in the oak woodlands within and adjacent to the study area.

*Potential Project Related Effects*

See 'Potential Project Related Effects to All Bat Species' above.

**Long-Legged Myotis Bat (*Myotis volans*)**

*Status, Distribution and Habitat Requirements*

The long-legged myotis bat is included on CDFW's California State Special Animals List and is designated a High Priority species by the WBWG. Long-legged myotis bats inhabit brushy woodlands and coniferous forests up to 2,800 meters throughout California except the Central Valley and deserts. They also forage in chaparral, coastal scrub, Great Basin shrub habitats, and in early successional stages of woodlands and forests. They roost in a variety of habitats including exfoliating bark, tree hollows, caves, rotten stumps, snags, cliff crevices and bridges. Trees are likely the most important day roosts. They are foliage-gleaners that require nearby water. This species forms nursery colonies numbering hundreds of individuals, usually under bark or in hollow trees, but occasionally in crevices or buildings. Young are born in June and July.

They are nocturnal, emerging at or shortly after dusk, and hibernate during the winter. They likely make short migrations to suitable hibernacula (CDFW 2014).

*Occurrence Data and Habitat Suitability*

There are no occurrences of long-legged myotis bat recorded in the CNDDDB within 5 miles of the study area (CDFW 2021e), though the site is within the species' accepted range (CDFW 2014). Suitable day roosting habitat may be present in the larger trees in the oak woodlands within and adjacent to the study area.

*Potential Project Related Effects*

See 'Potential Project Related Effects to All Bat Species' above.

**Yuma Myotis Bat (*Myotis yumanensis*)**

*Status, Distribution and Habitat Requirements*

The Yuma myotis bat is included on CDFW's Special Animals List and is designated as a Low Priority Species by the Western Bat Working Group. They range throughout western North America from British Columbia, Canada to Mexico, and are ubiquitous throughout California. Typical habitat includes riparian corridors and edge habitat in forested canyons, but also arid shrublands, deserts and forests (WBWG 2021). They are colonial roosters and are typically found in manmade structures such as bridges or building, but will also use caves, mines and old cliff swallow nests (Jameson and Peeters 2004). They also roost in a variety of habitats similar to the pallid bat and forage above the water in riparian corridors and along the forest edge. Yuma myotis bats form maternity colonies of several thousand and give birth from April through July depending on latitude (WBWG 2021).

*Occurrence Data and Habitat Suitability*

There are no occurrences of Yuma myotis bat recorded in the CNDDDB within 5 miles of the study area (CDFW 2021e), though the site is within the species' accepted range (CDFW 2014). Suitable day roosting habitat may be present in the larger trees in the oak woodlands within and adjacent to the study area.

*Potential Project Related Effects*

See 'Potential Project Related Effects to All Bat Species' above.

**San Francisco Dusky-Footed Woodrat (*Neotoma fuscipes annectans*)**

*Status, Distribution and Habitat Requirements*

The San Francisco dusky-footed woodrat is a California Species of Special Concern. The San Francisco subspecies appears to be limited to Alameda, Contra Costa, San Mateo, Santa Clara, and Santa Cruz counties (Matocq 2002). Dusky-footed woodrats are frequently found in forest habitats with moderate canopy cover and a moderate to dense understory, including riparian forests, but may also be found in chaparral habitats. They build relatively large stick nests (2-5 feet in height and 4-8 feet in basal diameter) in protected spots, such as rock outcrops, dense brush, hollow logs, large branches and cavities of trees, and in human-made debris. Nests are used for cover, food storage, and rearing of young, and may be used by multiple generations of woodrats for 20 years or more. Woodrat nests provide cover for many other animal species, including small mammals, reptiles, amphibians, and arthropods, thereby increasing local biodiversity. Woodrats are generalist herbivores, consuming a variety of nuts, fruits, fungi, foliage and some forbs (Carraway and Verts 1991).



#### *Occurrence Data and Habitat Suitability*

There is one occurrence of San Francisco dusky-footed woodrat within 5 miles of the study area, which was recorded in 2015 near Kaiser Quarry Road (EONDX #102328), approximately 1.5 miles to the east (CDFW 2021e). This species is ubiquitous in oak woodlands throughout the region, and may build nests in the woodlands and scrubland edges near the center of the proposed trail alignment. No woodrat nests were observed during the February 2021 site assessment visit, though nests could be built on site prior to project construction. San Francisco dusky-footed woodrats are not expected to occur in the open grasslands on site, however.

#### *Potential Project Related Effects*

Grading for trail construction and any other ground-disturbing activities associated with the project could result in injury or mortality to individual San Francisco dusky-footed woodrats that may be present within the trail alignment. Any construction activities associated with the project also have the potential to cause impacts to woodrats through noise and physical disturbance by heavy machinery, vehicles, construction activities and increased human presence. This may result in the permanent removal of woodrat nests and displacement of individuals utilizing them. Impacts to San Francisco dusky-footed woodrats potentially occurring onsite will be avoided through implementation of avoidance and minimization measures, including preconstruction surveys, nest relocation, and biological monitoring.

### **Mountain Lion (Southern California/Central Coast ESU) (*Puma concolor*)**

#### *Status, Distribution and Habitat Requirements*

The Southern California/Central Coast Evolutionarily Significant Unit (ESU) mountain lion is a candidate for listing as threatened under the California Endangered Species Act. They are large cats with very large home ranges that may cover many different habitat types, including conifer forests, oak and riparian woodlands, scrub, chaparral, grasslands, and deserts. They typically require areas that are relatively undisturbed by human activity. The Southern California/Central Coast ESU includes all populations of mountain lions from the San Francisco Bay Area south along the Coast Ranges west of Interstate 5, and in Southern California from Highway 58 and Interstate 15 southward to the border with Mexico, and eastward to the Nevada and Arizona borders. The Santa Cruz Mountains are understood to be one of the core habitat areas for this ESU, and populations extend to the limits of urbanization in San Mateo, Santa Cruz, Santa Clara, Alameda, and Contra Costa Counties (CBD and MLF 2019).

#### *Occurrence Data and Habitat Suitability*

The CNDDDB does not track occurrences of Southern California/Central Coast mountain lions, but the study area is within the known range of this ESU (CBD and MLF 2019). Mountain lions range widely and may occur in any of the habitats on site, including using oak woodland and scrub areas for cover. They may occur anywhere within the study area, although likely sporadically and unpredictably.

#### *Potential Project Related Effects*

Construction of the project could cause temporary disturbance to mountain lions on site. Any mountain lions in the vicinity of active construction work would be able to move away from disturbance and would not be harmed. Impacts to mountain lions potentially occurring onsite will be avoided through implementation of avoidance and minimization measures, including preconstruction surveys and biological monitoring.

### **American Badger (*Taxidea taxus*)**

#### *Status, Distribution and Habitat Requirements*

The American badger is a California Species of Special Concern. This species once occurred throughout California in grasslands and open stages of most shrub, forest, and herbaceous habitats with dry, friable soils. Characterized by a stout, muscular, compressed body adapted to digging, the badger forages on other fossorial (burrowing) species, such as ground squirrels, pocket gophers, and rats. Reproduction occurs in summer and fall, and altricial young are born in March and early April following delayed implantation (Long 1973).

Badger numbers have declined drastically in California. Agricultural and urban development, direct and secondary poisoning, and shooting and trapping have had deleterious effects on badgers. However, there is no reliable data on the species' current distribution or status (Bolster 1998).

#### *Occurrence Data and Habitat Suitability*

Although there are no occurrences of American badger recorded in the CNDDDB within 5 miles of the study area (CDFW 2021e), they are relatively secretive and range widely, and may still be present but undetected in the region. No burrows showing evidence of occupation by badgers were observed during the site assessment, though they could forage or travel through the site at any time.

#### *Potential Project Related Effects*

Construction of the project could cause temporary disturbance to American badgers potentially occurring on site. Any badgers in the vicinity of active construction work would be able to move away from disturbance and would not be harmed. Impacts to badgers potentially occurring onsite will be avoided through implementation of avoidance and minimization measures, including preconstruction surveys and biological monitoring.

## **Section 5. CONCLUSIONS, AVOIDANCE AND MINIMIZATION MEASURES**

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### **5.1. CONCLUSIONS**

#### **5.1.1 CRITICAL HABITAT**

The project is located in Alameda whipsnake Critical Habitat Unit 4 and contains PCE 1 (Scrub/shrub communities with a mosaic of open and closed canopy) and PCE 2 (woodland or annual grassland plant communities contiguous to lands containing PCE 1). Given the small scope of the project, there will be a negligible impact to Alameda whipsnake Critical Habitat.

#### **5.1.2 SENSITIVE NATURAL COMMUNITIES**

Although not considered a sensitive natural community by CDFW (2019a), seasonal wetland and stream are treated as sensitive natural communities as they may be jurisdictional wetland features regulated by the Army Corps of Engineers and the California State Water Resources Control Board, and by CDFW as a riparian resource.

Impacts to seasonal wetlands or streams are likely to occur during project construction. All impacts are temporary. Impacts will be minimized by implementing Best Management Practices including minimizing the disturbance areas to the minimum necessary to complete the project, revegetating the site following construction, and implementing erosion control. All work will follow permit conditions.

#### **5.1.3 SPECIAL STATUS PLANTS**

Based on the field investigations, review of available databases and literature, familiarity with local flora, and on-site habitat suitability, six California Native Plant Society ranked species are considered to have the potential to occur within the study area. Full floristic surveys prior to initiation of project activities are recommended.

#### **5.1.4 SPECIAL STATUS WILDLIFE**

Based on the field investigations, review of available databases and literature, familiarity with local fauna, and on-site habitat suitability, 23 special status wildlife species were determined to have the potential to occur within the study area. These include obscure bumble bee, Crotch bumble bee, western bumble bee, Bridges' Coast Range shoulder band snail, California tiger salamander, California red-legged frog, Alameda whipsnake, Blainville's horned lizard, burrowing owl, ferruginous hawk, white-tailed kite, California horned lark, loggerhead shrike, pallid bat, western red bat, hoary bat, long-eared myotis bat, fringed myotis bat, long-legged myotis bat, Yuma myotis bat, San Francisco dusky-footed woodrat, mountain lion, and American badger.

#### **5.1.5 WILDLIFE HABITAT AND MOVEMENT CORRIDORS**

The new trail alignment passes through grassland areas that are comparatively undisturbed, and will channel hikers into areas where humans previously had little direct presence. This may cause additional disturbance within these areas, and reduce wildlife use in the vicinity of the new trail. However, given the heavy recreational use of Lime Ridge Open Space and the proximity of dense urbanization, wildlife in the region are likely largely habituated to human presence. No significant impacts to wildlife movement corridors are anticipated as the project will not introduce any barriers, and the study area will be available for species to

move through after completion of the trail. Most wildlife species will be able to leave the project site on their own once work starts and therefore should not be impacted during construction. There is a chance that less mobile ground-dwelling species such as California slender salamander or western fence lizard could be impacted during construction, but these species are relatively abundant, and their individual loss would not be considered significant. Preconstruction surveys for nesting birds and common wildlife as detailed below will minimize impacts to migratory birds and common wildlife species.

## **5.2. AVOIDANCE AND MINIMIZATION RECOMMENDATIONS**

The following avoidance and minimization recommendations are based on our assessment of biological resources within the study area. Additional measures may be required by regulatory agencies (USFWS, CDFW, U.S. Army Corps of Engineers, and Regional Water Quality Control Board) during the permitting process for project impacts to waters and special status wildlife species.

### **5.2.1 SPECIAL STATUS PLANT SPECIES**

- Prior to the start of construction protocol level rare plant surveys should be conducted for the six special status plant species with the potential to occur within the project area. Surveys should be conducted in the months of April, May, and September in order to capture peak blooming period for each species. If species are confirmed within the project area, setback or non-disturbance buffer zones around these resources should be established.

### **5.2.2 SENSITIVE NATURAL COMMUNITIES**

- Prior to the start of construction near areas containing freshwater marsh, seasonal wetlands, open water, and streams; these sensitive features should be delineated and conspicuously flagged or fenced to minimize impacts to these resources. If required, setback or non-disturbance buffer zones around these resources should be established.

### **5.2.3 SPECIAL STATUS WILDLIFE**

The following avoidance and minimization measures outlined below are recommended.

#### **General Special Status Wildlife Measures**

- Preconstruction surveys for all special status and common wildlife species should be conducted within the study area by a qualified biologist immediately prior to equipment or material staging, vegetation removal, grading, and any other ground-disturbing activities. The qualified biologist will search the area for special status and common wildlife species. If species are found, individuals will be relocated outside of the project area if the qualified biologist is permitted to do so by all regulatory agencies and determines that relocation is warranted.
- A qualified biologist should conduct an education program covering all the sensitive resources with potential to occur in the project area and the avoidance and minimization measures requiring implementation for all project personnel prior to the start of construction activities.

#### **Migratory Birds**

- If tree or vegetation removal, pruning, or grubbing activities are necessary, such activities should be conducted between September 1 and January 31, outside of the nesting season.
- If project construction begins during the nesting season (February 1 – August 31), pre-construction surveys should be conducted by a qualified biologist within the project area and should encompass adjacent habitats up to 300 feet from the project boundary, no more than one week prior to

equipment or material staging, pruning/grubbing or ground-disturbing activities. The surveys will entail a variety of search techniques, as described by Martin and Geupel (1993). These include incidental flushing of an adult from the nest, watching parental behavior (e.g., carrying nest material or food), systematically searching nesting substrates, and use of call-broadcasts. If no active nests are found within the survey area, no further action is necessary.

- If active nests, i.e. nests with eggs or young present, are found within the survey area, non-disturbance buffers should be established at a distance sufficient to minimize disturbance based on the nest location, topography, cover, the nesting pair's tolerance to disturbance and the type/duration of potential disturbance. No work should occur within the non-disturbance buffers until the young have fledged as determined by a qualified biologist. If buffers are established and it is determined that project activities are resulting in nest disturbance, work in the nearby vicinity of the nest should cease immediately and CDFW and USFWS Migratory Bird Permit Office should be contacted for further guidance.
- Preconstruction surveys for burrowing owls will be conducted regardless of the season that construction occurs, since nesting and wintering owls are protected. If active burrowing owl burrows are found (i.e. sign of use or individuals are observed), they will be monitored to ensure active status and a non-disturbance buffer will be implemented and monitored. The no work buffer will be dependent on whether the owl is present during the nesting or wintering seasons. If buffers are established and it is determined that project activities are resulting in burrowing owl disturbance, work should cease in the nearby vicinity and CDFW should be contacted for further guidance.

#### **Additional Species-Specific Measures**

- Prior to the start of construction, a bat habitat assessment should be conducted to identify suitable bat roosting habitat including snags, rotten stumps, and trees with broken limbs, exfoliating bark, cavities, etc. Potential roosting habitat should be avoided to the maximum extent practicable. If no suitable roost sites are identified, no further minimization measures are necessary.
- If suitable roosting habitat is identified and will be removed by the project, a qualified biologist should survey suitable roost sites immediately prior to the removal. If any sign of roosting bats or observation of individual bats is observed, do not remove the roost and contact CDFW. If no sign of roosting bats is observed, tree removal should continue by first removing non-habitat features such as limbs smaller than 3 inches in diameter. The tree should then be left overnight to allow any bats using the tree/snag to find another roost during their nocturnal activity period. A qualified biologist should survey the trees/snags a second time the following morning prior to felling and removal. If suitable roosting habitat will be disturbed by presence and noise of equipment and workers for more than two hours, a qualified biologist will be present to monitor the bat roosting habitat and will stop work if any disturbance to bats is detected and contact CDFW for further guidance.
- A qualified biologist should survey the project area for San Francisco dusky-footed woodrat nests no more than one week prior to construction. If woodrat nests are found, that will be damaged or destroyed by the project, CDFW must be contacted to obtain approval to relocate the nest(s). They may be relocated over the course of several days to a safe location outside of the project area by a biologist possessing permits and approvals from CDFW to conduct woodrat nest relocation. If woodrat young are discovered during the course of the nest dismantling, then the nest should be left alone for two weeks to allow them to develop fully and leave on their own. Relocation can then resume.

#### 5.2.4 GENERAL AVOIDANCE AND MINIMIZATION RECOMMENDATIONS

- A qualified biologist should be on site to ensure implementation of, and compliance with, all avoidance measures throughout the length of construction.
- Prior to the start of construction within areas containing sensitive biological resources, the resources should be delineated and conspicuously flagged to prevent impacts. If required, setback or non-disturbance buffer zones around these resources should be established and monitored by a biologist.
- All trash should be placed in secure containers with secure lids and removed from the site daily.
- Trash dumping, firearms, open fires, and pets should be prohibited in the construction area.
- A plan will be prepared that will identify Best Management Practices (BMPs) for erosion and sediment control and non-stormwater and material management to be implemented during construction; this will minimize impacts to sensitive habitats. At a minimum, the following BMPs will be implemented:
  - Any work within wetlands/waters will be conducted during the dry season.
  - All equipment will be properly maintained and free of leaks. Servicing and maintenance areas will be adequately contained to prevent spills from entering the riparian habitat. Spill containment kits will be kept on site at all times during construction operations and/or staging or fueling of equipment.
  - Erosion and sediment control measures for graded areas will include a combination of silt fences, fiber rolls, etc. as appropriate along toes of slopes or along edges of staging areas. No materials that use plastic or synthetic mono-filament netting will be used to avoid wildlife from getting entangled.
  - Any areas temporarily disturbed by project construction, such as equipment staging areas, will be re-vegetated with an appropriate mixture of native seeds. Seeded areas will be blanketed with the appropriate erosion control material that will not entangle or trap wildlife (i.e., tightly-woven, non-mono-filament netting).

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## **APPENDIX A LAWS, ORDINANCES & REGULATIONS**

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## Laws, Ordinances & Regulations

### FEDERAL REGULATIONS

#### *FEDERAL ENDANGERED SPECIES ACT (FESA)*

The Federal Endangered Species Act of 1973, as amended (FESA), was created to “conserve the ecosystems upon which endangered and threatened species depend.” The U.S. Fish and Wildlife Service (USFWS) and National Oceanic and Atmospheric Administration, National Marine Fisheries Service have authority over projects that may result in a “take” of a species listed as threatened or endangered under the FESA. Under the FESA, plant and wildlife species, including all lower taxa including subspecies and varieties, are listed threatened or endangered based on (A) the present or threatened destruction, modification, or curtailment of their habitat or range, (B) overutilization for commercial, recreational, scientific, or educational purposes, (C) disease or predation, (D) the inadequacy of existing regulatory mechanisms, or (E) other natural or manmade factors affecting their continued existence. FESA listing categories include endangered, threatened and candidates for listing. FESA provides protection for species listed as endangered, and prohibits the “take” of such species in areas under federal jurisdiction or in violation of state law. A “take” is defined as any action to “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Species listed as threatened do not warrant listing as endangered and are not provided the same protection under Section 9; however, USFWS often applies the same protection as authorized by Section 4(d) of the FESA. Section 4(d) also allows for exceptions to the take rule under special circumstances. If a project would result in a take of a federally listed species, either an incidental take permit, under Section 10(a) of the FESA, or a federal interagency consultation under Section 7 of FESA, is required prior to the take. Current inventories published for species listed under the FESA include the *Endangered and Threatened Wildlife and Plants* (USFWS 1999a), *Endangered and Threatened Wildlife and Plants; Review of Native Species That are Candidates or Proposed for Listing as Endangered or Threatened*; *Annual Notice of Findings on Resubmitted Petitions*; *Annual Description of Progress on Listing Actions*; , *Endangered and Threatened Species*; *Establishment of Species of Concern List, Addition of Species to Species of Concern List, Description of Factors for Identifying Species of Concern, and Revision of Candidate Species List Under the Endangered Species Act* (NOAA 2004).

#### *CLEAN WATER ACT OF 1977*

The U.S. Army Corps of Engineers (USACE) and the U.S. Environmental Protection Agency (EPA) have jurisdiction over “Waters of the United States, which include navigable waters of the United States, interstate waters, all other waters where the use or degradation or destruction of the waters could affect interstate or foreign commerce, tributaries to any of these waters, and wetlands that meet any of these criteria or that are adjacent to any of these waters or their tributaries. Waters of the United States include marine waters, tidal areas, and stream channels. Under federal regulations, wetlands are defined as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas” [33 C.F.R. §328.3(b)]. Presently, to be considered a wetland, a site must exhibit three criteria: hydrophytic vegetation, hydric soils, and wetland hydrology existing under the “normal circumstances” for the site.

Wetlands that are non-navigable, isolated, and intrastate only may not be subject to USACE jurisdiction under Section 404 of the CWA, pursuant to the “SWANCC” decision, *Solid Waste Agency of Northern Cook County vs. United States Army Corps of Engineers* (2001) 531 U.S. 159. Although isolated wetlands may not be subject to USACE jurisdiction under Section 404, they are considered “waters of the State” under California’s Porter-Cologne Water Quality Control Act (Cal. Water Code §§ 13020, et seq.) and, as

such, are subject to regulation by Regional Water Quality Control Boards (RWQCB). There are nine RWQCBs under the State Water Resources Control Board.

Policies regulating the loss of wetlands generally stress the need to compensate for wetland acreage losses by creating wetlands from non-wetland habitat on at least an acre-for-acre basis. That is, mitigation requiring a no-net-loss of wetland functions and values is typically required. Projects that cause the discharge of dredged or fill materials in Waters of the United States require permitting by the USACE. Actions affecting small areas of jurisdictional Waters may qualify for a Nationwide Permit, provided conditions of the permit are met (such as avoiding impacts to threatened or endangered species or to important cultural sites). Projects that do not meet the Nationwide Permit conditions, or projects that disturb a larger area, require an Individual Permit. The process for obtaining an Individual Permit requires a detailed alternatives analysis and development of a comprehensive mitigation/monitoring plan.

Section 401 of the Clean Water Act is discussed below.

#### ***WATERS OF THE UNITED STATES***

“Waters of the United States”, which includes “wetlands” and “other waters”, are defined by 33 CFR §328.3 as follows:

- All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide.
- All interstate waters including interstate wetlands.
- All “other waters” such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:
  - which are or could be used by interstate or foreign travelers for recreational or other purposes; or
  - from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
  - which are used or could be used for industrial purpose by industries in interstate commerce.
- All impoundments of waters otherwise defined as waters of the United States under the definition.
- Tributaries of waters identified above.
- The territorial seas.
- Wetlands adjacent to waters (other than wetlands) identified above.

The Corps generally does not consider the following waters to be “waters of the United States.” However, the Corps reserves the right on a case-by-case basis to determine that a particular water body within these categories of waters is a water of the United States. The Environmental Protection Agency also has the right to determine on a case-by-case basis if any of these waters are “waters of the United States.”

- Non-tidal drainage and irrigation ditches excavated on dry land.
- Artificially irrigated areas which would revert to upland if the irrigation ceased.
- Artificial lakes or ponds created by excavating and/or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing.



- Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating and/or diking dry land to retain water for primarily aesthetic reasons.
- Water filled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States [see 33 CFR 328.3(a)].

#### Wetlands

Corps jurisdictional “wetlands”, as defined by 33 CFR §328.3(b), are those areas which are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances, do support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

#### Ordinary High Water Mark

The Corps’ jurisdiction over “other waters” extends to the limit of the Ordinary High Water Mark or the upward extent of any adjacent wetland. The Ordinary high water mark, as defined by 33 CFR §328.3(e), is the visible line on the shore/bank established by the fluctuations of water and indicated by physical characteristics such as:

- A clear, natural line impressed on the bank;
- shelving;
- changes in the character of soil;
- destruction of terrestrial vegetation;
- the presence of litter and debris; or
- other appropriate means that consider the characteristics of the surrounding areas.

#### ***RIVERS AND HARBORS ACT***

Section 10 of the Rivers and Harbors Act of 1899 requires authorization from the Secretary of the Army, acting through the U.S. Army Corps of Engineers, to construct any structure in or over any “navigable water of the United States.” Structures or work outside the limits defined as navigable waters requires a Section 10 permit if the structure or work affects the course, location, or condition of the water body. The law applies to dredging or disposal of dredged materials, excavation, filling, rechannelization, or any other modification of a navigable water of the United States. It includes without limitation, any wharf, dolphin, weir, boom breakwater, jetty, groin, bank protection (*e.g.* riprap, revetment, bulkhead), mooring structures such as pilings, aerial or subaqueous power transmission lines, intake or outfall pipes, permanently moored floating vessel, tunnel, artificial canal, boat ramp, aids to navigation, and any other permanent, or semi-permanent obstacle or obstruction.

Navigable waters are generally defined as waters of the United States that are subject to the ebb and flow of the tide, shoreward to the mean high water mark, and/or are presently used, or have been used in the past, or may be susceptible to use to transport interstate or foreign commerce, as defined in 32 CFR §322.2(a).

#### ***MIGRATORY BIRD TREATY ACT (MBTA)***

The Migratory Bird Treaty Act (16 U.S.C. 703-712), administered by the U.S. Fish and Wildlife Service, implements four treaties between the United States and Canada, Mexico, Japan and Russia, respectively, to manage and conserve migratory birds that cross national borders. The Migratory Bird Treaty Act makes it unlawful in any manner, unless expressly authorized by permit pursuant to federal regulations, to pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to barter, barter,

offer to purchase, purchase, deliver for shipment, ship, export, import, cause to be shipped, exported, or imported, deliver for transportation, transport or cause to be transported, carry or cause to be carried, or receive for shipment, transportation, carriage, or export at any time, or in any manner, any migratory bird, or any part, nest, or egg of any such bird. The definition of “take” is defined as any act to “pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture or collect.” This includes most actions, direct and indirect, that could result in “take” or possession, whether it is temporary or permanent, of any protected species (APLIC and USFWS 2005d). Although harassment and habitat modification do not constitute a take in themselves under the Migratory Bird Treaty Act or Fish and Game Code, such actions that result in direct loss of birds, nests or eggs including nest abandonment or failure are considered take under such regulations. A list of migratory birds protected under the Migratory Bird Treaty Act, available in Section 10.13 of Title 50 of the Code of Federal Regulation, excludes nonnative species that have not been introduced into the U.S. or its territories, and species that belong to the families not listed in any of the four treaties underlying the Migratory Bird Treaty Act, such as wrenit (*Chamaea fasciata*), European starling (*Sturnus vulgaris*), California quail (*Callipepla californica*), Ring-necked Pheasant (*Phasianus colchicus*) and Chukar (*Alectoris chukar*), among other species less common in California.

On December 8, 2004 the U.S. Congress passed the Migratory Bird Treaty Reform Act (Division E, Title I, Section 143 of the Consolidated Appropriations Act, 2005, PL 108–447; MBTRA), which excludes all migratory birds nonnative or have been human introduced to the U.S. or its territories. It defines a native migratory bird as a species present within the U.S. and its territories as a result of natural biological or ecological processes. The USFWS published a list of the bird species excluded from the Migratory Bird Treaty Act on March 15, 2005 (70 FR 12710), which included two species commonly observed in the U.S., the rock pigeon (*Columba livia*) and domestic goose (*Anser anser ‘domesticus’*).

#### **BALD AND GOLDEN EAGLE PROTECTION ACT**

The Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d; June 8, 1940) as amended, provides protection for the bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*) by prohibiting the taking, possession and commerce of such birds, their nests, eggs or feathers unless expressly authorized by permit pursuant to federal regulations. The Act also provides criminal and civil penalties for violations of the Act and defines take as any action to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb.

## **STATE REGULATIONS**

#### **CALIFORNIA ENDANGERED SPECIES ACT (CESA)**

The California Endangered Species Act of 1984, administered by the California Department of Fish and Wildlife (CDFW), recognizes that certain species of fish, wildlife and plants are in danger of, or threatened with, extinction because their habitats are threatened with destruction, adverse modification, or severe curtailment, or because of overexploitation, disease, predation, or other factors. The Legislature recognized that these species of fish, wildlife and plants are of ecological, educational, historical, recreational, aesthetic, economic and scientific value to the people of the state, and the conservation, protection and enhancement of these species and their habitat is of statewide concern. The CESA built on the California Native Plant Protection Act (NPPA) (discussed below) and increased regulatory protection for plant species to parallel the CESA. Listing categories under the CESA include endangered, threatened, rare or candidate for listing (Cal. Fish and Game Code §§ 2062, 2067 and 2068). The current inventories published for plants listed under the CESA are the *State and Federally Listed Endangered, Threatened and Rare Plants of California* CDFW (2015d) and the *Special Vascular Plants, Bryophytes and Lichens List* CDFW (2015b).

Current inventories for fish and wildlife species include *State and Federally Listed Endangered and Threatened Animals of California* (CDFW 2015c) and the *Special Animals* (CDFW 2015e).

CESA requires state agencies to consult with the CDFW when preparing California Environmental Quality Act (CEQA) documents to ensure that the state lead agency actions do not jeopardize the existence of listed species. It directs agencies to consult with CDFW on projects or actions that could affect listed species, directs CDFW to determine whether jeopardy would occur, and allows CDFW to identify “reasonable and prudent alternatives” to the project consistent with conserving the species.

CESA prohibits the taking of state-listed endangered or threatened plant and wildlife species. CDFW exercises authority over mitigation projects involving state-listed species, including those resulting from CEQA mitigation requirements. CDFW may authorize a taking through an incidental take permit, if the impacts of the take are minimized and fully mitigated. Mitigation often takes the form of an approved habitat management plan or management agreement that avoids or compensates for possible jeopardy. CDFW requires preparation of mitigation plans in accordance with published guidelines.

#### ***CALIFORNIA FISH AND GAME CODE***

The California Fish and Game Code provides protection for California’s plant and wildlife species and precludes taking of species listed as fully protected by the CDFW. Section 86 defines take as any action to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill. Unless expressly authorized under Chapter 1.5, Article 3, Section 2081, which outlines exceptions for taking of endangered and threatened species, endangered, threatened and fully protected species shall not be taken for any purpose. Section 3503 prohibits the take, possession, or needless destruction of the nest or eggs of any bird; §3503.5 prohibits the take, possession, or needless destruction of any nests, eggs or birds in the orders Falconiformes (new world vultures, hawks, eagles, ospreys and falcons, among others) or Strigiformes (owls); §3511 prohibits the take or possession of fully protected birds; and §3513 prohibits the take or possession of any migratory nongame bird or part thereof as designated in the Migratory Bird Treaty Act. Section 4700 provides protection for fully protected mammals unless expressly authorized under §2081.7. Fully protected mammals include Morrow Bay kangaroo rat, bighorn sheep, except Nelson bighorn sheep (*Ovis canadensis nelsoni*), northern elephant seal, Guadalupe fur seal, ring-tailed cat, Pacific right whale, salt-marsh harvest mouse, southern sea otter and wolverine. Section 5050 provides protection for fully protected amphibians and reptiles unless expressly authorized under §2081.7. Fully protected amphibians and reptiles include blunt-nosed leopard lizard, San Francisco garter snake, Santa Cruz long-toed salamander, limestone salamander and black toad. Section 5515 provides protection for fully protected fish unless expressly authorized under §2081.7. Fully protected fish include Colorado River squawfish, thicktail chub, Mohave chub, Lost River sucker, Modoc sucker, shortnose sucker, humpback sucker, Owens River pupfish, unarmored threespine stickleback and rough sculpin.

#### ***PORTER-COLOGNE WATER QUALITY CONTROL ACT AND SECTION 401 OF THE CLEAN WATER ACT***

The Regional Water Quality Control Board administers both the Porter-Cologne Water Quality Control Act and Section 401 of the Clean Water Act. The Porter-Cologne Water Quality Control Act requires “any person discharging waste, or proposing to discharge waste, within any region that could affect the ‘waters of the State’ to file a report of discharge” with the RWQCB (Cal. Water Code Section 13260). Waters of the State are “any surface water or groundwater, including saline waters, within the boundaries of the state” [Cal. Water Code Section 13050(e)].

Pursuant to Section 401 of the Clean Water Act, the RWQCBs consider waters of the State to include (without limitation) rivers, streams, lakes, bays, marshes, mudflats, unvegetated seasonally ponded areas, drainage swales, sloughs, wet meadows, natural ponds, vernal pools, diked bay lands, seasonal wetlands,

and riparian woodlands. The RWQCBs have also claimed jurisdiction and exercised discretionary authority over “isolated waters”, as discussed above.

***NATIVE PLANT PROTECTION ACT (NPPA)***

The Native Plant Protection Act of 1977, which is implemented by the CDFW, was created to “preserve, protect and enhance rare and endangered plants in this State.” The NPPA gave the CDFW the authority to designate native plants as endangered or rare and to regulate, through permits, activities such as collecting, transporting, or selling plants protected by the NPPA. The NPPA also provides the definitions of native, threatened and endangered plants in Section 1901 of the California Fish and Game Code.

***CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)***

The California Environmental Quality Act of 1970 requires public agencies to evaluate the environmental implications of their actions, and to prevent environmental effects by avoiding or reducing significant impacts of their decisions, where feasible. CEQA was intended to assist public agencies in systematically identifying both the significant effects of proposed projects and the feasible alternatives or feasible mitigation measures which will avoid or substantially lessen such significant effects. In enacting CEQA, the Legislature expressed a policy that public agencies should not approve projects as proposed if there are such feasible alternatives or mitigation measures. Among its goals, CEQA was intended “to preserve for future generations representations of all plant and animal communities” (Cal. Pub. Res. Code §21001c). Through this process impacts and mitigation to state and federally listed plant species are discussed.-

The California Native Plant Society (CNPS) has developed and maintains an inventory of rare, Threatened and Endangered plants of California. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. The inventory presents a ranking system for rare plants within the state known as California Rare Plant Ranks. The CNPS inventory is endorsed by the CDFW and effectively serves as its list of “candidate” plant species. The following identifies the definitions of the California Rare Plant Ranks:

- Rank 1A: Plants presumed to be extinct in California;
- Rank 1B: Plants that are rare, Threatened, or Endangered in California and elsewhere;
- Rank 2: Plants that are rare, Threatened, or Endangered in California, but are more numerous elsewhere;
- Rank 3: Plants about which more information is needed (a review list): and
- Rank 4: Plants of limited distribution (a watch list).

Rank 1B and 2 species are considered eligible for state listing as Endangered or Threatened pursuant to the California Fish and Game Code. As part of the CEQA process, such species should be fully considered, as they meet the definition of Threatened or Endangered under the NPPA and Sections 2062 and 2067 of the California Fish and Game Code. Rank 3 and 4 species are considered to be either plants about which more information is needed or are uncommon enough that their status should be regularly monitored. Such plants may be eligible or may become eligible for state listing, and CNPS and CDFW recommend that these species be evaluated for consideration during the preparation of CEQA documents (CNPS 2001), as some of these species may meet NPPA and CESA criteria as Threatened or Endangered.

In addition, CEQA requires that impacts to “resources that are rare or unique to that region” be evaluated [CEQA Guidelines 15125(c)]. This includes botanical resources that are, but not limited to, peripheral populations and disjunct subpopulations. These are informal terms that refer to those species that might be declining or be in need of concentrated conservation actions to prevent decline, 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.”

## APPENDIX B SPECIAL STATUS PLANT SPECIES KNOWN TO OCCUR OR POTENTIALLY OCCURRING IN THE PROJECT VICINITY

SPECIES NAME COMMON NAME	FEDERAL, STATE, CNPS LISTING <sup>1</sup>	HABITAT PREFERENCES, DISTRIBUTION INFORMATION, & ADDITIONAL NOTES*	FLOWERING PHENOLOGY/ LIFE FORM	HABITAT SUITABILITY & LOCAL DISTRIBUTION	POTENTIAL FOR OCCURRENCE
<b>FEDERAL/STATE ENDANGERED OR THREATENED AND CALIFORNIA RARE SPECIES</b>					
<i>Amsinckia grandiflora</i> large-flowered fiddleneck	FE SE 1B.1	Occurs in cismontane woodland and valley and foothill grassland from 270 to 550 meters in elevation. Known from ALA, CCA, and SJQ counties. Reintroductions have occurred as part of State and Federal recovery efforts.	(March) April- May annual herb	Although suitable vegetation associations are present in the survey area, it is out of the natural range of this species. The nearest CNDDDB occurrence (EONDX #9688) is a reintroduction site located 6.5 miles east-northeast of the survey area in Black Diamond Mines Regional Preserve.	Not Expected
<i>Chloropyron molle</i> subsp. <i>molle</i> soft bird's-beak	FE SR 1B.2	Coastal salt marshes and swamps from 0-3 meters elevation. Known from fewer than 20 locations in CCA, NAP, and SOL counties. Presumed extirpated in MRN, SAC, and SON counties.	June-November annual herb (hemiparasitic)	No suitable coastal salt marsh or swamp vegetation associations are present.	None
<i>Cordylanthus nidularis</i> Mt. Diablo bird's-beak	None SR 1B.1	Occurs in chaparral on serpentinite from 600-800 meters in elevation. Known only from CCA county.	June-August annual herb (hemiparasitic)	Although suitable vegetation associations are present in the survey area, the appropriate serpentine substrates are absent. The nearest CNDDDB occurrence (EONDX # 91203) is a non-specific 2005 occurrence from Mount Diablo 3 miles east-southeast of the survey area.	Not Expected
<i>Erysimum capitatum</i> var. <i>angustatum</i> Contra Costa wallflower	FE SE 1B.1	Occurs on inland dunes from 3-20 meters elevation. Known only from Antioch Dunes in CCA County.	March-July perennial herb	No suitable vegetation associations, inland dune ecology, or appropriate substrates are present.	None
<i>Lasthenia conjugens</i> Contra Costa goldfields	FE CEQA 1B.1	Occurs in cismontane woodland, alkaline playas, valley and foothill grassland, and vernal pools from 0-470 meters elevation. Occurs on mesic sites. Known from ALA, CCA, MNT, NAP, and SOL counties. Presumed extirpated from MEN, SBA, and SCL counties.	March-June annual herb	Although suitable vegetation associations are present in the survey area, the mesic microhabitats this species prefers are absent. The nearest CNDDDB occurrence (EONDX #42501) is a 1921 record located 10 miles northeast of the survey area. It is listed as extirpated in CNDDDB.	Not Expected

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<i>Lilaeopsis masonii</i> Mason's lilaeopsis	None SR 1B.1	Occurs in brackish or freshwater marshes and swamps and riparian scrub from 0-10 meters elevation. Known from ALA, CCA, NAP, SAC, SJQ, and SOL counties.	April-November perennial herb (rhizomatous)	No suitable vegetation associations or necessary hydrologic regimes are present.	None
<i>Neostapfia colusana</i> Colusa grass	FT SE 1B.1	Occurs in large, adobe vernal pools at elevations of 5 to 200 meters. Known from GLE, MER, SOL, STA, and YOL counties. Presumed extirpated in COL county.	May-August annual herb	No suitable vegetation associations, vernal pool ecology, or appropriate substrate are present.	None
<i>Oenothera deltoides</i> subsp. <i>howellii</i> Antioch Dunes evening- primrose	FE SE 1B.1	Occurs on inland dunes from 3-20 meters elevation. Known only from three native occurrences in CCA County. An occurrence in SAC County is introduced.	March- September perennial herb	Although suitable inland dune habitat is not present, sandy soils are present. The survey area is partially inside of CNDDDB occurrence (EONDX #84858) - a non-specific 1996 Dianne Lake record from Lime Ridge with location given as "below quarry". The habitat present at Lime Ridge is not appropriate for this species and CNDDDB notes this record needs fieldwork. Species would have been identifiable during February surveys.	Not Expected
<i>Sanicula saxatilis</i> rock sanicle	None SR 1B.2	Occurs on rocky substrates in broadleaved upland forest, chaparral, and valley and foothill grassland from 620-1,175 meters elevation. Known from fewer than fifteen occurrences from CCA and SCL.	April-May perennial herb	Although suitable vegetation associations are present in the survey area, preferred rocky substrates are not present. Nearest CNDDDB occurrence (EONDX # 4531) is a specific occurrence from 2018 located on Mount Diablo approximately 2.75 miles southeast of the survey area.	Not Expected
<i>Sidalcea keckii</i> Keck's checkerbloom	FE None 1B.1	Occurs on serpentine and clay substrates in cismontane woodland and valley and foothill grassland at elevations of 75 to 650 meters. Known from FRE, MER, and TUL counties. May occur in COL, NAP, SOL, and YOL counties. Rediscovered in 1992. Plants from inner north coast ranges may be misidentified.	April-May (June) annual herb	Although suitable vegetation associations are present in the survey area, the survey area is out of the natural range of this species and the preferred serpentine and clay substrates are absent. The nearest CNDDDB occurrence (EONDX #75788) is a non-specific record from 1892 in the Montezuma Hills approximately 15 miles northeast of the survey area.	Not Expected.

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<b>CALIFORNIA NATIVE PLANT SOCIETY LISTED AND LOCALLY RARE SPECIES</b>					
<i>Amsinckia lunaris</i> bent-flowered fiddleneck	None CEQA 1B.2	Occurs in coastal bluff scrub, cismontane woodland and valley and foothill grassland from 3-500 meters elevation. Many collections are old. Known from ALA, CCA, COL, LAK, MRN, NAP, SCR, SMT and SON counties. May be present in SIS and SHA counties.	March-June annual herb	Suitable vegetations associations are present in the survey area. Nearest CNDDDB occurrence (EONDX #62465) is a specific 2003 record from 6.5 miles south-southeast of the survey area in Las Trampas Regional Wilderness.	Possible
<i>Androsace elongata</i> subsp. <i>acuta</i> California androsace	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 1,305 meters in elevation. Known to occur in ALA, CCA, COL, FRE, GLE, KRN, LAX, MER, RIV, SBD, SBT, SCL, SDG, SIS, SJQ, SLO, SMT, STA, and TEH counties.	March-June annual herb	Although suitable vegetation associations are present in the survey area, preferred north-facing slopes are absent. Nearest herbarium record is 1928 Mason collection from Shell Ridge 2 miles south-southwest of the survey area.	Not Expected
<i>Anomobryum julaceum</i> slender silver moss	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 100-1000 meters. Known in BUT, CCA, HUM, LAX, MPA, SBA, SCR, SHA, and SON counties.	Wet Season moss	No suitable rock outcrops or vegetation associations are present.	None
<i>Arabis blepharophylla</i> coast rockcress	None CEQA 4.2	Occurs in rocky habitat in broadleaved upland forest, coastal bluff scrub, coastal prairie, and coastal scrub from 3 to 1,100 meters in elevations. Known from CCA, LAK, MNT, MRN, SFO, SMT, and SON counties. May occur in SCR county.	February-May perennial herb	No suitable vegetation associations are present.	None
<i>Arctostaphylos auriculata</i> Mt. Diablo manzanita	None CEQA 1B.3	Occurs in chaparral on sandstone substrates and cismontane woodland at elevations of 135 to 650 meters. Known only Mount Diablo and the immediately adjacent foothills in Contra Costa county.	January-March perennial evergreen shrub	Although suitable vegetation associations are present in the survey area, this species would have been identifiable during the February site visit.	Absent
<i>Arctostaphylos manzanita</i> subsp. <i>laevigata</i> Contra Costa manzanita	None CEQA 1B.2	Occurs in chaparral on rocky substrates from 500-1100 meters elevation. Known only from Contra Costa County.	January-March shrub (evergreen)	Although suitable vegetation associations are present in the survey area, this species would have been identifiable during the February site visit.	Absent



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<i>Astragalus tener</i> var. <i>tener</i> alkali milk-vetch	None CEQA 1B.2	Occurs on alkaline substrates in playas, valley and foothill grassland on adobe clay, and vernal pools from 1-60 meters elevation. Known from ALA, MER, NAP, SOL and YOL counties. Presumed extirpated from CCA, MNT, SBT, SCL, SFO, SJQ, SON, and STA counties.	March-June annual herb	Although suitable vegetation associations are present in the survey area, the preferred alkaline substrates and adobe clay soils are absent. The nearest CNDDDB occurrence (EONDX #4693) is a specific occurrence from 2010 located 13 miles northeast “just north of Montezuma.”	Not Expected
<i>Atriplex cordulata</i> var. <i>cordulata</i> heartscale	None CEQA 1B.2	Occurs in chenopod scrub, meadows and seeps, valley and foothill grassland on sandy, saline or alkaline substrates from 1-375 meters elevation. Known from ALA, CCA, BUT, FRE, GLE, KRN, MAD, MER, SLO, SOL, and TUL counties. Presumed extirpated from SJQ, STA, and YOL counties.	April-October annual herb	Although suitable vegetation associations are present in the survey area, the preferred saline, alkaline, or sandy soils are not present. The nearest CNDDDB occurrence (EONDX #90921) is a specific 2005 occurrence from the Montezuma Hills area approximately 18 miles north-northeast of the survey area.	Not Expected
<i>Atriplex coronata</i> var. <i>coronata</i> crownscale	None CEQA 4.2	Occurs on alkaline, often clay, substrates in chenopod scrub, valley and foothill grassland, and vernal pools at elevations of 1-590 meters. Known from ALA, CCA, FRE, GLE, KNG, KRN, MER, MNT, SLO, SOL, and STA counties. May occur in SJQ county.	March-October annual herb	Although suitable vegetation associations are present in the survey area, the preferred alkaline and clay soils are absent. Nearest herbarium record is a 1892 Jepson collection from Susanville approximately 13 miles northeast of the survey area.	Not Expected
<i>Atriplex depressa</i> brittlescale	None CEQA 1B.2	Occurs on alkaline and clay soils in chenopod scrub, meadows and seeps, playas, valley and foothill grassland, and vernal pools from 1 to 320 meters elevation. Known from ALA, CCA, COL, FRE, GLE, KRN, MER, SOL, STA, TUL and YOL counties.	April-October annual herb	Although suitable vegetation associations are present in the survey area, the preferred alkaline and clay soils are absent. The nearest CNDDDB occurrence (EONDX #60527) is an undated specific record from 11.5 miles east of the survey area near Antioch.	Not Expected
<i>Blepharizonia plumosa</i> big tarplant	None CEQA 1B.1	Occurs in valley and foothill grassland from 30-505 meters elevation. Known from ALA and CCA, KRN, MNT, SBT, SJQ, SLO, and STA counties. Presumed extirpated in SOL county.	July-October annual herb	Although suitable vegetation associations are present in the survey area, the clay barrens preferred by this species are not present. Survey area is partially within the boundaries of a non-specific CNDDDB occurrence (EONDX #67183) from 1996 noted as occurring in the “Lime Ridge area near Mt. Zion.”	Not Expected

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<i>Calandrinia breweri</i> Brewer's calandrinia	None CEQA 4.2	Occurs on sandy or loamy substrates in disturbed sites and burns within chaparral and coastal scrub at elevations from 10 to 1,220 meters. Known from CCA, LAX, MEN, MNT, MPA, MRN, NAP, ORA, RIV, SBA, SBD, SCL, SCR, SDG, SHA, SLO, SMT, SON, and VEN counties.	(January) March- June annual herb	Although suitable vegetation associations are present, the necessary recent disturbance / burns are not present. The nearest herbarium record is a 1932 Bowerman collection from Mount Diablo 2.75 miles east-southeast of the survey area.	Not Expected
<i>Calochortus pulchellus</i> Mt. Diablo fairy-lantern	None CEQA 1B.2	Occurs in chaparral, cismontane woodland, riparian woodland, and valley and foothill grassland from 30-840 meters elevation. Known from ALA, CCA, and SOL counties.	April-June perennial herb (bulbiferous)	Suitable vegetation associations and substrates are present in survey area. Nearest recorded CNDDDB occurrence (EONDX #29938) is a specific record consisting of two colonies, one of which is located less than 100 feet north of the survey area, and the other approximately 400 feet north of the survey area.	Possible
<i>Calochortus umbellatus</i> Oakland star-tulip	None CEQA 4.2	Occurs in broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, and valley and foothill grassland, often on serpentine, between 100 and 700 meters. Known from ALA, CCA, LAK, MRN, SCL, SCR, SMT, and STA counties.	March-May perennial bulbiferous herb	Suitable vegetation associations are present within the survey area. The nearest herbarium record is an 1890 Brewer collection from Walnut Creek 3 miles west-southwest of the survey area.	Possible
<i>Campanula exigua</i> chaparral harebell	None CEQA 1B.2	Occurs on rocky sites, usually on serpentinite, in chaparral from 275-1,250 meters elevation. Known from ALA, CCA, SBT, SCL, and STA counties.	May-June annual herb	Although suitable vegetation associations are present, the preferred rocky, serpentine substrates are absent. The nearest CNDDDB occurrence (EONDX #56419) is a specific 1985 record from Mount Diablo 3 miles southeast of the survey area.	Not Expected
<i>Castilleja ambigua</i> var. <i>ambigua</i> johnny-nip	None CEQA 4.2	Occurs in coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, valley and foothill grassland, and vernal pool margins at elevations of 0 to 435 meters. Known from ALA, CCA, DNT, HUM, MEN, MRN, NAP, SCR, SLO, SMT, and SON counties. May occur in SFO county.	March-August annual herb (hemiparasitic)	Although suitable vegetation associations are present within the survey area, it is out of the natural range for this species in the Bay Area. The nearest herbarium record is a 1900 Davy collection from Martinez, approximately 10 miles northwest of the survey area.	Not Expected

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<i>Centromadia parryi</i> subsp. <i>congdonii</i> Congdon's tarplant	None CEQA 1B.2	Occurs in alkaline valley and foothill grassland from 1-230 meters elevation. Known from ALA, CCA, MNT, SCL, SLO, and SMT counties. Presumed extirpated from SCR and SOL counties.	June-November annual herb	Although suitable vegetation associations are present, the preferred alkaline substrates are absent. The nearest CNDDDB occurrence (EONDX #14135) is a non-specific record located 2.6 miles east of the survey area. This record is noted considered extirpated by CNDDDB.	Not Expected
<i>Cicuta maculata</i> var. <i>bolanderi</i> Bolander's water hemlock	None CEQA 2.1	Occurs in coastal, fresh or brackish water marshes and swamps from 0 - 200 meters elevation. Known from CCA, MRN, SAC, and SOL counties and from Arizona, New Mexico, and Washington. Presumed extirpated in LAX, SBA, and SLO counties.	July-September perennial herb	No suitable vegetation associations or appropriate substrate are present.	None
<i>Collomia diversifolia</i> serpentine collomia	None CEQA 4.3	Occurs on rocky or gravelly serpentine substrates in chaparral and cismontane woodland at elevations of 200 to 600 meters. Known from CCA, COL, GLE, LAK, MEN, NAP, SHA, STA, and YOL counties.	May-June annual herb	Although suitable vegetation associations are present, the appropriate serpentine substrates are absent. The nearest CCH collection is a 1978 Lee collection from Meridian Ridge on Mount Diablo approximately 3.2 miles east of the survey area.	Not Expected
<i>Convolvulus simulans</i> small-flowered morning- glory	FE CEQA 4.2	Occurs in chaparral openings, coastal scrub, and valley and foothill grassland on clay and sometimes serpentine substrates at elevations of 30 to 740 meters. Known from CCA, FRE, KRN, LAX, ORA, RIV, SBA, SBT, SDG, SJQ, SLO, and STA counties.	March-July annual herb	Although suitable vegetation associations are present, the preferred clay and serpentine substrates are absent. The nearest CCH collection is a 1907 Brandegee voucher from 7.5 miles east of the survey area.	Not Expected
<i>Cryptantha hooveri</i> Hoover's cryptantha	None CEQA 1A	Occurs on inland dunes and sandy valley and foothill grassland at elevations of 9 to 150 meters. Presumed extinct. Last observed in 1939. Previously known from CCA, KRN, MAD, and STA counties.	April-May annual herb	Although suitable vegetation associations are present, the preferred sandy substrates are absent. The nearest CNDDDB occurrence (EONDX #57196) is a non-specific occurrence located 11 miles east-northeast of the survey area. This record is possibly extirpated. This species is presumed extirpated in California.	Not Expected

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<i>Delphinium californicum</i> var. <i>interius</i> Hospital Canyon larkspur	None CEQA 1B.2	Occurs in openings in chaparral and mesic cismontane woodland from 230-1,095 meters elevation. Known from ALA, CCA, MER, SBT, SCL, SJQ, and STA counties.	April-June perennial	Suitable vegetation associations are present in the survey area. Nearest recorded CNDDDB occurrence (EONDX #80888) is a non-specific occurrence from 2003 “between Lime Ridge and Mount Diablo” located 0.4 miles northeast of the survey area. A specific occurrence (EONDX #90724) is a 2010 occurrence from “south of Crystyl Ranch Parkway” located 0.5 miles east of the study area.	Possible
<i>Dirca occidentalis</i> western leatherwood	None CEQA 1B.2	Occurs on mesic sites in broadleaved upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, North Coast coniferous forest, riparian forest, and riparian woodland from 50-395 meters elevation. Known from ALA, CCA, MRN, SCL, SMT, and SON counties.	January-April deciduous shrub	Although suitable vegetation associations are present, the preferred mesic microhabitat for this species is absent. The nearest CNDDDB occurrence (EONDX #81055) is a specific record from 2009 located in Orinda 10 miles west of the survey area.	Not Expected
<i>Downingia pusilla</i> dwarf downingia	None CEQA 2.2	Occurs in mesic sites in valley and foothill grassland and vernal pools from 0-10 meters elevation. Known from FRE, MER, NAP, PLA, SAC, SJQ, SOL, SON, STA, TEH, and YUB counties.	March-May annual herb	Although suitable vegetation associations are present, the survey area is out of the natural range for this species and the preferred mesic microhabitat is absent. The nearest CNDDDB occurrence (EONDX #4990) is a specific record from 2011 located in the Montezuma Wetlands Project 13 miles northeast of the survey area.	Not Expected
<i>Eleocharis parvula</i> dwarf spikerush	None CEQA 4.3	Occurs in brackish marshes and swamps from 0-50 meters elevation. Known from BUT, CCA, GLE, HUM, MNO, NAP, ORA, PLU, SIS, SLO, SON, and VEN counties.	June-August	No suitable vegetation associations or appropriate suitable substrates are present.	None
<i>Eriastrum erterae</i> Lime Ridge eriastrum	None CEQA 1B.1	Occurs on alkaline or semi-alkaline, sandy substrates in chaparral openings and edges at elevations of 220 to 290 meters. Known from Lime Ridge area in Contra Costa county.	June-July annual herb	Although suitable vegetation associations are present in the study area, appropriate alkaline or semi-alkaline substrates are not present. Nearest recorded CNDDDB occurrence (EONDX #92749) is a specific occurrence from 2007 located 0.2 miles north of the survey area.	Not Expected

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<i>Eriogonum nudum</i> var. <i>psychicola</i> Antioch Dunes buckwheat	None CEQA 1B.1	Occurs on inland dunes at elevations of 0 to 20 meters. Known only from Antioch Dunes in Contra Costa county.	July-October perennial herb	No suitable inland dune ecology, substrates, or vegetation associations are present.	None
<i>Eriogonum truncatum</i> Mt. Diablo buckwheat	None CEQA 1B.1	Occurs on sandy sites in chaparral, coastal scrub, and valley and foothill grassland from 3-350 meters elevation. Known from ALA and CCA counties. Presumed extirpated from SOL County. Rediscovered in May 2005, now known from one extant natural occurrence.	April-September annual herb	Although suitable vegetation associations are present, the preferred sandy, erosive slopes are absent. The nearest CNDDDB occurrence (EONDX #21078) is a non-specific record from 1936 located 0.5 miles east of the survey area.	Not Expected
<i>Eriophyllum jepsonii</i> Jepson's woolly sunflower	None CEQA 4.3	Occurs in chaparral, cismontane woodland, and coastal scrub, sometimes on serpentine at elevations of 200 to 1,025 meters. Known from ALA, CCA, KRN, MNT, SBT, SCL, STA, and VEN counties.	April-June perennial herb	Although suitable vegetation associations are present, the preferred serpentine substrates for this species are absent. The nearest herbarium record is a 2007 Kelch collection from Mitchell Canyon, Mount Diablo 2 miles east of the survey area.	Not Expected
<i>Eryngium jepsonii</i> Jepson's coyote-thistle	None CEQA 1B.2	Occurs in valley and foothill grassland and vernal pools on clay soils from 3-300 meters elevation. Known from ALA, AMA, CAL, CCA, FRE, NAP, SMT, SOL, STA, TUO, and YOL counties.	April-August Perennial herb	Although suitable vegetation associations are present in the survey area, the clay barrens preferred by this species are not present. Although not recorded in CNDDDB, a known population is located 0.75 miles north of the study area.	Not Expected
<i>Eschscholzia rhombipetala</i> diamond-petaled California poppy	None CEQA 1B.1	Occurs on alkaline, clay substrates in valley and foothill grassland at elevations of 0 to 975 meters. Known from ALA, SJQ, and SLO counties. Presumed extirpated in CCA, COL, and STA counties. Some records from SLO county are likely misidentified. Rediscovered in SLO county in 1992 and in ALA in 1997. SJQ county occurrence lacks documentation.	March-April annual herb	Although suitable vegetation associations are present, the survey area is out of the natural range for this species and the preferred substrates are absent. The nearest CNDDDB occurrence (EONDX #21507) is a non-specific occurrence located 12 miles northeast of the survey area in the Antioch Dunes area. This record is listed as possible extirpated.	Not Expected

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<i>Extriplex joaquinana</i> San Joaquin spearscale	None CEQA 1B.2	Occurs in alkaline soils in chenopod scrub, meadows and seeps, playas, and valley and foothill grasslands from 1 to 835 meters elevation. Known from ALA, CCA, COL, FRE, GLE, MER, MNT, NAP, SBT, SOL and YOL counties. Presumed extirpated from SCL, SJQ and TUL counties.	April-October annual herb	Although suitable vegetation associations are present in the survey area, the preferred alkaline substrates are absent. The nearest CNDDDB occurrence (EONDX #67577) is a non-specific record located 3 miles north of the survey area "near Concord." This record was originally recorded in 1946 and is possibly extirpated.	Not Expected
<i>Fritillaria agrestis</i> stinkbells	None CEQA 4.2	Occurs on clay and sometimes serpentine substrates in chaparral, cismontane woodland, pinyon and juniper woodland, and valley and foothill woodland at elevations of 10 to 1,555 meters. Known from ALA, CCA, FRE, MRN, MEN, MER, MNT, MPA, PLA, SAC, SBA, SBT, SCL, SLO, STA, TUO, VEN, and YUB counties. Presumed extirpated in SCR and SMT counties.	March-June perennial bulbiferous herb	Although suitable vegetation associations are present in the survey area, the clay and serpentine substrates preferred by this species are not present. The nearest herbarium collection is a 1915 Gehringer collection from "the east side of Mount Diablo" approximately 6 miles southeast of the survey area.	Not Expected
<i>Fritillaria liliacea</i> Fragrant fritillary	None CEQA 1B.2	Cismontane woodland, coastal prairie, coastal scrub, valley and foothill grassland near the coast, on clay or serpentinite from 3-410 meters elevation. Known from ALA, CCA, MNT, MRN, SBT, SCL, SFO, SMT, SOL and SON counties.	February-April perennial herb (bulbiferous)	Although suitable vegetation associations are present in the survey area, the preferred clay and serpentine substrates are absent. The nearest CNDDDB occurrence (EONDX #84466) is a specific record from 2013 located in Shell Ridge Open Space approximately 2.6 miles south of the survey area.	Not Expected
<i>Galium andrewsii</i> subsp. <i>gatense</i> phlox-leaf serpentine bedstraw	None CEQA 4.2	Occurs on rocky, serpentine substrates in chaparral, cismontane woodland, and lower montane coniferous forest at elevations of 150 to 1,450 meters. Known from ALA, CCA, COL, FRE, LAX, MNT, SBT, SCL, and SLO counties.	April-July annual Herb	Although suitable vegetation associations are present, the preferred rocky, serpentine substrates are absent from the survey area. The nearest herbarium collection is a 2015 Slakey collection from near Burma Road in Mount Diablo State Park approximately 2.8 miles south-southeast of the survey area.	Not Expected
<i>Grimmia torenii</i> Toren's grimmia	None CEQA 1B.3	Occurs in openings, rocky, boulder and rock walls, carbonate, volcanic, in chaparral, cismontane woodland, and lower montane coniferous forest from 325-1160 elevation. Known from CCA, COL, LAK, MEN, MNT, SCR, and SMT counties.	None moss	Although suitable vegetation associations are present, appropriate substrates and microhabitats are absent from the survey area. The nearest CNDDDB occurrence (EONDX #93673) is a specific 2004 record located 4.5 southeast of the survey area in Mount Diablo State Park.	Not Expected

SPECIES NAME COMMON NAME	FEDERAL, STATE, CNPS LISTING <sup>1</sup>	HABITAT PREFERENCES, DISTRIBUTION INFORMATION, & ADDITIONAL NOTES*	FLOWERING PHENOLOGY/ LIFE FORM	HABITAT SUITABILITY & LOCAL DISTRIBUTION	POTENTIAL FOR OCCURRENCE
<i>Helianthella castanea</i> Diablo helianthella	None CEQA 1B.2	Occurs in broadleaved upland forest, chaparral cismontane woodland, coastal scrub, riparian woodland, and valley and foothill grassland from 60-1,300 meters elevation. Known from ALA, CCA, and SMT counties. Presumed extirpated from MRN and SFO counties.	March-June perennial herb	Suitable vegetation associations are present. Nearest recorded CNDDDB occurrence (EONDX #83390) is a specific occurrence located approximately 200 feet north of the survey area. Previous years growth would have been identifiable during February site visit.	Possible
<i>Hesperolinon breweri</i> Brewer's western flax	None CEQA 1B.2	Occurs in chaparral, cismontane woodland, and valley and foothill grassland usually on serpentinite from 30 to 900 meters elevation. Known from CCA, NAP, and SOL counties.	May-July annual herb	Although suitable vegetation associations are present in the survey area, the appropriate serpentine substrates are absent. The nearest CNDDDB occurrence (EONDX #110986) is a specific record from 2011 from near Black Point Summit approximately 1.5 miles east-southeast of the survey area.	Not Expected
<i>Hoita strobilina</i> Loma Prieta hoita	None CEQA 1B.1	Occurs usually on serpentinitic and mesic sites in chaparral, cismontane woodland, and riparian woodland from 30-860 meters elevation. Known from CCA, SCL, and SCR counties. Presumed extirpated from ALA County	May-October perennial herb	Although suitable vegetation associations are present in the survey area, the appropriate serpentine and mesic substrates are absent. The nearest CNDDDB occurrence (EONDX #50139) is a non-specific historical record from the Oakland Hills.	Not Expected
<i>Iris longipetala</i> coast iris	None CEQA 4.2	Occurs in coastal prairie, lower montane coniferous forest, and meadows and seeps. Known from ALA, CCA, HUM, MEN, MNT, MRN, NAP, SBT, SCL, SFO, SMT, SOL, and SON counties between 0-600 meters.	March-May perennial rhizomatous herb	Although suitable vegetation associations are present, the survey area is outside of the natural range for this species. The nearest herbarium record is a 1900 Tracy record from "the hills near Berkeley" approximately 15 miles west of the survey area.	Not Expected
<i>Isocoma arguta</i> Carquinez goldenbush	None CEQA 1B.1	Occurs in valley and foothill grassland, often on alkaline soils from 1-20 meters elevation. Known only from SOL County.	August- December perennial shrub	Although suitable vegetation associations are present, the preferred alkaline substrates are absent from the survey area. The nearest CNDDDB occurrence (EONDX #84836) is a non-specific record from located 8.75 miles northwest of the survey area noted as occurring on both sides of Carquinez Strait.	Not Expected

SPECIES NAME COMMON NAME	FEDERAL, STATE, CNPS LISTING <sup>1</sup>	HABITAT PREFERENCES, DISTRIBUTION INFORMATION, & ADDITIONAL NOTES*	FLOWERING PHENOLOGY/ LIFE FORM	HABITAT SUITABILITY & LOCAL DISTRIBUTION	POTENTIAL FOR OCCURRENCE
<i>Juglans hindsii</i> Northern California black walnut	None CEQA 1B.1	Occurs in riparian forest and riparian woodland. Known from CCA and NAP county between 0-440 meters. Possibly occurs in LAK County. Presumed extirpated from SAC and SOL County. Recognized as <i>J. californica</i> var. <i>hindsii</i> in TJM. Individuals that were extant before 1840 are considered native, all others are considered waifs.	April-May deciduous tree	No suitable vegetation associations or substrates are present. Species would have been identifiable during the February site visit.	Absent
<i>Lathyrus jepsonii</i> var. <i>jepsonii</i> Delta tule pea	None CEQA 1B.2	Occurs in freshwater and brackish marshes from 0-4 meters elevation. Known from ALA, CCA, NAP, SAC, SJQ, and SOL counties. Presumed extirpated from SCL county.	May-September perennial herb	No suitable vegetation associations or appropriate hydrologic regimes area present.	None
<i>Limosella australis</i> Delta mudwort	None CEQA 2B.1	Occurs in marshes and swamps from 0-3 meters elevation. Known from CCA, MRN, SAC, SJQ, and SOL counties, Oregon, and elsewhere. Not considered native as seeds were probably brought in with ship ballast (University of California 2011)	May-August perennial herb (stoloniferous)	No suitable vegetation associations or appropriate hydrologic regimes area present.	None
<i>Madia radiata</i> showy madia	None CEQA 1B.1	Occurs in cismontane woodland and valley and foothill grassland from 25-900 meters elevation. Known from FRE, KRN, SBT, SLO, and STA counties. Presumed extirpated from CCA, KNG, MNT, SBA, and SJQ counties.	March-May annual herb	Although suitable vegetation associations are present, the survey area is outside of the natural range of this species. This species is presumed extirpated from Contra Costa county. The nearest CNDDDB occurrence (EONDY #6396) is a non-specific record from 1938 located approximately 6.15 miles east-northeast of survey area from near Antioch. This record is presumed extirpated.	Not Expected
<i>Malacothamnus hallii</i> Hall's bush mallow	None CEQA 1B.2	Occurs in chaparral and coastal scrub from 10-760 meters elevation. Known from CCA, MEN, MER, SCL, SMT, and STA counties.	May-October perennial shrub (evergreen)	Suitable vegetation associations and substrates are present in survey area. Species would have been identifiable during 2021 site visit.	Absent
<i>Micropus amphibolus</i> Mt. Diablo cottonweed	None CEQA 3.2	Occurs in rocky broadleafed upland forest, chaparral, cismontane woodland, and valley and foothill grassland at elevations of 45 to 825 meters. Known from ALA, CCA, COL, LAK, MNT, MRN, NAP, SBA, SCL, SCR, SJQ, SOL, and SON counties.	March-May annual herb	Although suitable vegetation associations are present, the rocky substrate preferred by this species is absent. The nearest herbarium collection is a 1860 Brewer collection from Walnut Creek approximately 4.5 miles west of the survey area.	Not Expected



SPECIES NAME COMMON NAME	FEDERAL, STATE, CNPS LISTING <sup>1</sup>	HABITAT PREFERENCES, DISTRIBUTION INFORMATION, & ADDITIONAL NOTES*	FLOWERING PHENOLOGY/ LIFE FORM	HABITAT SUITABILITY & LOCAL DISTRIBUTION	POTENTIAL FOR OCCURRENCE
<i>Monardella antonina</i> subsp. <i>antonina</i> San Antonio Hills monardella	None CEQA 3	Occurs in chaparral and cismontane woodland at elevations of 320 to 1,000 meters. Known from FRE and MNT counties. May occur in ALA, CCA, SBT, and SCL counties.	June-August perennial rhizomatous herb	Although suitable vegetation associations are present in the survey area, it is outside of the species known range. The nearest herbarium collection is a 1987 Jokerst collection from near Los Vaqueros Reservoir approximately 14 miles southeast of the survey area.	Not Expected
<i>Monolopia gracilens</i> woodland woollythreads	None CEQA 1B.2	Occurs on serpentinitic sites in openings of broadleafed upland forest, chaparral, cismontane woodland, North Coast coniferous forest, and valley and foothill grassland from 100-1,200 meters elevation. Known from ALA, CCA, MNT, SCL, SCR, SLO, and SMT counties.	March-July annual herb	Although suitable vegetation associations are present, appropriate serpentine substrates are absent from the survey area. The nearest CNDDDB occurrence (EONDX #80199) is a non-specific occurrence from 1999 located 2.25 miles south-southeast of the survey in chaparral opening adjacent to Burma Road.	Not Expected
<i>Navarretia gowenii</i> Lime Ridge navarretia	None CEQA 1B.1	Occurs in chaparral from 180-305 meters elevation. Known only from four occurrences CCA and STA counties.	May-June annual herb	Although suitable vegetation associations are present in the survey area, the clay barrens preferred by this species are not present. Nearest recorded CNDDDB occurrence (EONDX #72960) is a specific occurrence located 0.4 miles north of the survey area.	Not Expected
<i>Navarretia heterandra</i> Tehama navarretia	None CEQA 4.3	Occurs in mesic valley and foothill grassland and in vernal pools at elevations of 30 to 1,010 meters. Known from BUT, COL, LAK, NAP, SHA, THE, TRI, and YUB counties.	April-June annual herb	Although suitable vegetation associations are present, the preferred mesic microhabitat is not present. The nearest herbarium specimen is a 2000 Hints collection from Mount Diablo State Park approximately 4.75 miles southeast of the survey area.	Not Expected
<i>Navarretia nigelliformis</i> subsp. <i>nigelliformis</i> adobe navarretia	None CEQA 4.2	Occurs on clay, sometimes on serpentine, substrates in vernal mesic valley and foothill grassland, and sometimes in vernal pools at elevations of 100 to 1,000 meters. Known from ALA, BUT, CCA, COL, FRE, KRN, MER, MNT, PLA, SUT, and TUL counties.	April-June annual herb	Although suitable vegetation associations are present, the appropriate substrates are absent. The nearest herbarium collection is a Kurran collection from 1884 from Antioch 10 miles east-northeast of the survey area.	Not Expected
<i>Navarretia nigelliformis</i> subsp. <i>radians</i> shining navarretia	None CEQA 1B.2	Occurs in clay soils in cismontane woodland, valley and foothill grassland and vernal pools from 76 to 1000 meters elevation. Known from ALA, CCA, COL, FRE, MAD, MER, MNT, SBT, SJQ and SLO counties.	April-July annual herb	Although suitable vegetation associations are present, the appropriate clay substrates are absent. The nearest CNDDDB occurrence (EONDX #87631) is a specific 2008 record from southeast of Black Diamond Mines Regional Preserve approximately 9 miles east of the survey area.	Not Expected

SPECIES NAME COMMON NAME	FEDERAL, STATE, CNPS LISTING <sup>1</sup>	HABITAT PREFERENCES, DISTRIBUTION INFORMATION, & ADDITIONAL NOTES*	FLOWERING PHENOLOGY/ LIFE FORM	HABITAT SUITABILITY & LOCAL DISTRIBUTION	POTENTIAL FOR OCCURRENCE
<i>Phacelia phacelioides</i> Mt. Diablo phacelia	None CEQA 1B.2	Occurs on rocky substrates in chaparral and cismontane woodland from 500-1,370 meters elevation. Known from CCA, SBT, SCL, and STA counties.	April-May annual herb	Although suitable vegetation associations are present in the survey area, the preferred rocky substrates are absent. The nearest CNDDDB occurrence (EONDX #6542) is a non-specific 1932 occurrence located 2.5 miles southeast on Mount Diablo.	Not Expected
<i>Plagiobothrys hystriculus</i> bearded popcorn-flower	None CEQA 1B.1	Occurs in mesic valley and foothill grassland, vernal pools margins, and vernal swales from 0-274 meters elevation. Known from SOL County. Known only from the Montezuma Hills.	April-May annual herb	Although suitable vegetation associations are present, the survey area is outside the natural range of this species and the preferred mesic soils are absent. The nearest CNDDDB occurrence (EONDX #65550) is a specific record from 2006 that is 14 miles north in Solano County.	Not Expected
<i>Puccinellia simplex</i> California alkali grass	None CEQA 1B.2	Occurs in alkaline and vernal mesic soils, sinks, flats and lake margins in chenopod scrub, meadows and seeps, valley and foothill grassland and vernal pools from 2 to 930 meters elevation. Known from ALA, BUT, CCA, COL, FRE, GLE, KRN, LAK, LAX, MAD, MER, NAP, SBD, SCL, SCR, SLO, SOL, STA, TUL, and YOL counties. Presumed extirpated from KNG county.	March-May annual herb	Although suitable vegetation associations are present, the preferred alkaline, vernal mesic soils are absent from the survey area. The nearest CNNDDB occurrence (EONDX #100226) is a non-specific record located near Los Vaqueros Reservoir approximately 14 miles southeast of the survey area. This record is possibly extirpated.	Not Expected
<i>Ranunculus lobbii</i> Lobb's aquatic buttercup	None CEQA 4.2	Occurs in mesic soils in cismontane woodland, North Coast coniferous forest, valley and foothill grassland, and vernal pools from 15-470 meters elevation. Known from ALA, CCA, MEN, MRN, NAP, SOL and SON counties.	February-May annual herb	Although suitable vegetation associations are present, the preferred mesic soils are absent. The nearest herbarium record is a 1995 Ertter and Bowerman collection located 4.75 miles southeast of the survey area near Clayton.	Not Expected
<i>Senecio aphanactis</i> rayless ragwort	None CEQA 2B.2	Occurs in coastal scrub, chaparral, and cismontane woodland on alkaline soils from 15-800 meters elevation. Known from ALA, CCA, FRE, LAX, MER, MNT, ORA, RIV, SBA, SCL, SCT, SCZ, SDG, SLO, SOL, SRO, and VEN counties.	January-April annual herb	Although appropriate vegetation associations are present, the preferred alkaline substrates are absent. The nearest CNDDDB occurrence (EONDX #264) is a non-specific record from 1933 located in the Nortonville Hills 5 miles east of the survey area.	Not Expected

SPECIES NAME COMMON NAME	FEDERAL, STATE, CNPS LISTING <sup>1</sup>	HABITAT PREFERENCES, DISTRIBUTION INFORMATION, & ADDITIONAL NOTES*	FLOWERING PHENOLOGY/ LIFE FORM	HABITAT SUITABILITY & LOCAL DISTRIBUTION	POTENTIAL FOR OCCURRENCE
<i>Senecio hydrophiloides</i> sweet marsh ragwort	None CEQA 4.2	Occurs in mesic lower montane coniferous forest and in meadows and seeps at elevations of 0 to 2,800 meters. Known from LAS, MNO, MOD, PLU, and SIS counties. Presumed to occur in CCA county.	May-August perennial herb	Although suitable vegetation associations are present in the survey area, it is outside of this species natural range. The nearest herbarium collection is a 2001 Isle and Furrer collection from Mendocino National Forest.	Not Expected
<i>Spergularia macrotheca</i> var. <i>longistyla</i> long styled sand spurrey	None CEQA 1B.2	Occurs in meadows and seeps and marshes and swamps in alkaline soils from 0-255 meters elevation. Known from ALA, CCA, NAP, and SOOL counties	February-May Perennial herb	Although suitable vegetation associations are present, the appropriate alkaline soils are absent. The nearest CNDDDB occurrence (EONDX #109308) is a historical, non-specific record from 'near Martinez. Approximately 8.75 miles northwest of the survey area.	Not Expected
<i>Streptanthus albidus</i> subsp. <i>peramoenus</i> most-beautiful jewel flower	None CEQA 1B.2	Occurs on serpentinite in chaparral, cismontane woodland, and valley and foothill grassland from 94-1,000 meters elevation. Known from ALA, CCA, MNT, SCL, and SLO counties. Treated as <i>Streptanthus glandulosus</i> subsp. <i>albidus</i> in TJM 2.	March-October annual herb	Although suitable vegetation associations are present, the preferred serpentine substrate is absent. The nearest CNDDDB occurrence (EONDX #112062) is a specific occurrence located 2.75 miles south of the survey area. It is a 2016 record from Camel Rock Trail on Mount Diablo.	Not Expected
<i>Streptanthus hispidus</i> Mt. Diablo jewel-flower	None CEQA 1B.3	Occurs on rocky sites in chaparral and valley and foothill grassland from 365-1,200 meters elevation. Known from fewer than 15 occurrences only in CCA.	March-June annual herb	Although suitable vegetation associations are present, the preferred rocky substrate is absent. The nearest CNDDDB occurrence (EONDX #25421) is a specific occurrence from 2003 located 2.75 miles southeast of the survey area on Eagle Peak, Mount Diablo.	Not Expected
<i>Stuckenia filiformis</i> subsp. <i>alpina</i> slender-leaved pondweed	None CEQA 2B.2	Occurs in assorted shallow freshwater marshes and swamps from 300-2,150 meters elevation. Known CCA, LAS, MER, MNO, and SIE counties. Presumed extirpated from SCL County. To be expected in the San Joaquin Valley, San Francisco Bay area, and the Central high Sierra Nevada.	May-July rhizomatous aquatic herb	No suitable vegetation associations or appropriate hydrologic regimes are present.	None

SPECIES NAME COMMON NAME	FEDERAL, STATE, CNPS LISTING <sup>1</sup>	HABITAT PREFERENCES, DISTRIBUTION INFORMATION, & ADDITIONAL NOTES*	FLOWERING PHENOLOGY/ LIFE FORM	HABITAT SUITABILITY & LOCAL DISTRIBUTION	POTENTIAL FOR OCCURRENCE
<i>Symphotrichum lentum</i> Suisun Marsh aster	None CEQA 1B.2	Occurs in brackish and freshwater marshes and swamps from 0-3 meters elevation. Known from CCA, MRN, NAP, SAC, SJQ, SOL, and SON counties. Recognized as <i>Aster lentus</i> in TJM. Intergrades into <i>A. chilensis</i> . USFWS uses the name <i>A. chilensis</i> var. <i>lentus</i> .	May-November perennial herb (rhizomatous)	No suitable vegetation associations or appropriate hydrology regimes are present.	None
<i>Trifolium hydrophilum</i> saline clover	None CEQA 1B.2	Occurs in marshes and swamps, mesic and alkaline valley and foothill grassland, and vernal pools at elevations from 0 – 300 meters. Known from ALA, CCA, LAK, MNT, NAP, SAC, SBT, SCL, SCR, SJQ, SLO, SMT, SOL, and YOL counties. May occur in Colusa county.	April-June annual herb	Although suitable vegetation associations are present in the survey area, it is out of the natural range for this species and the preferred mesic and alkaline microhabitat is absent. The nearest CNDDDB occurrence (EONDIX #845900) is a non-specific record located 11.5 miles north of the survey area. The location is given as “Benicia to Cordelia Highway.	Not Expected
<i>Triquetrella californica</i> coastal triquetrella	None CEQA 1B.2	Occurs on soil in coastal bluff scrub and coastal scrub from 10-100 meters elevation. Known from CA, DNT, MEN, MRN, SDG, SFO, SMT, and SON counties.	Wet season moss	No suitable vegetation associations or substrates are present.	None
<i>Tropidocarpum caparideum</i> caper-fruited trepidocarpum	None CEQA 1B.1	Occurs in valley and foothill grassland, often on alkaline hills from 1-455 meters elevation. Known from FRE, MNT, and SLO counties. Presumed extirpated from ALA, CCA, GLE, SCL, and SJQ counties. Rediscovered in 2000 on Ft. Hunter Liggett.	March-April annual herb	Although suitable vegetation associations are present in the survey area, the preferred alkaline substrate is absent. The nearest CNDDDB occurrence (EONDIX #20435) is a non-specific record from 1896 placed by CNNDDB near Clayton, approximately 1.8 miles east-northeast of the survey area.	Not Expected
<i>Viburnum ellipticum</i> oval-leaved viburnum	None CEQA 2B.3	Occurs on chaparral, cismontane woodland, and lower montane coniferous forest from 215-1,400 meters elevation. Known from CCA, FRE, ELD, GLE, HUM, MEN, NAP, SHA, and SON counties.	May-June shrub (deciduous)	Although suitable vegetation associations are present, the mesic microhabitats preferred by this species are not present. The nearest CNDDDB occurrence (EONDIX #49956) is a non-specific record from 2015 above Frog Pond on Mount Diablo approximately 5.5 miles southeast of the survey area.	Not Expected

**<sup>1</sup>Explanation of State and Federal Listing Codes**

Federal listing codes:

FE Federally listed as Endangered

California listing codes:

SE State listed as Endangered

California Native Plant Society codes:

1A Presumed extinct in California

FT Federally listed as Threatened  
 FPE Federally proposed for listing as Endangered  
 FPT Federally proposed for listing as Threatened  
 FPD Federally proposed for delisting  
 FC Federal candidate species (former Category 1 candidates)  
 SC Species of Concern – No longer maintained by USFWS

ST State listed as Threatened  
 SR State listed as Rare  
 SCE State candidate for listing as Endangered  
 SCT State candidate for listing as Threatened

1B Rare or Endangered in California and elsewhere  
 2 Rare or Endangered in California, more 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 Fairly Endangered in California (20-80% occurrences Threatened)
  - .3 Not very Endangered in California (<20% of occurrences Threatened or no current threats known)
- Notes: CNPS List 1A and some List 3 plant species lacking any threat information receive no threat code extension. CNPS R-E-D Codes have been discontinued*

Survey Recommendation Determinations Based On

- Observed phenology at the time of reconnaissance
- Seasonal weather patterns
- Collection dates of herbarium specimens
- Blooming times given by the CNPS Inventory

EONDX is the CNDDDB Element Occurrence Index number which corresponds to unique records in the California Natural Diversity Database.

Abbreviations

AMA Amador  
 BUT Butte  
 CAL Calaveras  
 CCA Contra Costa  
 CNDDDB CA Natural Diversity Database  
 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  
 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  
 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  
 TJMII The Jepson Manual, 2nd. Ed.  
 TRI Trinity  
 TUL Tulare  
 VEN Ventura  
 YOL Yolo  
 YUB Yuba

## APPENDIX C SPECIAL STATUS FISH AND WILDLIFE SPECIES KNOWN TO OCCUR OR POTENTIALLY OCCURRING IN THE PROJECT VICINITY

SPECIES NAME COMMON NAME	LISTING STATUS <sup>1</sup>	HABITAT REQUIREMENTS & ADDITIONAL NOTES	HABITAT SUITABILITY & LOCAL DISTRIBUTION	POTENTIAL FOR OCCURRENCE
<b><u>FEDERAL/STATE LISTED, PROPOSED, CANDIDATE AND/OR FULLY PROTECTED SPECIES</u></b>				
<b><u>INVERTEBRATES:</u></b>				
<i>Apodemia mormo langei</i> Lange's metalmark butterfly	Fed: FE CA: SA Xerces-CI	Inhabits stabilized dunes along the San Joaquin River; current distribution is restricted to the Antioch Dunes National Wildlife Refuge. Primary host plant for larvae and adults is the naked buckwheat ( <i>Eriogonum nudum</i> var. <i>auriculatum</i> ). Adult flight season is August through September.	No suitable habitat present within the study area. Project outside of the species' known range.	None
<i>Bombus crotchii</i> Crotch bumble bee	Fed: None CA: SCE	There is limited life history information available for this species, but it is known to nest primarily underground like most other bumblebee species. It is known from open grassland and scrub habitats. Previously found throughout southern California and the Central Valley, but is now nearly absent from the Central Valley (CDFW 2019).	May occur in grassland throughout the study area. The nearest CNDDDB occurrence (EONDX #98556) was recorded in 1951 approximately 3.8 miles southeast of the study area near Mt. Diablo. There are no recent verified observations of this species in Contra Costa County (Bumblebee Watch 2021).	Possible

SPECIES NAME COMMON NAME	LISTING STATUS <sup>1</sup>	HABITAT REQUIREMENTS & ADDITIONAL NOTES	HABITAT SUITABILITY & LOCAL DISTRIBUTION	POTENTIAL FOR OCCURRENCE
<i>Bombus occidentalis</i> Western bumble bee	Fed: None CA: SCE	<p>The western bumblebee occurs along the West Coast, and elevations of known sites range from sea level to over 2,000 meters. Most reports of western bumblebee nests are from underground cavities such as old squirrel or other animal nests and in open west-southwest slopes bordered by trees, although a few nests have been reported from above-ground locations such as in logs among railroad ties. Availability of nests sites for western bumblebee may depend on rodent abundance. Nest tunnels have been reported to be up to 2.1 m long for this species and the nests may be lined with grass or bird feathers. Bumble bees require plants that bloom and provide adequate nectar and pollen throughout the colony's life cycle, which is from early February to late November. Rangelwide, example food plants include Ceanothus, Centaurea, Chrysothamnus, Cirsium, Geranium, Grindellia, Lupinus, Melilotus, Monardella, Rubus, Solidago, and Trifolium. (Hatfield et al. 2015).</p> <p>Occupies 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 bees, it typically nests underground in abandoned rodent burrows or within hollows in decaying wood (COSEWIC 2014).</p>	<p>May occur in grassland habitat throughout the study area. The nearest CNDDDB occurrence (EONDX #100145) is a historical collection from 1963 and is located approximately 1.0 mile southwest of the study area at the foot of Shell Ridge. There are no recent verified observations of this species in Contra Costa County (Bumblebee Watch 2021).</p>	Possible
<i>Branchinecta conservatio</i> Conservancy fairy shrimp	Fed: FE, CH CA: None	<p>Endemic to relatively large, turbid vernal pools and playas in the Central Valley from 16 to 5,577 feet in elevation (59 FR 48136). Disjunct populations reported from Vina Plains in Tehama and Butte counties; greater Jepson Prairie in Solano County; Sacramento NWR in Sacramento County; Tule Ranch portion of Yolo Basin Wildlife Area in Yolo County; Grasslands Ecological Area, Flying M Ranch, Ichord Ranch, and Virginia Smith Trust lands in Merced County, single location in Stanislaus County; and two locations in the Los Padres National Forest in Ventura County (59 FR 48136). Designated critical habitat encompasses 8 units totaling 161,786 acres in Butte, Colusa, Mariposa, Merced, Solano, Stanislaus, Tehama, and Ventura counties (71 FR 7118).</p>	<p>No suitable habitat present within the study area. Study area lack large, turbid vernal pools or playa pools. The project is not located within critical habitat.</p>	None

SPECIES NAME COMMON NAME	LISTING STATUS <sup>1</sup>	HABITAT REQUIREMENTS & ADDITIONAL NOTES	HABITAT SUITABILITY & LOCAL DISTRIBUTION	POTENTIAL FOR OCCURRENCE
<i>Branchinecta lynchi</i> vernal pool fairy shrimp	Fed: FT, CH CA: None	Inhabits 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). There are 32 known populations in the Central Valley from Shasta to Tulare counties, and along the Central and South Coast Ranges from Solano to San Benito counties (USFWS 1994). Often occur in low densities and rarely co-occur with other branchiopod species (Eng et al. 1990, Simovich et al. 1992). Designated critical habitat encompasses 35 units totaling 597,821 acres in Jackson County in Oregon, and Alameda, Amador, Butte, Contra Costa, Fresno, Kings, Madera, Mariposa, Merced, Monterey, Napa, Placer, Sacramento, San Benito, San Joaquin, Alameda, Amador, Butte, Contra Costa, Fresno, Kings, Madera, Mariposa, Merced, Monterey, Napa, Placer, Sacramento, San Benito, San Joaquin counties in California (71 FR 7118).	No suitable habitat is present within the study area. The study area lacks vernal pools or depression pools. The project is not located within critical habitat.	None
<i>Callophrys mossii bayensis</i> San Bruno elfin butterfly	Fed: FE CA: SA Xerces: CI	A small brownish butterfly that occurs in the vicinity of its larval host plant, stonecrop ( <i>Sedum spathulifolium</i> ). Flight period is late February to April. Range is restricted to small populations on north facing slopes in the fog belt in the coastal hills of the northern San Francisco Peninsula.	No suitable habitat present within the study area. Project outside of the species' known range.	None
<i>Lepidurus packardii</i> Vernal pool tadpole shrimp	Fed: FE, CH CA: SA	A large, distinctive crustacean with an oval carapace and single, long pair of cercopods (59 FR 48136). 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). Designated critical habitat encompasses 18 units totaling 228,785 acres in Alameda, Amador, Butte, Colusa, Fresno, Kings, Madera, Mariposa, Merced, Sacramento, Shasta, Solano, Stanislaus, Tehama, Tulare, Yolo, and Yuba counties (71 FR 7118).	No suitable habitat present within the study area. Site lacks vernal pools, playas, lakes, or grassy swales. The project is not located within critical habitat.	None
<b><u>FISH:</u></b>				
<i>Hypomesus transpacificus</i> Delta smelt	Fed: FT, CH CA: ST AFS-T	Inhabits brackish water in the Sacramento-San Joaquin Delta. Delta smelt are found from Suisan Bay upstream, and have been documented as far upstream as the mouth of the American River on the Sacramento River and Mossdale on the San Joaquin River and downstream as far as San Pablo Bay. Breed in freshwater habitat during winter and spring.	No suitable habitat present within the study area. Site lacks permanent water features.	None



SPECIES NAME COMMON NAME	LISTING STATUS <sup>1</sup>	HABITAT REQUIREMENTS & ADDITIONAL NOTES	HABITAT SUITABILITY & LOCAL DISTRIBUTION	POTENTIAL FOR OCCURRENCE
<i>Oncorhynchus mykiss irideus</i> Steelhead California Central Valley DPS	Fed: FT, CH CA: AFS-T	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 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. 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 (70 FR 52488). The North Diablo Range watershed and South San Francisco Bay entire unit were excluded from the designation based on their potential economic impact (70 FR 52488). 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).	No suitable habitat present within the study area. Site lacks permanent water features.	None
<i>Spirinchus thaleichthys</i> Longfin smelt	Fed: FC CA: ST, SSC	Found in open waters of estuaries, mostly in the middle or bottom of the water column. Prefers salinities of 15-30 parts per thousand (ppt.), but can be found in completely freshwater to almost pure seawater. An anadromous fish that inhabits coastal bays, estuaries and waters near the coastline from Prince William Sound in Alaska to the Sacramento-San Joaquin Delta. Spawning occurs in freshwater streams from December – February.	No suitable habitat present within the study area. Site lacks permanent water features.	None

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<b><u>AMPHIBIANS:</u></b>				
<i>Ambystoma californiense</i> California tiger salamander Central California DPS	Fed: FT, CH CA: ST	A large terrestrial salamander that inhabits seasonal/semi-permanent water sources (3-4 months in duration) and adjacent upland habitat with small fossorial mammal activity in lowland grasslands, oak savannah and mixed woodlands. Range includes the Central Valley and Central Coast ranges from Colusa County south to San Luis Obispo and Kern counties from sea level to 3,460 feet (1,054 meters) in elevation with two disjunct populations within Sonoma County and Santa Barbara County. Species have been documented traveling distances up to 1 mile (Austin and Shaffer 1992). Designated critical habitat encompasses 199,109 acres in 20 counties and is grouped into 4 regions: Central Valley, Southern San Joaquin, East Bay and Central Coast (70 FR 49380). The East Bay Region includes Alameda County, south to Santa Benito and Santa Clara counties, and west to the eastern portions of San Joaquin and Merced counties (70 FR 49380). 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).	Suitable upland and dispersal habitat is present on site. The nearest occurrence is a museum specimen collected in 1921 from a non-specific locality approximately 2.8 miles northeast in Concord (EONDX #32895). Multiple other nearby occurrences exist between 3.5 and 5.8 miles to the north from a known extant population at the Concord Naval Weapons Station (EONDX #75110). No aquatic breeding habitat is present within study area.	Possible
<i>Rana draytonii</i> California red-legged frog	Fed: FT, CH CA: SSC	A medium-sized frog that inhabits lowlands & foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation up to 4,921 feet (1,500 meters) in elevation (Jennings and Hayes 1994, Bulger et al. 2003, Stebbins 2003). Range extends from Redding to Baja California, Mexico with hybridization occurring with the California red-legged frog from the Oregon border to Marin County. Breeding occurs between November and April in standing or slow moving water with emergent vegetation, such as cattails ( <i>Typha</i> spp.), tules ( <i>Scirpus</i> spp.) or overhanging willows ( <i>Salix</i> spp.) (Hayes and Jennings 1988). Larvae undergo metamorphosis 3 ½ to 7 months following hatching (Jennings and Hayes 1984, 1994). Designated critical habitat encompasses 1,636,609 acres in 20 counties and is grouped into 4 regions: Central Valley, Southern San Joaquin, East Bay and Central Coast (75 FR 12816). The East Bay Region includes Contra Costa County, Alameda County, south to Santa Benito and Santa Clara counties, and west to the eastern portions of San Joaquin and Merced counties (75 FR 12816). Primary constituent elements include: (1) aquatic breeding habitat; (2) non-breeding aquatic and riparian habitat; (3) Upland habitats associated with riparian and aquatic habitat; and (4) dispersal habitat that comprising accessible upland or riparian habitat within and between occupied or previously occupied sites that are located within 1 mile of each other, and that support movement between such sites (75 FR 12816).	Suitable upland dispersal habitat is present on site. The nearest CNDDDB occurrence (EONDX #119866) was recorded approximately 1.1 miles southeast of the study area in 2018. No aquatic breeding or non-breeding habitat is present within study area.	Possible

SPECIES NAME COMMON NAME	LISTING STATUS <sup>1</sup>	HABITAT REQUIREMENTS & ADDITIONAL NOTES	HABITAT SUITABILITY & LOCAL DISTRIBUTION	POTENTIAL FOR OCCURRENCE
<b>REPTILES:</b>				
<i>Masticophis lateralis euryxanthus</i> Alameda whipsnake	Fed: FT, CH CA: ST	The Alameda whipsnake is a subspecies of the California whipsnake, <i>Masticophis lateralis</i> , which inhabits the foothills and mixed deciduous and pine forests of the Sierra Nevada and Coast Range mountains from Siskiyou County in northern California to the flatland desert in Cañon de Los Reyes in southern Baja California (Stebbins 2003). The Alameda whipsnake inhabits the inner Coast Ranges in western and central Contra Costa and Alameda counties (Jennings 1983, McGinnis 1992, Swaim 1994). Habitat fragmentation has restricted its range into five recognized subpopulations: Tilden-Briones population, Oakland-Las Trampas population, Hayward-Pleasanton Ridge population, Mount Diablo-Black Hills population, and Sunol-Cedar Mountain population. Designated critical habitat encompasses 154,834 acres in Alameda, Contra Costa and Santa Clara counties (71 FR 58176). Primary constituent elements include: (1) scrub/shrub communities with a mosaic of open and closed canopy; (2) woodland or annual grassland plant communities contiguous to lands containing PCE 1; and (3) lands containing rock outcrops, talus, and small mammal burrows within or adjacent to PCE 1 and or PCE 2 (71 FR 58176).	Suitable habitat is present in non-native grassland, coast live oak woodland, and Diablan sage scrub within and adjacent to the study area. The study area is entirely within Critical Habitat Unit 4 for Alameda whipsnake and contains PCE 1 (scrub/shrub communities with a mosaic of open and closed canopy) and PCE 2 (woodland or annual grassland plant communities contiguous to lands containing PCE 1). The nearest CNDDDB occurrence (EONDX #79966) was recorded in a large patch of scrub habitat approximately 0.1 miles north of the study area in 2003; multiple other occurrences have been recorded in Mt. Diablo State Park less than two miles to the east.	Possible
<i>Thamnophis gigas</i> Giant garter snake	Fed: FT CA: 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, 9 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, Cosumnes-Mokelumne Basin, Delta Basin, San Joaquin Basin, and Tulare Basin (USFWS 2017).	The study area lies outside of the species' current and historic range.	None
<b>BIRDS:</b>				
<i>Agelaius tricolor</i> Tricolored blackbird (nesting colony)	Fed: none CA: ST ABC, BCC	Highly colonial species, most numerous in Central Valley & vicinity. Largely endemic to California. Nest in emergent vegetation within aquatic and riparian habitats. Breeds from mid-March through early August; double-brooded (Baicich and Harrison 2005, Shuford and Gardali 2008).	No suitable wetlands with emergent vegetation present within the study area.	None

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<i>Aquila chrysaetos</i> Golden eagle (nesting, wintering)	Fed: none CA: FP	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 (Katzner et al. 2020). A year-round resident in the greater Bay Area. Breeding begins in February to late May; single-brooded (Baicich and Harrison 2005)	Although large trees are present within and adjacent to the study area, golden eagles are unlikely to nest on site due to the continuous human presence in Lime Ridge Open Space and nearby residential areas. The nearest CNDDDB occurrence (EONDX #74758) was recorded in 2008 approximately 4.7 miles north of the study area in the Concord Naval Weapons Station.	Not Expected
<i>Buteo swainsoni</i> Swainson's hawk (nesting)	Fed: none CA: ST ABC, BCC	A gregarious summer resident that inhabits open grasslands, shrublands, woodlands, and agricultural areas throughout the Central Valley and the valleys of the Sierra Nevada in Inyo and Mono counties (Bechard et al. 2020). Nests are built in a variety of trees and shrubs; breeding occurs from March to August and are single brooded (Baicich and Harrison 2005).	Outside of species' known range. The nearest CNDDDB occurrence (EONDX #91828) is a museum specimen from 1898 collected approximately 4.7 miles southwest of the study area near the summit of Mt. Diablo. More recent nesting observations have been made approximately 13 miles northeast in the city of Antioch.	Not Expected
<i>Elanus leucurus</i> White-tailed kite	Fed: None CA: FP	Inhabits grasslands, agriculture fields, oak woodlands, savannah and riparian habitats in rural and urban areas. Feeds primarily on California voles. Year-round resident of Central and Coastal California. Breeding begins in February; sometimes double-brooded (Baicich and Harrison 2005).	May nest in trees within the study area, and forage in grasslands throughout. The nearest CNDDDB occurrence (EONDX #6395) was recorded in 1985 in Antioch, approximately 10.2 miles northeast of the study area, but the species is commonly reported in the area (eBird 2021).	Possible
<i>Falco peregrinus anatum</i> American peregrine falcon (nesting)	Fed: Delisted CA: Delisted FP BCC	Typically a year-round resident in California and most common along the coast. Nests on cliffs, but frequently uses human-made structures such as bridges and buildings. Nests are generally located close to water bodies with abundant avian prey. Breeding begins in March; single-brooded (Baicich and Harrison 2005).	No suitable cliff nesting habitat is present within the study area. The nearest occurrence (EONDX #102401) approximately 12 miles southeast of the study area from Morgan Territory Preserve in 2015.	None
<i>Laterallus jamaicensis coturniculus</i> California black rail	Fed: None CA: ST, FP, ABC, BCC	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).	No coastal or tidally influenced marshland habitat present within the study area.	None
<i>Rallus obsoletus</i> California Ridgway's rail	Fed: FE CA: 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).	No coastal or shoreline wetlands present within study area.	None

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<i>Sternula antillarum brownii</i> California least tern (nesting colony)	Fed: FE CA: SE, FP, ABC	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).	No suitable colonial breeding habitat present within study area. Occurrences are restricted to the shorelines of Suisun Bay and San Francisco Bay (CDFW 2020).	None
<b><u>MAMMALS:</u></b>				
<i>Puma concolor</i> mountain lion (Southern California/Central Coast ESU)	Fed: None CA: SCT	Large, slender cats with large home ranges, requiring relatively undisturbed areas. Inhabit many different habitat types, including conifer forests, oak and riparian woodlands, scrub, chaparral, grasslands, and deserts. The Southern California/Central Coast ESU includes all populations from the San Francisco Bay Area south along the Coast Ranges, and throughout Southern California from Interstate 15 southward to the Mexico border, and eastward to the Nevada and Arizona borders (CBD and MLF 2019).	Suitable habitat is present throughout the study area and surrounding area. Individuals range widely and if present would likely only be transitory. The CNDDDB does not track occurrences of Southern California/Central Coast mountain lions, but the study area is within the known range of this ESU.	Possible
<i>Reithrodontomys raviventris</i> Salt-marsh harvest mouse	Fed: FE CA: 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.	No tidal marshes present within the study area.	None
<i>Vulpes macrotis mutica</i> San Joaquin kit fox	Fed: FE CA: ST	The smallest North American canid, the kit fox inhabits valley bottom and foothills from southern Kern County north to Contra Costa, Alameda, and San Joaquin Counties on the west, and near La Grange, Stanislaus County on the east side of the Central Valley and some of the larger scattered islands of natural land on the Valley floor in Kern, Tulare, Kings, Fresno, Madera, and Merced Counties. 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. 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.	Suitable habitat is present in the non-native grassland and coast live oak woodland habitat within the study area. Study area is outside of the species' known range. The nearest CNDDDB occurrence (EONDX #67419) was recorded in 1994 approximately 6.4 miles northeast of the study area in Black Diamond Mines Regional Preserve.	None
<b><u>SENSITIVE AND LOCALLY RARE SPECIES</u></b>				
<b><u>INVERTEBRATES:</u></b>				
<i>Andrena blennospermatis</i> Blennosperma vernal pool Andrenid bee	Fed: None CA: 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.	No suitable habitat present within the study area. Site lacks vernal pools, playas, lakes, or grassy swales.	None

SPECIES NAME COMMON NAME	LISTING STATUS <sup>1</sup>	HABITAT REQUIREMENTS & ADDITIONAL NOTES	HABITAT SUITABILITY & LOCAL DISTRIBUTION	POTENTIAL FOR OCCURRENCE
<i>Anthicus antiochensis</i> Antioch Dunes anthicid beetle	Fed: None CA: SA	Inhabits stabilized riverine sand dunes. Reported from Contra Costa, Solano, Glenn, Tehama, Sutter, and Shasta counties. Antioch Dunes occurrence reported in 1953 is considered to be extirpated.	No riverine sand dunes within the study area.	None
<i>Bombus caliginosus</i> Obscure bumble bee	Fed: None CA: SA	Occurs along the Pacific Coast from southern California to southern British Columbia, with scattered records from the east side of California's Central Valley.	May occur in grassland habitat throughout the study area. The nearest CNDDDB occurrence (EONDX #97885) is from 1977 and was recorded approximately 3.9 miles away at Juniper Campground in Mt. Diablo State Park. There are no recent verified observations of this species in Contra Costa County (Bumblebee Watch 2021).	Possible
<i>Coelus gracilis</i> San Joaquin dune beetle	Fed: None CA: SA	An endemic darkling beetle of California and Baja California, Mexico. This small nocturnal, flightless sand burrowing beetle inhabits coastal dune scrub with herbaceous plants and sandy soils. Primarily found under vegetation or vegetative debris in the fore-dunes and sand hummocks from Santa Cruz to San Diego counties.	No sand dune habitat present within the study area.	None
<i>Efferia antiochi</i> Antioch efferian robberfly	Fed: none CA: SA	Inhabits sand dunes. Recorded from Contra Costa and Fresno counties.	No sand dune habitat present within the study area.	None
<i>Eucerceris ruficeps</i> Redheaded sphecid wasp	Fed: None CA: SA	Inhabits interior sand dunes. Recorded from Contra Costa, Stanislaus, and Fresno counties.	No sand dune habitat present within the study area.	None
<i>Gonidea angulata</i> Western ridged mussel	Fed: None CA: SA	The western ridged mussel is yellowish-brown to black in color and has an outer shell consisting of two valves reaching up to five inches in length. Once found in coastal basins in from San Diego County to British Columbia and as far east as Idaho, the mussel is now only found in California in rivers north of San Francisco Bay, with the Russian River being the southernmost observation point of the species. Like other freshwater mussels, the western ridged mussel requires abundant, connected aquatic habitats with stable substrates, perennial inundation, and protection from scour and disposition. Specifically, it inhabits rivers with wide floodplains, low slope, large components of sand and gravel substrate, and large boulders (Xerces Society 2020).	Study area is outside of current known range and does not contain suitable habitat.	None
<i>Helminthoglypta nickliniana bridgesi</i> Bridges' coast range shoulderband (snail)	Fed: none CA: SA	Inhabits open hillsides in Alameda and Contra Costa counties and lowland grassland areas with thistles, weeds and 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).	Lowland grassland areas are present in the study area, thistles and weeds are present; no rock piles were observed during the site visit. The nearest CNDDDB occurrence (EONDX #23088) was recorded approximately 4.6 miles southeast of the study area in 1985.	Possible

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<i>Idiostatus middlekauffi</i> Middlekauff's shieldback katydid	Fed: None CA: SA	Associated with sand dunes. Only reported from one location in California, the Antioch Dunes in 1965. Although none have been reported since then, the species is considered to be extant.	Study area is outside of current known range and does not contain suitable habitat.	None
<i>Linderiella occidentalis</i> California linderiella	Fed: None CA: SA	An aquatic crustacean in the Anostroca family smaller than the vernal pool fairy shrimp with distinctive red eyes. Inhabit clear large vernal pools and lakes, but are fairly tolerant of high water temperatures and turbidity. Most common fairy shrimp in the Central Valley.	No suitable habitat present within study area. Site lacks vernal pools, playas, or lakes.	None
<i>Lytta molesta</i> Molestan blister beetle	Fed: None CA: 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.	No suitable habitat is present within the study area. The study area lacks vernal pools.	None
<i>Metapogon hurdi</i> Hurd's metapogon robberfly	Fed: None CA: SA	Predaceous fly that feeds on other insects. Associated with sand dunes. Type locality from Antioch; paratypes collected from unspecified location near Fresno in 1922.	No sand dune habitat within the study area.	None
<i>Myrmosula pacifica</i> Antioch mutillid wasp	Fed: None CA: SA	Inhabits sandy areas. Recorded from Yolo, Contra Costa and Inyo counties.	No sand dune habitat within the study area.	None
<i>Perdita scitula antiochensis</i> Antioch adrenid bee	Fed: None CA: 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.	No sand dune habitat within the study area.	None
<i>Philanthus nasalis</i> Antioch sphecid wasp	Fed: None CA: SA	Inhabits sand dunes. Species has been extirpated from the only known location in Contra Costa County, but has been recorded more recently in Santa Cruz County in association with cudweed [ <i>Pseudognaphalium</i> (= <i>Gnaphalium</i> ) <i>beneolens</i> ], <i>Gnaphalium</i> "zayanteense" and Ben Lomond buckwheat ( <i>Eriogonum nudum decurrens</i> ) species.	No sand dune habitat within the study area.	None
<i>Sphecodogastra antiochensis</i> Antioch Dunes halcitud bee	Fed: None CA: None Xerces-CI	Only reported from one location in California, the Antioch Dunes in 1982. Species is considered to be extant.	Study area is outside of current known range and does not contain suitable habitat.	None
<b><u>FISH:</u></b>				
<i>Archoplites interruptus</i> Sacramento perch (within native range only)	Fed: None CA: SSC, AFS-T	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.	No suitable habitat present within the study area. Site lacks permanent water features.	None

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<i>Pogonichthys macrolepidotus</i> Sacramento splittail	Fed: none CA: SSC AFS-V	Endemic to the lakes and rivers of the Central Valley, but now confined to the Delta, Suisun Bay, lower Napa River, lower Petaluma River, the San Francisco Estuary and associated marshes. Inhabits slow-moving river sections, dead-end sloughs; requires flooded vegetation for spawning and foraging for young. Spawning occurs from late February to early July; peaking March through April. Yolo and Sutter bypasses are important spawning grounds for this species (Moyle 2002).	No suitable habitat present within the study area. Site lacks permanent water features.	None
<b><u>AMPHIBIANS:</u></b>				
<i>Rana boylei</i> Foothill yellow-legged frog	Fed: None CA: SSC	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 6000 feet.	No cascading stream habitat with gravel to boulder substrate within the study area.	None
<b><u>REPTILES:</u></b>				
<i>Actinemys marmorata</i> Western pond turtle	Fed: None CA: SSC	A moderate sized freshwater turtle that inhabits permanent or nearly permanent bodies of water and low gradient slow moving streams below 6,000 feet elevation. Range extends from Washington to the northern Bay Area counties along the Pacific slope drainages. Two recognized subspecies the northwestern pond turtle ( <i>E. m. marmorata</i> ) which ranges north of the American River and the southwestern pond turtle ( <i>E. m. pallida</i> ) which ranges from the coastal areas south of San Francisco. Subspecies interbreed within the gradation zone that defines the two subspecies.	No suitable habitat present within the study area. Site lacks wetland habitat for water features.	None
<i>Anniella pulchra</i> Northern California legless lizard	Fed: None CA: SSC	A small legless lizard measuring up to 7 inches in length with shovel-shaped nose and blunt tail. Displays distinct coloration: a bright silver dorsal surface with a yellowish underbelly and a single black dorsal stripe. Feeds on a variety of insects, beetles, and arachnids. Inhabits sandy or loose loamy soils and leaf litter from Contra Costa County to northwestern Baja. Occurs in moist warm loose soil with plant cover. Occurs in sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks. Leaf litter under trees and bushes in sunny areas and dunes stabilized with bush lupine and mock heather often indicate suitable habitat (Nafis 2021).	No loose, sandy soils present within the study area. The nearest CNDDDB occurrence (EONDX #50217) was recorded approximately 8.9 miles northeast of the study area in 2004.	None
<i>Arizona elegans occidentalis</i> California glossy snake	Fed: None CA: SSC	A medium-sized muscular snake with smooth, glossy scales, a faded appearance, and a short tail. Generally darker than other subspecies. Preferred habitat types include arid scrub, rocky washes, grasslands, and chaparral. Preys mostly on sleeping diurnal lizards, but also eats small snakes, terrestrial birds, and mammals. Breeding typically occurs in June and July with an average of 5-12 eggs typically laid (Stebbins 2003).	Outside of species' known range. The nearest CNDDDB occurrence (EONDX #105521) is from 1958 is located 12.4 miles northeast of the study area in the Antioch dunes.	None



SPECIES NAME COMMON NAME	LISTING STATUS <sup>1</sup>	HABITAT REQUIREMENTS & ADDITIONAL NOTES	HABITAT SUITABILITY & LOCAL DISTRIBUTION	POTENTIAL FOR OCCURRENCE
<i>Phrynosoma blainvillii</i> Blainville's horned lizard	Fed: none CA: SSC	A dorsoventrally flattened lizard with several spiny dorsal scales and backward projecting spines on the head. Inhabits a variety of habitats including scrub, chaparral, grasslands and woodlands with sandy to gravelly substrate from Shasta County to Los Angeles County within the Sacramento and San Joaquin Valleys and neighboring foothills. 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.	Suitable habitat present in scrub habitats within the study area. The nearest CNDDDB occurrence (EONDX #66137) was recorded approximately 1.0 miles east of the study area in 2005. Several recent observations recorded in iNaturalist in the immediate vicinity of the study area (iNaturalist 2021).	Possible
<b><u>BIRDS:</u></b>				
<i>Asio flammeus</i> Short-eared owl (nesting)	CSC ABC, USBC Audubon	Inhabits open grasslands, prairies, marshes and agricultural fields with sufficient cover and abundant small mammal prey. Nests on the ground in a shallow depression. Breeding begins in April; single-brooded (Baicich and Harrison 2005).	No suitable marshland or tall grassland for nesting present within the study area. The nearest reported CNDDDB occurrence is approximately 21.1 miles west in Richmond (EONDX #25540) and was recorded in 1986.	None
<i>Athene cunicularia</i> Burrowing owl (burrow sites & some wintering sites)	Fed: None CA: SSC, BCC	Valley bottoms and foothills with low vegetation and fossorial mammal activity. Listing includes wintering observations with/without a burrow in San Francisco, Ventura, Sonoma, Marin, Napa and Santa Cruz counties. Breeding begins in March; single-brooded (Baicich and Harrison 2005).	Suitable habitat is present in the open grassland areas of the study area. The nearest occurrence (EONDX #48638) is from 1991 and located in Walnut Creek approximately 0.5 miles northeast of the study area. No suitable burrowing owl burrows were observed during the site visit.	Possible
<i>Buteo regalis</i> Ferruginous hawk (wintering)	Fed: none CA: WL BCC	Breeds in the northern states and Canada; winters south from California and Texas to Mexico. Wintering habitat consists of open grasslands, deserts and cultivated fields. Breeding begins in April; single-brooded (Baicich and Harrison 2005).	Suitable wintering/foraging habitat is present in grassland habitats throughout the study area. Species does not breed in California. The nearest occurrence (EONDX #72124) is a non-specific point within Concord Naval Weapons Station 4.7 miles north of the study area.	Possible

SPECIES NAME COMMON NAME	LISTING STATUS <sup>1</sup>	HABITAT REQUIREMENTS & ADDITIONAL NOTES	HABITAT SUITABILITY & LOCAL DISTRIBUTION	POTENTIAL FOR OCCURRENCE
<i>Circus hudsonius</i> Northern harrier (nesting)	Fed: None CA: SSC	Inhabits both freshwater and saltwater marshes and adjacent upland grasslands. Nests on the ground in tall grasses in grasslands and meadows. Breeding begins in March; single-brooded (Baicich and Harrison 2005).	No suitable marshland or tall grassland for nesting present with the study area. May forage in grasslands within and adjacent to the study area. One individual was observed foraging on site during the February 2021 site assessment. The nearest reported CNDDDB occurrence is from 1992 and located approximately 13.0 miles southeast in Tassajara Valley (EONDX #56327).	Not Expected
<i>Coturnicops noveboracensis</i> Yellow rail	Fed: BCC CA: SSC	Highly secretive, breeds in northeastern California in wet meadows and sedge marshes. Winters in tidal marshes in the greater San Francisco Bay Area.	No tidal marsh habitat present in study area.	None
<i>Eremophila alpestris actia</i> California horned lark	Fed: none CA: WL	Common, abundant resident in a variety of open habitats, usually where large trees and shrubs are absent, ranging from low-elevation grasslands and deserts to dwarf shrub habitats above tree line. Found throughout much of the state. Less common in mountainous areas of the north coast and in conifer and chaparral habitats. Breeding begins in late-February; double to triple-brooded (Baicich and Harrison 2005).	Suitable nesting habitat present in grassland habitats within and adjacent to the study area. The nearest reported CNDDDB occurrence is approximately 12.6 miles southeast of the study area (EONDX #3516) and was recorded in 1992.	Possible
<i>Falco mexicanus</i> Prairie falcon (nesting)	Fed: none CA: WL BCC	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, & desert scrub communities. Breeding begins in April; single-brooded (Baicich and Harrison 2005).	No cliff habitat suitable for nesting is present within the study area. Individuals may forage within or transit through the study area at any time.	None
<i>Geothlypis trichas sinuosa</i> Saltmarsh common yellowthroat	Fed: None CA: SSC, BCC	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).	No suitable marsh habitat present.	None
<i>Lanius ludovicianus</i> loggerhead shrike (nesting)	Fed: BCC CA: SSC	Year-round resident in California. 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 (Shuford and Gardali 2008). Breeds from early February through July; double- to triple-brooded (Baicich and Harrison 2005, Shuford and Gardali 2008).	Suitable nesting habitat is present in scrub and woodland habitat within and adjacent to the study area.  There are no CNDDDB occurrences of loggerhead shrike within 5 miles of the study area, though this species is likely under-reported. They are regularly observed in Contra Costa County during the breeding season (eBird 2021).	Possible (nesting)

SPECIES NAME COMMON NAME	LISTING STATUS <sup>1</sup>	HABITAT REQUIREMENTS & ADDITIONAL NOTES	HABITAT SUITABILITY & LOCAL DISTRIBUTION	POTENTIAL FOR OCCURRENCE
<i>Melospiza melodia</i> Song sparrow (“Modesto” population)	Fed: None CA: SSC	The Modesto Song Sparrow is endemic to California, where it resides only in the north-central portion of the Central Valley (Shuford and Gardali 2008). Highest densities occur in the Butte Sink area of the Sacramento Valley and in the Sacramento–San Joaquin River Delta (PRBO unpubl. data). The song sparrow nests in emergent freshwater marshes dominated by tules ( <i>Scirpus</i> spp.) and cattails ( <i>Typha</i> spp.) as well as riparian willow ( <i>Salix</i> spp.) thickets (Grinnell and Miller 1944). These Song Sparrows also nest in riparian forests of Valley Oak ( <i>Quercus lobata</i> ) with a sufficient understory of blackberry ( <i>Rubus</i> spp.), along vegetated irrigation canals and levees, and in recently planted Valley Oak restoration sites (DiGaudio and Geupel 1998, PRBO unpubl. data).	No suitable marsh habitat present. Outside of species’ known range.	None
<i>Melospiza melodia maxillaris</i> Suisun song sparrow	Fed: None CA: SSC, BCC	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 triple-brooded (Baicich and Harrison 2005).	No suitable marsh habitat present. Outside of species’ known range.	None
<i>Phalacrocorax auritus</i> Double-crested cormorant (nesting colony)	Fed: None CA: 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).	Study area is not near a large body of water.	None
<b><u>MAMMALS:</u></b>				
<i>Antrozous pallidus</i> Pallid bat	Fed: None CA: SSC, WBWG-H	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.	Suitable roosting habitat present in trees within and adjacent to the study area. The nearest reported occurrence (EONDX #66600) dates back to 1917 and was mapped generally along Pine Canyon 1.7 miles to the south.	Possible
<i>Corynorhinus townsendi</i> Townsend’s big-eared bat	Fed: None CA: SSC, WBWG-H	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.	The study area lacks any caves, structures, or very large trees with basal hollows suitable for roosting. Individuals may forage within the study area. The nearest reported occurrence (EONDX #93577) is a non-specific point 3.3 miles west of the study area dating back to 1938.	Not Expected

SPECIES NAME COMMON NAME	LISTING STATUS <sup>1</sup>	HABITAT REQUIREMENTS & ADDITIONAL NOTES	HABITAT SUITABILITY & LOCAL DISTRIBUTION	POTENTIAL FOR OCCURRENCE
<i>Dipodomys heermanni berkeleyensis</i> Berkeley kangaroo rat	Fed: None CA: SA	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.	Suitable habitat is present within the study area though the suburban nature of the surrounding area and the proximity to domestic cats reduces the quality of potential habitat in the study area. The nearest CNDDDB occurrence (EONDX #24074) was recorded in 1936 approximately 3.8 miles southeast of the study area near the summit of Mt. Diablo.	Not Expected
<i>Lasiurus blossevillii</i> Western red bat	Fed: None CA: SSC	Primarily associated with intact riparian habitat; species is ubiquitous throughout most of California except the northern Great Basin region. Roosts individually in foliage within trees along riparian areas, orchards and suburban areas. Favors cottonwoods, willows, sycamores, and walnut trees (WBWG 2021). Feeds primarily on moths, but will eat a variety of other insects.	May roost in mature trees within the study area. The nearest CNDDDB occurrence (EONDX #24074) is from 1998 and is non-specific point within the city of Antioch, approximately 10.2 miles northeast of the study area. This species is likely under-reported.	Possible
<i>Lasiurus cinereus</i> Hoary bat	Fed: None CA: SA, WBWG-M	Ubiquitous throughout California. A solitary foliage rooster that prefers evergreens, but will use deciduous trees in forested habitats, particularly in edge habitat (WBWG 2021). May forage in small to large groups. Feeds primarily on moths, but will eat a variety of other insects. Migrates great distances.	May roost in mature trees within the study area. The nearest reported occurrence (EONDX #68776) is a non-specific location 2.9 miles northwest of the study area in Concord from 1957.	Possible
<i>Myotis evotis</i> long-eared myotis bat	Fed: None CA: SA WBWG-M	Typically inhabits brushy woodland habitats and coniferous forests up to 2,800 meters throughout California except the Central Valley and deserts. Roosts in a variety of habitats including exfoliating bark, tree hollows, caves, rotten stumps, snags, cliff crevices and bridges. A foliage gleaner that requires nearby water.	Suitable roosting habitat is present in the trees within and adjacent to the study area.  There are no CNDDDB occurrences of long-eared myotis within 5 miles of the study area, though this species is likely under-reported.	Possible
<i>Myotis thysanodes</i> fringed myotis bat	Fed: None CA: SA WBWG-H	Exhibits a strong roosting preference for large trees and snags, but will use buildings, caves, rock crevices, <i>etc.</i> , if necessary. Inhabits a variety of woodland, scrub and grassland habitats up to 2,850 meters throughout California except for Central Valley and southern deserts. Forages great distances and is active during winter months. Highly sensitive to human disturbance.	Suitable roosting habitat is present in the trees within and adjacent to the study area.  There are no CNDDDB occurrences of fringed myotis within 5 miles of the study area, though this species is likely under-reported.	Possible

SPECIES NAME COMMON NAME	LISTING STATUS <sup>1</sup>	HABITAT REQUIREMENTS & ADDITIONAL NOTES	HABITAT SUITABILITY & LOCAL DISTRIBUTION	POTENTIAL FOR OCCURRENCE
<i>Myotis volans</i> long-legged myotis bat	Fed: None CA: SA WBWG-H	Primarily occurs in coniferous forests, but also occurs seasonally in riparian and desert habitats. Most common in woodland and forest habitats above 1200 m (4000 ft). Also forages in chaparral, coastal scrub, Great Basin shrub habitats, and in early successional stages of woodlands and forests. Roosts under exfoliating bark in small groups, but may also use rock crevices, cliffs and human-made structures in absence of old growth trees. Forages aerially around the forest canopy.	Suitable roosting habitat is present in the trees within and adjacent to the study area.  There are no CNDDDB occurrences of long-legged myotis within 5 miles of the study area, though this species is likely under-reported.	Possible
<i>Myotis yumanensis</i> Yuma myotis bat	Fed: None CA: SA WBWG-L	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.	Suitable roosting habitat is present in the trees within and adjacent to the study area.  There are no CNDDDB occurrences of Yuma myotis within 5 miles of the study area, though this species is likely under-reported.	Possible
<i>Neotoma fuscipes annectens</i> San Francisco dusky-footed woodrat	Fed: None CA: SSC	Inhabits chaparral, coastal scrub, oak woodland, and riparian woodland 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 large, conical appearance. Species is typically not associated with urban areas due to lack of suitable native woodland plants used for foraging, and increased predation pressure from feral and domestic cats.	Suitable habitat is present in oak woodlands within and adjacent to the study area. The nearest CNDDDB occurrence was recorded in 2015 (EONDX #102328), approximately 1.6 miles northeast of the study area.	Possible
<i>Nyctinomops macrotis</i> Big free-tailed bat	Fed: None CA: 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. Inhabits rugged and rocky arid landscapes in desert scrub, woodland and evergreen habitats. Roosts primarily in cliff crevices, but will also use buildings, caves and tree cavities (WBWG 2021).	Outside of species' typical range. Rare in California, though occasional vagrants may occur. The nearest CNDDDB occurrence was recorded in 1979 (EONDX #59559), approximately 8.7 miles northwest of the study area.	Not Expected
<i>Perognathus inornatus inornatus</i> San Joaquin pocket mouse	Fed: none CA: SA	Endemic to California. 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 Carrizo Plain. Eats insects and seeds of various grasses, forbs and shrub including <i>Artemisia</i> and <i>Atriplex</i> spp., has fur-lined cheek pouches, and experiences daily torpor. Breeding occurs from March to July; two litters are typical (Jameson and Peeters 2004).	Suitable habitat is present is grassland within and adjacent to the study area. Outside of species' known range. The nearest CNDDDB occurrence was recorded in 1992 (EONDX #260), approximately 6.2 miles northeast of the study area.	Not Expected

SPECIES NAME COMMON NAME	LISTING STATUS <sup>1</sup>	HABITAT REQUIREMENTS & ADDITIONAL NOTES	HABITAT SUITABILITY & LOCAL DISTRIBUTION	POTENTIAL FOR OCCURRENCE
<i>Taxidea taxus</i> American badger	Fed: None CA: SSC	A large mustelid that 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.). Mating occurs in late summer; young are born in March and April (Jameson and Peeters 2004).	There is suitable habitat in the oak woodland and grassland found within the study area. The nearest reported occurrence was recorded in 2002 approximately 11 miles northeast of the study area south of Antioch (EONDX #57212).	Possible

<sup>1</sup> 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
- FC Federal candidate species (former Category 1 candidates)
- SC Species of Concern (NOAA Fisheries regulated species only)
- CH Critical Habitat (Proposed or Final) is designated
- SSC Species of Special Concern designated by the Marine Mammal Commission

California listing codes:

- SE State listed as Endangered
- ST State listed as Threatened
- SCE State candidate for listing as Endangered
- SCT State candidate for listing as Threatened
- SCD State candidate for delisting
- SSC California Species of Special Concern
- FP Fully Protected
- WL Watch List

- ABC The American Bird Conservancy maintains a Green List of all the highest priority birds for conservation in the continental United States and Canada. Based off the species assessments prepared by Partners in Flight (PIF) and has been expanded to include shorebirds, waterbirds and waterfowl.
- AFS American Fisheries Society identifies marine, estuarine and diadromous fish species that are at risk of extinction in North America. The AFS has designated the following four classifications in order of conservation importance E – Endangered, T – Threatened, V – Vulnerable, and CD – Conservation Dependent.
- BCC U.S. Fish and Wildlife Service Birds of Conservation Concern. List of migratory and nonmigratory bird species (beyond those already designated as federally threatened or endangered) that represent the Service’s highest conservation priorities.
- SA “Special Animals” is a general term that refers to all of the taxa the CNDDDB is interested in tracking, regardless of their legal or protection status. This list is also referred to as the list of “species at risk” or “special status species”. The Department of Fish and Game considers the taxa on this list to be those of greatest conservation need.
- WBWG Western Bat Working Group: H – High Priority indicates species that are imperiled or are at high risk of imperilment based on available information on distribution, status, ecology and known threats; M – Medium Priority indicates a lack of information to assess the species’ status; L – Low Priority indicates relatively stable populations based on available data. The WBWG also uses intermediary designations including MH – Medium-High and LM – Low-Medium priorities.
- Xerces Xerces Society for Invertebrate Conservation. Red List identifies endangered, threatened or at-risk pollinator species. PE – Possibly Extinct indicates species only known from historical occurrences; CI – Critically Imperiled indicates species at very high risk of extinction; I – Imperiled indicates species at high risk of extinction; V – Vulnerable indicates species at moderate risk of extinction; DD – Data Deficient indicates lack of information to sufficiently assess status.

**APPENDIX D CALIFORNIA NATURAL DIVERSITY  
DATABASE SPECIES LIST**

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# Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database



**Query Criteria:** Quad (Antioch South (3712187) OR Antioch North (3812117) OR Honker Bay (3812118) OR Walnut Creek (3712281) OR Las Trampas Ridge (3712271) OR Clayton (3712188) OR Diablo (3712178) OR Tassajara (3712177) OR Vine Hill (3812211)) AND Taxonomic Group (Fish OR Amphibians OR Reptiles OR Birds OR Mammals OR Mollusks OR Arachnids OR Crustaceans OR Insects OR Ferns OR Gymnosperms OR Monocots OR Dicots OR Lichens OR Bryophytes)

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Agelaius tricolor</i> tricolored blackbird	ABPBXB0020	None	Threatened	G2G3	S1S2	SSC
<i>Ambystoma californiense</i> California tiger salamander	AAAAA01180	Threatened	Threatened	G2G3	S2S3	WL
<i>Amsinckia grandiflora</i> large-flowered fiddleneck	PDBOR01050	Endangered	Endangered	G1	S1	1B.1
<i>Amsinckia lunaris</i> bent-flowered fiddleneck	PDBOR01070	None	None	G3	S3	1B.2
<i>Andrena blennospermatis</i> Blennosperma vernal pool andrenid bee	IIHYM35030	None	None	G2	S2	
<i>Anniella pulchra</i> Northern California legless lizard	ARACC01020	None	None	G3	S3	SSC
<i>Anomobryum julaceum</i> slender silver moss	NBMUS80010	None	None	G5?	S2	4.2
<i>Anthicus antiochensis</i> Antioch Dunes anthicid beetle	IICOL49020	None	None	G1	S1	
<i>Antrozous pallidus</i> pallid bat	AMACC10010	None	None	G5	S3	SSC
<i>Apodemia mormo langei</i> Lange's metalmark butterfly	IILEPH7012	Endangered	None	G5T1	S1	
<i>Aquila chrysaetos</i> golden eagle	ABNKC22010	None	None	G5	S3	FP
<i>Archoplites interruptus</i> Sacramento perch	AFCQB07010	None	None	G2G3	S1	SSC
<i>Arctostaphylos auriculata</i> Mt. Diablo manzanita	PDERI04040	None	None	G2	S2	1B.3
<i>Arctostaphylos manzanita ssp. laevigata</i> Contra Costa manzanita	PDERI04273	None	None	G5T2	S2	1B.2
<i>Arizona elegans occidentalis</i> California glossy snake	ARADB01017	None	None	G5T2	S2	SSC
<i>Asio flammeus</i> short-eared owl	ABNSB13040	None	None	G5	S3	SSC
<i>Astragalus tener var. tener</i> alkali milk-vetch	PDFAB0F8R1	None	None	G2T1	S1	1B.2





**Selected Elements by Scientific Name**  
**California Department of Fish and Wildlife**  
**California Natural Diversity Database**



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Athene cunicularia</i> burrowing owl	ABNSB10010	None	None	G4	S3	SSC
<i>Atriplex depressa</i> brittlescale	PDCHE042L0	None	None	G2	S2	1B.2
<i>Blepharizonia plumosa</i> big tarplant	PDAST1C011	None	None	G1G2	S1S2	1B.1
<i>Bombus caliginosus</i> obscure bumble bee	IIHYM24380	None	None	G4?	S1S2	
<i>Bombus crotchii</i> Crotch bumble bee	IIHYM24480	None	Candidate Endangered	G3G4	S1S2	
<i>Bombus occidentalis</i> western bumble bee	IIHYM24250	None	Candidate Endangered	G2G3	S1	
<i>Branchinecta conservatio</i> Conservancy fairy shrimp	ICBRA03010	Endangered	None	G2	S2	
<i>Branchinecta lynchi</i> vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
<i>Buteo regalis</i> ferruginous hawk	ABNKC19120	None	None	G4	S3S4	WL
<i>Buteo swainsoni</i> Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
<i>Calochortus pulchellus</i> Mt. Diablo fairy-lantern	PMLIL0D160	None	None	G2	S2	1B.2
<i>Campanula exigua</i> chaparral harebell	PDCAM020A0	None	None	G2	S2	1B.2
<i>Centromadia parryi ssp. congonii</i> Congdon's tarplant	PDAST4R0P1	None	None	G3T1T2	S1S2	1B.1
<i>Chloropyron molle ssp. molle</i> soft salty bird's-beak	PDSCR0J0D2	Endangered	Rare	G2T1	S1	1B.2
<i>Cicuta maculata var. bolanderi</i> Bolander's water-hemlock	PDAPI0M051	None	None	G5T4T5	S2?	2B.1
<i>Circus hudsonius</i> northern harrier	ABNKC11011	None	None	G5	S3	SSC
<i>Coelus gracilis</i> San Joaquin dune beetle	IICOL4A020	None	None	G1	S1	
<i>Cordylanthus nidularius</i> Mt. Diablo bird's-beak	PDSCR0J0F0	None	Rare	G1	S1	1B.1
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	AMACC08010	None	None	G3G4	S2	SSC
<i>Coturnicops noveboracensis</i> yellow rail	ABNME01010	None	None	G4	S1S2	SSC
<i>Cryptantha hooveri</i> Hoover's cryptantha	PDBOR0A190	None	None	GH	SH	1A



**Selected Elements by Scientific Name**  
**California Department of Fish and Wildlife**  
**California Natural Diversity Database**



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Delphinium californicum ssp. interius</i> Hospital Canyon larkspur	PDRAN0B0A2	None	None	G3T3	S3	1B.2
<i>Dipodomys heermanni berkeleyensis</i> Berkeley kangaroo rat	AMAFD03061	None	None	G3G4T1	S1	
<i>Downingia pusilla</i> dwarf downingia	PDCAM060C0	None	None	GU	S2	2B.2
<i>Efferia antiochi</i> Antioch efferian robberfly	IIDIP07010	None	None	G1G2	S1S2	
<i>Elanus leucurus</i> white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
<i>Emys marmorata</i> western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
<i>Eremophila alpestris actia</i> California horned lark	ABPAT02011	None	None	G5T4Q	S4	WL
<i>Eriastrum ertterae</i> Lime Ridge eriastrum	PDPLM030F0	None	None	G1	S1	1B.1
<i>Eriogonum nudum var. psychicola</i> Antioch Dunes buckwheat	PDPGN0849Q	None	None	G5T1	S1	1B.1
<i>Eriogonum truncatum</i> Mt. Diablo buckwheat	PDPGN085Z0	None	None	G1	S1	1B.1
<i>Eryngium jepsonii</i> Jepson's coyote-thistle	PDAP10Z130	None	None	G2	S2	1B.2
<i>Erysimum capitatum var. angustatum</i> Contra Costa wallflower	PDBRA16052	Endangered	Endangered	G5T1	S1	1B.1
<i>Eschscholzia rhombipetala</i> diamond-petaled California poppy	PDPAP0A0D0	None	None	G1	S1	1B.1
<i>Eucerceris ruficeps</i> redheaded sphecid wasp	IIHYM18010	None	None	G1G3	S1S2	
<i>Extriplex joaquinana</i> San Joaquin spearscale	PDCHE041F3	None	None	G2	S2	1B.2
<i>Falco mexicanus</i> prairie falcon	ABNKD06090	None	None	G5	S4	WL
<i>Falco peregrinus anatum</i> American peregrine falcon	ABNKD06071	Delisted	Delisted	G4T4	S3S4	FP
<i>Fritillaria liliacea</i> fragrant fritillary	PMLIL0V0C0	None	None	G2	S2	1B.2
<i>Geothlypis trichas sinuosa</i> saltmarsh common yellowthroat	ABPBX1201A	None	None	G5T3	S3	SSC
<i>Gonidea angulata</i> western ridged mussel	IMBIV19010	None	None	G3	S1S2	
<i>Grimmia torenii</i> Toren's grimmia	NBMUS32330	None	None	G2	S2	1B.3



Selected Elements by Scientific Name  
California Department of Fish and Wildlife  
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<b><i>Helianthella castanea</i></b> Diablo helianthella	PDAST4M020	None	None	G2	S2	1B.2
<b><i>Helminthoglypta nickliniana bridgesi</i></b> Bridges' coast range shoulderband	IMGASC2362	None	None	G3T1	S1S2	
<b><i>Hesperolinon breweri</i></b> Brewer's western flax	PDLIN01030	None	None	G2	S2	1B.2
<b><i>Hoita strobilina</i></b> Loma Prieta hoita	PDFAB5Z030	None	None	G2?	S2?	1B.1
<b><i>Hypomesus transpacificus</i></b> Delta smelt	AFCHB01040	Threatened	Endangered	G1	S1	
<b><i>Idiostatus middlekauffi</i></b> Middlekauff's shieldback katydid	IORT31010	None	None	G1G2	S1	
<b><i>Isocoma arguta</i></b> Carquinez goldenbush	PDAST57050	None	None	G1	S1	1B.1
<b><i>Lasiurus blossevillii</i></b> western red bat	AMACC05060	None	None	G5	S3	SSC
<b><i>Lasiurus cinereus</i></b> hoary bat	AMACC05030	None	None	G5	S4	
<b><i>Lasthenia conjugens</i></b> Contra Costa goldfields	PDAST5L040	Endangered	None	G1	S1	1B.1
<b><i>Laterallus jamaicensis coturniculus</i></b> California black rail	ABNME03041	None	Threatened	G3G4T1	S1	FP
<b><i>Lathyrus jepsonii var. jepsonii</i></b> Delta tule pea	PDFAB250D2	None	None	G5T2	S2	1B.2
<b><i>Lepidurus packardi</i></b> vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G4	S3S4	
<b><i>Lilaeopsis masonii</i></b> Mason's lilaeopsis	PDAP19030	None	Rare	G2	S2	1B.1
<b><i>Limosella australis</i></b> Delta mudwort	PDSCR10030	None	None	G4G5	S2	2B.1
<b><i>Linderiella occidentalis</i></b> California linderiella	ICBRA06010	None	None	G2G3	S2S3	
<b><i>Lytta molesta</i></b> molestan blister beetle	IICOL4C030	None	None	G2	S2	
<b><i>Madia radiata</i></b> showy golden madia	PDAST650E0	None	None	G3	S3	1B.1
<b><i>Malacothamnus hallii</i></b> Hall's bush-mallow	PDMAL0Q0F0	None	None	G2	S2	1B.2
<b><i>Masticophis lateralis euryxanthus</i></b> Alameda whipsnake	ARADB21031	Threatened	Threatened	G4T2	S2	
<b><i>Melospiza melodia</i></b> song sparrow ("Modesto" population)	ABPBXA3010	None	None	G5	S3?	SSC



**Selected Elements by Scientific Name**  
**California Department of Fish and Wildlife**  
**California Natural Diversity Database**



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<b><i>Melospiza melodia maxillaris</i></b> Suisun song sparrow	ABPBXA301K	None	None	G5T3	S3	SSC
<b><i>Metapogon hurdi</i></b> Hurd's metapogon robberfly	IIDIP08010	None	None	G1G2	S1S2	
<b><i>Monolopia gracilens</i></b> woodland woollythreads	PDAST6G010	None	None	G3	S3	1B.2
<b><i>Myrmosula pacifica</i></b> Antioch multilid wasp	IIHYM15010	None	None	GH	SH	
<b><i>Navarretia gowenii</i></b> Lime Ridge navarretia	PDPLM0C120	None	None	G1	S1	1B.1
<b><i>Navarretia nigelliformis ssp. radians</i></b> shining navarretia	PDPLM0C0J2	None	None	G4T2	S2	1B.2
<b><i>Neotoma fuscipes annectens</i></b> San Francisco dusky-footed woodrat	AMAFF08082	None	None	G5T2T3	S2S3	SSC
<b><i>Nyctinomops macrotis</i></b> big free-tailed bat	AMACD04020	None	None	G5	S3	SSC
<b><i>Oenothera deltooides ssp. howellii</i></b> Antioch Dunes evening-primrose	PDONA0C0B4	Endangered	Endangered	G5T1	S1	1B.1
<b><i>Oncorhynchus mykiss irideus pop. 11</i></b> steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	
<b><i>Perdita scitula antiochensis</i></b> Antioch andrenid bee	IIHYM01031	None	None	G1T1	S1	
<b><i>Perognathus inornatus</i></b> San Joaquin pocket mouse	AMAFD01060	None	None	G2G3	S2S3	
<b><i>Phacelia phacelioides</i></b> Mt. Diablo phacelia	PDHYD0C3Q0	None	None	G2	S2	1B.2
<b><i>Phalacrocorax auritus</i></b> double-crested cormorant	ABNFD01020	None	None	G5	S4	WL
<b><i>Philanthus nasalis</i></b> Antioch specid wasp	IIHYM20010	None	None	G1	S1	
<b><i>Phrynosoma blainvillii</i></b> coast horned lizard	ARACF12100	None	None	G3G4	S3S4	SSC
<b><i>Plagiobothrys hystriculus</i></b> bearded popcornflower	PDBOR0V0H0	None	None	G2	S2	1B.1
<b><i>Pogonichthys macrolepidotus</i></b> Sacramento splittail	AFCJB34020	None	None	GNR	S3	SSC
<b><i>Puccinellia simplex</i></b> California alkali grass	PMPOA53110	None	None	G3	S2	1B.2
<b><i>Rallus obsoletus obsoletus</i></b> California Ridgway's rail	ABNME05011	Endangered	Endangered	G5T1	S1	FP
<b><i>Rana boylei</i></b> foothill yellow-legged frog	AAABH01050	None	Endangered	G3	S3	SSC



Selected Elements by Scientific Name  
California Department of Fish and Wildlife  
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<b><i>Rana draytonii</i></b> California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
<b><i>Reithrodontomys raviventris</i></b> salt-marsh harvest mouse	AMAFF02040	Endangered	Endangered	G1G2	S1S2	FP
<b><i>Sanicula saxatilis</i></b> rock sanicle	PDAP11Z0H0	None	Rare	G2	S2	1B.2
<b><i>Senecio aphanactis</i></b> chaparral ragwort	PDAST8H060	None	None	G3	S2	2B.2
<b><i>Sidalcea keckii</i></b> Keck's checkerbloom	PDMAL110D0	Endangered	None	G2	S2	1B.1
<b><i>Spergularia macrotheca var. longistyla</i></b> long-styled sand-spurrey	PDCAR0W062	None	None	G5T2	S2	1B.2
<b><i>Sphecodogastra antiochensis</i></b> Antioch Dunes halcetid bee	IIHYM78010	None	None	G1	S1	
<b><i>Spirinchus thaleichthys</i></b> longfin smelt	AFCHB03010	Candidate	Threatened	G5	S1	
<b><i>Sternula antillarum browni</i></b> California least tern	ABNNM08103	Endangered	Endangered	G4T2T3Q	S2	FP
<b><i>Streptanthus albidus ssp. peramoenus</i></b> most beautiful jewelflower	PDBRA2G012	None	None	G2T2	S2	1B.2
<b><i>Streptanthus hispidus</i></b> Mt. Diablo jewelflower	PDBRA2G0M0	None	None	G2	S2	1B.3
<b><i>Stuckenia filiformis ssp. alpina</i></b> slender-leaved pondweed	PMPOT03091	None	None	G5T5	S2S3	2B.2
<b><i>Symphotrichum lentum</i></b> Suisun Marsh aster	PDASTE8470	None	None	G2	S2	1B.2
<b><i>Taxidea taxus</i></b> American badger	AMAJF04010	None	None	G5	S3	SSC
<b><i>Thamnophis gigas</i></b> giant gartersnake	ARADB36150	Threatened	Threatened	G2	S2	
<b><i>Trifolium hydrophilum</i></b> saline clover	PDFAB400R5	None	None	G2	S2	1B.2
<b><i>Triquetrella californica</i></b> coastal triquetrella	NBMUS7S010	None	None	G2	S2	1B.2
<b><i>Tropidocarpum capparideum</i></b> caper-fruited tropidocarpum	PDBRA2R010	None	None	G1	S1	1B.1
<b><i>Viburnum ellipticum</i></b> oval-leaved viburnum	PDCPR07080	None	None	G4G5	S3?	2B.3
<b><i>Vulpes macrotis mutica</i></b> San Joaquin kit fox	AMAJA03041	Endangered	Threatened	G4T2	S2	

Record Count: 121

**APPENDIX E U.S. FISH AND WILDLIFE SERVICE  
SPECIES LIST**

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## United States Department of the Interior



FISH AND WILDLIFE SERVICE  
Sacramento Fish And Wildlife Office  
Federal Building  
2800 Cottage Way, Room W-2605  
Sacramento, CA 95825-1846  
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To:  
Consultation Code: 08ESMF00-2021-SLI-1292  
Event Code: 08ESMF00-2021-E-03720  
Project Name: Lime Ridge BRA

March 15, 2021

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

### To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

[http://www.nwr.noaa.gov/protected\\_species/species\\_list/species\\_lists.html](http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html)

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to

utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan ([http://www.fws.gov/windenergy/eagle\\_guidance.html](http://www.fws.gov/windenergy/eagle_guidance.html)). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at:

<http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>;

<http://www.towerkill.com>; and

[www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html](http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html).

<http://>

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
-



## Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

### **Sacramento Fish And Wildlife Office**

Federal Building  
2800 Cottage Way, Room W-2605  
Sacramento, CA 95825-1846  
(916) 414-6600

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## Project Summary

Consultation Code: 08ESMF00-2021-SLI-1292

Event Code: 08ESMF00-2021-E-03720

Project Name: Lime Ridge BRA

Project Type: RECREATION CONSTRUCTION / MAINTENANCE

Project Description: Biological Resource Assessment at Lime Ridge for proposed trail.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@37.9222704,-121.9893352929711,14z>



Counties: Contra Costa County, California

## Endangered Species Act Species

There is a total of 12 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

### Mammals

NAME	STATUS
San Joaquin Kit Fox <i>Vulpes macrotis mutica</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/2873">https://ecos.fws.gov/ecp/species/2873</a>	Endangered

### Birds

NAME	STATUS
California Clapper Rail <i>Rallus longirostris obsoletus</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/4240">https://ecos.fws.gov/ecp/species/4240</a>	Endangered
California Least Tern <i>Sterna antillarum browni</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/8104">https://ecos.fws.gov/ecp/species/8104</a>	Endangered

### Reptiles

NAME	STATUS
Alameda Whipsnake (=striped Racer) <i>Masticophis lateralis euryxanthus</i> There is <b>final</b> critical habitat for this species. Your location overlaps the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/5524">https://ecos.fws.gov/ecp/species/5524</a>	Threatened
Giant Garter Snake <i>Thamnophis gigas</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/4482">https://ecos.fws.gov/ecp/species/4482</a>	Threatened

## Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/2891">https://ecos.fws.gov/ecp/species/2891</a>	Threatened
California Tiger Salamander <i>Ambystoma californiense</i> Population: U.S.A. (Central CA DPS) There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/2076">https://ecos.fws.gov/ecp/species/2076</a>	Threatened

## Fishes

NAME	STATUS
Delta Smelt <i>Hypomesus transpacificus</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/321">https://ecos.fws.gov/ecp/species/321</a>	Threatened

## Insects

NAME	STATUS
San Bruno Elfin Butterfly <i>Callophrys mossii bayensis</i> There is <b>proposed</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/3394">https://ecos.fws.gov/ecp/species/3394</a>	Endangered

## Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/498">https://ecos.fws.gov/ecp/species/498</a>	Threatened

## Flowering Plants

NAME	STATUS
Antioch Dunes Evening-primrose <i>Oenothera deltoides ssp. howellii</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/5970">https://ecos.fws.gov/ecp/species/5970</a>	Endangered
Large-flowered Fiddleneck <i>Amsinckia grandiflora</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/5558">https://ecos.fws.gov/ecp/species/5558</a>	Endangered

## Critical habitats

There is 1 critical habitat wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Alameda Whipsnake (=striped Racer) <i>Masticophis lateralis euryxanthus</i> <a href="https://ecos.fws.gov/ecp/species/5524#crithab">https://ecos.fws.gov/ecp/species/5524#crithab</a>	Final

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## **APPENDIX F NOAA FISHERIES SPECIES LIST**

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Quad Name **Clayton**  
Quad Number **37121-H8**

### **ESA Anadromous Fish**

SONCC Coho ESU (T) -  
CCC Coho ESU (E) -  
CC Chinook Salmon ESU (T) -  
CVSR Chinook Salmon ESU (T) -  
SRWR Chinook Salmon ESU (E) -  
NC Steelhead DPS (T) -  
CCC Steelhead DPS (T) - **X**  
SCCC Steelhead DPS (T) -  
SC Steelhead DPS (E) -  
CCV Steelhead DPS (T) - **X**  
Eulachon (T) -  
sDPS Green Sturgeon (T) -

### **ESA Anadromous Fish Critical Habitat**

SONCC Coho Critical Habitat -  
CCC Coho Critical Habitat -  
CC Chinook Salmon Critical Habitat -  
CVSR Chinook Salmon Critical Habitat -  
SRWR Chinook Salmon Critical Habitat -  
NC Steelhead Critical Habitat -  
CCC Steelhead Critical Habitat -  
SCCC Steelhead Critical Habitat -  
SC Steelhead Critical Habitat -  
CCV Steelhead Critical Habitat -  
Eulachon Critical Habitat -  
sDPS Green Sturgeon Critical Habitat -

### **ESA Marine Invertebrates**

Range Black Abalone (E) -  
Range White Abalone (E) -

### **ESA Marine Invertebrates Critical Habitat**

Black Abalone Critical Habitat -

### **ESA Sea Turtles**

East Pacific Green Sea Turtle (T) -  
Olive Ridley Sea Turtle (T/E) -  
Leatherback Sea Turtle (E) -  
North Pacific Loggerhead Sea Turtle (E) -

### **ESA Whales**

Blue Whale (E) -  
Fin Whale (E) -  
Humpback Whale (E) -  
Southern Resident Killer Whale (E) -  
North Pacific Right Whale (E) -  
Sei Whale (E) -  
Sperm Whale (E) -

### **ESA Pinnipeds**

Guadalupe Fur Seal (T) -  
Steller Sea Lion Critical Habitat -

### **Essential Fish Habitat**

Coho EFH -  
Chinook Salmon EFH -           X  
Groundfish EFH -  
Coastal Pelagics EFH -  
Highly Migratory Species EFH -

### **MMPA Species (See list at left)**

### **ESA and MMPA Cetaceans/Pinnipeds**

**See list at left and consult the NMFS Long Beach office  
562-980-4000**

MMPA Cetaceans -  
MMPA Pinnipeds -



## **APPENDIX G    SITE PHOTOGRAPHS**

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Photo 1. View looking southwest from near trailhead towards proposed trail in non-native grassland. February 08, 2021.



Photo 2. View of urban mix community with blue gum (*Eucalyptus globulus*) along proposed trail. February 2, 2021.



Photo 3. View looking east along proposed trail overlooking typical non-native annual grassland habitat within the study area. February 08, 2021.



Photo 4. Looking east-southeast at area where proposed trail overlaps with existing Timberleaf Trail. February 2, 2021.



Photo 5. View looking east along proposed trail / Timberleaf Trail with Diablan sage scrub habitat. February 08, 2021.



Photo 6. View looking west along proposed trail / Timberleaf Trail showing typical Diablan sage scrub habitat. February 08, 2021.



Photo 7. View looking northwest showing Diablan sage scrub habitat. Photo shows existing Timberleaf Trail cut left while social trail along proposed trail continues. February 2, 2021.



Photo 8. Looking east along proposed showing coast live oak woodland habitat. February 08, 2021.



Photo 9. Looking east along proposed trail overlooking unnamed drainage flowing towards bottom right corner of photo. February 2, 2021.



Photo 10. Proposed trail crossing at unnamed drainage. Flow would originate towards top right and exit photo bottom left. February 08, 2021.



Photo 11. Looking west along proposed trail with coast live oak woodland present in background. February 2, 2021.



Photo 12. Looking east at non-native grassland habitat typical of the eastern half of the proposed trail. February 08, 2021.

## **Appendix C**

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### **Custom Soil Resource Report**





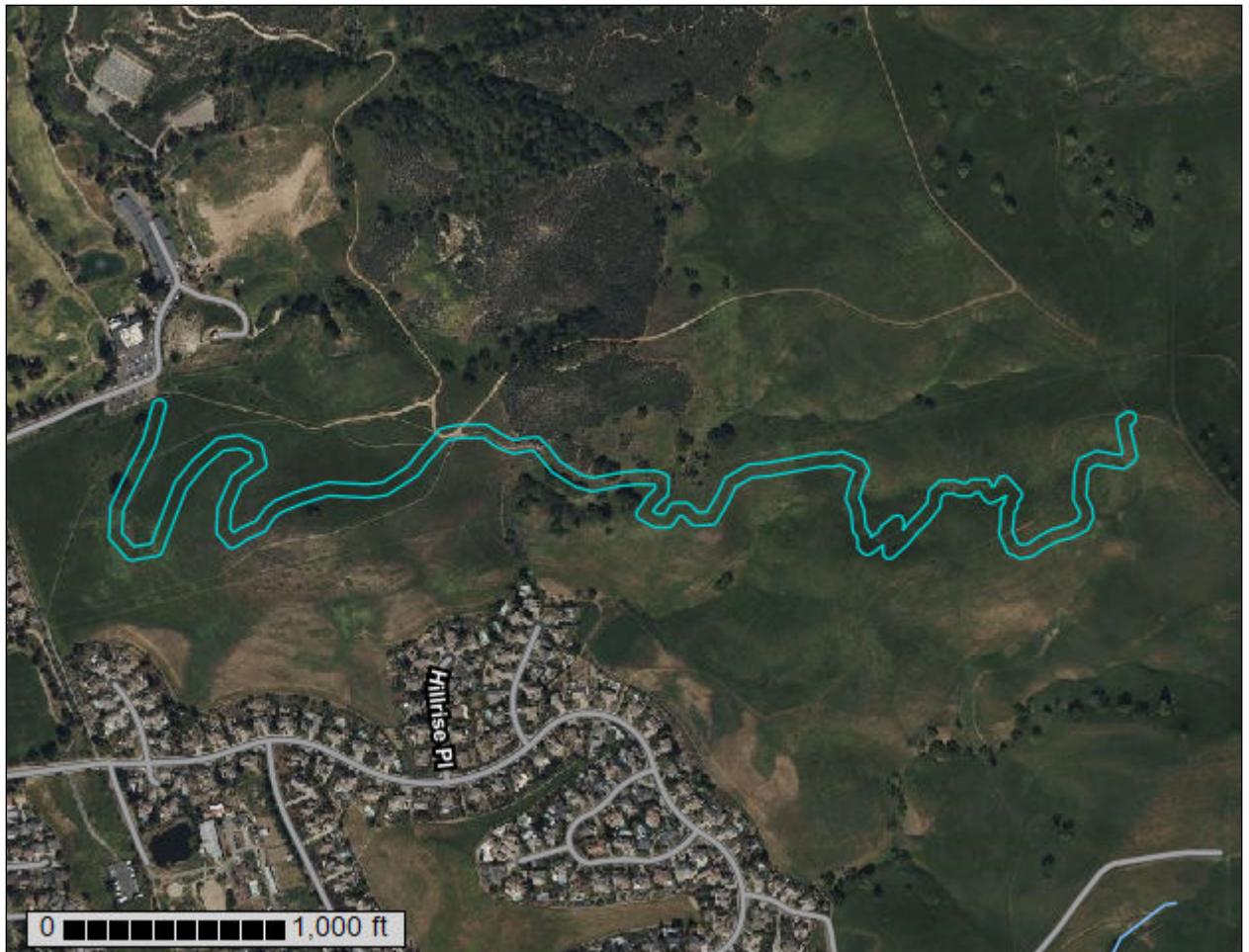
United States  
Department of  
Agriculture

**NRCS**

Natural  
Resources  
Conservation  
Service

A product of the National  
Cooperative Soil Survey,  
a joint effort of the United  
States Department of  
Agriculture and other  
Federal agencies, State  
agencies including the  
Agricultural Experiment  
Stations, and local  
participants

# Custom Soil Resource Report for Contra Costa County, California



# Preface

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Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist ([http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2\\_053951](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951)).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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# How Soil Surveys Are Made

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Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

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scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

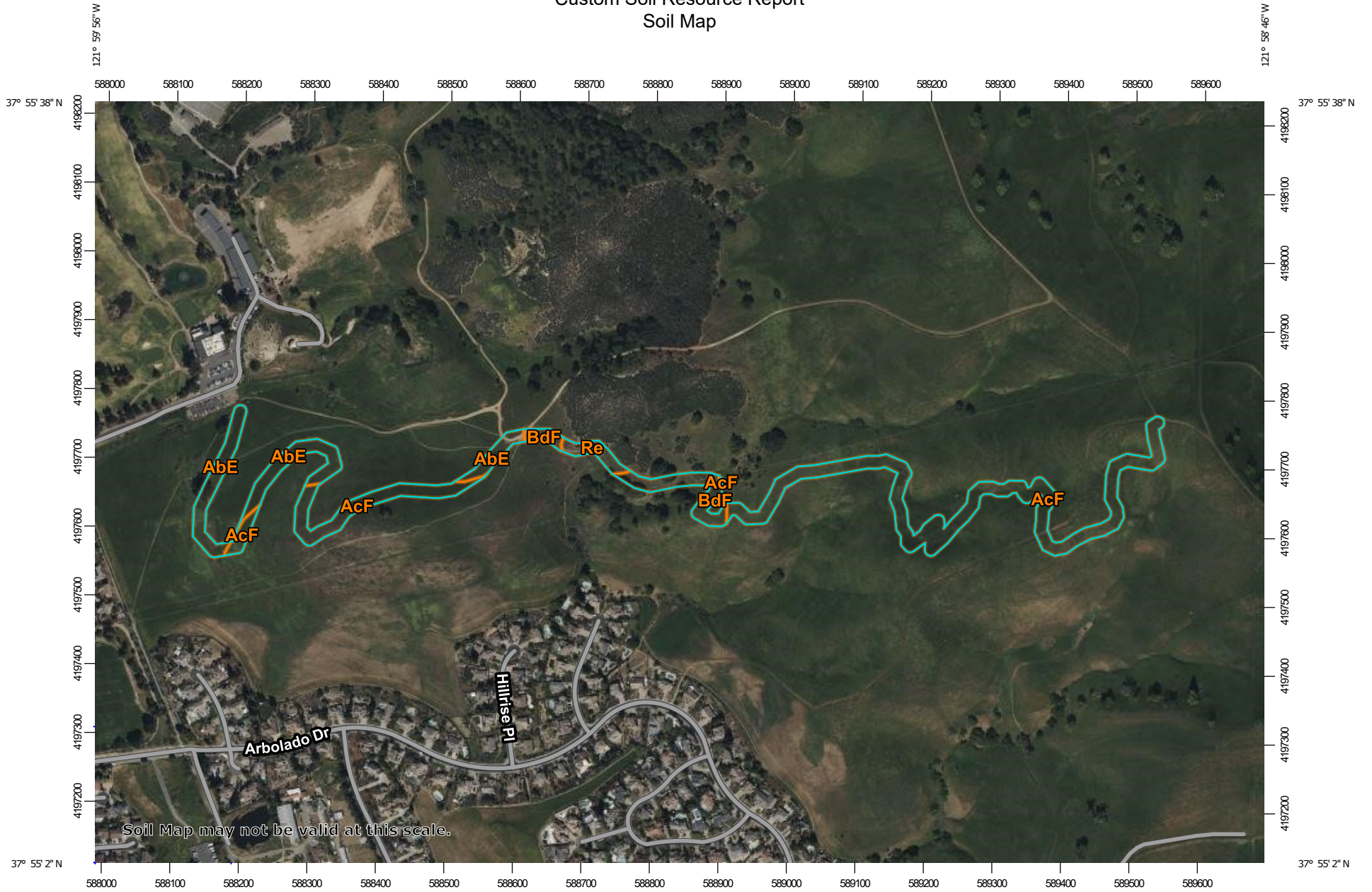
# Soil Map

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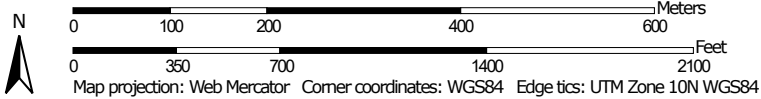
The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.



# Custom Soil Resource Report Soil Map



Map Scale: 1:7,800 if printed on A landscape (11" x 8.5") sheet.



### MAP LEGEND

**Area of Interest (AOI)**

 Area of Interest (AOI)

**Soils**

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

**Special Point Features**

-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features

**Water Features**

 Streams and Canals

**Transportation**

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

**Background**

 Aerial Photography

### MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
 Web Soil Survey URL:  
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Contra Costa County, California  
 Survey Area Data: Version 19, Aug 31, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 9, 2022—Mar 11, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AbE	Altamont clay, 15 to 30 percent slopes, MLRA 15	2.7	23.2%
AcF	Altamont-Fontana complex, 30 to 50 percent slopes	7.1	60.8%
BdF	Briones loamy sand, 30 to 50 percent slopes	1.4	11.8%
Re	Rock outcrop-Xerorthents association	0.5	4.2%
<b>Totals for Area of Interest</b>		<b>11.7</b>	<b>100.0%</b>

## Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

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The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

## Contra Costa County, California

### AbE—Altamont clay, 15 to 30 percent slopes, MLRA 15

#### Map Unit Setting

*National map unit symbol:* 2w626

*Elevation:* 10 to 1,730 feet

*Mean annual precipitation:* 12 to 32 inches

*Mean annual air temperature:* 58 to 62 degrees F

*Frost-free period:* 260 to 320 days

*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Altamont and similar soils:* 85 percent

*Minor components:* 15 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Altamont

##### Setting

*Landform:* Hillslopes, mountain slopes

*Down-slope shape:* Convex

*Across-slope shape:* Convex

*Parent material:* Residuum weathered from sandstone and shale

##### Typical profile

*A - 0 to 14 inches:* clay

*Bss - 14 to 26 inches:* clay

*Bkss - 26 to 39 inches:* clay

*Bk - 39 to 48 inches:* silty clay

*Cr - 48 to 58 inches:*

##### Properties and qualities

*Slope:* 15 to 30 percent

*Depth to restrictive feature:* 40 to 60 inches to paralithic bedrock

*Drainage class:* Well drained

*Runoff class:* High

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Calcium carbonate, maximum content:* 10 percent

*Available water supply, 0 to 60 inches:* Moderate (about 7.3 inches)

##### Interpretive groups

*Land capability classification (irrigated):* 4e

*Land capability classification (nonirrigated):* 4e

*Hydrologic Soil Group:* C

*Ecological site:* R015XD001CA - CLAYEY

*Hydric soil rating:* No

#### Minor Components

##### Linne

*Percent of map unit:* 3 percent

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*Landform:* Mountain slopes, hillslopes  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Hydric soil rating:* No

**Rincon**

*Percent of map unit:* 3 percent  
*Landform:* Depressions, drainageways  
*Down-slope shape:* Concave, linear  
*Across-slope shape:* Concave  
*Hydric soil rating:* No

**Diablo**

*Percent of map unit:* 3 percent  
*Landform:* Hillslopes, mountain slopes  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Hydric soil rating:* No

**Capay**

*Percent of map unit:* 3 percent  
*Landform:* Depressions, drainageways  
*Down-slope shape:* Concave, linear  
*Across-slope shape:* Concave  
*Hydric soil rating:* No

**Fontana**

*Percent of map unit:* 1 percent  
*Landform:* Hillslopes, mountain slopes  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Hydric soil rating:* No

**Pescadero**

*Percent of map unit:* 1 percent  
*Landform:* Depressions, drainageways  
*Down-slope shape:* Concave, convex  
*Across-slope shape:* Concave  
*Hydric soil rating:* Yes

**Clear lake**

*Percent of map unit:* 1 percent  
*Landform:* Depressions, drainageways  
*Down-slope shape:* Concave, linear  
*Across-slope shape:* Concave  
*Hydric soil rating:* Yes

**AcF—Altamont-Fontana complex, 30 to 50 percent slopes**

**Map Unit Setting**

*National map unit symbol:* h97z  
*Elevation:* 400 to 1,500 feet

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*Mean annual precipitation:* 12 to 16 inches  
*Mean annual air temperature:* 59 to 61 degrees F  
*Frost-free period:* 260 to 300 days  
*Farmland classification:* Not prime farmland

### Map Unit Composition

*Altamont and similar soils:* 50 percent  
*Fontana and similar soils:* 35 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Altamont

#### Setting

*Landform:* Hills  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Parent material:* Residuum weathered from sandstone and shale

#### Typical profile

*H1 - 0 to 26 inches:* clay  
*H2 - 26 to 48 inches:* clay  
*H3 - 48 to 52 inches:* bedrock

#### Properties and qualities

*Slope:* 30 to 50 percent  
*Depth to restrictive feature:* 40 to 60 inches to paralithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* High  
*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately high (0.00 to 0.20 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 5 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Available water supply, 0 to 60 inches:* Moderate (about 8.2 inches)

#### Interpretive groups

*Land capability classification (irrigated):* 6e  
*Land capability classification (nonirrigated):* 6e  
*Hydrologic Soil Group:* C  
*Ecological site:* R015XD010CA - STEEP CLAYEY  
*Hydric soil rating:* No

### Description of Fontana

#### Setting

*Landform:* Hills  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Parent material:* Residuum weathered from sandstone and shale

## Custom Soil Resource Report

### Typical profile

*H1 - 0 to 16 inches:* silty clay loam  
*H2 - 16 to 22 inches:* silty clay loam  
*H3 - 22 to 26 inches:* bedrock

### Properties and qualities

*Slope:* 30 to 50 percent  
*Depth to restrictive feature:* 20 to 36 inches to paralithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* High  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high (0.20 to 0.57 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 10 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Available water supply, 0 to 60 inches:* Low (about 4.2 inches)

### Interpretive groups

*Land capability classification (irrigated):* 7e  
*Land capability classification (nonirrigated):* 7e  
*Hydrologic Soil Group:* C  
*Ecological site:* R015XD010CA - STEEP CLAYEY  
*Hydric soil rating:* No

### Minor Components

#### Millsholm

*Percent of map unit:* 3 percent  
*Hydric soil rating:* No

#### Lodo

*Percent of map unit:* 3 percent  
*Hydric soil rating:* No

#### Capay

*Percent of map unit:* 3 percent  
*Hydric soil rating:* No

#### Rincon

*Percent of map unit:* 3 percent  
*Hydric soil rating:* No

#### Pescadero

*Percent of map unit:* 3 percent  
*Landform:* Depressions  
*Hydric soil rating:* Yes



## **BdF—Briones loamy sand, 30 to 50 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* h989  
*Elevation:* 500 to 1,000 feet  
*Mean annual precipitation:* 14 to 20 inches  
*Mean annual air temperature:* 59 degrees F  
*Frost-free period:* 250 to 300 days  
*Farmland classification:* Not prime farmland

### **Map Unit Composition**

*Briones and similar soils:* 85 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Briones**

#### **Setting**

*Landform:* Hills  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Parent material:* Residuum weathered from sandstone

#### **Typical profile**

*H1 - 0 to 13 inches:* loamy sand  
*H2 - 13 to 32 inches:* loamy sand  
*H3 - 32 to 36 inches:* bedrock

#### **Properties and qualities**

*Slope:* 30 to 50 percent  
*Depth to restrictive feature:* 20 to 32 inches to paralithic bedrock  
*Drainage class:* Somewhat excessively drained  
*Runoff class:* Medium  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high (0.20 to 0.57 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water supply, 0 to 60 inches:* Very low (about 2.9 inches)

#### **Interpretive groups**

*Land capability classification (irrigated):* 6e  
*Land capability classification (nonirrigated):* 6e  
*Hydrologic Soil Group:* A  
*Ecological site:* R015XD068CA - STEEP SANDY  
*Hydric soil rating:* No

**Minor Components**

**Gaviota**

*Percent of map unit: 13 percent*  
*Hydric soil rating: No*

**Rock outcrop**

*Percent of map unit: 2 percent*  
*Hydric soil rating: No*

**Re—Rock outcrop-Xerorthents association**

**Map Unit Setting**

*National map unit symbol: h9bs*  
*Elevation: 1,000 to 3,850 feet*  
*Mean annual precipitation: 20 to 25 inches*  
*Mean annual air temperature: 59 degrees F*  
*Frost-free period: 240 to 280 days*  
*Farmland classification: Not prime farmland*

**Map Unit Composition**

*Rock outcrop: 50 percent*  
*Xerorthents and similar soils: 30 percent*  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Rock Outcrop**

**Setting**

*Landform: Upland slopes*  
*Landform position (two-dimensional): Backslope*  
*Landform position (three-dimensional): Side slope*  
*Down-slope shape: Convex*  
*Across-slope shape: Convex*

**Interpretive groups**

*Land capability classification (irrigated): 8*  
*Land capability classification (nonirrigated): 8*  
*Ecological site: R015XY009CA - Hills 20-40"ppt*  
*Hydric soil rating: No*

**Description of Xerorthents**

**Setting**

*Landform: Upland slopes*  
*Landform position (two-dimensional): Backslope*  
*Landform position (three-dimensional): Side slope*  
*Down-slope shape: Convex*  
*Across-slope shape: Convex*  
*Parent material: Residuum weathered from igneous and sedimentary rock*

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### **Properties and qualities**

*Slope:* 30 to 75 percent

*Depth to restrictive feature:* More than 80 inches

*Drainage class:* Excessively drained

*Runoff class:* Very high

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

### **Interpretive groups**

*Land capability classification (irrigated):* 7e

*Land capability classification (nonirrigated):* 7e

*Ecological site:* R015XY009CA - Hills 20-40"ppt

*Hydric soil rating:* No

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**Appendix D**

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**Cultural Resources Inventory Letter Report**



# Cultural Resources Inventory Letter Report

For the Flow Trail Project, Walnut Creek, Contra Costa County, California  
August 2023



Richmond, CA  
501 Canal Blvd., Suite I  
Richmond, CA 94804



## City of Walnut Creek

Public Works  
1666 North Main Street  
Walnut Creek, CA 94596



NCE Project No. 448.29.55

August 25, 2023

Mike Vickers  
Public Works Manager  
City of Walnut Creek  
1666 North Main Street  
Walnut Creek, CA 94596

**Re: Cultural Resources Inventory for the Flow Trail Project, Walnut Creek, Contra Costa County, California.**

Mr. Vickers:

This letter report documents the results of the cultural resources inventory for the Flow Trail Project (project) located in Walnut Creek, Contra Costa County, California. The inventory was carried out according to the California Environmental Quality Act (CEQA) (Public Resource Code [PRC] Section 21083.2 and 21084.1).

**Attachment 1** of this report contains figures depicting the project area, or Area of Potential Effect (APE). **Figure 1** is a location map of the Project area at a 1:24,000 scale with a USGS 7.5' quadrangle background (Clayton). **Figure 2** is a detailed map of the APE with aerial imagery as background. Native American consultation-related material is provided in **Attachment 2**. **Attachment 3** contains records search results from the Northwest Information Center (NWIC) (#21-2079). **Attachment 4** contains photos taken of the APE during the pedestrian survey.

**BACKGROUND**

The City of Walnut Creek (City) proposes to implement the project located in the Lime Ridge Open Space area of Walnut Creek (see **Figure 1**). Current land uses include cattle grazing, horseback riding, hiking, and biking. Over the past several years mountain bikers have been creating unauthorized flow trails through the open space's sensitive habitat. The City's objective is to create a mountain bike flow trail in less sensitive habitat that meets the terrain induced biking experience with minimal pedaling and braking mountain bikers are seeking. The new trail will be approximately 1.6 miles long. Construction will involve minimal grading and will be hand constructed by volunteers from the City and neighboring agencies.

NCE was retained to complete the environmental assessments in compliance with CEQA. This letter report assesses the potential for the project to impact cultural resources through Native American consultations, archival review, and an intensive pedestrian survey.

**Richmond, CA**  
501 Canal Blvd, Suite I  
Richmond, CA 94804  
(510) 215-3620



## **AREA OF POTENTIAL EFFECT**

The approximately 11.7-acre APE consists of a 60-foot-wide corridor (30-foot buffer to each side) centered on the proposed trail alignment centerline (see **Figure 2**). The trail head is located near the Boundary Oak Golf Course where established parking is located. It was determined the boundaries of the Area of Direct Impact and Area of Indirect Impact are coincident for this Project; therefore, they are referenced herein as the APE. The APE is where ground-disturbing activities will occur during construction of the new trail system. The maximum depth of soil disturbance to construct the trail will be no more than two inches deep. The trail will be constructed with native materials. During operations in the APE, there will be a temporary increase in traffic levels and dust. No vertical elements are currently proposed as part of the project.

## **NATIVE AMERICAN CORRESPONDENCE**

### ***Ethnographic Background***

The APE lies within overlapping Aboriginal territories of the Ohlone and the Bay Miwok. Milliken (1995) compiled extensive ethnographic, historic, and archaeological data describing the Ohlone people as having occupied the Central Californian coast and general vicinity of the APE. The Ohlone occupied the area between San Francisco Bay in the north to the Big Sur and Salinas Rivers in the south. This anthropological term encompasses distinct villages containing their variations of culture and ideology (Koenig 2020). The language group spoken by the Ohlone is known as "Costanoan." The name was derived from a Spanish word describing the coastal peoples of Central California (Levy 1978). Costanoan contains at least eight distinct languages spoken by distinct sociopolitical groups. The Huchiun people who spoke the Chochenyo dialect occupied the western area of present-day Contra Costa County and a large part of the East Bay (Levy 1978; Milliken et al. 2009). The eastern portions of Contra Costa County from Walnut Creek east to the Sacramento-San Joaquin Delta, including the northern slopes of Mount Diablo, were also occupied by Bay Miwok speakers (FCS 2019). Of the bands of Miwok associated with the area, the Saclan territories are the closest to the APE.

The Ohlone and Bay Miwok engaged in hunting and gathering within coastal and open valley environments (Koenig 2020). They subsisted on a wide variety of resources including acorns, bulbs and tubers, grass seeds, antelope, deer, elk, bear, rabbits, other small mammals, and a variety of bird species. The Ohlone acknowledged private ownership of goods and songs. Monetary payment in the form of clamshell beads enforced village ownership of rights to land and natural resources. The Miwok people considered acorns, of which there were seven varieties, important resources (Levy 1978). Acorn meat was finely ground in bedrock mortars in preparation for bread, biscuits, mush, and soup.

European contact severely disrupted Ohlone and Bay Miwok societies due to missionization, displacement, and disease (Koenig 2020). Today, the Ohlone and Miwok have a strong presence in the San Francisco Bay Area and East Bay with continued interest and activism for their historic and prehistoric past. Twelve culturally affiliated tribes are associated with the greater Contra Costa County area.

## **Summary of Tribal Correspondence**

Following Assembly Bill 52 (AB-52) as identified in Section 21080.3.1(b)(2) of CEQA, Native American tribes (tribes) identified by the Native American Heritage Commission (NAHC), were invited to consult on the project (see **Attachment 2**). Native American correspondence was initiated with a letter and attached maps sent to the NAHC on June 8, 2022. The letter requested a record search of their Sacred Lands File (SLF) and a contact list for regional tribes that may know of cultural or tribal resources within or immediately adjacent to the APE. The NAHC responded on July 10, 2022, with positive SLF results. Tribes identified by the NAHC were sent an inquiry letter on November 23, 2022, on City letterhead. The tribes were sent follow-up emails on January 6, 2023. To date, five tribes have responded: Wilton Rancheria, the Northern Valley Yokuts Tribe, Chicken Ranch Rancheria of Me-Wuk Indians (Chicken Ranch Rancheria), the Confederated Villages of Lisjan, and the Indian Canyon Mutsun Band of Costanoan.

Four of the tribes requested to consult on the project and the City held meetings with each tribe individually. Project representatives attending the meetings included Mike Vickers, City Public Works Manager, and Molly Laitinen, NCE Project Archaeologist. Discussion topics included the project's location, description, construction methods (i.e., limited grading and removal of vegetation by hand with Travis tool and rakes), historic disturbances (e.g., history of Lime Ridge being mined for limestone and cattle grazing), and goals to restore sensitive habitats where unauthorized flow trails have been established. Meetings were then opened to tribes to discuss the project, known tribal cultural resources, their concerns, and their recommendations to avoid any potential the project may have to impact tribal cultural resources. A summary of correspondence is as follows:

- On December 16, 2022, Venesa Kremer, Wilton Rancheria Cultural Resource Assistant and Lead Monitor, responded via email requesting to consult on the project. A meeting with Ms. Kremer occurred on January 12, 2023.

As result of the meeting, Wilton Rancheria deferred consultation to local tribes who claim the land within the APE as their Aboriginal territory. Ms. Kremer did not identify any known tribal cultural resources within or adjacent to the APE. However, Ms. Kremer recommended that the City conduct a Workers Environmental Awareness Program (WEAP) prior to the onset of construction in case of inadvertent discoveries. Attendees should include construction and volunteer crews. Wilton Rancheria could provide the WEAP should no other consulting tribes elect to provide it.

Ms. Kremer asked if interpretive signs will be part of the current project. Mr. Vickers indicated interpretive signs are of importance to the City and there are plans to install interpretive signs as part of future projects. Ms. Kremer indicated Wilton Rancheria would like to help with interpretive signs and provide oral histories in the future.

- On January 6, 2023, Katherine Perez, the Northern Valley Yokuts Tribe Chairperson, responded via email. She recommended that a Native American monitor be present during construction in case of inadvertent discoveries. A meeting with Ms. Perez occurred on January 27, 2023.

As result of the meeting, the Northern Valley Yokuts Tribe deferred consultation to the Confederated Villages of Lisjan if they provided a WEAP and tribal monitoring during project implementation. Ms. Perez did not identify any known tribal cultural resources within or adjacent to the APE.

- On January 9, 2023, Joanna Portillo-Hsu, Chicken Ranch Rancheria Environmental and Planning Manager, responded via email indicating the Tribe has no comment after discussing the project with the Tribe's Cultural Coordinator, Cynthia Reyes.
- On January 11, 2023, Corrina Gould, the Confederated Villages of Lisjan Chairperson, responded via email indicating the mailed letter had been sent to the wrong address. Ms. Gould provided the correct address and requested to have a meeting scheduled to consult on the project. A meeting occurred with Ms. Gould on January 20, 2023.

During the meeting, Ms. Gould did not know of any tribal cultural resources within or adjacent to the APE. However, she acknowledged the potential to find resources to be found during project implementation. Ms. Gould requested a site visit with Mr. Vickers prior to construction; this meeting was rescheduled three times and finally occurred August 23, 2023. See below. Ms. Gould's initial recommendation was for a tribal monitor to be on site to provide WEAP training at the commencement of construction and to monitor during construction.

- On January 17, 2023, Kanyon Sayers-Roods, Indian Canyon Mutsun Band of Costanoan Most Likely Descendant (MLD) Contact, Consultant, and Tribal Monitor, responded via email identifying a management boundary of a potentially eligible cultural site either within or near the APE. The tribe recommended a Native American monitor be present during construction in case of inadvertent discoveries. A meeting occurred with Ms. Sayers-Roods on February 1, 2023.

As result of the meeting, the Indian Canyon Mutsun Band of Costanoan deferred consultation to the Confederated Villages of Lisjan. Ms. Sayers-Roods expressed that the past should be honored so that people can move forward and how crucial outreach with tribes is. Mr. Vickers indicated the City is striving to be inclusive to all environmental impact potential throughout the project. Ms. Sayers-Roods was hopeful the trail would bring communities together.

Ms. Sayers-Roods did not identify any known tribal cultural resources within or adjacent to the APE. However, Ms. Sayers-Roods agreed with the recommendation of WEAP training and tribal monitoring by the Confederated Villages of Lisjan during project implementation in case of inadvertent discoveries. The Indian Canyon Mutsun Band of Costanoan could provide the WEAP and tribal monitoring should the Confederated Villages of Lisjan monitors not be available. Ms. Sayers-Roods was invited to participate in a site visit of the APE, however, she requested that she be provided with the results of Ms. Gould's site visit and the trail construction.

Ms. Sayers-Roods asked if interpretive signs will be part of the current project and provided examples of inclusive interpretative outreach (e.g., quick-response [QR] codes or links to websites with additional information, video interviews of elders, or

kids' books). Mr. Vickers indicated interpretive signs are of importance to the City and there are plans to install interpretive signs as part of future projects. Ms. Sayers-Roods indicated she could help connect the City with community members who know about the land.

- On August 23, 2023, Ms. Gould of the Confederated Villages of Lisjan and Senior Open Space Ranger Corri Frazier conducted a consultation site visit. Consultation concluded with Ms. Gould stating that the Tribe is satisfied with the project going forward without a Tribal monitor on site. They requested to be alerted of any inadvertent findings of any cultural materials if anything should arise.

To date, no additional tribes have responded. Communications with responding tribes are ongoing.

### **ARCHIVAL REVIEW**

Archival data were reviewed to determine the location and nature of prehistoric and/or historic resources recorded previously within and adjacent to the APE. Archaeological inventory and site record information were requested from the NWIC using a 100-meter search buffer around the APE. Emphasis focused on determining which portions of the archival study area were inventoried previously and the location of previously recorded archaeological sites within or adjacent to the APE (see **Attachment 3**). As a result of the records search, no formally recorded cultural resources were identified within the APE, or within 100 meters of the APE. Cultural resources identified within the surrounding areas of Contra Costa County include bedrock mortars or other milling feature sites, lithic scatters, quarries, petroglyph sites, habitation sites (including burials), and isolated burial sites. The APE is located between the San Francisco Bay margin, the foothills, and nearby creeks that would have been prehistorically and historically environmentally advantageous for indigenous populations. However, no known ethnographic settlements are known to have been located within or adjacent to the APE.

The records search indicates 23 inventories have been conducted that encompass the APE or conducted within 100 meters of the APE. One inventory was previously conducted within a small portion of the western end of the APE (Chavez 1992). Most reports overlapping with the APE were part of small-scale overview studies encompassing one or more counties or regions within California. These included ethnographic community distributions, petroglyphs, and geoarchaeology studies.

Historic General Land Office (GLO) plat maps (dated 1866 and 1875), U.S. Geological Survey (USGS) topographic maps (dated 1896, Mt. Diablo, 1:62,500; 1898, Mt. Diablo, 1:62,500; 1943, Mt. Diablo, 1:62,500; and 1953, Clayton, 1:24,000), and Nationwide Environmental Title Research, LLC's historic aerial imagery (dated 1946, 1948, 1949, 1958, 1966, and 1968) were reviewed. The only detail provided on the GLO plat maps indicate the APE was part of Lot 38 of the Arroyo De Las Nueces Y Bolbones rancho lands. Early USGS topographic maps only depict the contours of Lime Ridge where the present APE is located. The closest identifiable feature is an alignment of Substation Road, depicted to the east of the APE as an unimproved road (a north-south trending road that presently connects Ygnacio Valley Road to Crystyl Ranch Drive passing the Boatwright Sports Complex). The 1943 USGS topographic

map depicts an early alignment of Valley Vista Road, the southern leg of Paraiso Trail, and lime quarry sites north of the APE. Later historic maps depict additional trails around the APE, additional quarry sites north of the APE, and the inclusion of agricultural areas to the west of the APE. Historic aerial imagery indicates the APE has historically been an untouched open hillscape surrounded by agricultural land. The quarry pits are visible in historic imagery north of the APE, and construction of the Boundary Oak Golf Course appears in imagery from 1968, demolishing an agricultural property.

## **METHODS**

Ms. Laitinen conducted an intensive pedestrian survey within the APE on September 16, 2022 and developed the letter report. Charles Zeier, NCE Senior Archaeologist, reviewed the report. Ms. Laitinen and Mr. Zeier meet the Secretary of Interior's Standards (SOI) for Archaeology (36 Code of Federal Regulations [CFR] Part 61) and are both Registered Professional Archaeologists.

The objective of the field survey was to locate and describe cultural resources present within and adjacent to the APE. Fieldwork was performed in accordance with applicable Federal and State standards. Emphasis was placed on the examination of undisturbed or relatively undisturbed ground.

If cultural resources were encountered in the APE, field personnel would have more thoroughly examined the immediate area to determine the type and extent of cultural material. Archaeological components, including diagnostic artifacts, artifact concentrations, and features, would be described in field notebooks, photographed using 10-megapixel or better cameras, and plotted using a sub-meter GPS. At least two overview photographs would be taken per site to capture the general surroundings with attention paid to capturing the horizon (if possible) to aid in future relocation. If applicable, photos of artifacts would have contained a scale and all photographs would have been GPS plotted. Upon completion of the inventory, field data would be converted to GIS shapefiles projected to NAD83 California State Plane 3. Sites would be recorded on Department of Parks and Recreation 523 site forms and plotted on a USGS 7.5-minute map. Isolates would be mapped and photographed (if diagnostic). No artifacts would be collected during the field survey. Photos of the APE are provided in

**Attachment 4.**

## **RESULTS**

As a result of the present cultural resources assessment, no cultural resources were identified within the APE. No cultural resources were previously recorded within the APE nor were cultural resources identified during the pedestrian survey. Four of the five responding tribes, Wilton Rancheria, the Northern Valley Yokuts Tribe, the Confederated Villages of Lisjan, and the Indian Canyon Mutsun Band of Costanoan, requested to consult on the project. The City held meetings with all four tribes to understand the nature of the positive SLF result and tribal concerns. None of the responding tribes identified known tribal cultural resources within or adjacent to the APE. None of the tribes objected to the project. However, considering the positive SLF result, tribe recommendations have been cautious and consider the APE to be potentially sensitive for tribal cultural resources. As a result of tribal consultations, WEAP training and tribal monitoring mitigation measures were recommended in case of inadvertent

discoveries. Implementation of the WEAP training and tribal monitoring mitigation measures were deferred to the Confederated Villages of Lisjan. A consultation site visit by the City and the Confederated Villages of Lisjan occurred on August 23, 2023. Consultation concluded with the Confederated Villages of Lisjan stating that the Tribe is satisfied with the project going forward without a Tribal monitor on site. They requested to be alerted of any inadvertent findings of any cultural materials if anything should arise.

## RECOMMENDATIONS

Every reasonable effort was made to identify cultural resources within or adjacent to the APE through an archival review, pedestrian survey, and consultation with tribes whose traditional Aboriginal territories encompass the APE. No previously recorded or newly recorded cultural resources are present within the APE. However, the APE was identified as potentially sensitive for tribal cultural resources (see **Attachment 2**). NCE recommends the following mitigation measures:

- **TCR-1 – Workers Environmental Awareness Program (WEAP):** A Tribal Cultural Resources (TCRs) sensitivity and awareness training program (WEAP) shall be provided for all personnel involved in project construction, including field consultants and volunteers. An archaeologist meeting the Secretary of the Interior’s Professional Qualifications Standards for Archeology and representatives of culturally affiliated Native American tribes will coordinate during preparation of the WEAP. The WEAP shall occur prior to the onset of project-related construction activities. The WEAP will include relevant information regarding sensitive cultural resources and TCRs, including applicable regulations, protocols for avoidance, and consequences of violating state laws and regulations.

The WEAP will also describe appropriate avoidance and impact minimization measures for cultural resources and TCRs outlined in **Mitigation Measure TCR-2**. The WEAP will emphasize the requirement for confidentiality and culturally appropriate treatment of any discovery of significance to Native Americans and will discuss appropriate behaviors and responsive actions, consistent with Native American tribal values.

- **TCR-2 – Inadvertent Discoveries:** If any suspected TCR, archaeological, or cultural resource is discovered during ground-disturbing construction activities, all work shall cease within one hundred feet of the find, or an agreed upon distance based on the project area and nature of the find. A qualified professional archaeologist and a Tribal Representative from a California Native American tribe that is traditionally and culturally affiliated with the geographic area shall be immediately notified and shall determine if the find is a TCR (PRC § 21074). The Tribal Representative or qualified archaeologist will make recommendations for further evaluation and treatment, as necessary.

The contractor shall implement any measures deemed by the CEQA lead agency to be necessary and feasible to preserve in place, avoid, or minimize impacts to the resource, including, but not limited to, facilitating the appropriate tribal treatment of the find, as necessary.

Work at the discovery location cannot resume until all necessary investigations and evaluation of the discovery have been satisfied.

- **TCR-3 – Human Remains:** In the event human remains are discovered, all work shall cease immediately. All measures shall be made to secure and protect areas in which human remains and funeral objects are discovered. Construction workers and/or contractors or subcontractors on the job site will not be permitted to take photographs of human remains, or funeral objects. Archaeological resources are not to be moved or taken from the Project site and work should not resume until authorized. The County Coroner and local law enforcement shall be notified within 24 hours of the discovery to conduct proper evaluation and treatment of remains. The coroner and the law enforcement agency will evaluate the find to determine whether it is a crime scene or a burial. If human remains are determined to be associated with an archaeological site (burial), the City of Walnut Creek will notify the State Historic Preservation Office (SHPO), and will work with SHPO to determine measures to take. That office will contact the appropriate tribal representatives and consult on the disposition of the remains and any associated artifacts.

If the identified mitigation measures are implemented, the project should not affect characteristics that qualify an unidentified cultural resource for listing in the California Register of Historical Resources. If inadvertent discoveries within the APE can be protected adequately in place, the project will have no effect on cultural resources designated as historical resources. It is therefore recommended the project is unlikely to impact historical resources meeting the criteria outlined in Section 5024.1 of the California PRC.

If you have any comments regarding the content of this letter report, please contact Molly Laitinen, NCE Project Archaeologist.

Sincerely,



Molly Laitinen  
NCE  
Project Archaeologist  
[mlaitinen@ncenet.com](mailto:mlaitinen@ncenet.com)  
510-215-3620



Charles Zeier  
NCE  
Senior Archaeologist  
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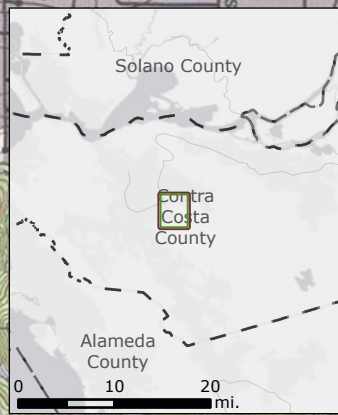
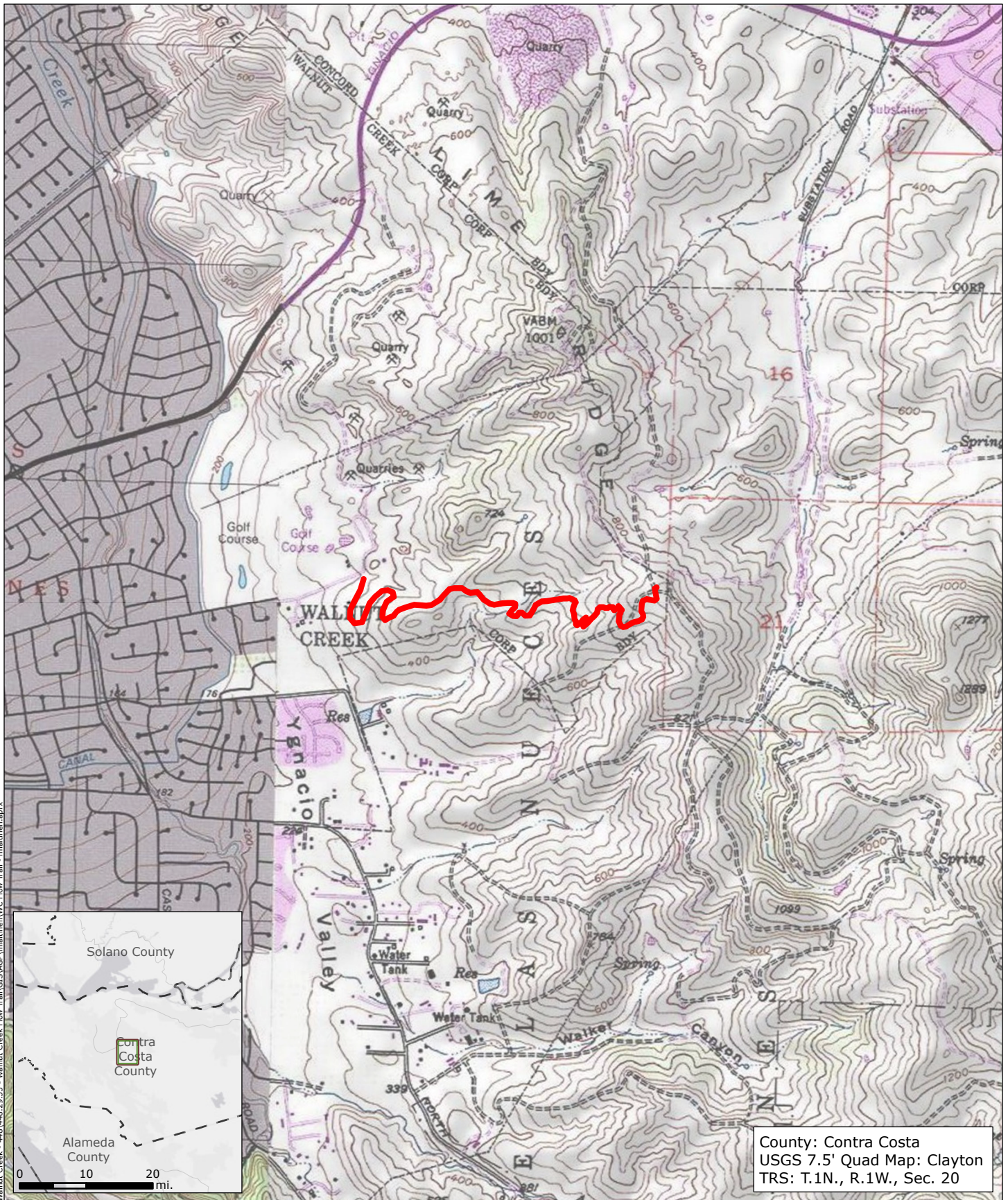


## **Attachment 1**

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### **FIGURES**

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County: Contra Costa  
 USGS 7.5' Quad Map: Clayton  
 TRS: T.1N., R.1W., Sec. 20

<p><b>Legend</b></p> <p><span style="color: red;">█</span> Project Area</p>		<p style="text-align: center;"><b>Flow Trail Project</b>  <b>City of Walnut Creek</b>  <b>Project Area Location Map</b></p>	<p style="text-align: center;">N</p> <p style="text-align: center;">1:24,000</p> <p style="text-align: center;">0 1,000 2,000 ft.</p>	<p style="text-align: center;">FIGURE <b>1</b></p>	
<p>SOURCE ESRI USGS Topo Maps</p>	<p>JOB NUMBER 448.29.55</p>				<p>DRAWN mlaitinen</p>

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**Legend**  
 Project Area



Flow Trail Project, City of Walnut Creek  
 Project Area Detail Map

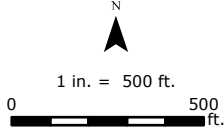


FIGURE  
 2

SOURCE  
 Bing Aerial Basemap

JOB NUMBER  
 448.29.55

DRAWN  
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DATE  
 5/31/2022

REVISED  
 6/1/2022

APPROVED  
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## **Attachment 2**

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### **NATIVE AMERICAN CORRESPONDENCE**

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## Summary of Tribal Consultation and Correspondence

This summary pertains to Tribal Consultation and Correspondence for the Flow Trail Project (project) in Walnut Creek, Contra Costa County, California. Native American correspondence was initiated with a letter and attached maps to the Native American Heritage Commission (NAHC) on June 8, 2022. The letter requested a record search of their Sacred Lands File (SLF) and a contact list for regional tribes that may have knowledge of cultural or tribal resources within or immediately adjacent to the project area. The NAHC responded on July 10, 2022, with positive SLF results. Tribes identified by the NAHC (**Table 1**) were sent an inquiry letter on November 23, 2022, on City of Walnut Creek (City) letterhead.

**Table 1. Tribal Representatives Identified by the NAHC.**

Name	Title	Affiliation
Irenne Zwierlein	Chairperson	Amah Mutsun Tribal Band of Mission San Juan Bautista
Lloyd Mathiesen	Chairperson	Chicken Ranch Rancheria of Me-Wuk Indians (Chicken Ranch Rancheria)
Donald Duncan	Chairperson	Guidiville Indian Rancheria
Ann Marie Sayers	Chairperson	Indian Canyon Mutsun Band of Costanoan
Kanyon Sayers-Roods	Most Likely Descendant (MLD) Contact	Indian Canyon Mutsun Band of Costanoan
Charlene Nijmeh	Chairperson	Muwekma Ohlone Indian Tribe of the SF Bay Area
Monica Arellano	Vice Chairwoman	Muwekma Ohlone Indian Tribe of the SF Bay Area
Cosme Valdez	Chairperson	Nashville Enterprise Miwok-Maidu-Nishinam Tribe
Katherine Perez	Chairperson	North Valley Yokuts Tribe
Timothy Perez	Tribe Representative	North Valley Yokuts Tribe
Andrew Galvan	Tribe Representative	The Ohlone Indian Tribe
Jesus Tarango	Chairperson	Wilton Rancheria
Steven Hutchason	Tribal Historic Preservation Officer (THPO)	Wilton Rancheria
Dahlton Brown	Director of Administration	Wilton Rancheria
Kenneth Woodrow	Chairperson	Wuksache Indian Tribe/Eshom Valley Band
Corrina Gould	Chairperson	The Confederated Villages of Lisjan

Follow-up emails were made to all tribes identified by the NAHC on January 6, 2023. The emails contained a digital copy of the tribe letter sent on November 23, 2022. **Table 2** below provides a summary of correspondence. Consultation-related material, including the NAHC list, the tribal consultation letters sent, and email correspondence, is located on the following page.

**Table 2. Summary of Tribe Consultation Correspondence.**

Representatives	Affiliation	Letter Result	Outreach Results
Irenne Zwierlein	Amah Mutsun Tribal Band of Mission San Juan Bautista	Letter received on 11/26/2022. No written response to date.	On 1/6/2023, a follow-up email was sent. No response to date.

**Table 2. Summary of Tribe Consultation Correspondence.**

Representatives	Affiliation	Letter Result	Outreach Results
Lloyd Mathiesen	Chicken Ranch Rancheria	Letter received on 11/28/2022. Response received via email. Correspondence detailed in next column.	<p>On 1/6/2023, a follow-up email was sent to Mr. Mathiesen and Joanna Portillo-Hsu, Chicken Ranch Rancheria Environmental and Planning Manager.</p> <p>On 1/9/2023, Ms. Portillo-Hsu responded via email indicating the Tribe has no comment after discussing the project with the Tribe’s Cultural Coordinator, Cynthia Reyes.</p>
Donald Duncan	Guidiville Indian Rancheria	Letter received on 11/28/2022. No written response to date.	<p>On 1/6/2023, a follow-up email was sent. No response to date.</p> <p>On 1/6/2023, a follow-up email was sent to Ms. Sayers and Ms. Sayers-Roods, however, the email to Ms. Sayers bounced citing a disconnected email.</p> <p>On 1/17/2023, Ms. Sayers-Roods responded via email identifying a management boundary of a potentially eligible cultural site either within or near the APE. The tribe recommended a Native American monitor be present during construction in case of inadvertent discoveries.</p>
Ann Marie Sayers Kanyon Sayers-Roods	Indian Canyon Mutsun Band of Costanoan	<p>Letter received by Ms. Sayers on 12/9/2022. No written response to date.</p> <p>Letter received by Ms. Sayers-Roods on 11/28/2022. Response received via email. Correspondence detailed in next column.</p>	<p>On 2/1/2023, a meeting occurred with Ms. Sayers-Roods where the Indian Canyon Mutsun Band of Costanoan deferred consultation to the Confederated Villages of Lisjan. In summary, the Tribe:</p> <ul style="list-style-type: none"> <li>• Did not identify any known tribal cultural resources within or adjacent to the APE.</li> <li>• Agreed with the Confederated Villages of Lisjan conducting a workers environmental awareness program (WEAP) training and tribal monitoring during project implementation.</li> <li>• Offered to provide their services if the Confederated Villages of Lisjan monitors were not available.</li> <li>• Was invited to participate in a site visit of the project area, however, they requested to be provided with the results of Ms. Gould’s site visit and the trail construction.</li> <li>• Asked if interpretive signs will be part of the current project. The City indicated interpretive signs are of importance to the City and there are plans to install interpretive signs as part of future projects. Ms. Sayers-Roods indicated she could help connect the City with community members who know about the land.</li> </ul>
Charlene Nijmeh Monica Arellano	Muwekma Ohlone Indian Tribe of the SF Bay Area	Letter received on 11/28/2022. No written response to date.	<p>On 1/6/2023, a follow-up email was sent to Ms. Nijmeh and Ms. Arellano, however, the email to Ms. Arellano bounced citing a full mailbox. No response to date from Ms. Nijmeh.</p>
Cosme Valdez	Nashville Enterprise Miwok-Maidu-Nishinam Tribe	Letter received on 1/13/2023. No written response to date.	<p>On 1/6/2023, a follow-up email was sent to Mr. Valdez. No response to date.</p>



**Table 2. Summary of Tribe Consultation Correspondence.**

Representatives	Affiliation	Letter Result	Outreach Results
Katherine Perez Timothy Perez	North Valley Yokuts Tribe	Letter received on 11/28/2022. Response received via email. Correspondence detailed in next column.	<p>On 1/6/2023, a follow-up email was sent Ms. Perez and Mr. Perez.</p> <p>On 1/6/2023, Ms. Perez responded via email recommending a Native American monitor be present during construction in case of inadvertent discoveries.</p> <p>On 1/27/2023, a meeting was held with Ms. Perez. The North Valley Yokuts Tribe deferred consultation to the Confederated Villages of Lisjan as long as WEAP and tribal monitoring occurred during project implementation. Ms. Perez did not identify any known tribal cultural resources within or adjacent to the project area.</p>
Andrew Galvan	The Ohlone Indian Tribe	Letter received on 11/28/2022. No written response to date.	<p>On 1/6/2023, a follow-up email was sent to Mr. Galvan. No response to date.</p>
Jesus Tarango Steven Hutchason Dahlton Brown	Wilton Rancheria	Letter received on 11/28/2022. Response received via email. Correspondence detailed in next column.	<p>On 12/16/2022, Venesa Kremer, Cultural Resource Assistant and Lead Monitor, responded via email requesting to consult on the project.</p> <p>On 1/12/2023, a meeting occurred with Ms. Kremer resulting in Wilton Rancheria deferring consultation to local tribes who claim the land within the APE as their Aboriginal territory. In summary, the Tribe:</p> <ul style="list-style-type: none"> <li>• Did not identify any known tribal cultural resources within or adjacent to the project area.</li> <li>• Recommended the City conduct a WEAP with construction and volunteer crews prior to the onset of construction in case of inadvertent discoveries.</li> <li>• Offered to provide the WEAP should no other consulting tribes elect to provide it.</li> <li>• Asked if interpretive signs will be part of the current project. The City indicated interpretive signs are of importance to the City and there are plans to install interpretive signs as part of future projects. Wilton Rancheria offered to help with interpretive signs and provide oral histories in the future.</li> </ul>
Kenneth Woodrow	Wuksache Indian Tribe/Eshom Valley Band	Letter received on 11/29/2022. No written response to date.	<p>On 1/6/2023, a follow-up email was sent to Mr. Woodrow. No response to date.</p>

**Table 2. Summary of Tribe Consultation Correspondence.**

Representatives	Affiliation	Letter Result	Outreach Results
Corrina Gould	The Confederated Villages of Lisjan	Letter returned to sender. Response received via email. Correspondence detailed in next column.	<p>On 1/6/2023, a follow-up email was sent.</p> <p>On 1/11/2023, Ms. Gould responded via email indicating the mailed letter had been sent to the wrong address. Ms. Gould provided the correct address and requested to have a meeting scheduled to consult on the project.</p> <p>On 1/20/2023, a meeting occurred with Ms. Gould. Ms. Gould did not know of any tribal cultural resources within or adjacent to the project area. However, she acknowledged the potential to find resources to be found during project implementation. Ms. Gould requested a site visit with the City prior to construction; to date, this meeting has been rescheduled due to the weather. Ms. Gould's initial recommendation is for a tribal monitor to be on site to provide WEAP training at the commencement of construction and to monitor during construction.</p>



---

Date: June 8, 2022  
To: California Native American Heritage Commission  
From: NCE  
Subject: Flow Trail Project, City of Walnut Creek, Contra Costa County

---

Ms. Christina Snider, Executive Secretary  
California Native American Heritage Commission  
1550 Harbor Boulevard, Suite 100  
West Sacramento, California 95691

Dear Ms. Snider:

The City of Walnut Creek (City) proposes to implement the Flow Trail Project (Project) located in the Lime Ridge Open Space area, Walnut Creek, California. The area is currently used for cattle grazing and mountain bikers have been creating unauthorized flow trails through the open space's sensitive habitat. The City's objective is to create a mountain bike flow trail in less sensitive habitat that meets the terrain-induced, roller coaster experience with little pedaling and braking necessary that mountain bikers are seeking. The trail will be approximately 0.5 – 1.0 miles long. Construction will involve minimal grading, hand constructed by volunteers from the Park District. The creek crossing at Pine Creek will require construction of a simple bridge.

The Project requires compliance with the California Environmental Quality Act (CEQA) and Assembly Bill 52 (AB-52). NCE has been retained to complete compliance with AB-52. The Project is comprised of approximately 11.65-acres located within Township 1 North, Range 1 West, Sections 20 and 21. The trail head is located near the Boundary Oak Golf Course, where there is parking. Two maps are enclosed for your review. Figure 1 is a location map of the project area at a 1:24,000 scale with a USGS 7.5' quadrangle background (Clayton). Figure 2 is a detail map with aerial imagery.

Please provide a Native American contact list for within and near the project area. We also request that you conduct a search of your Sacred Lands database for any places of concern that may be located within or adjacent to the proposed project area.

If you have any questions, please feel free to contact me via email at [mlaitinen@ncenet.com](mailto:mlaitinen@ncenet.com) or by telephone (510-215-3620). I appreciate your assistance and look forward to hearing from you soon.

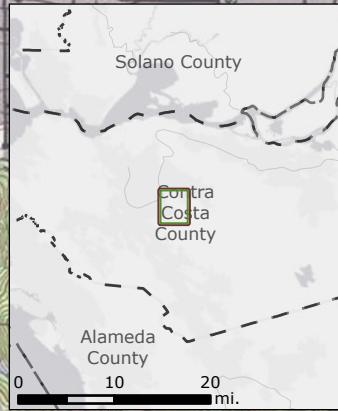
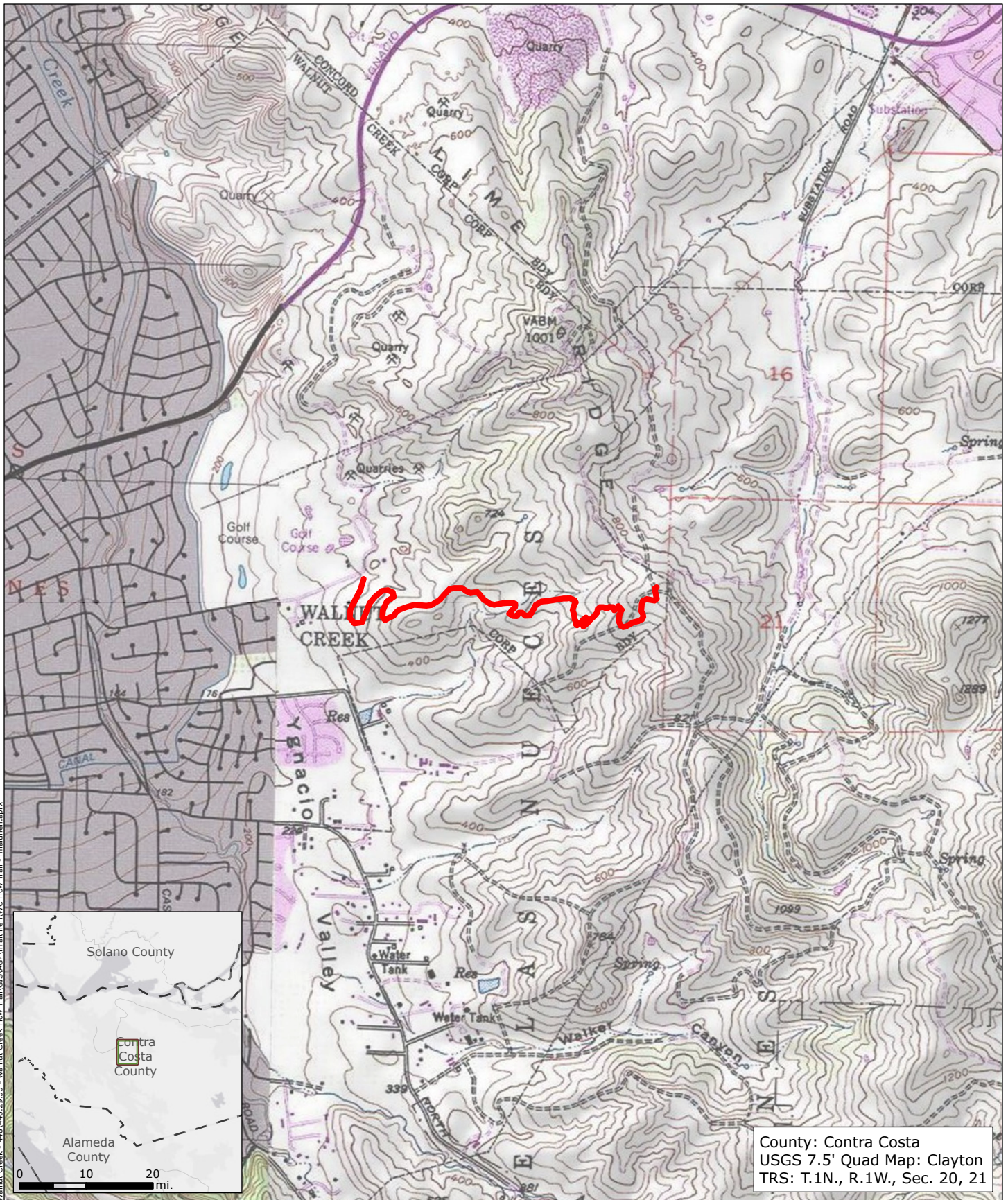
Sincerely,

Molly Laitinen  
NCE | Staff Archaeologist

Enclosed: Tribal Consultation List Request Form; Figure 1 – Location Map; Figure 2 – Detail Map

**Pt. Richmond, CA**  
501 Canal Blvd., Suite I  
Pt. Richmond, CA 94804  
(510) 215-3620





County: Contra Costa  
 USGS 7.5' Quad Map: Clayton  
 TRS: T.1N., R.1W., Sec. 20, 21

<p><b>Legend</b></p> <p><span style="color: red;">█</span> Project Area</p>		<p>Flow Trail Project        City of Walnut Creek        Project Area Location Map</p>	<p>N</p> <p>1:24,000</p> <p>0 1,000 2,000 ft.</p>	<p>FIGURE  <b>1</b></p>		
<p>SOURCE        ESRI USGS Topo Maps</p>		<p>JOB NUMBER        448.29.55</p>	<p>DRAWN        mlaitinen</p>	<p>DATE        5/31/2022</p>	<p>REVISED        6/1/2022</p>	<p>APPROVED        gervin</p>

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Document Path: P:\Active Projects\Walnut Creek - 448\448.29.55 - Walnut Creek Flow Trail\GIS\AGP\mlaitinen\WC Flow Trail - mlaitinen.aprx

**Legend**

Project Area



**Flow Trail Project, City of Walnut Creek**  
Project Area Detail Map

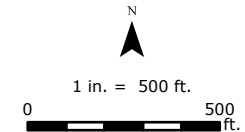


FIGURE  
**2**

SOURCE  
Bing Aerial Basemap

JOB NUMBER  
448.29.55

DRAWN  
mlaitinen

DATE  
5/31/2022

REVISED  
6/1/2022

APPROVED  
gervin

## NATIVE AMERICAN HERITAGE COMMISSION

July 10, 2022

Molly Laitinen  
NCE

Via Email to: [mlaitinen@ncenet.com](mailto:mlaitinen@ncenet.com)

**Re: Native American Tribal Consultation, Pursuant to the Assembly Bill 52 (AB 52), Amendments to the California Environmental Quality Act (CEQA) (Chapter 532, Statutes of 2014), Public Resources Code Sections 5097.94 (m), 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2 and 21084.3, Flow Trail Project, Contra Costa County**

Dear Ms. Laitinen:

Pursuant to Public Resources Code section 21080.3.1 (c), attached is a consultation list of tribes that are traditionally and culturally affiliated with the geographic area of the above-listed project. Please note that the intent of the AB 52 amendments to CEQA is to avoid and/or mitigate impacts to tribal cultural resources, (Pub. Resources Code §21084.3 (a)) ("Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource.")

Public Resources Code sections 21080.3.1 and 21084.3(c) require CEQA lead agencies to consult with California Native American tribes that have requested notice from such agencies of proposed projects in the geographic area that are traditionally and culturally affiliated with the tribes on projects for which a Notice of Preparation or Notice of Negative Declaration or Mitigated Negative Declaration has been filed on or after July 1, 2015. Specifically, Public Resources Code section 21080.3.1 (d) provides:

*Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section.*

The AB 52 amendments to CEQA law does not preclude initiating consultation with the tribes that are culturally and traditionally affiliated within your jurisdiction prior to receiving requests for notification of projects in the tribe's areas of traditional and cultural affiliation. The Native American Heritage Commission (NAHC) recommends, but does not require, early consultation as a best practice to ensure that lead agencies receive sufficient information about cultural resources in a project area to avoid damaging effects to tribal cultural resources.

The NAHC also recommends, but does not require that agencies should also include with their notification letters, information regarding any cultural resources assessment that has been completed on the area of potential effect (APE), such as:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:



CHAIRPERSON  
**Laura Miranda**  
Luiseño

VICE CHAIRPERSON  
**Reginald Pagaling**  
Chumash

PARLIAMENTARIAN  
**Russell Attebery**  
Karuk

SECRETARY  
**Sara Dutschke**  
Miwok

COMMISSIONER  
**William Mungary**  
Paiute/White Mountain  
Apache

COMMISSIONER  
**Isaac Bojorquez**  
Ohlone-Costanoan

COMMISSIONER  
**Buffy McQuillen**  
Yokayo Pomo, Yuki,  
Nomlaki

COMMISSIONER  
**Wayne Nelson**  
Luiseño

COMMISSIONER  
**Stanley Rodriguez**  
Kumeyaay

EXECUTIVE SECRETARY  
**Raymond C. Hitchcock**  
Miwok/Nisenan

**NAHC HEADQUARTERS**  
1550 Harbor Boulevard  
Suite 100  
West Sacramento,  
California 95691  
(916) 373-3710  
[nahc@nahc.ca.gov](mailto:nahc@nahc.ca.gov)  
[NAHC.ca.gov](http://NAHC.ca.gov)

- A listing of any and all known cultural resources that have already been recorded on or adjacent to the APE, such as known archaeological sites;
  - Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
  - Whether the records search indicates a low, moderate, or high probability that unrecorded cultural resources are located in the APE; and
  - If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.
2. The results of any archaeological inventory survey that was conducted, including:
- Any report that may contain site forms, site significance, and suggested mitigation measures.
- All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with Government Code section 6254.10.
3. The result of any Sacred Lands File (SLF) check conducted through the Native American Heritage Commission was positive. Please contact the tribes on the attached list for more information.
4. Any ethnographic studies conducted for any area including all or part of the APE; and
5. Any geotechnical reports regarding all or part of the APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS are not exhaustive and a negative response to these searches does not preclude the existence of a tribal cultural resource. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the event that they do, having the information beforehand will help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our consultation list remains current.

If you have any questions, please contact me at my email address: [Cody.Campagne@nahc.ca.gov](mailto:Cody.Campagne@nahc.ca.gov).

Sincerely,

*Cody Campagne*

Cody Campagne  
Cultural Resources Analyst

Attachment



**Native American Heritage Commission  
Tribal Consultation List  
Contra Costa County  
7/10/2022**

**Amah Mutsun Tribal Band of Mission San Juan Bautista**

Irene Zwierlein, Chairperson  
3030 Soda Bay Road  
Lakeport, CA, 95453  
Phone: (650) 851 - 7489  
Fax: (650) 332-1526  
amahmutsuntribal@gmail.com  
Costanoan

**Muwekma Ohlone Indian Tribe of the SF Bay Area**

Monica Arellano, Vice Chairwoman  
20885 Redwood Road, Suite 232  
Castro Valley, CA, 94546  
Phone: (408) 205 - 9714  
marellano@muwekma.org  
Costanoan

**Chicken Ranch Rancheria of Me-Wuk Indians**

Lloyd Mathiesen, Chairperson  
P.O. Box 1159  
Jamestown, CA, 95327  
Phone: (209) 984 - 9066  
Fax: (209) 984-9269  
lmathiesen@crtribal.com  
Me-Wuk

**Nashville Enterprise Miwok-Maidu-Nishinam Tribe**

Cosme Valdez, Chairperson  
P.O. Box 580986  
Elk Grove, CA, 95758-0017  
Phone: (916) 429 - 8047  
Fax: (916) 429-8047  
valdezcome@comcast.net  
Miwok

**Guidiville Indian Rancheria**

Donald Duncan, Chairperson  
P.O. Box 339  
Talmage, CA, 95481  
Phone: (707) 462 - 3682  
Fax: (707) 462-9183  
admin@guidiville.net  
Pomo

**North Valley Yokuts Tribe**

Katherine Perez, Chairperson  
P.O. Box 717  
Linden, CA, 95236  
Phone: (209) 887 - 3415  
canutes@verizon.net  
Costanoan  
Northern Valley  
Yokut

**Indian Canyon Mutsun Band of Costanoan**

Kanyon Sayers-Roods, MLD  
Contact  
1615 Pearson Court  
San Jose, CA, 95122  
Phone: (408) 673 - 0626  
kanyon@kanyonconsulting.com  
Costanoan

**North Valley Yokuts Tribe**

Timothy Perez,  
P.O. Box 717  
Linden, CA, 95236  
Phone: (209) 662 - 2788  
huskanam@gmail.com  
Costanoan  
Northern Valley  
Yokut

**Indian Canyon Mutsun Band of Costanoan**

Ann Marie Sayers, Chairperson  
P.O. Box 28  
Hollister, CA, 95024  
Phone: (831) 637 - 4238  
ams@indiancanyons.org  
Costanoan

**The Ohlone Indian Tribe**

Andrew Galvan,  
P.O. Box 3388  
Fremont, CA, 94539  
Phone: (510) 882 - 0527  
Fax: (510) 687-9393  
chochenyo@AOL.com  
Bay Miwok  
Ohlone  
Patwin  
Plains Miwok

**Muwekma Ohlone Indian Tribe of the SF Bay Area**

Charlene Nijmeh, Chairperson  
20885 Redwood Road, Suite 232  
Castro Valley, CA, 94546  
Phone: (408) 464 - 2892  
cnijmeh@muwekma.org  
Costanoan

**Wilton Rancheria**

Jesus Tarango, Chairperson  
9728 Kent Street  
Elk Grove, CA, 95624  
Phone: (916) 683 - 6000  
Fax: (916) 683-6015  
jtarango@wiltonrancheria-nsn.gov  
Miwok

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and section 5097.98 of the Public Resources Code.

This list is only applicable for consultation with Native American tribes under Public Resources Code Sections 21080.3.1 for the proposed Flow Trail Project, Contra Costa County.

**Native American Heritage Commission  
Tribal Consultation List  
Contra Costa County  
7/10/2022**

***Wilton Rancheria***

Steven Hutchason, THPO  
9728 Kent Street  
Elk Grove, CA, 95624  
Phone: (916) 683 - 6000  
Fax: (916) 863-6015  
shutchason@wiltonrancheria-  
nsn.gov

Miwok

***Wilton Rancheria***

Dahlton Brown, Director of  
Administration  
9728 Kent Street  
Elk Grove, CA, 95624  
Phone: (916) 683 - 6000  
dbrown@wiltonrancheria-nsn.gov

Miwok

***Wuksache Indian Tribe/Eshom  
Valley Band***

Kenneth Woodrow, Chairperson  
1179 Rock Haven Ct.  
Salinas, CA, 93906  
Phone: (831) 443 - 9702  
kwood8934@aol.com

Foothill Yokut  
Mono

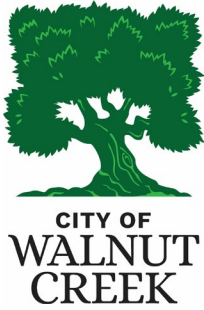
***The Confederated Villages of  
Lisjan***

Corrina Gould, Chairperson  
10926 Edes Avenue  
Oakland, CA, 94603  
Phone: (510) 575 - 8408  
cvltribe@gmail.com

Bay Miwok  
Ohlone  
Delta Yokut

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and section 5097.98 of the Public Resources Code.

This list is only applicable for consultation with Native American tribes under Public Resources Code Sections 21080.3.1 for the proposed Flow Trail Project, Contra Costa County.



November 23, 2022

Kenneth Woodrow, Chairperson  
Wuksache Indian Tribe/Eshom Valley Band  
1179 Rock Haven Ct.  
Salinas, CA 93906

Dear Kenneth Woodrow:

The City of Walnut Creek (City) proposes to implement the Flow Trail Project (Project) located in the Lime Ridge Open Space area, Walnut Creek, California. The area is currently used for cattle grazing, horseback riding, hiking and biking. Over the past several years mountain bikers have been creating unauthorized flow trails through the open space's sensitive habitat. The City's objective is to create a mountain bike flow trail in less sensitive habitat that meets the terrain- induced, biking experience with little pedaling and braking necessary that mountain bikers are seeking. The new trail will be approximately 0.5 – 1.5 miles long. Construction will involve minimal grading, hand constructed by volunteers from the City and neighboring agencies.

The Project is comprised of approximately 11.65-acres located within Township 1 North, Range 1 West, Sections 20 and 21. The trail head is located near the Boundary Oak Golf Course, where there is parking. Two maps are enclosed for your review. Figure 1 is a location map of the project area at a 1:24,000 scale with a USGS 7.5' quadrangle background (Clayton) (**Attachment 1**). Figure 2 is a detail map with aerial imagery (**Attachment 2**).

A records search of the project site and 100-meter buffer was requested from the Northwest Information Center (**Attachment 3**). The record search results did not indicate any historic or prehistoric cultural resources recorded in the project area, nor within the proximity of the project area. A search of the Native American Heritage Commission (NAHC) Sacred Lands File was initiated for the project site on June 8, 2022; the result was positive (**Attachment 4**).

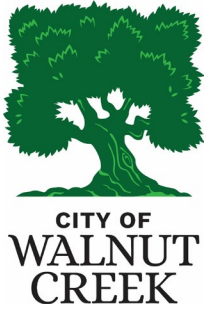
Please consider this letter and preliminary project information as the initiation of AB-52 consultation. Please respond within 30 days of receipt of this letter if you would like to consult on this project. Please provide a designated lead contact person if you have not provided that information to us already.

If you have any questions, please feel free to contact Molly Laitinen via email at [mlaitinen@ncenet.com](mailto:mlaitinen@ncenet.com) or by telephone (408-823-4570). We appreciate your assistance and look forward to hearing from you soon.

Sincerely,

Attachments:

1. Figure 1 – Project Area Location Map
2. Figure 2 – Project Area Detail Map
3. CHRIS Record Search Results Memo
4. NAHC Sacred Lands File Search Response



November 23, 2022

Kanyon Sayers-Roods, MLD Contact  
Indian Canyon Mutsun Band of Costanoan  
1615 Pearson Court  
San Jose, CA 95122

Dear Kanyon Sayers-Roods:

The City of Walnut Creek (City) proposes to implement the Flow Trail Project (Project) located in the Lime Ridge Open Space area, Walnut Creek, California. The area is currently used for cattle grazing, horseback riding, hiking and biking. Over the past several years mountain bikers have been creating unauthorized flow trails through the open space's sensitive habitat. The City's objective is to create a mountain bike flow trail in less sensitive habitat that meets the terrain- induced, biking experience with little pedaling and braking necessary that mountain bikers are seeking. The new trail will be approximately 0.5 – 1.5 miles long. Construction will involve minimal grading, hand constructed by volunteers from the City and neighboring agencies.

The Project is comprised of approximately 11.65-acres located within Township 1 North, Range 1 West, Sections 20 and 21. The trail head is located near the Boundary Oak Golf Course, where there is parking. Two maps are enclosed for your review. Figure 1 is a location map of the project area at a 1:24,000 scale with a USGS 7.5' quadrangle background (Clayton) (**Attachment 1**). Figure 2 is a detail map with aerial imagery (**Attachment 2**).

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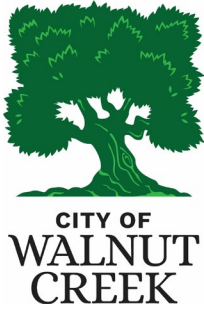
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If you have any questions, please feel free to contact Molly Laitinen via email at [mlaitinen@ncenet.com](mailto:mlaitinen@ncenet.com) or by telephone (408-823-4570). We appreciate your assistance and look forward to hearing from you soon.

Sincerely,

Attachments:

1. Figure 1 – Project Area Location Map
2. Figure 2 – Project Area Detail Map
3. CHRIS Record Search Results Memo
4. NAHC Sacred Lands File Search Response



November 23, 2022

Charlene Nijmeh, Chairperson  
Monica Arellano, Vice Chairwoman  
Muwekma Ohlone Indian Tribe of the SF Bay Area  
20885 Redwood Road, Suite 232, Castro Valley, CA 94546

Dear Charlene Nijmeh and Monica Arellano:

The City of Walnut Creek (City) proposes to implement the Flow Trail Project (Project) located in the Lime Ridge Open Space area, Walnut Creek, California. The area is currently used for cattle grazing, horseback riding, hiking and biking. Over the past several years mountain bikers have been creating unauthorized flow trails through the open space's sensitive habitat. The City's objective is to create a mountain bike flow trail in less sensitive habitat that meets the terrain-induced, biking experience with little pedaling and braking necessary that mountain bikers are seeking. The new trail will be approximately 0.5 – 1.5 miles long. Construction will involve minimal grading, hand constructed by volunteers from the City and neighboring agencies.

The Project is comprised of approximately 11.65-acres located within Township 1 North, Range 1 West, Sections 20 and 21. The trail head is located near the Boundary Oak Golf Course, where there is parking. Two maps are enclosed for your review. Figure 1 is a location map of the project area at a 1:24,000 scale with a USGS 7.5' quadrangle background (Clayton) (**Attachment 1**). Figure 2 is a detail map with aerial imagery (**Attachment 2**).

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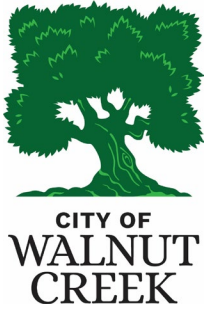
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Sincerely,

Attachments:

1. Figure 1 – Project Area Location Map
2. Figure 2 – Project Area Detail Map
3. CHRIS Record Search Results Memo
4. NAHC Sacred Lands File Search Response



November 23, 2022

Irenne Zwierlein, Chairperson  
Amah Mutsun Tribal Band of Mission San Juan Bautista  
3030 Soda Bay Road  
Lakeport, CA 95453

Dear Irenne Zwierlein:

The City of Walnut Creek (City) proposes to implement the Flow Trail Project (Project) located in the Lime Ridge Open Space area, Walnut Creek, California. The area is currently used for cattle grazing, horseback riding, hiking and biking. Over the past several years mountain bikers have been creating unauthorized flow trails through the open space's sensitive habitat. The City's objective is to create a mountain bike flow trail in less sensitive habitat that meets the terrain- induced, biking experience with little pedaling and braking necessary that mountain bikers are seeking. The new trail will be approximately 0.5 – 1.5 miles long. Construction will involve minimal grading, hand constructed by volunteers from the City and neighboring agencies.

The Project is comprised of approximately 11.65-acres located within Township 1 North, Range 1 West, Sections 20 and 21. The trail head is located near the Boundary Oak Golf Course, where there is parking. Two maps are enclosed for your review. Figure 1 is a location map of the project area at a 1:24,000 scale with a USGS 7.5' quadrangle background (Clayton) (**Attachment 1**). Figure 2 is a detail map with aerial imagery (**Attachment 2**).

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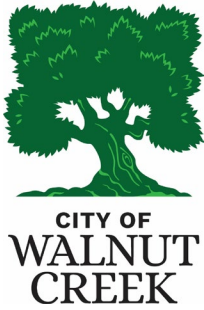
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November 23, 2022

Jesus Tarango, Chairperson  
Steven Hutchason, THPO  
Dahlton Brown, Director of Administration  
Wilton Rancheria 9728 Kent Street, Elk Grove, CA 95624

Dear Jesus Tarango, Steven Hutchason and Dahlton Brown:

The City of Walnut Creek (City) proposes to implement the Flow Trail Project (Project) located in the Lime Ridge Open Space area, Walnut Creek, California. The area is currently used for cattle grazing, horseback riding, hiking and biking. Over the past several years mountain bikers have been creating unauthorized flow trails through the open space's sensitive habitat. The City's objective is to create a mountain bike flow trail in less sensitive habitat that meets the terrain-induced, biking experience with little pedaling and braking necessary that mountain bikers are seeking. The new trail will be approximately 0.5 – 1.5 miles long. Construction will involve minimal grading, hand constructed by volunteers from the City and neighboring agencies.

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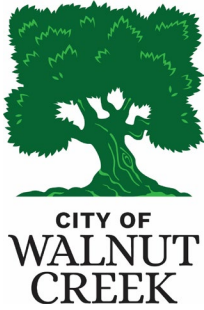
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November 23, 2022

Lloyd Mathiesen, Chairperson  
Chicken Ranch Rancheria of Me-Wuk Indians  
P.O. Box 1159  
Jamestown, CA 95327

Dear Lloyd Mathiesen:

The City of Walnut Creek (City) proposes to implement the Flow Trail Project (Project) located in the Lime Ridge Open Space area, Walnut Creek, California. The area is currently used for cattle grazing, horseback riding, hiking and biking. Over the past several years mountain bikers have been creating unauthorized flow trails through the open space's sensitive habitat. The City's objective is to create a mountain bike flow trail in less sensitive habitat that meets the terrain- induced, biking experience with little pedaling and braking necessary that mountain bikers are seeking. The new trail will be approximately 0.5 – 1.5 miles long. Construction will involve minimal grading, hand constructed by volunteers from the City and neighboring agencies.

The Project is comprised of approximately 11.65-acres located within Township 1 North, Range 1 West, Sections 20 and 21. The trail head is located near the Boundary Oak Golf Course, where there is parking. Two maps are enclosed for your review. Figure 1 is a location map of the project area at a 1:24,000 scale with a USGS 7.5' quadrangle background (Clayton) (**Attachment 1**). Figure 2 is a detail map with aerial imagery (**Attachment 2**).

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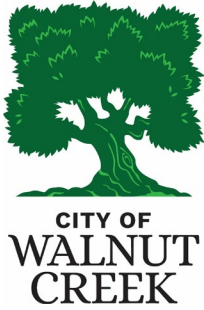
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November 23, 2022

Ann Marie Sayers, Chairperson  
Indian Canyon Mutsun Band of Costanoan  
P.O. Box 28  
Hollister, CA 95024

Dear Ann Marie Sayers:

The City of Walnut Creek (City) proposes to implement the Flow Trail Project (Project) located in the Lime Ridge Open Space area, Walnut Creek, California. The area is currently used for cattle grazing, horseback riding, hiking and biking. Over the past several years mountain bikers have been creating unauthorized flow trails through the open space's sensitive habitat. The City's objective is to create a mountain bike flow trail in less sensitive habitat that meets the terrain- induced, biking experience with little pedaling and braking necessary that mountain bikers are seeking. The new trail will be approximately 0.5 – 1.5 miles long. Construction will involve minimal grading, hand constructed by volunteers from the City and neighboring agencies.

The Project is comprised of approximately 11.65-acres located within Township 1 North, Range 1 West, Sections 20 and 21. The trail head is located near the Boundary Oak Golf Course, where there is parking. Two maps are enclosed for your review. Figure 1 is a location map of the project area at a 1:24,000 scale with a USGS 7.5' quadrangle background (Clayton) (**Attachment 1**). Figure 2 is a detail map with aerial imagery (**Attachment 2**).

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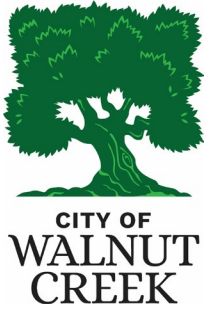
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November 23, 2022

Andrew Galvan, Tribe Representative  
The Ohlone Indian Tribe  
P.O. Box 3388  
Fremont, CA 94539

Dear Andrew Galvan:

The City of Walnut Creek (City) proposes to implement the Flow Trail Project (Project) located in the Lime Ridge Open Space area, Walnut Creek, California. The area is currently used for cattle grazing, horseback riding, hiking and biking. Over the past several years mountain bikers have been creating unauthorized flow trails through the open space's sensitive habitat. The City's objective is to create a mountain bike flow trail in less sensitive habitat that meets the terrain- induced, biking experience with little pedaling and braking necessary that mountain bikers are seeking. The new trail will be approximately 0.5 – 1.5 miles long. Construction will involve minimal grading, hand constructed by volunteers from the City and neighboring agencies.

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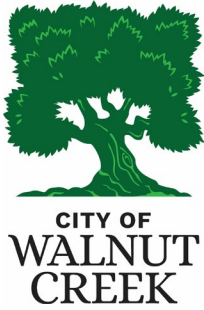
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November 23, 2022

Donald Duncan, Chairperson  
Guidiville Indian Rancheria  
P.O. Box 339  
Talmage, CA 95481

Dear Donald Duncan:

The City of Walnut Creek (City) proposes to implement the Flow Trail Project (Project) located in the Lime Ridge Open Space area, Walnut Creek, California. The area is currently used for cattle grazing, horseback riding, hiking and biking. Over the past several years mountain bikers have been creating unauthorized flow trails through the open space's sensitive habitat. The City's objective is to create a mountain bike flow trail in less sensitive habitat that meets the terrain- induced, biking experience with little pedaling and braking necessary that mountain bikers are seeking. The new trail will be approximately 0.5 – 1.5 miles long. Construction will involve minimal grading, hand constructed by volunteers from the City and neighboring agencies.

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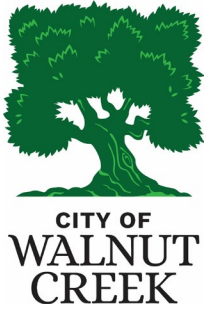
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November 23, 2022

Cosme Valdez, Chairperson  
Nashville Enterprise Miwok-Maidu-Nishinam Tribe  
P.O. Box 580986  
Elk Grove, CA 95758

Dear Cosme Valdez:

The City of Walnut Creek (City) proposes to implement the Flow Trail Project (Project) located in the Lime Ridge Open Space area, Walnut Creek, California. The area is currently used for cattle grazing, horseback riding, hiking and biking. Over the past several years mountain bikers have been creating unauthorized flow trails through the open space's sensitive habitat. The City's objective is to create a mountain bike flow trail in less sensitive habitat that meets the terrain- induced, biking experience with little pedaling and braking necessary that mountain bikers are seeking. The new trail will be approximately 0.5 – 1.5 miles long. Construction will involve minimal grading, hand constructed by volunteers from the City and neighboring agencies.

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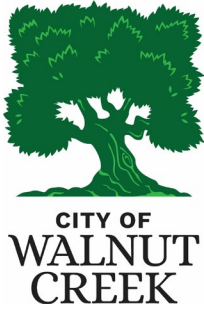
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November 23, 2022

Corrina Gould, Chairperson  
The Confederated Villages of Lisjan  
P.O. Box 6334  
Alameda, CA 94501

Dear Corrina Gould:

The City of Walnut Creek (City) proposes to implement the Flow Trail Project (Project) located in the Lime Ridge Open Space area, Walnut Creek, California. The area is currently used for cattle grazing, horseback riding, hiking and biking. Over the past several years mountain bikers have been creating unauthorized flow trails through the open space's sensitive habitat. The City's objective is to create a mountain bike flow trail in less sensitive habitat that meets the terrain- induced, biking experience with little pedaling and braking necessary that mountain bikers are seeking. The new trail will be approximately 0.5 – 1.5 miles long. Construction will involve minimal grading, hand constructed by volunteers from the City and neighboring agencies.

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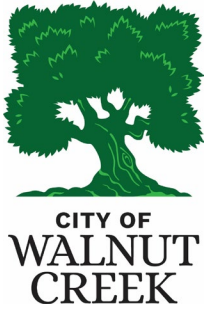
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November 23, 2022

Katherine Perez, Chairperson  
Timothy Perez, MLD Contact  
North Valley Yokuts Tribe  
P.O. Box 717, Linden, CA 95236

Dear Katherine Perez and Timothy Perez:

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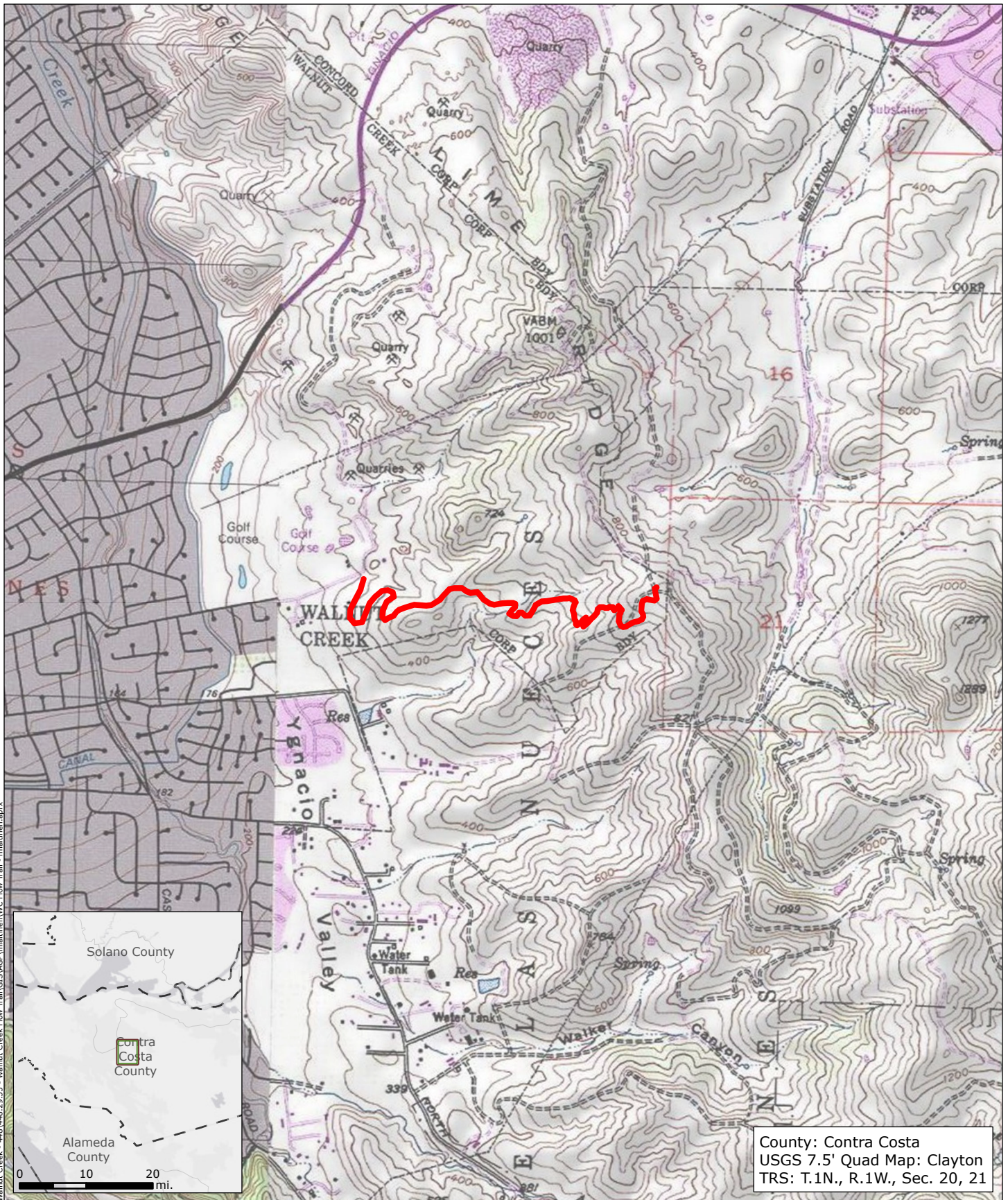
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County: Contra Costa  
 USGS 7.5' Quad Map: Clayton  
 TRS: T.1N., R.1W., Sec. 20, 21

**Legend**  
 Project Area



Flow Trail Project  
 City of Walnut Creek  
 Project Area Location Map

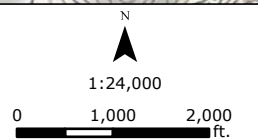


FIGURE  
**1**

SOURCE  
 ESRI USGS Topo Maps

JOB NUMBER  
 448.29.55

DRAWN  
 mlaitinen

DATE  
 5/31/2022

REVISED  
 6/1/2022

APPROVED  
 gervin



Document Path: P:\Active Projects\Walnut Creek - 448\448.29.55 - Walnut Creek Flow Trail\GIS\AGP\mlaitinen\WC Flow Trail - mlaitinen.aprx

**Legend**

Project Area



**Flow Trail Project, City of Walnut Creek**  
Project Area Detail Map

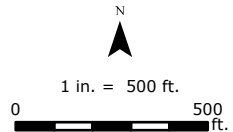


FIGURE  
**2**

SOURCE  
Bing Aerial Basemap

JOB NUMBER  
448.29.55

DRAWN  
mlaitinen

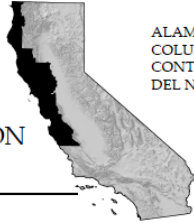
DATE  
5/31/2022

REVISED  
6/1/2022

APPROVED  
gervin



CALIFORNIA  
HISTORICAL  
RESOURCES  
INFORMATION  
SYSTEM



ALAMEDA  
COLUSA  
CONTRA COSTA  
DEL NORTE

HUMBOLDT  
LAKE  
MARIN  
MENDOCINO  
MONTEREY  
NAPA  
SAN BENITO

SAN FRANCISCO  
SAN MATEO  
SANTA CLATA  
SANTA CRUZ  
SOLANO  
SONOMA  
YOLO

Northwest Information Center  
Sonoma State University  
1400 Valley House Drive, Suite 210  
Rohnert Park, California 94928-3609  
Tel: 707.588.8455  
nwwic@sonoma.edu  
http://nwwic.sonoma.edu

6/17/2022

NWIC File No.: 21-2079

Molly Laitinen  
NCE  
501 Canal Blvd. Suite I  
Richmond, CA 94804

Re: Flow Trail Project

The Northwest Information Center received your record search request for the project area referenced above, located on the Clayton USGS 7.5' quad(s). The following reflects the results of the records search for the project area and a 100m radius:

Resources within project area:	None
Resources within 100m radius:	None
Reports within project area:	S-014337
“Other” Reports w/in proj. area:	S-000595; S-000848; S-001978; S-002458; S-009462; S-009583; S-009795; S-016660; S-017835; S-018217; S-020395; S-030204; S-032596; S-03360; S-049780
Reports within 100m radius:	S-010876

- Resource Database Printout (list):**       enclosed     not requested     nothing listed
- Resource Database Printout (details):**       enclosed     not requested     nothing listed
- Resource Digital Database Records:**       enclosed     not requested     nothing listed
- Report Database Printout (list):**       enclosed     not requested     nothing listed
- Report Database Printout (details):**       enclosed     not requested     nothing listed
- Report Digital Database Records:**       enclosed     not requested     nothing listed
- Resource Record Copies:**       enclosed     not requested     nothing listed
- Report Copies:**       enclosed     not requested     nothing listed
- OHP Built Environment Resources Directory:**       enclosed     not requested     nothing listed
- Archaeological Determinations of Eligibility:**       enclosed     not requested     nothing listed
- CA Inventory of Historic Resources (1976):**       enclosed     not requested     nothing listed
- Caltrans Bridge Survey:**       enclosed     not requested     nothing listed
- Ethnographic Information:**       enclosed     not requested     nothing listed

**Historical Literature:**

enclosed  not requested  nothing listed

**Historical Maps:**

enclosed  not requested  nothing listed

**Local Inventories:**

enclosed  not requested  nothing listed

**GLO and/or Rancho Plat Maps:**

enclosed  not requested  nothing listed

**Shipwreck Inventory:**

enclosed  not requested  nothing listed

**Soil Survey Maps:**

enclosed  not requested  nothing listed

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

The provision of CHRIS Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation, or the State Historical Resources Commission.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Requests made after initial invoicing will result in the preparation of a separate invoice.

Thank you for using the California Historical Resources Information System (CHRIS).

Sincerely,

Justin Murazzo  
Researcher

## NATIVE AMERICAN HERITAGE COMMISSION

July 10, 2022

Molly Laitinen  
NCE

Via Email to: [mlaitinen@ncenet.com](mailto:mlaitinen@ncenet.com)

**Re: Native American Tribal Consultation, Pursuant to the Assembly Bill 52 (AB 52), Amendments to the California Environmental Quality Act (CEQA) (Chapter 532, Statutes of 2014), Public Resources Code Sections 5097.94 (m), 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2 and 21084.3, Flow Trail Project, Contra Costa County**

Dear Ms. Laitinen:

Pursuant to Public Resources Code section 21080.3.1 (c), attached is a consultation list of tribes that are traditionally and culturally affiliated with the geographic area of the above-listed project. Please note that the intent of the AB 52 amendments to CEQA is to avoid and/or mitigate impacts to tribal cultural resources, (Pub. Resources Code §21084.3 (a)) ("Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource.")

Public Resources Code sections 21080.3.1 and 21084.3(c) require CEQA lead agencies to consult with California Native American tribes that have requested notice from such agencies of proposed projects in the geographic area that are traditionally and culturally affiliated with the tribes on projects for which a Notice of Preparation or Notice of Negative Declaration or Mitigated Negative Declaration has been filed on or after July 1, 2015. Specifically, Public Resources Code section 21080.3.1 (d) provides:

*Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section.*

The AB 52 amendments to CEQA law does not preclude initiating consultation with the tribes that are culturally and traditionally affiliated within your jurisdiction prior to receiving requests for notification of projects in the tribe's areas of traditional and cultural affiliation. The Native American Heritage Commission (NAHC) recommends, but does not require, early consultation as a best practice to ensure that lead agencies receive sufficient information about cultural resources in a project area to avoid damaging effects to tribal cultural resources.

The NAHC also recommends, but does not require that agencies should also include with their notification letters, information regarding any cultural resources assessment that has been completed on the area of potential effect (APE), such as:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:



CHAIRPERSON  
**Laura Miranda**  
Luiseño

VICE CHAIRPERSON  
**Reginald Pagaling**  
Chumash

PARLIAMENTARIAN  
**Russell Attebery**  
Karuk

SECRETARY  
**Sara Dutschke**  
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**William Mungary**  
Paiute/White Mountain  
Apache

COMMISSIONER  
**Isaac Bojorquez**  
Ohlone-Costanoan

COMMISSIONER  
**Buffy McQuillen**  
Yokayo Pomo, Yuki,  
Nomlaki

COMMISSIONER  
**Wayne Nelson**  
Luiseño

COMMISSIONER  
**Stanley Rodriguez**  
Kumeyaay

EXECUTIVE SECRETARY  
**Raymond C. Hitchcock**  
Miwok/Nisenan

**NAHC HEADQUARTERS**  
1550 Harbor Boulevard  
Suite 100  
West Sacramento,  
California 95691  
(916) 373-3710  
[nahc@nahc.ca.gov](mailto:nahc@nahc.ca.gov)  
[NAHC.ca.gov](http://NAHC.ca.gov)

- A listing of any and all known cultural resources that have already been recorded on or adjacent to the APE, such as known archaeological sites;
  - Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
  - Whether the records search indicates a low, moderate, or high probability that unrecorded cultural resources are located in the APE; and
  - If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.
2. The results of any archaeological inventory survey that was conducted, including:
- Any report that may contain site forms, site significance, and suggested mitigation measures.
- All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with Government Code section 6254.10.
3. The result of any Sacred Lands File (SLF) check conducted through the Native American Heritage Commission was positive. Please contact the tribes on the attached list for more information.
4. Any ethnographic studies conducted for any area including all or part of the APE; and
5. Any geotechnical reports regarding all or part of the APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS are not exhaustive and a negative response to these searches does not preclude the existence of a tribal cultural resource. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the event that they do, having the information beforehand will help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our consultation list remains current.

If you have any questions, please contact me at my email address: [Cody.Campagne@nahc.ca.gov](mailto:Cody.Campagne@nahc.ca.gov).

Sincerely,

*Cody Campagne*

Cody Campagne  
Cultural Resources Analyst

Attachment

7021 2720 0000 0320 4101

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CERTIFIED MAIL® RECEIPT  
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For delivery information, visit our website at [www.usps.com](http://www.usps.com)®.

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Certified Mail Fee	\$
Extra Services & Fees (check box, add fee as appropriate)	
<input type="checkbox"/> Return Receipt (hardcopy)	\$
<input type="checkbox"/> Return Receipt (electronic)	\$
<input type="checkbox"/> Certified Mail Restricted Delivery	\$
<input type="checkbox"/> Adult Signature Required	\$
<input type="checkbox"/> Adult Signature Restricted Delivery	\$
Postage	\$
Total Postage and Fees	\$

Postmark  
Here


Sent To Donald Duncan  
 Street and Apt. No. or PO Box No. P.O. Box 339  
 City, State, ZIP+4® TALMAGE, CA 95481

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:  
Donald Duncan  
(WC Flow Trail)  
P.O. Box 339  
Talmage, CA 95481



9590 9402 6507 0346 1705 71

2. Article Number (transfer from service label)  
7021 2720 0000 0320 4101

COMPLETE THIS SECTION ON DELIVERY

A. Signature [Signature]  Agent  
 Addressee  
 B. Received by (Printed Name) Donald Duncan C. Date of Delivery NOV 28 2022  
 D. Is delivery address different from item 1?  Yes  
 If YES, enter delivery address below:  No

3. Service Type USPS

<input type="checkbox"/> Adult Signature	<input type="checkbox"/> Priority Mail Express®
<input type="checkbox"/> Adult Signature Restricted Delivery	<input type="checkbox"/> Registered Mail™
<input type="checkbox"/> Certified Mail®	<input type="checkbox"/> Registered Mail Restricted Delivery
<input type="checkbox"/> Certified Mail Restricted Delivery	<input type="checkbox"/> Signature Confirmation™
<input type="checkbox"/> Collect on Delivery	<input type="checkbox"/> Signature Confirmation Restricted Delivery
<input type="checkbox"/> Collect on Delivery Restricted Delivery	

Tracking Number:

**7021272000003204101**

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### Latest Update

Your item was picked up at the post office at 9:35 am on November 28, 2022 in TALMAGE, CA 95481.

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### Delivered

**Delivered, Individual Picked Up at Post Offi**

TALMAGE, CA 95481

November 28, 2022, 9:35 am



### Available for Pickup

TALMAGE, CA 95481

November 26, 2022, 9:10 am



### Arrived at Post Office

TALMAGE, CA 95481

November 26, 2022, 9:10 am



### Departed USPS Regional Facility

NORTH BAY CA DISTRIBUTION CENTER

November 25, 2022, 10:55 pm



### Arrived at USPS Regional Facility

NORTH BAY CA DISTRIBUTION CENTER

November 25, 2022, 9:34 pm



### Arrived at USPS Regional Facility

SAN FRANCISCO CA DISTRIBUTION CENTER

November 25, 2022, 11:27 am



### Arrived at USPS Regional Facility

RENO NV DISTRIBUTION CENTER

November 24, 2022, 12:28 am



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Feedback

Text & Email Updates



7021 2720 0000 0320 4095

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Certified Mail Fee	\$
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<input type="checkbox"/> Return Receipt (hardcopy)	\$
<input type="checkbox"/> Return Receipt (electronic)	\$
<input type="checkbox"/> Certified Mail Restricted Delivery	\$
<input type="checkbox"/> Adult Signature Required	\$
<input type="checkbox"/> Adult Signature Restricted Delivery	\$
Postage	\$
Total Postage and Fees	\$

Postmark  
Here

Sent To Andrew Galvan  
 Street and Apt. No., or P.O. Box No. P.O. Box 3388  
 City, State, ZIP+4® FREMONT, CA 94539

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:  
ANDREW GALVAN  
(WC FLOW TRAIL)  
P.O. Box 3388  
FREMONT, CA 94539



9590 9402 5124 9092 7051 30

2. Article Number (Transfer from service label)

7021 2720 0000 0320 4095

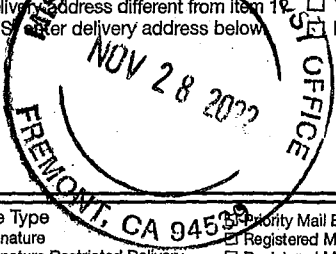
PS Form 3811, July 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature [Signature]  Agent  Addressee

B. Received by (Print Name) ANDREW GALVAN C. Date of Delivery 28 XI 22

D. Is delivery address different from item 1?  Yes  No  
If YES, enter delivery address below



3. Service Type

<input type="checkbox"/> Adult Signature	<input type="checkbox"/> Priority Mail Express®
<input type="checkbox"/> Adult Signature Restricted Delivery	<input type="checkbox"/> Registered Mail™
<input type="checkbox"/> Certified Mail®	<input type="checkbox"/> Registered Mail Restricted Delivery
<input type="checkbox"/> Certified Mail Restricted Delivery	<input type="checkbox"/> Return Receipt for Merchandise
<input type="checkbox"/> Collect on Delivery	<input type="checkbox"/> Signature Confirmation™
<input type="checkbox"/> Collect on Delivery Restricted Delivery	<input type="checkbox"/> Signature Confirmation Restricted Delivery
<input type="checkbox"/> Insured Mail	
<input type="checkbox"/> Restricted Delivery	

Domestic Return Receipt

Tracking Number:

**70212720000003204095**

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### Latest Update

Your item was picked up at the post office at 4:00 pm on November 28, 2022 in FREMONT, CA 94539.

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- **Delivered**  
Delivered, Individual Picked Up at Post Office  
FREMONT, CA 94539  
November 28, 2022, 4:00 pm
- **Available for Pickup**  
FREMONT, CA 94539  
November 28, 2022, 9:33 am
- **Available for Pickup**  
FREMONT, CA 94539  
November 28, 2022, 8:44 am
- **Available for Pickup**  
FREMONT, CA 94539  
November 28, 2022, 8:44 am
- **Arrived at Post Office**  
FREMONT, CA 94539  
November 28, 2022, 8:39 am
- **Departed USPS Regional Facility**  
OAKLAND CA DISTRIBUTION CENTER  
November 27, 2022, 12:20 am
- **Arrived at USPS Regional Facility**  
OAKLAND CA DISTRIBUTION CENTER  
November 26, 2022, 12:44 pm
- **In Transit to Next Facility**  
November 25, 2022
- **Arrived at USPS Regional Facility**  
RENO NV DISTRIBUTION CENTER  
November 23, 2022, 10:29 pm
- **Hide Tracking History**

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Certified Mail Fee  
\$ \_\_\_\_\_

Extra Services & Fees (check box, add fee as appropriate)

Return Receipt (hardcopy) \$ \_\_\_\_\_

Return Receipt (electronic) \$ \_\_\_\_\_

Certified Mail Restricted Delivery \$ \_\_\_\_\_

Adult Signature Required \$ \_\_\_\_\_

Adult Signature Restricted Delivery \$ \_\_\_\_\_

Postmark  
Here

Postage  
\$ \_\_\_\_\_

Total Postage and Fees  
\$ \_\_\_\_\_

Sent To Corrina Gould  
Street and Apt. No., or P.O. Box No. P.O. Box 6334  
City, State, ZIP+4® Alameda CA 94501

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

**CERTIFIED MAIL®**

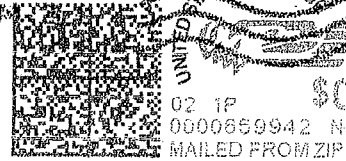
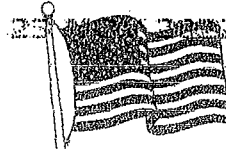


PO Box 1760  
Zephyr Cove, NV 89448



7021 2720 0000 0320 4125

RENO NV 895



*Handwritten signature*

*2/13 N/C*

*NL*

Corrina Gould  
Chairperson  
The Confedera  
P.O. Box 6334  
Alameda, CA 9

RETURN TO SENDER  
UNCLAIMED  
UNABLE TO FORWARD

Engineering & Environmental Services

9927000240821019

0001000000

0001000000

Tracking Number:

**7021272000003204125**

Copy Add to Informed Delivery (<https://informedelivery.usps.com/>)

**Latest Update**

Your item has been delivered to the original sender at 12:18 pm on March 2, 2023 in ZEPHYR COVE, NV 89448.

Get More Out of USPS Tracking:

**USPS Tracking Plus®**

- **Delivered**  
Delivered, To Original Sender  
ZEPHYR COVE, NV 89448  
March 2, 2023, 12:18 pm
- **Available for Pickup**  
ZEPHYR COVE, NV 89448  
February 23, 2023, 12:00 pm
- **Arrived at Post Office**  
ZEPHYR COVE, NV 89448  
February 23, 2023, 11:59 am
- **Departed USPS Regional Facility**  
RENO NV DISTRIBUTION CENTER  
February 22, 2023, 4:15 pm
- **Arrived at USPS Regional Facility**  
RENO NV DISTRIBUTION CENTER  
February 22, 2023, 1:23 pm
- **Arrived at USPS Facility**  
SACRAMENTO, CA 95813  
February 21, 2023, 6:52 am
- **Refused**  
ALAMEDA, CA 94501  
February 17, 2023, 6:22 pm
- **Available for Pickup**  
ALAMEDA, CA 94501  
February 13, 2023, 9:38 am
- **Departed USPS Regional Facility**  
OAKLAND CA DISTRIBUTION CENTER  
February 11, 2023, 10:14 pm
- **Arrived at USPS Regional Facility**

Feedback

7021 2720 0000 0320 4064

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OFFICIAL USE

Certified Mail Fee	\$
Extra Services & Fees (check box, add fee as appropriate)	
<input type="checkbox"/> Return Receipt (hardcopy)	\$
<input type="checkbox"/> Return Receipt (electronic)	\$
<input type="checkbox"/> Certified Mail Restricted Delivery	\$
<input type="checkbox"/> Adult Signature Required	\$
<input type="checkbox"/> Adult Signature Restricted Delivery	\$
Postage	\$
Total Postage and Fees	\$

Postmark  
Here

Sent To LLOYD MATHIESEN  
 Street and Apt. No./P.O. Box No. P.O. BOX 1159  
 City, State, ZIP+4® JAMESTOWN, CA 95327

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:  
Lloyd Mathiesen  
CWC Flow Trail  
P.O. BOX 1159  
Jamestown, CA 95327



9590 9402 5124 9092 7051 54

2. Article Number (Transfer from service label)  
 7021 2720 0000 0320 4064

PS Form 3811, July 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature  Agent  
 Addressee  
 Agent  
 Addressee

B. Received by (Printed Name) B. Mathiesen

C. Date of Delivery

D. Is delivery address different from item 1?  Yes  
 If YES, enter delivery address below:  No

3. Service Type
- Adult Signature
  - Adult Signature Restricted Delivery
  - Certified Mail®
  - Certified Mail Restricted Delivery
  - Collect on Delivery
  - Collect on Delivery Restricted Delivery
  - Insured Mail
  - Priority Mail Express®
  - Registered Mail™
  - Registered Mail Restricted Delivery
  - Return Receipt for Merchandise
  - Signature Confirmation™
  - Signature Confirmation Restricted Delivery

Domestic Return Receipt

Tracking Number:

**7021272000003204064**

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**Latest Update**

Your item was picked up at a postal facility at 7:47 am on November 28, 2022 in JAMESTOWN, CA 95327.

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- **Delivered**  
Delivered, Individual Picked Up at Postal Facility  
JAMESTOWN, CA 95327  
November 28, 2022, 7:47 am
- **Available for Pickup**  
JAMESTOWN, CA 95327  
November 26, 2022, 7:45 am
- **Arrived at Post Office**  
JAMESTOWN, CA 95327  
November 26, 2022, 7:43 am
- **Departed USPS Regional Facility**  
SACRAMENTO CA  
DISTRIBUTION CENTER  
November 25, 2022, 3:30 pm
- **Arrived at USPS Regional Facility**  
SACRAMENTO CA  
DISTRIBUTION CENTER  
November 25, 2022, 9:48 am
- **In Transit to Next Facility**  
November 24, 2022
- **Arrived at USPS Regional Facility**  
RENO NV DISTRIBUTION CENTER  
November 23, 2022, 10:28 pm
- **Hide Tracking History**

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Certified Mail Fee	\$
Extra Services & Fees (check box, add fee as appropriate)	
<input type="checkbox"/> Return Receipt (hardcopy)	\$
<input type="checkbox"/> Return Receipt (electronic)	\$
<input type="checkbox"/> Certified Mail Restricted Delivery	\$
<input type="checkbox"/> Adult Signature Required	\$
<input type="checkbox"/> Adult Signature Restricted Delivery	\$
Postage	\$
Total Postage and Fees	\$

Postmark  
Here

Sent To Charlene Nijmeh  
 Street and Apt. No., or PO Box No. 20885 Redwood Rd #232  
 City, State, ZIP+4® Castro Valley, CA 94546

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:  
Charlene Nijmeh  
(WC Flow Trail)  
20885 Redwood Rd #232  
Castro Valley, CA 94546



9590 9402 5124 9092 7051 78

2. Article Number (Transfer from service label)

7021 2720 0000 0320 4040

COMPLETE THIS SECTION ON DELIVERY

A. Signature [Signature]  Agent  Addressee

B. Received by (Printed Name) [Signature] C. Date of Delivery 1/28

D. Is delivery address different from item 1?  Yes  No  
 If YES, enter delivery address below:

3. Service Type

<input type="checkbox"/> Adult Signature	<input type="checkbox"/> Priority Mail Express®
<input type="checkbox"/> Adult Signature Restricted Delivery	<input type="checkbox"/> Registered Mail™
<input type="checkbox"/> Certified Mail®	<input type="checkbox"/> Registered Mail Restricted Delivery
<input type="checkbox"/> Certified Mail Restricted Delivery	<input type="checkbox"/> Return Receipt for Merchandise
<input type="checkbox"/> Collect on Delivery	<input type="checkbox"/> Signature Confirmation™
<input type="checkbox"/> Collect on Delivery Restricted Delivery	<input type="checkbox"/> Signature Confirmation Restricted Delivery
<input type="checkbox"/> Insured Mail	

PS Form 3811, July 2015 PSN 7530-02-000-9053

Domestic Return Receipt

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Tracking Number:

[Remove X](#)

## 7021272000003204040

[Copy](#)

[Add to Informed Delivery \(https://informedelivery.usps.com/\)](https://informedelivery.usps.com/)

### Latest Update

Your item was delivered to the front desk, reception area, or mail room at 10:28 am on November 28, 2022 in CASTRO VALLEY, CA 94546.

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### Delivered

**Delivered, Front Desk/Reception/Mail Room**

CASTRO VALLEY, CA 94546

November 28, 2022, 10:28 am



### In Transit to Next Facility

November 27, 2022



### Departed USPS Regional Facility

OAKLAND CA DISTRIBUTION CENTER

November 26, 2022, 3:43 pm



### Arrived at USPS Regional Facility

OAKLAND CA DISTRIBUTION CENTER

November 26, 2022, 11:50 am



### Arrived at USPS Regional Facility

RENO NV DISTRIBUTION CENTER

November 23, 2022, 11:16 pm



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[Feedback](#)

7021 2720 0000 0320 4132

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Certified Mail Fee	\$
Extra Services & Fees (check box, add fee as appropriate)	
<input type="checkbox"/> Return Receipt (hardcopy)	\$
<input type="checkbox"/> Return Receipt (electronic)	\$
<input type="checkbox"/> Certified Mail Restricted Delivery	\$
<input type="checkbox"/> Adult Signature Required	\$
<input type="checkbox"/> Adult Signature Restricted Delivery	\$
Postage	\$
Total Postage and Fees	\$

Postmark  
Here

Sent To	KATHERINE PEREZ
Street and Apt. No., or PO Box No.	P.O. Box 717
City, State, ZIP+4®	Linden, CA 95236

Tracking Number:

7021272000003204132

Copy Add to Informed Delivery (https://informedelivery.usps.com/)

Latest Update

Your item was picked up at the post office at 3:24 pm on November 28, 2022 in LINDEN, CA 95236.

Get More Out of USPS Tracking:

USPS Tracking Plus®

- Delivered**  
 Delivered, Individual Picked Up at Post Office  
 LINDEN, CA 95236  
 November 28, 2022, 3:24 pm
- Available for Pickup**  
 LINDEN  
 4916 N MILL ST  
 LINDEN CA 95236-9998  
 M-F 0630-1700; SAT  
 0630-0930  
 November 26, 2022, 8:17 am
- Arrived at Post Office**  
 LINDEN, CA 95236  
 November 26, 2022, 7:37 am
- Departed USPS Regional Facility**  
 SACRAMENTO CA  
 DISTRIBUTION CENTER  
 November 25, 2022, 11:35 pm
- Arrived at USPS Regional Facility**  
 SACRAMENTO CA  
 DISTRIBUTION CENTER  
 November 25, 2022, 10:14 am
- In Transit to Next Facility**  
 November 24, 2022
- Arrived at USPS Regional Facility**  
 RENO NV DISTRIBUTION  
 CENTER  
 November 23, 2022, 11:16 pm
- Hide Tracking History**

Feedback

Text & Email Updates





7021 2720 0000 0320 4071

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Certified Mail Fee	\$
Extra Services & Fees (check box, add fee as appropriate)	
<input type="checkbox"/> Return Receipt (hardcopy)	\$
<input type="checkbox"/> Return Receipt (electronic)	\$
<input type="checkbox"/> Certified Mail Restricted Delivery	\$
<input type="checkbox"/> Adult Signature Required	\$
<input type="checkbox"/> Adult Signature Restricted Delivery	\$

Postmark  
Here

Postage	\$
Total Postage and Fees	\$

Sent To	A. M. SAXERS
Street and Apt. No., or PO Box No.	P.O. Box 28
City, State, ZIP+4®	HOLLISTER CA 95024

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

ANN MARIE SAXERS  
(WC Flow Trail)  
P.O. Box 28  
HOLLISTER CA 95024




9590 9402 5124 9092 7051 47

2. Article Number (Transfer from service label)

7021 2720 0000 0320 4071

COMPLETE THIS SECTION ON DELIVERY

A. Signature	<input type="checkbox"/> Agent
	<input type="checkbox"/> Addressee
B. Received by (Printed Name)	C. Date of Delivery
Kamryn Saxe	7/29/27
D. Is delivery address different from item 1? <input type="checkbox"/> Yes	<input type="checkbox"/> No
If YES, enter delivery address below:	

- |                                                                  |                                                                     |
|------------------------------------------------------------------|---------------------------------------------------------------------|
| 3. Service Type                                                  | <input type="checkbox"/> Priority Mail Express®                     |
| <input type="checkbox"/> Adult Signature                         | <input type="checkbox"/> Registered Mail™                           |
| <input type="checkbox"/> Adult Signature Restricted Delivery     | <input type="checkbox"/> Registered Mail Restricted Delivery        |
| <input type="checkbox"/> Certified Mail®                         | <input type="checkbox"/> Return Receipt for Merchandise             |
| <input type="checkbox"/> Certified Mail Restricted Delivery      | <input type="checkbox"/> Signature Confirmation™                    |
| <input type="checkbox"/> Collection Delivery                     | <input type="checkbox"/> Signature Confirmation Restricted Delivery |
| <input type="checkbox"/> Collection Delivery Restricted Delivery |                                                                     |
| <input type="checkbox"/> Insured Mail                            |                                                                     |
| <input type="checkbox"/> Insured Mail Restricted Delivery        |                                                                     |

Tracking Number:

**7021272000003204071**

[Copy](#)

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### Latest Update

Your item was picked up at the post office at 10:36 am on December 9, 2022 in HOLLISTER, CA 95023.

Get More Out of USPS Tracking:

**USPS Tracking Plus®**

### Delivered

**Delivered, Individual Picked Up at Post Offi**

HOLLISTER, CA 95023

December 9, 2022, 10:36 am

### Available for Pickup

HOLLISTER, CA 95023

November 28, 2022, 8:40 am

### Arrived at Post Office

HOLLISTER, CA 95023

November 28, 2022, 8:37 am

### In Transit to Next Facility

November 27, 2022

### Departed USPS Regional Facility

SAN JOSE CA DISTRIBUTION CENTER

November 26, 2022, 4:26 pm

### Arrived at USPS Regional Facility

SAN JOSE CA DISTRIBUTION CENTER

November 26, 2022, 12:21 pm

### Arrived at USPS Regional Facility

RENO NV DISTRIBUTION CENTER

November 23, 2022, 10:29 pm

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[Text & Email Updates](#)



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7021 2720 0000 0320 4026

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Certified Mail Fee	\$
Extra Services & Fees (check box, add fee as appropriate)	
<input type="checkbox"/> Return Receipt (hardcopy)	\$
<input type="checkbox"/> Return Receipt (electronic)	\$
<input type="checkbox"/> Certified Mail Restricted Delivery	\$
<input type="checkbox"/> Adult Signature Required	\$
<input type="checkbox"/> Adult Signature Restricted Delivery	\$
Postage	\$
Total Postage and Fees	\$

Postmark  
Here

Sent To	Kanyon Sayers-Roads
Street and Apt. No., or PO Box No.	1615 Pearson Ct
City, State, ZIP+4®	SAN JOSE, CA 95122

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:  
 Kanyon Sayers-Roads  
 (WC Flow Trail)  
 1615 Pearson Ct.  
 San Jose, CA 95122



9590 9402 5124 9092 7051 85

2. Article Number (Transfer from service label)

7021 2720 0000 0320 4026

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature	x DP2212	<input checked="" type="checkbox"/> Agent
		<input type="checkbox"/> Addressee
B. Received by (Printed Name)	CIA	C. Date of Delivery
		11/28
D. Is delivery address different from item 1? <input type="checkbox"/> Yes		
If YES, enter delivery address below: <input checked="" type="checkbox"/> No		

3. Service Type
- |                                                                  |                                                                     |
|------------------------------------------------------------------|---------------------------------------------------------------------|
| <input type="checkbox"/> Adult Signature                         | <input type="checkbox"/> Priority Mail Express®                     |
| <input type="checkbox"/> Adult Signature Restricted Delivery     | <input type="checkbox"/> Registered Mail™                           |
| <input type="checkbox"/> Certified Mail®                         | <input type="checkbox"/> Registered Mail Restricted Delivery        |
| <input type="checkbox"/> Certified Mail Restricted Delivery      | <input type="checkbox"/> Return Receipt for Merchandise             |
| <input type="checkbox"/> Collect on Delivery                     | <input type="checkbox"/> Signature Confirmation™                    |
| <input type="checkbox"/> Collect on Delivery Restricted Delivery | <input type="checkbox"/> Signature Confirmation Restricted Delivery |

Restricted Delivery

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(<https://reg.usps.com/xsell?app=UspsTools&ref=homepageBanner&appURL=https%3A%2F%2Finformeddelivery.usps.com/box/pages/intro/start.action>)

Tracking Number:

[Remove X](#)

## 70212720000003204026

[Copy](#)

[Add to Informed Delivery \(https://informedelivery.usps.com/\)](https://informedelivery.usps.com/)

### Latest Update

Your item was delivered to an individual at the address at 12:46 pm on November 28, 2022 in SAN JOSE, CA 95122.

**Get More Out of USPS Tracking:**

**USPS Tracking Plus®**

**Delivered**  
Delivered, Left with Individual  
SAN JOSE, CA 95122  
November 28, 2022, 12:46 pm

**Departed USPS Regional Facility**  
SAN JOSE CA DISTRIBUTION CENTER  
November 27, 2022, 7:51 am

**Arrived at USPS Regional Facility**  
SAN JOSE CA DISTRIBUTION CENTER  
November 26, 2022, 12:35 pm

**In Transit to Next Facility**  
November 25, 2022

**Arrived at USPS Regional Facility**  
RENO NV DISTRIBUTION CENTER  
November 23, 2022, 11:13 pm

**Hide Tracking History**

[Feedback](#)

7021 2720 0000 0320 4149

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Certified Mail Fee

\$

Extra Services & Fees (check box, add fee as appropriate)

- Return Receipt (hardcopy) \$ \_\_\_\_\_
- Return Receipt (electronic) \$ \_\_\_\_\_
- Certified Mail Restricted Delivery \$ \_\_\_\_\_
- Adult Signature Required \$ \_\_\_\_\_
- Adult Signature Restricted Delivery \$ \_\_\_\_\_

Postmark  
Here

Postage

\$

Total Postage and Fees

\$

Sent To

JESUS TARANGO  
 Street and Apt. No., or PO Box No. 9728 Kent St.  
 City, State, ZIP+4® EIK GROVE, CA 95024

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Jesus Tarango  
 (WC Flow Trail)  
 9728 Kent St.  
 EIK Grove, CA 95024



9590 9402 6507 0346 1705 57

2. Article Number (Transfer from service label)

7021 2720 0000 0320 4149

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X *Maria S.*

Agent

Addressee

B. Received by (Printed Name)

Maria S.

C. Date of Delivery

11/28/22

D. Is delivery address different from item 1?  Yes  
If YES, enter delivery address below:  No

3. Service Type

- Adult Signature
- Adult Signature Restricted Delivery
- Certified Mail®
- Certified Mail Restricted Delivery
- Collect on Delivery
- Collect on Delivery Restricted Delivery
- Priority Mail Express®
- Registered Mail™
- Registered Mail Restricted Delivery
- Signature Confirmation™
- Signature Confirmation Restricted Delivery

all Restricted Delivery

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(https://reg.usps.com/xsoll?app=UspsTools&ref=homepageBanner&appURL=https%3A%2F%2Finformeddelivery.usps.com/box/pages/intro/start.action)

Tracking Number:

[Remove X](#)

## 70212720000003204149

[Copy](#)

[Add to Informed Delivery \(https://informeddelivery.usps.com/\)](https://informeddelivery.usps.com/)

### Latest Update

Your item was delivered to the front desk, reception area, or mail room at 3:45 pm on November 28, 2022 in ELK GROVE, CA 95624.

Get More Out of USPS Tracking:

[USPS Tracking Plus®](#)

- **Delivered**  
Delivered, Front Desk/Reception/Mail Room  
ELK GROVE, CA 95624  
November 28, 2022, 3:45 pm
- **In Transit to Next Facility**  
November 27, 2022
- **Departed USPS Regional Facility**  
SACRAMENTO CA  
DISTRIBUTION CENTER  
November 25, 2022, 10:14 pm
- **Arrived at USPS Regional Facility**  
SACRAMENTO CA  
DISTRIBUTION CENTER  
November 25, 2022, 10:25 am
- **Arrived at USPS Regional Facility**  
RENO NV DISTRIBUTION CENTER  
November 23, 2022, 11:14 pm
- [Hide Tracking History](#)

[Feedback](#)

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7021 2720 0000 0320 4118

Certified Mail Fee  
\$ \_\_\_\_\_

Extra Services & Fees (check box, add fee as appropriate)

Return Receipt (hardcopy) \$ \_\_\_\_\_

Return Receipt (electronic) \$ \_\_\_\_\_

Certified Mail Restricted Delivery \$ \_\_\_\_\_

Adult Signature Required \$ \_\_\_\_\_

Adult Signature Restricted Delivery \$ \_\_\_\_\_

Postage  
\$ \_\_\_\_\_

**Total Postage and Fees**  
\$ \_\_\_\_\_

Postmark  
Here

Sent To Cosme Valdez

Street and Apt. No., or P.O. Box No. P.O. Box 580986

City, State, ZIP+4® EIK GROVE, CA 95758

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Cosme Valdez  
(CWC Flow Trail)  
P.O. Box 580986  
EIK GROVE, CA 95758



9590 9402 6507 0346 1705 88

2. Article Number (Transfer from service label)

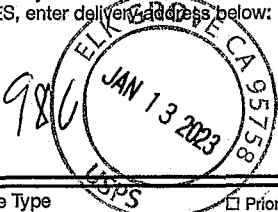
7021 2720 0000 0320 4118

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature  Agent  
 Cosme  Addressee

B. Received by (Printed Name) C. Date of Delivery

D. Is delivery address different from item 1?  Yes  
 If YES, enter delivery address below:  No



3. Service Type

Adult Signature  Priority Mail Express®

Adult Signature Restricted Delivery  Registered Mail™

Certified Mail®  Registered Mail Restricted Delivery

Certified Mail Restricted Delivery  Signature Confirmation™

Collect on Delivery  Signature Confirmation Restricted Delivery

Collect on Delivery Restricted Delivery

Restricted Delivery

Tracking Number:

**70212720000003204118**

Copy

Add to Informed Delivery (<https://informedelivery.usps.com/>)

### Latest Update

Your item was picked up at a postal facility at 11:12 am on January 13, 2023 in ELK GROVE, CA 95758.

Get More Out of USPS Tracking:

**USPS Tracking Plus®**

### Delivered

**Delivered, Individual Picked Up at Postal F:**

ELK GROVE, CA 95758

January 13, 2023, 11:12 am

### Reminder to pick up your item before January 7, 2023

PORT TOWNSEND, WA 98368

December 29, 2022

### Available for Pickup

ELK GROVE, CA 95758

December 24, 2022, 11:21 am

### Arrived at Post Office

ELK GROVE, CA 95758

December 24, 2022, 6:18 am

### Departed USPS Regional Facility

SACRAMENTO CA  
DISTRIBUTION CENTER

December 23, 2022, 9:21 pm

### Arrived at USPS Regional Facility

SACRAMENTO CA  
DISTRIBUTION CENTER

December 23, 2022, 10:45 am

### In Transit to Next Facility

December 22, 2022

### Departed USPS Regional Facility

TACOMA WA DISTRIBUTION  
CENTER

December 19, 2022, 7:54 pm

### Arrived at USPS Regional Facility

TACOMA WA DISTRIBUTION  
CENTER

December 19, 2022, 11:07 am

Feedback



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7021 2720 0000 0320 4538

Certified Mail Fee \$ \_\_\_\_\_

Extra Services & Fees (check box, add fee as appropriate)

Return Receipt (hardcopy) \$ \_\_\_\_\_

Return Receipt (electronic) \$ \_\_\_\_\_

Certified Mail Restricted Delivery \$ \_\_\_\_\_

Adult Signature Required \$ \_\_\_\_\_

Adult Signature Restricted Delivery \$ \_\_\_\_\_

Postage \$ \_\_\_\_\_

Total Postage and Fees \$ \_\_\_\_\_

Postmark  
Here

Sent To Kenneth Woodrow

Street and Apt. No., or PO Box No. 1179 Rock Haven Ct.

City, State, ZIP+4® Salinas, CA 93906

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Kenneth Woodrow  
(WC Flow Trail)  
1179 Rock Haven Ct.  
Salinas, CA 93906



9590 9402 5124 9092 7051 92

2. Article Number (Transfer from service label)

7021 2720 0000 0320 4538

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature  Signature  Agent  Addressee

B. Received by (Printed Name) \_\_\_\_\_ C. Date of Delivery \_\_\_\_\_

D. Is delivery address different from item 1?  Yes  
 If YES, enter delivery address below:  No

3. Service Type
- Adult Signature
  - Adult Signature Restricted Delivery
  - Certified Mail®
  - Certified Mail Restricted Delivery
  - Collect on Delivery
  - Collect on Delivery Restricted Delivery
  - Priority Mail Express®
  - Registered Mail™
  - Registered Mail Restricted Delivery
  - Return Receipt for Merchandise
  - Signature Confirmation™
  - Signature Confirmation Restricted Delivery

PS Form 3811, July 2015 PSN 7530-02-000-9053

Domestic Return Receipt

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(<https://reg.usps.com/xsell?app=UspsTools&ref=homepageBanner&appURL=https%3A%2F%2Finformeddelivery.usps.com/box/pages/intro/start.action>)

Tracking Number:

[Remove X](#)

## 7021272000003204538

[Copy](#)

[Add to Informed Delivery \(https://informeddelivery.usps.com/\)](https://informeddelivery.usps.com/)

### Latest Update

Your item was delivered to an individual at the address at 3:57 pm on November 29, 2022 in SALINAS, CA 93906.

Get More Out of USPS Tracking:

**USPS Tracking Plus®**

● **Delivered**  
**Delivered, Left with Individual**  
SALINAS, CA 93906  
November 29, 2022, 3:57 pm

● **In Transit to Next Facility**  
November 28, 2022

● **Departed USPS Regional Facility**  
SAN JOSE CA DISTRIBUTION CENTER  
November 26, 2022, 4:03 pm

● **Arrived at USPS Regional Facility**  
SAN JOSE CA DISTRIBUTION CENTER  
November 26, 2022, 12:35 pm

● **Arrived at USPS Regional Facility**  
RENO NV DISTRIBUTION CENTER  
November 23, 2022, 11:14 pm

● [Hide Tracking History](#)

[Feedback](#)

7021 2720 0000 0320 4057

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Certified Mail Fee	\$
Extra Services & Fees (check box, add fee as appropriate)	
<input type="checkbox"/> Return Receipt (hardcopy)	\$
<input type="checkbox"/> Return Receipt (electronic)	\$
<input type="checkbox"/> Certified Mail Restricted Delivery	\$
<input type="checkbox"/> Adult Signature Required	\$
<input type="checkbox"/> Adult Signature Restricted Delivery	\$
Postage	\$
Total Postage and Fees	\$

Postmark  
Here


Sent To Irene Zwiertein  
 Street and Apt. No. or P.O. Box No. 3030 Soda Bay Rd  
 City, State, ZIP+4® LAKEPORT, CA 95453

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:  
Irene Zwiertein  
(WC Flow Trail)  
3030 Soda Bay Road  
LAKEPORT, CA 95453



9590 9402 5124 9092 7051 61

2. Article Number (Transfer from service label)  
 7021 2720 0000 0320 4057

COMPLETE THIS SECTION ON DELIVERY

A. Signature [Signature]  Agent  Addressee

B. Received by (Printed Name) \_\_\_\_\_ C. Date of Delivery \_\_\_\_\_

D. Is delivery address different from item 1?  Yes  
 If YES, enter delivery address below:  No

3. Service Type

<input type="checkbox"/> Adult Signature	<input type="checkbox"/> Priority Mail Express®
<input type="checkbox"/> Adult Signature Restricted Delivery	<input type="checkbox"/> Registered Mail™
<input type="checkbox"/> Certified Mail®	<input type="checkbox"/> Registered Mail Restricted Delivery
<input type="checkbox"/> Certified Mail Restricted Delivery	<input type="checkbox"/> Return Receipt for Merchandise
<input type="checkbox"/> Collect on Delivery	<input type="checkbox"/> Signature Confirmation™
<input type="checkbox"/> Collect on Delivery Restricted Delivery	<input type="checkbox"/> Signature Confirmation Restricted Delivery

Tracking Number:

**70212720000003204057**

Copy

Add to Informed Delivery (<https://informedelivery.usps.com/>)

**Latest Update**

Your item was delivered to an individual at the address at 2:58 pm on November 26, 2022 in LAKEPORT, CA 95453.

Get More Out of USPS Tracking:

**USPS Tracking Plus®**

● **Delivered**  
**Delivered, Left with Individual**  
LAKEPORT, CA 95453  
November 26, 2022, 2:58 pm

● **Out for Delivery**  
LAKEPORT, CA 95453  
November 26, 2022, 9:01 am

● **Arrived at Post Office**  
LAKEPORT, CA 95453  
November 26, 2022, 8:50 am

● **Arrived at USPS Regional Facility**  
NORTH BAY CA DISTRIBUTION CENTER  
November 26, 2022, 1:29 am

● **Arrived at USPS Regional Facility**  
SAN FRANCISCO CA DISTRIBUTION CENTER  
November 25, 2022, 11:28 am

● **In Transit to Next Facility**  
November 24, 2022

● **Arrived at USPS Regional Facility**  
RENO NV DISTRIBUTION CENTER  
November 23, 2022, 11:14 pm

● **Hide Tracking History**

Feedback

Text & Email Updates



USPS Tracking Plus®



**From:** [Molly Laitinen](#)  
**To:** [amahmutsuntribal@gmail.com](mailto:amahmutsuntribal@gmail.com)  
**Cc:** [Mike Vickers](#); [Gail Ervin](#); [Catrina Vaz](#)  
**Subject:** Walnut Creek Flow Trail: Tribe Outreach  
**Date:** Friday, January 6, 2023 5:06:00 PM  
**Attachments:** [Flow Trail Letter - Amah Mutsun.pdf](#)  
[image001.jpg](#)

---

Greetings:

On behalf of the City of Walnut Creek, I am conducting initial follow-up outreach regarding the Flow Trail Project located in the Lime Ridge Open Space area, Walnut Creek, California. Please find attached a copy of the consultation letter mailed on November 23, 2022 containing one small correction to the CHRIS center name.

The project require compliance with Assembly Bill 52 (AB-52) under the California Environmental Quality Act. If you have any questions or would like to consult under AB-52, please respond to this email or call me via 408-823-4570.

Thank you,

**Molly (M.J.) Laitinen, RPA**

**Staff Archaeologist**



**p** (510) 215-3620    **c** (408) 823-4570  
**f** (510) 215-2898    **e** [mlaitinen@ncenet.com](mailto:mlaitinen@ncenet.com)

**NCE**  
[501 Canal Blvd., Suite I, Richmond, CA 94804](#)  
[www.ncenet.com](http://www.ncenet.com)

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**From:** [Molly Laitinen](#)  
**To:** [Joanna Portillo-Hsu](#); [Mike Vickers](#); [Gail Ervin](#); [Catrina Vaz](#)  
**Cc:** [Lloyd Mathiesen](#); [Cynthia Reyes](#)  
**Subject:** RE: Walnut Creek Flow Trail: Tribe Outreach  
**Date:** Monday, January 16, 2023 6:20:00 PM  
**Attachments:** [image001.png](#)  
[image002.jpg](#)

---

Hi Joanna,

Thank you for Ms. Reyes and your response indicating the Chicken Ranch Rancheria has no comment on the project at this time. We will consider consultation under AB-52 with the Chicken Ranch Rancheria closed. However, please let us know if any questions arise and we will inform you if the project changes.

Kind regards,

M.J. Laitinen  
NCE | Staff Archaeologist  
Mobile: (408) 823-4570

---

**From:** Joanna Portillo-Hsu <[jportillo-hsu@crtribal.com](mailto:jportillo-hsu@crtribal.com)>  
**Sent:** Monday, January 9, 2023 2:48 PM  
**To:** Molly Laitinen <[MLaitinen@ncenet.com](mailto:MLaitinen@ncenet.com)>; Mike Vickers <[vickers@walnut-creek.org](mailto:vickers@walnut-creek.org)>; Gail Ervin <[GErvin@ncenet.com](mailto:GErvin@ncenet.com)>; Catrina Vaz <[CVaz@ncenet.com](mailto:CVaz@ncenet.com)>  
**Cc:** Lloyd Mathiesen <[lmathiesen@crtribal.com](mailto:lmathiesen@crtribal.com)>; Cynthia Reyes <[creyes@crtribal.com](mailto:creyes@crtribal.com)>  
**Subject:** RE: Walnut Creek Flow Trail: Tribe Outreach

Hi All,

I spoke with Ms. Reyes about this project, she confirms no comment from Chicken Ranch Rancheria at this time.

Thank you,

Joanna

---

**From:** Joanna Portillo-Hsu <[jportillo-hsu@crtribal.com](mailto:jportillo-hsu@crtribal.com)>  
**Sent:** Monday, January 9, 2023 9:06 AM  
**To:** Molly Laitinen <[MLaitinen@ncenet.com](mailto:MLaitinen@ncenet.com)>; Lloyd Mathiesen <[lmathiesen@crtribal.com](mailto:lmathiesen@crtribal.com)>  
**Cc:** Mike Vickers <[vickers@walnut-creek.org](mailto:vickers@walnut-creek.org)>; Gail Ervin <[GErvin@ncenet.com](mailto:GErvin@ncenet.com)>; Catrina Vaz <[CVaz@ncenet.com](mailto:CVaz@ncenet.com)>; Cynthia Reyes <[creyes@crtribal.com](mailto:creyes@crtribal.com)>  
**Subject:** RE: Walnut Creek Flow Trail: Tribe Outreach

Good Morning Molly,

I am including the Tribe's Cultural Coordinator, Ms. Cynthia Reyes on this response. If we have any questions, concerns or comments we will follow-up.

Thank you,



Joanna Portillo-Hsu  
Environmental & Planning Manager  
PO Box 1159, Jamestown, CA 95327  
Office: 209-984-9066 | [jportillo-hsu@crtribal.com](mailto:jportillo-hsu@crtribal.com)

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---

**From:** Molly Laitinen <[MLaitinen@ncnenet.com](mailto:MLaitinen@ncnenet.com)>

**Sent:** Friday, January 6, 2023 5:10 PM

**To:** Joanna Portillo-Hsu <[jportillo-hsu@crtribal.com](mailto:jportillo-hsu@crtribal.com)>; Lloyd Mathiesen <[lmathiesen@crtribal.com](mailto:lmathiesen@crtribal.com)>

**Cc:** Mike Vickers <[vickers@walnut-creek.org](mailto:vickers@walnut-creek.org)>; Gail Ervin <[GERvin@ncnenet.com](mailto:GERvin@ncnenet.com)>; Catrina Vaz <[CVaz@ncnenet.com](mailto:CVaz@ncnenet.com)>

**Subject:** Walnut Creek Flow Trail: Tribe Outreach

**CAUTION:** This is an external email. Please take care when clicking links or opening attachments.  
When in doubt contact your IT Department.

Greetings:

On behalf of the City of Walnut Creek, I am conducting initial follow-up outreach regarding the Flow Trail Project located in the Lime Ridge Open Space area, Walnut Creek, California. Please find attached a copy of the consultation letter mailed on November 23, 2022 containing one small correction to the CHRIS center name.

The project require compliance with Assembly Bill 52 (AB-52) under the California Environmental Quality Act. If you have any questions or would like to consult under AB-52, please respond to this email or call me via 408-823-4570.

Thank you,

**Molly (M.J.) Laitinen, RPA**

## Staff Archaeologist



**p** (510) 215-3620    **c** (408) 823-4570  
**f** (510) 215-2898    **e** [mlaitinen@ncenet.com](mailto:mlaitinen@ncenet.com)

### **NCE**

[501 Canal Blvd., Suite I, Richmond, CA 94804](#)  
[www.ncenet.com](http://www.ncenet.com)

*Collaboration. Commitment. Confidence.<sup>SM</sup>*



**From:** [Molly Laitinen](#)  
**To:** [admin@guidiville.net](mailto:admin@guidiville.net)  
**Cc:** [Mike Vickers](#); [Gail Ervin](#); [Catrina Vaz](#)  
**Subject:** Walnut Creek Flow Trail: Tribe Outreach  
**Date:** Friday, January 6, 2023 5:11:00 PM  
**Attachments:** [Flow Trail Letter - Guidiville Indian Rancheria.pdf](#)  
[image001.jpg](#)

---

Greetings:

On behalf of the City of Walnut Creek, I am conducting initial follow-up outreach regarding the Flow Trail Project located in the Lime Ridge Open Space area, Walnut Creek, California. Please find attached a copy of the consultation letter mailed on November 23, 2022 containing one small correction to the CHRIS center name.

The project require compliance with Assembly Bill 52 (AB-52) under the California Environmental Quality Act. If you have any questions or would like to consult under AB-52, please respond to this email or call me via 408-823-4570.

Thank you,

**Molly (M.J.) Laitinen, RPA**

**Staff Archaeologist**



**p** (510) 215-3620    **c** (408) 823-4570  
**f** (510) 215-2898    **e** [mlaitinen@ncenet.com](mailto:mlaitinen@ncenet.com)

**NCE**  
[501 Canal Blvd., Suite I, Richmond, CA 94804](#)  
[www.ncenet.com](http://www.ncenet.com)

*Collaboration. Commitment. Confidence.<sup>SM</sup>*

**From:** [Molly Laitinen](#)  
**To:** [KKLLC Admin](#)  
**Subject:** RE: Walnut Creek Flow Trail  
**Date:** Friday, January 27, 2023 4:55:00 PM

---

Hi,

No problem, Monday doesn't work, but I will forward the before 3pm availability for Wed-Fri to Walnut Creek and see if they can narrow it down.

Thank you and have a great weekend!

M.J. Laitinen  
NCE | Staff Archaeologist  
Mobile: (408) 823-4570

---

**From:** KKLLC Admin <[admin@kanyonconsulting.com](mailto:admin@kanyonconsulting.com)>  
**Sent:** Friday, January 27, 2023 4:49 PM  
**To:** Molly Laitinen <[MLaitinen@ncenet.com](mailto:MLaitinen@ncenet.com)>  
**Subject:** Re: Walnut Creek Flow Trail

Good Evening Molly,  
my apologies due to the influx of emails I did not see this request. Kanyon does have availability on Monday 1/30 at 10am would this work? She also has availability Wed 2/1 Thurs 2/2 and Thurs 2/3 before 3pm.

On Tue, Jan 24, 2023 at 9:43 AM Molly Laitinen <[MLaitinen@ncenet.com](mailto:MLaitinen@ncenet.com)> wrote:

Hi Kanyon,

Thank you for your response and request to consult on the City of Walnut Creek's Flow Trail Project. We would like to set up a meeting to discuss your questions and concerns and your recommendations for tribal and archaeological monitoring during ground disturbance activities.

Can you please let us know if you have availability to meet this Friday, 1/27, between 9am and 12pm? The City will send a Zoom invite for the time you choose.

Thank you,

**Molly (M.J.) Laitinen, RPA**  
Staff Archaeologist



**p** (510) 215-3620    **c** (408) 823-4570  
**f** (510) 215-2898    **e** [mlaitinen@ncenet.com](mailto:mlaitinen@ncenet.com)

NCE

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*Collaboration. Commitment. Confidence.<sup>SM</sup>*

---

**From:** KKLLC Admin <[admin@kanyonkonsulting.com](mailto:admin@kanyonkonsulting.com)>

**Sent:** Tuesday, January 17, 2023 11:56 AM

**To:** Molly Laitinen <[MLaitinen@ncenet.com](mailto:MLaitinen@ncenet.com)>

**Subject:** Walnut Creek Flow Trail

miSmin Tuuhis [Good Day]

Kan rakat Kanyon Sayers-Roods. I am writing this on behalf of the Indian Canyon Band of Costanoan Ohlone People as requested, responding to your letter. As this project's Area of Potential Effect (APE) overlaps or is near the management boundary of a potentially eligible cultural site, I am interested in consulting and voicing our concerns. With some instances like this, usually we recommend that a Native American Monitor and an Archaeologist be present on-site at all times during any/all ground disturbing activities. The presence of a Native monitor and archaeologist will help the project minimize potential effects on the cultural site and mitigate inadvertent issues.

Kanyon Konsulting, LLC has numerous Native Monitors available for projects such as this, if applicable, we recommend a Cultural Sensitivity Training at the beginning of each project. This service is offered to aid those involved in the project to become more familiar with the indigenous history of the peoples of this land that is being worked on.

Kanyon Konsulting is a strong proponent of honoring truth in history, when it comes to impacting Cultural Resources and potential ancestral remains, we need to recognize the history of the territory we are impacting. We have seen that projects like these tend to come into an area to consult/mitigate and move on shortly after - barely acknowledging the Cultural Representatives of the territory they steward and are responsible for. Because of these possibilities, we highly recommend that you receive a specialized consultation provided by our company as the project commences, bringing in considerations about the Indigenous peoples and environment of this territory that you work, have settled upon and benefit from.

As previously stated, our goal is to Honor Truth in History. And as such we want to ensure that there is an effort from the project organizer to take strategic steps in ways that #HonorTruthinHistory. This will make all involved aware of the history of the Indigenous communities whom we acknowledge as the first stewards and land managers of these territories.

Potential Approaches to Indigenous Cultural Awareness/History:

➤ Signs or messages to the audience or community of the territory being developed. (ex. A commerable plaque, page on the website, mural, display, or an Educational/Cultural Center with information about the history/ecology/resources of

the land)

➤Commitment to consultation with the Native Peoples of the territory in regards to presenting and messaging about the Indigenous history/community of the land (Land Acknowledgement on website, written material about the space/org/building/business/etc, Cultural display of cultural resources/botanical knowledge or Culture sharing of Traditional Ecological Knowledge - Indigenous Science and Technology)

➤Advocacy of supporting indigenous lead movements and efforts. (informing one's audience and/or community about local present Indigenous community)

We look forward to working with you.

Tumsan-ak kannis [Thank You]

Kanyon Sayers-Roods

Consultant / Tribal Monitor [ICMBCO]

Kanyon Konsulting, LLC

--

Kind Regards

Nichole Rhodes

Executive Administrator Kanyon Konsulting LLC

Email: [Admin@kanyonkonsulting.com](mailto:Admin@kanyonkonsulting.com)

## Molly Laitinen

---

**From:** Microsoft Outlook  
**To:** ams@indiancanyon.org  
**Sent:** Saturday, January 7, 2023 5:19 PM  
**Subject:** Undeliverable: Walnut Creek Flow Trail: Tribe Outreach

### Delivery has failed to these recipients or groups:

[ams@indiancanyon.org](mailto:ams@indiancanyon.org) ([ams@indiancanyon.org](mailto:ams@indiancanyon.org))

Your message wasn't delivered. Despite repeated attempts to deliver your message, the recipient's email system refused to accept a connection from your email system.

Contact the recipient by some other means (by phone, for example) and ask them to tell their email admin that it appears that their email system is refusing connections from your email server. Give them the error details shown below. It's likely that the recipient's email admin is the only one who can fix this problem.

#### For Email Admins

No connection could be made because the target computer actively refused it. This usually results from trying to connect to a service that is inactive on the remote host - that is, one with no server application running. For more information and tips to fix this issue see this article: <https://go.microsoft.com/fwlink/?LinkId=389361>

### Diagnostic information for administrators:

Generating server: MN6PR16MB5475.namprd16.prod.outlook.com  
Receiving server: MN6PR16MB5475.namprd16.prod.outlook.com

ams@indiancanyon.org

1/8/2023 1:18:52 AM - Server at MN6PR16MB5475.namprd16.prod.outlook.com returned '550 5.4.316 Message expired, connection refused(Socket error code 10061)'

1/8/2023 1:07:58 AM - Server at indiancanyon.org (2606:4700:3032::ac43:8c05) returned '450 4.4.316 Connection refused [Message=Socket error code 10061] [LastAttemptedServerName=indiancanyon.org]

[LastAttemptedIP=2606:4700:3032::ac43:8c05:25] [SmtSecurity=-2;-2] [BN7NAM10FT082.eop-nam10.prod.protection.outlook.com](Socket error code 10061)'

#### Original message headers:

Received: from DM5PR16MB1833.namprd16.prod.outlook.com (2603:10b6:4:21::15) by MN6PR16MB5475.namprd16.prod.outlook.com (2603:10b6:208:476::13) with Microsoft SMTP Server (version=TLS1\_2, cipher=TLS\_ECDHE\_RSA\_WITH\_AES\_256\_GCM\_SHA384) id 15.20.5944.19; Sat, 7 Jan 2023 15:30:20 +0000

**From:** [Molly Laitinen](#)  
**To:** [kanyon@kanyonkonsulting.com](mailto:kanyon@kanyonkonsulting.com); [ams@indiancanyon.org](mailto:ams@indiancanyon.org)  
**Cc:** [Mike Vickers](#); [Gail Ervin](#); [Catrina Vaz](#)  
**Subject:** Walnut Creek Flow Trail: Tribe Outreach  
**Date:** Friday, January 6, 2023 5:12:00 PM  
**Attachments:** [Flow Trail Letter - Indian Canyon Savers.pdf](#)  
[image001.jpg](#)  
[Flow Trail Letter - Indian Canyon Savers-Roods.pdf](#)

---

Greetings:

On behalf of the City of Walnut Creek, I am conducting initial follow-up outreach regarding the Flow Trail Project located in the Lime Ridge Open Space area, Walnut Creek, California. Please find attached a copy of the consultation letter mailed on November 23, 2022 containing one small correction to the CHRIS center name.

The project require compliance with Assembly Bill 52 (AB-52) under the California Environmental Quality Act. If you have any questions or would like to consult under AB-52, please respond to this email or call me via 408-823-4570.

Thank you,

**Molly (M.J.) Laitinen, RPA**  
**Staff Archaeologist**



**p** (510) 215-3620    **c** (408) 823-4570  
**f** (510) 215-2898    **e** [mlaitinen@ncenet.com](mailto:mlaitinen@ncenet.com)

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[www.ncenet.com](http://www.ncenet.com)

*Collaboration. Commitment. Confidence.<sup>SM</sup>*

## Molly Laitinen

---

**From:** postmaster@muwekma.org  
**To:** marellano@muwekma.org  
**Sent:** Friday, January 6, 2023 5:14 PM  
**Subject:** Undeliverable: Walnut Creek Flow Trail: Tribe Outreach

### Delivery has failed to these recipients or groups:

[marellano@muwekma.org \(marellano@muwekma.org\)](mailto:marellano@muwekma.org)

The recipient's mailbox is full and can't accept messages now. Please try resending your message later, or contact the recipient directly.

### Diagnostic information for administrators:

Generating server: SN6PR06MB4734.namprd06.prod.outlook.com

marellano@muwekma.org

Remote Server returned '554 5.2.2 mailbox full';

STOREDRV.Deliver.Exception:QuotaExceededException.MapiExceptionShutoffQuotaExceeded; Failed to process message due to a permanent exception with message [BeginDiagnosticData]The process failed to get the correct properties. 0.35250:0A001A00, 1.36674:06000000, 1.61250:00000000, 1.45378:02000000, 1.44866:0B000000, 1.36674:A1000000, 1.61250:00000000, 1.45378:11000000, 1.44866:5C000000, 1.36674:09000000, 1.61250:00000000, 1.45378:70000000, 1.44866:00010000, 1.36674:08000000, 1.61250:00000000, 1.45378:73000000, 1.44866:00100000, 16.55847:F8000000, 17.43559:00000000C603000000000000000000000000000000, 20.52176:140F62970900001031000000, 20.50032:140F62977917F01F02000000, 0.53414:07000000, 0.35180:48020000, 255.23226:0A001630, 255.27962:06000000, 255.17082:DD040000, 0.24929:14000000, 4.21921:DD040000, 255.27962:FA000000, 255.1494:0A00030F, 0.38698:86000000, 1.41134:86000000, 7.36354:01000000007626DE86000000, 0.34102:01000000, 5.29818:0000000034333036376534662D663530372D343365302D613961632D61396438663632653531636100323000, 5.55446:00000000333A300031314600, 7.29828:FE173A800C0000005B000100, 7.29832:000000800C00000046000000, 4.45884:DD040000, 4.29880:DD040000, 4.59420:DD040000, 7.49544:01000000007626DE2D303436, 8.45434:4F7E064307F5E043A9ACA9D8F62E51CA20467261, 1.46798:04000000, 5.10786:0000000031352E32302E353938362E3030393A425933505230364D42383131353A616566661383238622D363862372D343763392D396335372D30343666639343633393062633A39383736343A2E4E4554204672616D65776F726B20342E382E393033322E3000101004000000, 7.51330:D21599824CF0DA0812000000, 0.39570:04000000, 1.64146:06000000, 1.33010:06000000, 2.54258:DD040000, 1.33010:06000000, 2.54258:DD040000, 255.1750:82000000, 255.27962:A1000000, 255.17082:B9040000, 0.27745:87000000, 4.21921:B9040000, 255.27962:09000000, 0.26881:8C000000, 255.21817:B9040000, 0.60978:0A00773A, 0.36402:91000000, 4.38450:DD040000, 0.47602:0A00763A, 4.63986:DD040000, 0.22945:BF020000, 4.31137:DD040000, 0.26529:9B000000, 4.29953:DD040000, 0.32768:0A006500, 4.33024:DD040000[EndDiagnosticData] [Stage: CreateMessage]'

### Original message headers:

ARC-Seal: i=2; a=rsa-sha256; s=arcselector9901; d=microsoft.com; cv=pass;

b=gGF06TtSEHsZJcNrM8PcDLRVh6ZsHxxQO+x2goz+m1qk4aoIik2FW697ShujtPxf9a1/jAqoVAXNLIiqmXvj/tI4Jl6OSHlpE8PwHvlStytL1MeMZkjpGLp5wKYG26xoKQJUtrL0600CNwn9zxPHEdqCtiUmQR9G0T9KeLCZ+Ovn4Jxw

**From:** [Molly Laitinen](#)  
**To:** [cnjimeh@muwekma.org](mailto:cnjimeh@muwekma.org); [marellano@muwekma.org](mailto:marellano@muwekma.org)  
**Cc:** [Mike Vickers](#); [Gail Ervin](#); [Catrina Vaz](#)  
**Subject:** Walnut Creek Flow Trail: Tribe Outreach  
**Date:** Friday, January 6, 2023 5:14:00 PM  
**Attachments:** [Flow Trail Letter - Muwekma Ohlone.pdf](#)  
[image001.jpg](#)

---

Greetings:

On behalf of the City of Walnut Creek, I am conducting initial follow-up outreach regarding the Flow Trail Project located in the Lime Ridge Open Space area, Walnut Creek, California. Please find attached a copy of the consultation letter mailed on November 23, 2022 containing one small correction to the CHRIS center name.

The project require compliance with Assembly Bill 52 (AB-52) under the California Environmental Quality Act. If you have any questions or would like to consult under AB-52, please respond to this email or call me via 408-823-4570.

Thank you,

**Molly (M.J.) Laitinen, RPA**

**Staff Archaeologist**



**p** (510) 215-3620    **c** (408) 823-4570  
**f** (510) 215-2898    **e** [mlaitinen@ncenet.com](mailto:mlaitinen@ncenet.com)

**NCE**  
[501 Canal Blvd., Suite I, Richmond, CA 94804](#)  
[www.ncenet.com](http://www.ncenet.com)

*Collaboration. Commitment. Confidence.<sup>SM</sup>*



**From:** [Molly Laitinen](#)  
**To:** [valdezcome@comcast.net](mailto:valdezcome@comcast.net)  
**Cc:** [Mike Vickers](#); [Gail Ervin](#); [Catrina Vaz](#)  
**Subject:** Walnut Creek Flow Trail: Tribe Outreach  
**Date:** Friday, January 6, 2023 5:14:00 PM  
**Attachments:** [Flow Trail Letter - Nashville Enterprise.pdf](#)  
[image001.jpg](#)

---

Greetings:

On behalf of the City of Walnut Creek, I am conducting initial follow-up outreach regarding the Flow Trail Project located in the Lime Ridge Open Space area, Walnut Creek, California. Please find attached a copy of the consultation letter mailed on November 23, 2022 containing one small correction to the CHRIS center name.

The project require compliance with Assembly Bill 52 (AB-52) under the California Environmental Quality Act. If you have any questions or would like to consult under AB-52, please respond to this email or call me via 408-823-4570.

Thank you,

**Molly (M.J.) Laitinen, RPA**

**Staff Archaeologist**



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**From:** [Katherine Perez](#)  
**To:** [Molly Laitinen](#)  
**Subject:** Re: Walnut Creek Flow Trail: Tribe Outreach  
**Date:** Thursday, January 26, 2023 8:22:31 PM

---

Hello Molly,

I can meet on zoom on 1/27/23 at 10am.

Katherine Perez

Sent from my iPhone

On Jan 24, 2023, at 9:33 AM, Molly Laitinen <[MLaitinen@ncenet.com](mailto:MLaitinen@ncenet.com)> wrote:

Hi Katherine,

I hope you had a nice weekend. Can you please let us know if you have availability to meet either this Thursday, 1/26, between 9 and 10am or Friday, 1/27, between 9am and 12pm? The City will send a Zoom invite for the time of you choosing on either Thursday or Friday.

We would like to talk with you this week if possible so that we can keep the project schedule moving forward.

Thank you,

M.J. Laitinen  
NCE | Staff Archaeologist  
Mobile: (408) 823-4570

---

**From:** Molly Laitinen  
**Sent:** Wednesday, January 18, 2023 10:11 AM  
**To:** Katherine Perez <[canutes@verizon.net](mailto:canutes@verizon.net)>  
**Cc:** Mike Vickers <[vickers@walnut-creek.org](mailto:vickers@walnut-creek.org)>; Gail Ervin <[GErvin@ncenet.com](mailto:GErvin@ncenet.com)>  
**Subject:** RE: Walnut Creek Flow Trail: Tribe Outreach

Hi Katherine,

Can you let us know if you have availability for a meeting this coming Friday, Jan. 20<sup>th</sup> between 10 am and 1 pm? If not, we will provide times for next week.

Thank you,

M.J. Laitinen  
NCE | Staff Archaeologist  
Mobile: (408) 823-4570

---

**From:** Molly Laitinen  
**Sent:** Monday, January 16, 2023 6:12 PM  
**To:** Katherine Perez <[canutes@verizon.net](mailto:canutes@verizon.net)>  
**Cc:** Mike Vickers <[vickers@walnut-creek.org](mailto:vickers@walnut-creek.org)>; Gail Ervin <[GErvin@ncenet.com](mailto:GErvin@ncenet.com)>  
**Subject:** RE: Walnut Creek Flow Trail: Tribe Outreach

Hi Katherine,

The City representative, Mike, let me know he is out of the office for most of this week and will be back on Friday, Jan. 20<sup>th</sup>. Do you have any availability this Friday between 10 am and 1 pm?

If not, we can look at our schedules and meet next week.

Thank you,

M.J. Laitinen  
NCE | Staff Archaeologist  
Mobile: (408) 823-4570

---

**From:** Katherine Perez <[canutes@verizon.net](mailto:canutes@verizon.net)>  
**Sent:** Saturday, January 14, 2023 9:28 PM  
**To:** Molly Laitinen <[MLaitinen@ncenet.com](mailto:MLaitinen@ncenet.com)>  
**Subject:** Re: Walnut Creek Flow Trail: Tribe Outreach

Hello Molly,

Can you send me some dates and times for a zoom meeting.

Nototomne Cultural Preservation  
Northern Valley Yokut  
Katherine Perez  
P.O Box 717  
Linden, CA 95236  
Cell: 209.649.8972  
Email: [canutes@verizon.net](mailto:canutes@verizon.net)

Sent from my iPhone

On Jan 12, 2023, at 10:30 AM, Molly Laitinen <[MLaitinen@ncenet.com](mailto:MLaitinen@ncenet.com)> wrote:

Hi Katherine,

Thank you for your response and recommendation to have a Native American monitor on site during the project. We would like to talk with you further about the project and your recommendation. Do you have availability tomorrow or next week to have a meeting?

Thank you,

M.J. Laitinen  
NCE | Staff Archaeologist  
Mobile: (408) 823-4570

---

**From:** Katherine Perez <[canutes@verizon.net](mailto:canutes@verizon.net)>  
**Sent:** Friday, January 6, 2023 5:28 PM  
**To:** Molly Laitinen <[MLaitinen@ncenet.com](mailto:MLaitinen@ncenet.com)>  
**Subject:** Re: Walnut Creek Flow Trail: Tribe Outreach

Hello Molly,

We just wanted to let you know that we received your letter about the proposed project mentioned above. It is the Tribes' recommendation to have the project monitored by a Native American monitor for the potential of inadvertent discoveries.

Nototomne Cultural Preservation  
Northern Valley Yokut / Ohlone / Patwin  
Katherine Perez  
P.O Box 717  
Linden, CA 95236  
Cell: 209.649.8972  
Email: [canutes@verizon.net](mailto:canutes@verizon.net)

-----Original Message-----

From: Molly Laitinen <[MLaitinen@ncenet.com](mailto:MLaitinen@ncenet.com)>  
To: [canutes@verizon.net](mailto:canutes@verizon.net) <[canutes@verizon.net](mailto:canutes@verizon.net)>; [huskanam@gmail.com](mailto:huskanam@gmail.com) <[huskanam@gmail.com](mailto:huskanam@gmail.com)>  
Cc: Mike Vickers <[vickers@walnut-creek.org](mailto:vickers@walnut-creek.org)>; Gail Ervin <[GErvin@ncenet.com](mailto:GErvin@ncenet.com)>; Catrina Vaz <[CVaz@ncenet.com](mailto:CVaz@ncenet.com)>  
Sent: Fri, Jan 6, 2023 5:16 pm

Subject: Walnut Creek Flow Trail: Tribe Outreach

Greetings:

On behalf of the City of Walnut Creek, I am conducting initial follow-up outreach regarding the Flow Trail Project located in the Lime Ridge Open Space area, Walnut Creek, California. Please find attached a copy of the consultation letter mailed on November 23, 2022 containing one small correction to the CHRIS center name.

The project require compliance with Assembly Bill 52 (AB-52) under the California Environmental Quality Act. If you have any questions or would like to consult under AB-52, please respond to this email or call me via 408-823-4570.

Thank you,

**Molly (M.J.) Laitinen, RPA**

Staff Archaeologist

<image001.jpg>

**p** (510) 215-3620    **c** (408) 823-4570  
**f** (510) 215-2898    **e** [mlaitinen@ncenet.com](mailto:mlaitinen@ncenet.com)

**NCE**

[501 Canal Blvd., Suite I, Richmond, CA 94804](#)

[www.ncenet.com](http://www.ncenet.com)

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**From:** [Molly Laitinen](#)  
**To:** [Andrew Galvan](#)  
**Cc:** [Mike Vickers](#); [Gail Ervin](#); [Catrina Vaz](#)  
**Subject:** Walnut Creek Flow Trail: Tribe Outreach  
**Date:** Friday, January 6, 2023 5:16:00 PM  
**Attachments:** [Flow Trail Letter - Ohlone Indian Tribe.pdf](#)  
[image001.jpg](#)

---

Greetings:

On behalf of the City of Walnut Creek, I am conducting initial follow-up outreach regarding the Flow Trail Project located in the Lime Ridge Open Space area, Walnut Creek, California. Please find attached a copy of the consultation letter mailed on November 23, 2022 containing one small correction to the CHRIS center name.

The project require compliance with Assembly Bill 52 (AB-52) under the California Environmental Quality Act. If you have any questions or would like to consult under AB-52, please respond to this email or call me via 408-823-4570.

Thank you,

**Molly (M.J.) Laitinen, RPA**

**Staff Archaeologist**



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**From:** [Venesa Kremer](#)  
**To:** [Molly Laitinen](#)  
**Cc:** [Mike Vickers](#); [Gail Ervin](#)  
**Subject:** Re: City of Walnut Creek- Flow Trail Project  
**Date:** Wednesday, January 11, 2023 1:27:27 PM  
**Attachments:** [image001.png](#)

---

Yes this is great! I am actually out on emergency clean up if you could please send the invite. I'd appreciate it. Thank you. See you tomorrow

Get [Outlook for iOS](#)

---

**From:** Molly Laitinen <MLaitinen@ncenet.com>  
**Sent:** Wednesday, January 11, 2023 10:04:43 AM  
**To:** Venesa Kremer <vkremer@wiltonrancheria-nsn.gov>  
**Cc:** Mike Vickers <vickers@walnut-creek.org>; Gail Ervin <GErvin@ncenet.com>  
**Subject:** RE: City of Walnut Creek- Flow Trail Project

Hi Venesa,

Yes, let's go with 10 am tomorrow, 1/12. Would you like me to send an invite? Or would you prefer to set up the meeting via Zoom?

Thank you,

M.J. Laitinen  
NCE | Staff Archaeologist  
Mobile: (408) 823-4570

---

**From:** Venesa Kremer <vkremer@wiltonrancheria-nsn.gov>  
**Sent:** Tuesday, January 10, 2023 12:57 PM  
**To:** Molly Laitinen <MLaitinen@ncenet.com>  
**Subject:** RE: City of Walnut Creek- Flow Trail Project

Yes Thursday Morning works great, is 10 ok with everyone

---

**From:** Molly Laitinen <[MLaitinen@ncenet.com](mailto:MLaitinen@ncenet.com)>  
**Sent:** Tuesday, January 10, 2023 11:42 AM  
**To:** Venesa Kremer <[vkremer@wiltonrancheria-nsn.gov](mailto:vkremer@wiltonrancheria-nsn.gov)>  
**Cc:** Mike Vickers <[vickers@walnut-creek.org](mailto:vickers@walnut-creek.org)>; Gail Ervin <[GErvin@ncenet.com](mailto:GErvin@ncenet.com)>  
**Subject:** RE: City of Walnut Creek- Flow Trail Project

Hi Venesa,

The City contact for the project has mentioned that he will make himself available at a time of our choosing. I am also available any time this upcoming Thursday or Friday. Is there any particular time

that works best for you and Lou? Should we aim for Thursday morning?

I can set up a meeting with Microsoft Teams or GoToMeeting. I can also accept a Zoom meeting invite if that's the preferred platform. Please let me know which option you prefer.

Thank you,

M.J. Laitinen  
NCE | Staff Archaeologist  
Mobile: (408) 823-4570

---

**From:** Venesa Kremer <[vkremer@wiltonrancheria-nsn.gov](mailto:vkremer@wiltonrancheria-nsn.gov)>  
**Sent:** Monday, January 9, 2023 1:29 PM  
**To:** Molly Laitinen <[MLaitinen@ncenet.com](mailto:MLaitinen@ncenet.com)>  
**Subject:** RE: City of Walnut Creek- Flow Trail Project

Hi Molly-

Thank you for your response. A web chat will work great. We would just like a better feel for the project and how it may impacts to our tribal resources. Do you have time to chat with my Director Lou Griffin and myself this Thursday 1/12 or Friday 1/13?

---

**From:** Molly Laitinen <[MLaitinen@ncenet.com](mailto:MLaitinen@ncenet.com)>  
**Sent:** Friday, January 6, 2023 5:01 PM  
**To:** Venesa Kremer <[vkremer@wiltonrancheria-nsn.gov](mailto:vkremer@wiltonrancheria-nsn.gov)>  
**Cc:** Mike Vickers <[vickers@walnut-creek.org](mailto:vickers@walnut-creek.org)>; Gail Ervin <[GErvin@ncenet.com](mailto:GErvin@ncenet.com)>; Catrina Vaz <[CVaz@ncenet.com](mailto:CVaz@ncenet.com)>  
**Subject:** RE: City of Walnut Creek- Flow Trail Project

Hi Venesa,

Thank you for your email response and request for consultation. The City and NCE would like to discuss the project with you further and understand any concerns you may have. Please let us know what availability you and any other tribe members have next week, Jan. 9 through Jan. 13, and in what capacity you would like to meet.

I have also attached a digital copy of the tribe letter sent in November for your records with a small correction to the CHRIS center we received records search results from.

Thank you and have a nice weekend!

M.J. Laitinen  
NCE | Staff Archaeologist  
Mobile: (408) 823-4570

---



**From:** Venesa Kremer <[vkremer@wiltonrancheria-nsn.gov](mailto:vkremer@wiltonrancheria-nsn.gov)>

**Sent:** Friday, December 16, 2022 3:27 PM

**To:** Molly Laitinen <[MLaitinen@ncenet.com](mailto:MLaitinen@ncenet.com)>

**Subject:** City of Walnut Creek- Flow Trail Project

December 16, 2022

Hi Molly-

Thank you for reaching out to the Wilton Rancheria. We have received your letter dated November 23, 2022 regarding the Flow Trail Project located in the Lime Ridge Open Space Area in Walnut Creek. Due to this sites proximity to known tribal records as well as the positive hit on the NAHAC search we would like to formally open consultation with you over this project. Please reach back at to me at your nearest convenience. I can be reached by phone, email or zoom appointment. Thank you for your time. We look forward to your response

**Venesa Kremer**

Lead Monitor

Cultural Resource Assistant

Wilton Rancheria- Cultural Preservation Department

Tel: 916.683.6000 ext. 2023

9728 Kent St. | Elk Grove | CA | 95624

[vkremer@wiltonrancheria-nsn.gov](mailto:vkremer@wiltonrancheria-nsn.gov)

[cpd@wiltonrancheria-nsn.gov](mailto:cpd@wiltonrancheria-nsn.gov)



**From:** [Molly Laitinen](#)  
**To:** [kwood8934@aol.com](mailto:kwood8934@aol.com)  
**Cc:** [Mike Vickers](#); [Gail Ervin](#); [Catrina Vaz](#)  
**Subject:** Walnut Creek Flow Trail: Tribe Outreach  
**Date:** Friday, January 6, 2023 5:17:00 PM  
**Attachments:** [Flow Trail Letter - Wuksache Indian Tribe.pdf](#)  
[image001.jpg](#)

---

Greetings:

On behalf of the City of Walnut Creek, I am conducting initial follow-up outreach regarding the Flow Trail Project located in the Lime Ridge Open Space area, Walnut Creek, California. Please find attached a copy of the consultation letter mailed on November 23, 2022 containing one small correction to the CHRIS center name.

The project require compliance with Assembly Bill 52 (AB-52) under the California Environmental Quality Act. If you have any questions or would like to consult under AB-52, please respond to this email or call me via 408-823-4570.

Thank you,

**Molly (M.J.) Laitinen, RPA**

**Staff Archaeologist**



**p** (510) 215-3620    **c** (408) 823-4570  
**f** (510) 215-2898    **e** [mlaitinen@ncenet.com](mailto:mlaitinen@ncenet.com)

**NCE**  
[501 Canal Blvd., Suite I, Richmond, CA 94804](#)  
[www.ncenet.com](http://www.ncenet.com)

*Collaboration. Commitment. Confidence.<sup>SM</sup>*

**From:** [Molly Laitinen](#)  
**To:** [Corrina Gould](#)  
**Cc:** [Mike Vickers](#); [Gail Ervin](#)  
**Subject:** RE: Walnut Creek Flow Trail: Tribe Outreach  
**Date:** Tuesday, April 25, 2023 9:45:00 AM  
**Attachments:** [image003.png](#)

---

Hi Corrina,

As we discussed last week, the Walnut Creek Representative for the Walnut Creek Flow Trail, Mike Vickers, would like to walk the project area in Lime Ridge with you.

He is available on Wednesday, 5/3 at 10am. The meeting location will be at the parking lot at the end of Valley Vista Road and across from the Boundary Oak Golf Course building. Mike's cell number is 925-256-3538. We look forward to meeting with you!

<https://goo.gl/maps/7g4kqkBaQYxdagqdA>



**Molly (M.J.) Laitinen, RPA**  
Staff Archaeologist



**p** (510) 215-3620    **c** (408) 823-4570

f (510) 215-2898 e [mlaitinen@ncenet.com](mailto:mlaitinen@ncenet.com)

**NCE**

[501 Canal Blvd., Suite I, Richmond, CA 94804](#)  
[www.ncenet.com](http://www.ncenet.com)

*Collaboration. Commitment. Confidence.<sup>SM</sup>*

---

**From:** Corrina Gould <[cvltribe@gmail.com](mailto:cvltribe@gmail.com)>  
**Sent:** Wednesday, January 11, 2023 11:43 AM  
**To:** Molly Laitinen <[MLaitinen@ncenet.com](mailto:MLaitinen@ncenet.com)>  
**Cc:** Mike Vickers <[vickers@walnut-creek.org](mailto:vickers@walnut-creek.org)>; Gail Ervin <[GERvin@ncenet.com](mailto:GERvin@ncenet.com)>; Catrina Vaz <[CVaz@ncenet.com](mailto:CVaz@ncenet.com)>  
**Subject:** Re: Walnut Creek Flow Trail: Tribe Outreach

Access our Calendly here:

<https://calendly.com/cvltribe/consultation>

**'Uni (Respectfully),**

***Corrina Gould, Tribal Chair***

Confederated Villages of Lisjan Nation

On Wed, Jan 11, 2023 at 11:38 AM Corrina Gould <[cvltribe@gmail.com](mailto:cvltribe@gmail.com)> wrote:

Dear Molly,

Thank you for this follow up email. Unfortunately if this information was mailed out in November, we did not receive it as it is the incorrect address. I have reached out to the Native American Heritage Commission to ensure that our address is correct on the contact sheet that they provided.

The Tribe would like to consult on this project and will follow up with a calendly link to set up a meeting.

Furthermore all written correspondence should be sent to 10926 Edes Ave, Oakland, CA 94603 or email.

**'Uni (Respectfully),**

**Corrina Gould, Tribal Chair**

Confederated Villages of Lisjan Nation

On Fri, Jan 6, 2023 at 5:10 PM Molly Laitinen <[MLaitinen@ncenet.com](mailto:MLaitinen@ncenet.com)> wrote:

Greetings:

On behalf of the City of Walnut Creek, I am conducting initial follow-up outreach regarding the Flow Trail Project located in the Lime Ridge Open Space area, Walnut Creek, California. Please find attached a copy of the consultation letter mailed on November 23, 2022 containing one small correction to the CHRIS center name.

The project require compliance with Assembly Bill 52 (AB-52) under the California Environmental Quality Act. If you have any questions or would like to consult under AB-52, please respond to this email or call me via [408-823-4570](tel:408-823-4570).

Thank you,

**Molly (M.J.) Laitinen, RPA**

**Staff Archaeologist**



**p** [\(510\) 215-3620](tel:510-215-3620)    **c** [\(408\) 823-4570](tel:408-823-4570)  
**f** [\(510\) 215-2898](tel:510-215-2898)    **e** [mlaitinen@ncenet.com](mailto:mlaitinen@ncenet.com)

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[501 Canal Blvd., Suite I, Richmond, CA 94804](http://www.ncenet.com)  
[www.ncenet.com](http://www.ncenet.com)

*Collaboration. Commitment. Confidence.<sup>SM</sup>*

**From:** [Molly Laitinen](#)  
**To:** [Corrina Gould](#)  
**Cc:** [Mike Vickers](#); [Gail Ervin](#); [Catrina Vaz](#)  
**Subject:** RE: Walnut Creek Flow Trail: Tribe Outreach  
**Date:** Thursday, January 12, 2023 10:35:00 AM  
**Attachments:** [image001.jpg](#)

---

Hi Corrina,

Thank you for your response and request to consult on the project. We will make a note of the corrected address on our end for future projects. We will also take a look at your schedule and select a time to meet with you to discuss the project further.

We look forward to talking with you,

M.J. Laitinen  
NCE | Staff Archaeologist  
Mobile: (408) 823-4570

---

**From:** Corrina Gould <[cvltribe@gmail.com](mailto:cvltribe@gmail.com)>  
**Sent:** Wednesday, January 11, 2023 11:43 AM  
**To:** Molly Laitinen <[MLaitinen@ncenet.com](mailto:MLaitinen@ncenet.com)>  
**Cc:** Mike Vickers <[vickers@walnut-creek.org](mailto:vickers@walnut-creek.org)>; Gail Ervin <[GERvin@ncenet.com](mailto:GERvin@ncenet.com)>; Catrina Vaz <[CVaz@ncenet.com](mailto:CVaz@ncenet.com)>  
**Subject:** Re: Walnut Creek Flow Trail: Tribe Outreach

Access our Calendly here:

<https://calendly.com/cvltribe/consultation>

**'Uni (Respectfully),**

***Corrina Gould, Tribal Chair***  
Confederated Villages of Lisjan Nation

On Wed, Jan 11, 2023 at 11:38 AM Corrina Gould <[cvltribe@gmail.com](mailto:cvltribe@gmail.com)> wrote:

Dear Molly,

Thank you for this follow up email. Unfortunately if this information was mailed out in November, we did not receive it as it is the incorrect address. I have reached out to the Native American Heritage Commission to ensure that our address is correct on the contact sheet that they provided.

The Tribe would like to consult on this project and will follow up with a calendly link to set up a meeting.

Furthermore all written correspondence should be sent to 10926 Edes Ave, Oakland, CA 94603 or email.

'Uni (Respectfully),

***Corrina Gould, Tribal Chair***  
Confederated Villages of Lisjjan Nation

On Fri, Jan 6, 2023 at 5:10 PM Molly Latinen <[MLatinen@ncenet.com](mailto:MLatinen@ncenet.com)> wrote:

Greetings:

On behalf of the City of Walnut Creek, I am conducting initial follow-up outreach regarding the Flow Trail Project located in the Lime Ridge Open Space area, Walnut Creek, California. Please find attached a copy of the consultation letter mailed on November 23, 2022 containing one small correction to the CHRIS center name.

The project require compliance with Assembly Bill 52 (AB-52) under the California Environmental Quality Act. If you have any questions or would like to consult under AB-52, please respond to this email or call me via [408-823-4570](tel:408-823-4570).

Thank you,

**Molly (M.J.) Latinen, RPA**  
Staff Archaeologist



**NCE**  
p (510) 215-3620 c (408) 823-4570  
f (510) 215-2898 e [mjlatinen@ncenet.com](mailto:mjlatinen@ncenet.com)

501 Canal Blvd., Suite 1, Richmond, CA 94804  
[www.ncenet.com](http://www.ncenet.com)

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## **Attachment 3**

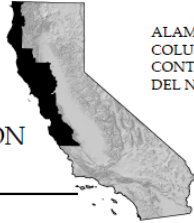
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**NWIC RECORDS SEARCH**



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CALIFORNIA  
HISTORICAL  
RESOURCES  
INFORMATION  
SYSTEM



ALAMEDA  
COLUSA  
CONTRA COSTA  
DEL NORTE

HUMBOLDT  
LAKE  
MARIN  
MENDOCINO  
MONTEREY  
NAPA  
SAN BENITO

SAN FRANCISCO  
SAN MATEO  
SANTA CLATA  
SANTA CRUZ  
SOLANO  
SONOMA  
YOLO

**Northwest Information Center**  
Sonoma State University  
1400 Valley House Drive, Suite 210  
Rohnert Park, California 94928-3609  
Tel: 707.588.8455  
nwwic@sonoma.edu  
http://nwwic.sonoma.edu

6/17/2022

NWIC File No.: 21-2079

Molly Laitinen  
NCE  
501 Canal Blvd. Suite I  
Richmond, CA 94804

Re: Flow Trail Project

The Northwest Information Center received your record search request for the project area referenced above, located on the Clayton USGS 7.5' quad(s). The following reflects the results of the records search for the project area and a 100m radius:

Resources within project area:	None
Resources within 100m radius:	None
Reports within project area:	S-014337
“Other” Reports w/in proj. area:	S-000595; S-000848; S-001978; S-002458; S-009462; S-009583; S-009795; S-016660; S-017835; S-018217; S-020395; S-030204; S-032596; S-03360; S-049780
Reports within 100m radius:	S-010876

**Resource Database Printout (list):**

enclosed  not requested  nothing listed

**Resource Database Printout (details):**

enclosed  not requested  nothing listed

**Resource Digital Database Records:**

enclosed  not requested  nothing listed

**Report Database Printout (list):**

enclosed  not requested  nothing listed

**Report Database Printout (details):**

enclosed  not requested  nothing listed

**Report Digital Database Records:**

enclosed  not requested  nothing listed

**Resource Record Copies:**

enclosed  not requested  nothing listed

**Report Copies:**

enclosed  not requested  nothing listed

**OHP Built Environment Resources Directory:**

enclosed  not requested  nothing listed

**Archaeological Determinations of Eligibility:**

enclosed  not requested  nothing listed

**CA Inventory of Historic Resources (1976):**

enclosed  not requested  nothing listed

**Caltrans Bridge Survey:**

enclosed  not requested  nothing listed

**Ethnographic Information:**

enclosed  not requested  nothing listed

**Historical Literature:**

enclosed  not requested  nothing listed

**Historical Maps:**

enclosed  not requested  nothing listed

**Local Inventories:**

enclosed  not requested  nothing listed

**GLO and/or Rancho Plat Maps:**

enclosed  not requested  nothing listed

**Shipwreck Inventory:**

enclosed  not requested  nothing listed

**Soil Survey Maps:**

enclosed  not requested  nothing listed

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

The provision of CHRIS Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation, or the State Historical Resources Commission.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

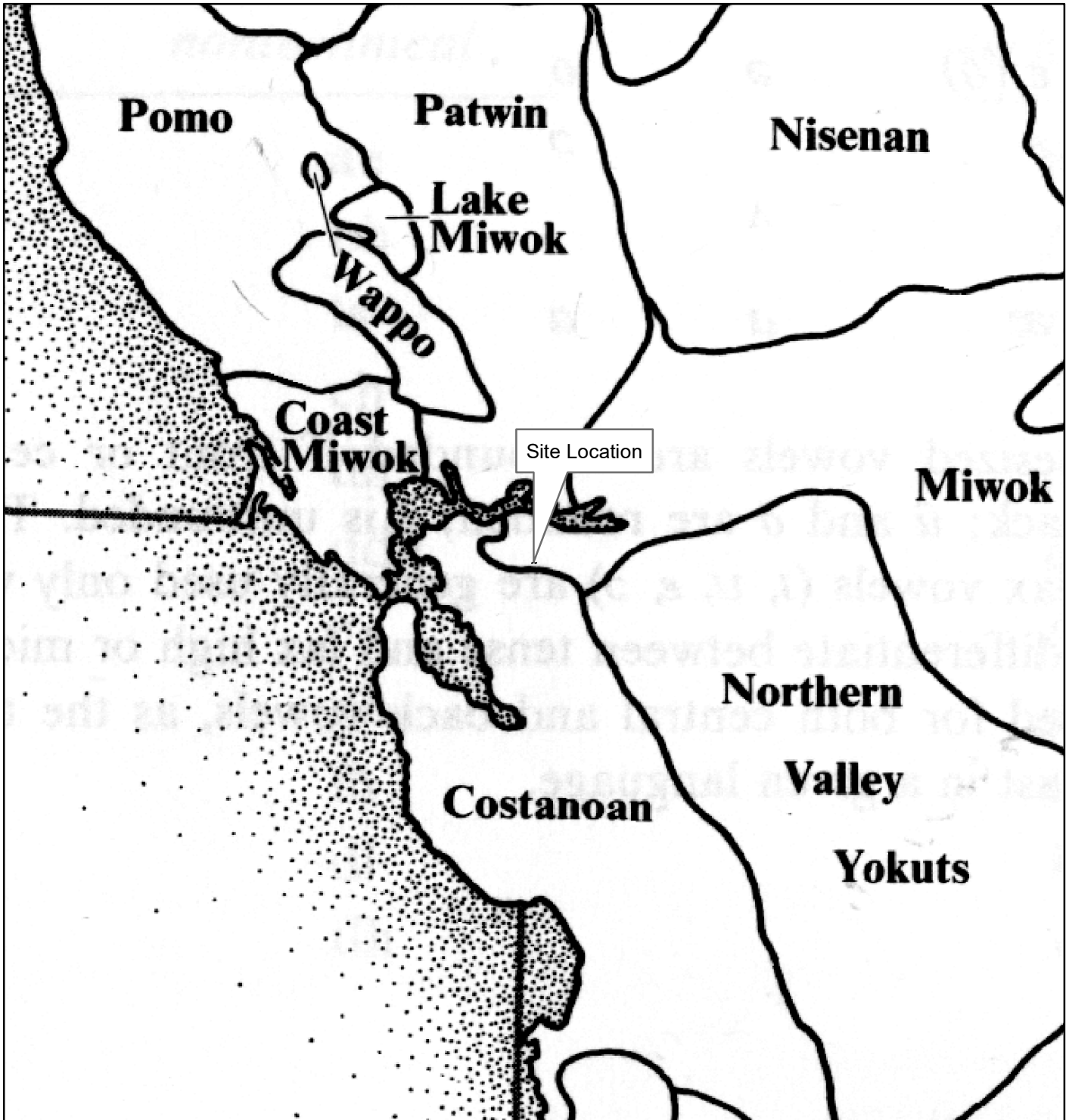
Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Requests made after initial invoicing will result in the preparation of a separate invoice.

Thank you for using the California Historical Resources Information System (CHRIS).

Sincerely,

Justin Murazzo  
Researcher

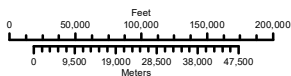
Ethnographic Map  
Flow Trail Project



**Northwest Information Center**

File #21-2079 17 June 2022 J. Murazzo

May depict confidential cultural resource locations.  
Do not distribute.



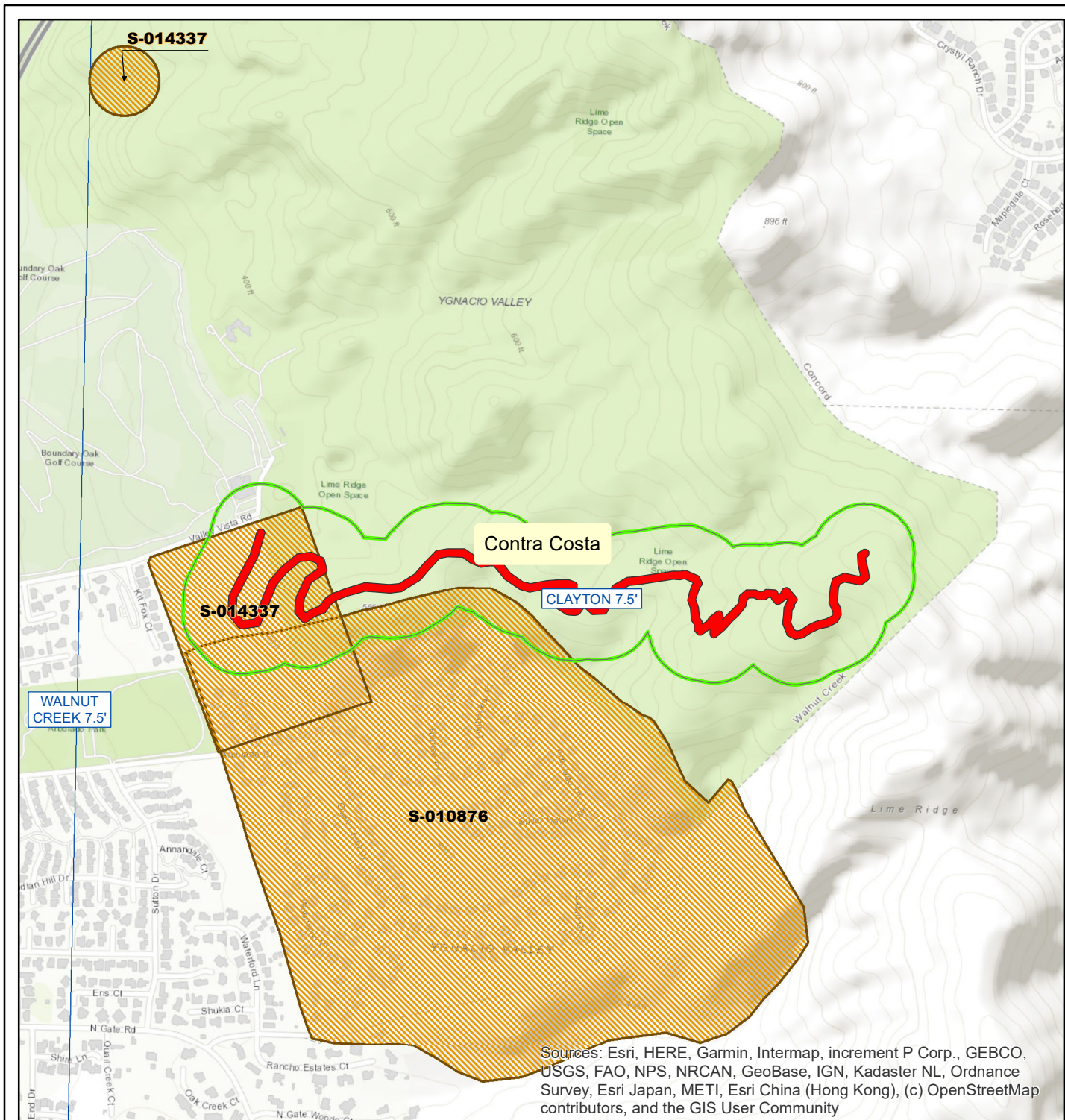
Project\_Area Vol8\_Index\_of\_tribal\_groups.img

Value

High : 255

Low : 0

# Report Map Flow Trail Project

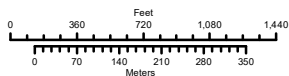


Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

## Northwest Information Center

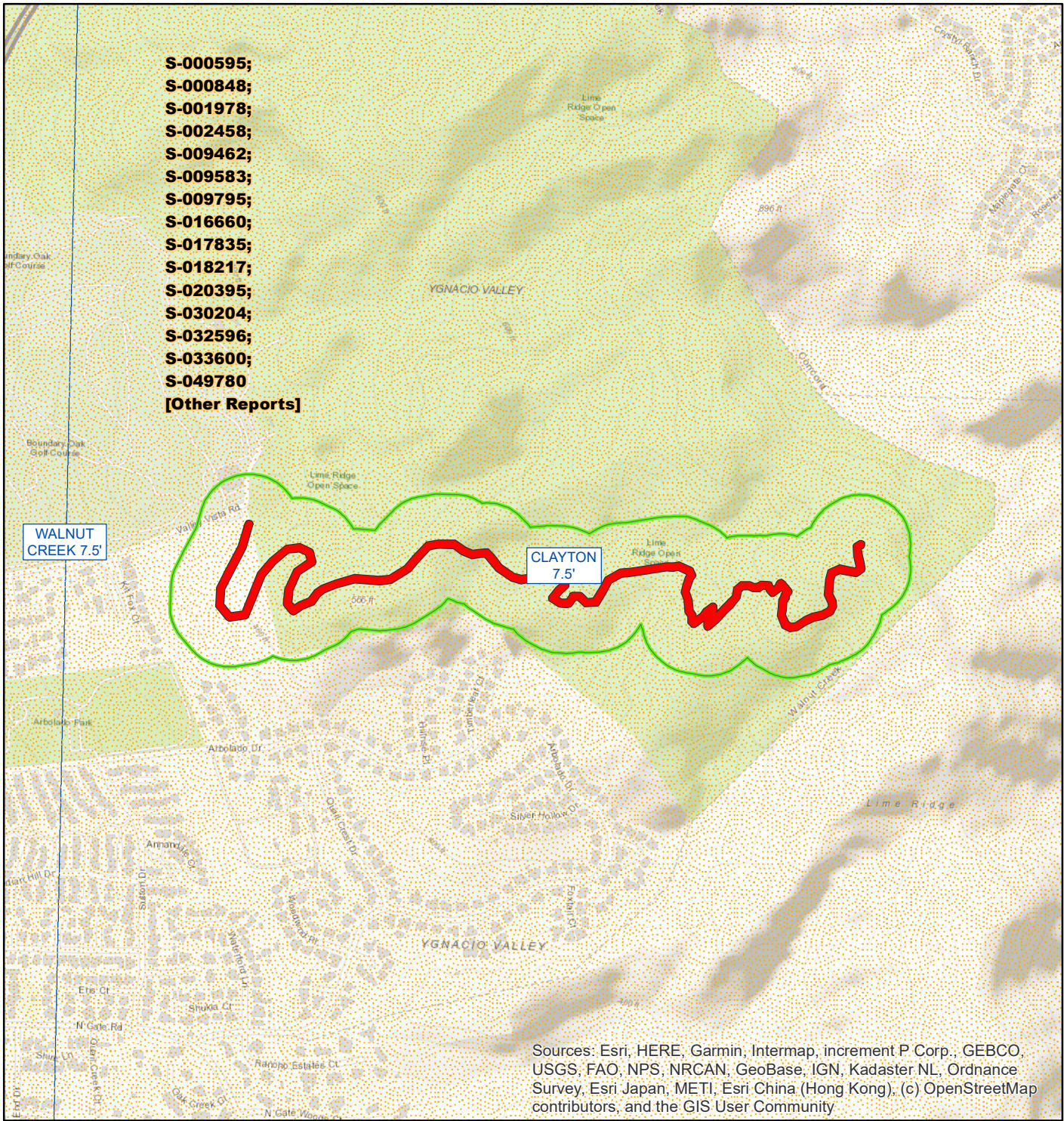
File #21-2079 17 June 2022 J. Murazzo

May depict confidential cultural resource locations.  
Do not distribute.



- Project Area
- 100M Buffer
- Reports (points)
- Reports (lines)
- Reports (polygons)
- Reports approx loc
- Reports (CFMOU)
- Quad outlines
- County outlines

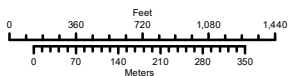
# "Other" Report Map Flow Trail Project



## Northwest Information Center

File #21-2079 17 June 2022 J. Murazzo

May depict confidential cultural resource locations.  
Do not distribute.



- █ Project\_Area
- Other reports
- Quad outlines
- 100M\_Buffer
- County outlines

## Report List

21-2079 :: Flow Trail Project

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
S-000595		1974	R.F. King	A Report on the Status of Generally Available Data Regarding Archaeological, Ethnographic, and Historical Resources Within a Five Mile Wide Corridor Through Portions of Colusa, Yolo, Solano, and Contra Costa Counties, California		07-000091, 48-000009, 48-000010, 48-000011, 48-000012, 48-000013, 48-000018, 48-000020, 57-000130, 57-000131
S-000848	Agency Nbr - Contract AA550-CT6-52	1976	David A. Fredrickson	A Summary of Knowledge of the Central and Northern California Coastal Zone and Offshore Areas, Vol. III, Socioeconomic Conditions, Chapter 7: Historical & Archaeological Resources	The Anthropology Laboratory, Sonoma State College; Winzler & Kelly Consulting Engineers	
S-001978		1960	Anthony V. Aiello	The Islands of Contra Costa		

# Report List

21-2079 :: Flow Trail Project

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
S-002458		1981	Neil Ramiller, Suzanne Ramiller, Roger Werner, and Suzanne Stewart	Overview of Prehistoric Archaeology for the Northwest Region, California Archaeological Sites Survey: Del Norte, Humboldt, Mendocino, Lake, Sonoma, Napa, Marin, Contra Costa, Alameda	Northwest Regional Office, California Archaeological Sites Survey, Anthropological Studies Center, Sonoma State University	01-000080, 01-000084, 01-000086, 01-000104, 01-000119, 01-000124, 01-000125, 01-000126, 01-000127, 01-000137, 01-000139, 01-002053, 01-002104, 07-000047, 07-000079, 07-000080, 07-000081, 07-000082, 07-000083, 07-000092, 07-000093, 07-000105, 07-000131, 07-000146, 07-000147, 07-000148, 07-000149, 07-000150, 07-000151, 07-000168, 07-000173, 07-000175, 07-000177, 07-000185, 07-000186, 07-000190, 07-000323, 07-000440, 07-000447, 07-000448, 07-000449, 07-000462, 07-000470, 07-000474, 07-000476, 07-000481, 07-000674, 07-000710, 07-000724, 07-004621, 08-000015, 08-000018, 08-000021, 08-000090, 12-000125, 12-000175, 12-000186, 12-000194, 12-000199, 12-000202, 12-000207, 12-000209, 12-000210, 12-000211, 12-000263, 12-000264, 12-000266, 12-000336, 12-000442, 12-000445, 12-000458, 12-000824, 17-000006, 17-000026, 17-000035, 17-000072, 17-000114, 17-000177, 17-000286, 17-000287, 17-000289, 17-000290, 17-000307, 17-000320, 17-000392, 17-000407, 17-000437, 17-000446, 17-000470, 17-000531, 17-000535, 17-000546, 17-000550, 17-000551, 17-000554, 17-000572, 17-000610, 17-000639, 17-000640, 17-000673, 17-000787, 17-000812, 21-000017, 21-000034, 21-000039, 21-000051, 21-000053, 21-000057, 21-000058, 21-000106, 21-000143, 21-000163, 21-000177, 21-000217, 21-000221, 21-000235, 21-000242, 21-000245, 21-000252, 21-000262, 21-000283, 21-000290, 21-000291, 21-000295, 21-000332, 21-000335, 21-000342, 21-000346, 21-000347, 21-000368, 21-000369, 21-000370, 21-000651, 21-000653, 21-002539, 23-000143, 23-000387, 23-000450,



## Report List

21-2079 :: Flow Trail Project

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
						23-000475, 23-000478, 23-000492, 23-000534, 23-000535, 23-000536, 23-000537, 23-000539, 23-000590, 23-000786, 23-000789, 23-000790, 23-000791, 23-000792, 23-000793, 23-000796, 23-000835, 23-001034, 23-001060, 23-001063, 23-001520, 23-002898, 23-002915, 23-002936, 23-002945, 28-000015, 28-000027, 28-000028, 28-000029, 28-000032, 28-000045, 28-000061, 28-000063, 28-000066, 28-000077, 28-000088, 28-000092, 28-000093, 28-000097, 28-000123, 28-000125, 28-000150, 28-000199, 28-000209, 28-000218, 28-000222, 28-000310, 28-000311, 28-000329, 28-000330, 28-000362, 28-000418, 28-000419, 28-000420, 28-000421, 28-000422, 28-000428, 28-000828, 28-000912, 49-000073, 49-000079, 49-000087, 49-000112, 49-000135, 49-000194, 49-000228, 49-000264, 49-000265, 49-000271, 49-000291, 49-000292, 49-000295, 49-000318, 49-000329, 49-000330, 49-000340, 49-000342, 49-000360, 49-000362, 49-000363, 49-000369, 49-000371, 49-000423, 49-000424, 49-000434, 49-000483, 49-000512, 49-000521, 49-000548, 49-000620, 49-000653, 49-000671, 49-000682, 49-000683, 49-000730, 49-000731, 49-000732, 49-000733, 49-000846, 49-000860, 49-000887, 49-000913, 49-000914, 49-000915, 49-000916, 49-000917, 49-000959, 49-000970, 49-000976, 49-000978, 49-000981, 49-000982, 49-000983, 49-000990, 49-000992, 49-001081, 49-001082, 49-001083, 49-001084, 49-001085, 49-001086, 49-001087, 49-001109, 49-001121
S-002458a		1982	Suzanne Ramiller	Prehistoric Archaeology Overview Northwest Region; California Archaeological Inventory, Volume I: Humboldt and Del Norte Counties	Anthropological Studies Center, Sonoma State University	

## Report List

21-2079 :: Flow Trail Project

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
S-002458b		1982	Roger H. Werner	Archaeological Overview of Mendocino and Lake Counties	Anthropological Studies Center, Sonoma State University	
S-002458c		1982	Suzanne Stewart	Prehistoric Archaeology Overview Northwest Region; California Archaeological Inventory, Volume 3: Napa and Sonoma Counties	Anthropological Studies Center, Sonoma State University	
S-002458d		1982	Suzanne B. Stewart	Archaeological Overview of Alameda, Contra Costa, and Marin Counties	Anthropological Studies Center, Sonoma State University	
S-002458e		1982	Neil Ramiller	Environmental Overview of the Northwest Region	Anthropological Studies Center, Sonoma State University	
S-009462		1977	Teresa Ann Miller	Identification and Recording of Prehistoric Petroglyphs in Marin and Related Bay Area Counties	San Francisco State University	07-000323, 21-000087, 21-000376, 21-000378, 21-000379, 21-000380, 21-000381, 21-000382, 21-000383, 21-000384, 21-000386, 21-000387, 21-000388, 21-000389, 21-000390, 21-000391, 21-000392, 21-000393, 21-000394, 21-000395, 21-000396, 21-000397, 21-000398, 21-000399, 21-000400, 21-000401, 21-000402, 21-000546, 23-000434, 23-000789, 23-000790, 49-000629, 49-000785, 49-000787
S-009583		1978	David W. Mayfield	Ecology of the Pre-Spanish San Francisco Bay Area	San Francisco State University	
S-009795		1986	Thomas Lynn Jackson	Late Prehistoric Obsidian Exchange in Central California	Stanford University	06-000025, 07-000047, 07-000080, 07-000188, 07-000440, 17-000320, 17-000601, 21-000163, 21-000218, 21-000235, 21-000242, 21-000283, 21-000290, 21-000368, 21-000423, 21-000628, 23-001589, 23-001659, 23-003068, 23-003119, 28-000015, 28-000068, 28-000116, 28-000199, 28-000205, 28-000828, 49-000135, 49-000360, 49-000423, 49-000424, 49-000518, 49-000521, 49-000533, 49-000536, 49-000558, 49-000801, 57-000114

## Report List

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Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
S-010876		1989	Angela M. Banet, Robert M. Harmon, Sondra A. Jarvis, and John W. Schoenfelder	Cultural Resources Assessment of the Proposed Rancho Paraiso Development, Walnut Creek, Contra Costa County, California	Basin Research Associates, Inc.	
S-014337		1992	David Chavez	Cultural Resources Investigations for the Contra Costa Water District Emergency Storage Reservoir Program EIR, Contra Costa County, California	David Chavez & Associates	
S-016660		1992	Jeffrey B. Fentress	Prehistoric Rock Art of Alameda and Contra Costa Counties, California	California State University, Hayward	01-000035, 01-000039, 01-000071, 01-000080, 01-000128, 01-000137, 01-000138, 01-000144, 01-000195, 01-000198, 01-000199, 01-002112, 07-000029, 07-000094, 07-000189, 07-000193, 07-000212, 07-000216, 07-000219, 07-000230, 07-000242, 07-000255, 07-000260, 07-000271, 07-000301, 07-000302, 07-000323, 07-000344, 07-000345, 07-000346, 07-000347, 07-000348, 07-000356, 07-000362, 07-000374, 07-000725, 07-000726, 07-000727, 07-000730, 07-000734, 07-000736, 07-000738, 07-000739
S-017835		1975	Judy Myers Suchey	Biological Distance of Prehistoric Central California Populations Derived from Non-Metric Traits of the Cranium	University of California, Riverside	01-000086, 01-000104, 01-000105, 06-000025, 07-000080, 07-000081, 07-000083, 07-000087, 21-000017, 21-000193, 21-000242, 21-000252, 48-000010, 57-000145
S-018217		1996	Glenn Gmoser	Cultural Resource Evaluations for the Caltrans District 04 Phase 2 Seismic Retrofit Program, Status Report	California Department of Transportation	01-000014, 01-000023, 01-000227, 07-000108, 07-000119, 38-000002, 38-000004, 41-000273, 43-000106, 43-000297, 43-000624, 43-001078, 44-000010, 44-000201, 44-000300, 49-000195

## Report List

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Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
S-020395		1998	Donna L. Gillette	PCNs of the Coast Ranges of California: Religious Expression or the Result of Quarrying?	California State University, Hayward	07-000094, 07-000323, 12-000050, 17-000071, 17-001315, 21-000087, 21-000376, 21-000378, 21-000379, 21-000381, 21-000382, 21-000383, 21-000384, 21-000386, 21-000387, 21-000388, 21-000389, 21-000390, 21-000391, 21-000392, 21-000393, 21-000394, 21-000395, 21-000396, 21-000397, 21-000398, 21-000399, 21-000400, 21-000401, 21-000402, 21-000419, 21-000433, 21-000546, 21-000620, 21-000621, 21-000624, 21-000661, 23-000434, 23-000809, 23-000810, 23-001698, 23-001725, 23-001792, 23-001798, 23-001799, 23-001803, 23-001804, 23-001930, 23-001942, 23-001950, 23-001963, 35-000013, 43-000067, 43-000080, 43-000287, 43-000289, 43-000504, 49-000046, 49-000240, 49-000533, 49-000550, 49-000629, 49-000785, 49-000787, 49-000868, 49-000960, 49-000975, 49-001004, 49-001087, 49-001239, 49-002121
S-030204		2003	Donna L. Gillette	The Distribution and Antiquity of the California Pecked Curvilinear Nucleated (PCN) Rock Art Tradition.	University of California, Berkeley	01-002148, 21-000384, 23-000810
S-032596	Caltrans - EA No. 447600; Other - Contract #04A2098	2006	Randall Milliken, Jerome King, and Patricia Mikkelsen	The Central California Ethnographic Community Distribution Model, Version 2.0, with Special Attention to the San Francisco Bay Area, Cultural Resources Inventory of Caltrans District 4 Rural Conventional Highways	Consulting in the Past; Far Western Anthropological Research Group, Inc.	

# Report List

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Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
S-033600	Agency Nbr - Contract No. 04A2098; Caltrans - EA No. 447600	2007	Jack Meyer and Jeff Rosenthal	Geoarchaeological Overview of the Nine Bay Area Counties in Caltrans District 4	Far Western Anthropological Research Group, Inc.	01-000001, 01-000002, 01-000014, 01-000063, 01-000064, 01-000067, 01-000080, 01-000124, 01-000139, 01-000140, 01-001795, 01-002110, 01-002160, 01-002162, 01-002245, 07-000019, 07-000024, 07-000037, 07-000047, 07-000075, 07-000079, 07-000088, 07-000089, 07-000108, 07-000182, 07-000185, 07-000186, 07-000217, 07-000239, 07-000401, 07-000721, 21-000010, 21-000048, 21-002615, 28-000009, 28-000028, 28-000301, 28-000967, 38-000006, 38-000028, 38-000101, 38-000102, 38-000119, 41-000080, 41-000284, 43-000016, 43-000189, 43-000296, 43-000308, 43-000310, 43-000423, 43-000424, 43-000448, 43-000451, 43-000485, 43-000561, 43-000604, 43-000608, 43-000614, 43-000623, 43-001015, 43-001058, 43-001080, 43-001163, 43-001194, 43-001576, 48-000007, 48-000157

# Report List

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Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
S-049780	OTIS Report Number - FHWA_2016_0615_001	2017	Brian F. Byrd, Adrian R. Whitaker, Patricia J. Mikkelsen, and Jeffrey S. Rosenthal	San Francisco Bay-Delta Regional Context and Research Design for Native American Archaeological Resources, Caltrans District 4	California Department of Transportation, District 4	01-000001, 01-000002, 01-000014, 01-000015, 01-000022, 01-000033, 01-000034, 01-000038, 01-000062, 01-000066, 01-000080, 01-000084, 01-000086, 01-000087, 01-000089, 01-000104, 01-000105, 01-000106, 01-000107, 01-000116, 01-000117, 01-000139, 01-000152, 01-000175, 01-000197, 01-000201, 01-000202, 01-000234, 01-000237, 01-001795, 01-002120, 01-002160, 01-002162, 01-002245, 01-002280, 01-010509, 01-010610, 01-011556, 07-000019, 07-000021, 07-000029, 07-000033, 07-000037, 07-000047, 07-000066, 07-000070, 07-000079, 07-000080, 07-000089, 07-000093, 07-000098, 07-000105, 07-000117, 07-000118, 07-000147, 07-000148, 07-000149, 07-000150, 07-000154, 07-000168, 07-000173, 07-000174, 07-000175, 07-000176, 07-000185, 07-000186, 07-000189, 07-000197, 07-000217, 07-000227, 07-000230, 07-000238, 07-000239, 07-000242, 07-000309, 07-000359, 07-000365, 07-000366, 07-000400, 07-000401, 07-000440, 07-000441, 07-000459, 07-000461, 07-000462, 07-000721, 07-000724, 07-000790, 07-000792, 07-002570, 07-002592, 07-002650, 07-004537, 21-000002, 21-000036, 21-000043, 21-000045, 21-000048, 21-000051, 21-000057, 21-000058, 21-000066, 21-000070, 21-000072, 21-000073, 21-000074, 21-000075, 21-000097, 21-000106, 21-000109, 21-000142, 21-000143, 21-000152, 21-000163, 21-000164, 21-000165, 21-000166, 21-000167, 21-000175, 21-000177, 21-000193, 21-000195, 21-000196, 21-000199, 21-000200, 21-000217, 21-000218, 21-000219, 21-000220, 21-000221, 21-000222, 21-000256, 21-000295, 21-000305, 21-000306, 21-000327, 21-000332, 21-000337,

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Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
						21-000346, 21-000369, 21-000423, 21-000459, 21-000462, 21-000528, 21-000541, 21-000544, 21-000552, 21-000664, 21-000675, 21-002625, 27-000613, 28-000028, 28-000029, 28-000175, 28-000176, 28-000667, 28-000874, 38-000004, 38-000006, 38-000007, 38-000017, 38-000021, 38-000022, 38-000026, 38-000028, 38-000029, 38-000030, 38-000031, 38-000101, 38-000102, 38-000119, 38-000162, 38-000172, 38-004265, 38-004318, 38-004319, 38-004326, 38-004329, 38-004352, 38-004638, 38-004882, 38-005131, 38-005503, 41-000001, 41-000009, 41-000011, 41-000027, 41-000028, 41-000037, 41-000044, 41-000075, 41-000080, 41-000081, 41-000086, 41-000087, 41-000103, 41-000117, 41-000127, 41-000136, 41-000141, 41-000142, 41-000149, 41-000152, 41-000160, 41-000204, 41-000244, 41-000252, 41-000259, 41-000263, 41-000265, 41-000284, 41-000308, 41-000315, 41-002076, 43-000016, 43-000019, 43-000021, 43-000024, 43-000026, 43-000027, 43-000032, 43-000050, 43-000057, 43-000082, 43-000085, 43-000087, 43-000137, 43-000141, 43-000167, 43-000277, 43-000285, 43-000295, 43-000302, 43-000308, 43-000310, 43-000321, 43-000324, 43-000334, 43-000349, 43-000360, 43-000423, 43-000465, 43-000479, 43-000485, 43-000549, 43-000576, 43-000578, 43-000579, 43-000581, 43-000586, 43-000587, 43-000588, 43-000595, 43-000604, 43-000608, 43-000614, 43-000618, 43-000624, 43-000662, 43-000989, 43-000990, 43-001058, 43-001060, 43-001071, 43-001163, 43-001164, 43-001172, 43-001194, 43-001279, 43-001531, 43-001594, 43-001768, 43-001838, 43-001871, 43-002704, 43-003005,

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Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
S-049780a		2016	Julianne Polanco	FHWA_2016_0615_001, Caltrans District 4 Archaeological Context	California Office of Historic Preservation	48-000007, 48-000019, 48-000033, 48-000075, 48-000083, 48-000150, 48-000175, 48-000176, 48-000188, 48-000898, 49-000199, 49-001011, 49-001862



# Report Detail: S-000595

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## Identifiers

Report No.: S-000595

Other IDs:

Cross-refs:

## Citation information

Author(s): R.F. King

Year: 1974 (Dec)

Title: A Report on the Status of Generally Available Data Regarding Archaeological, Ethnographic, and Historical Resources Within a Five Mile Wide Corridor Through Portions of Colusa, Yolo, Solano, and Contra Costa Counties, California

Affiliation:

No. pages:

No. maps:

Attributes: Literature search

Inventory size:

Disclosure: Not for publication

Collections: No

## General notes

There are no maps showing the location of the project in this report. Report is mapped as an 'other report'.

## Associated resources

Primary No.	Trinomial	Name
P-07-000091	CA-CCO-000149	isolate
P-48-000009	CA-SOL-000001	Petersen 1
P-48-000010	CA-SOL-000002	Peterson 2
P-48-000011	CA-SOL-000003	Petersen 3
P-48-000012	CA-SOL-000004	Petersen, Schmeiser
P-48-000013	CA-SOL-000005	Petersen 5
P-48-000018	CA-SOL-000010	SW-10
P-48-000020	CA-SOL-000012	Campbell Site
P-57-000130	CA-YOL-000161	PGE-16
P-57-000131	CA-YOL-000162	PGE-17

No. resources: 10

Has informals: No

## Location information

County(ies): Colusa, Contra Costa, Solano, Yolo

USGS quad(s): ~All quads - Colusa Co., ~All quads - Contra Costa Co., ~All quads - Solano Co., ~All quads - Yolo Co.

Address:

PLSS:

## Database record metadata

Date	User	Action taken
Entered: 4/7/2005	nwic-main	
Last modified: 11/17/2016	hagell	
IC actions: Date	User	Action taken
4/7/2005	jay	Appended records from NWICmain bibliographic database.
8/12/2016	moored	Database Incomplete: No Affiliation Submitted
8/12/2016	moored	Updated GIS
11/17/2016	hagell	edited notes

Record status: Verified

# Report Detail: S-000848

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## Identifiers

Report No.: S-000848

Other IDs:	Type	Name
	Agency Nbr	Contract AA550-CT6-52

Cross-refs:

## Citation information

Author(s): David A. Fredrickson

Year: 1976 (Jan)

Title: A Summary of Knowledge of the Central and Northern California Coastal Zone and Offshore Areas, Vol. III, Socioeconomic Conditions, Chapter 7: Historical & Archaeological Resources

Affiliation: The Anthropology Laboratory, Sonoma State College; Winzler & Kelly Consulting Engineers

No. pages: 223

No. maps:

Attributes: Archaeological, Architectural/historical, Management/planning, Other research

Inventory size:

Disclosure: Not for publication

Collections: No

## General notes

This report's study area extends outside of the NWIC service area (into San Luis Obispo, Santa Barbara, & Ventura counties). 9880 prehistoric and historic resources were identified in the 17 counties when the report was written in 1976. There were no location maps in the report. Report is mapped in GIS as an 'other report' for the 14 NWIC counties mentioned in report.

## Associated resources

No. resources: 0

Has informals: Yes

## Location information

County(ies): Alameda, Contra Costa, Del Norte, Humboldt, Marin, Mendocino, Monterey, Napa, Other, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano, Sonoma

USGS quad(s): ~All quads - Alameda Co., ~All quads - Contra Costa Co., ~All quads - Del Norte Co., ~All quads - Humboldt Co., ~All quads - Marin Co., ~All quads - Mendocino Co., ~All quads - Monterey Co., ~All quads - Napa Co., ~All quads - San Francisco Co., ~All quads - San Mateo Co., ~All quads - Santa Clara Co., ~All quads - Santa Cruz Co., ~All quads - Solano Co., ~All quads - Sonoma Co.

Address:

PLSS:

## Database record metadata

Date	User	Action taken
Entered: 4/7/2005	nwic-main	
Last modified: 8/7/2020	neala	
IC actions: Date	User	Action taken
4/7/2005	jay	Appended records from NWICmain bibliographic database.
12/9/2015	hagell	edited database
12/5/2016	hagell	added note.

Record status: Verified

# Report Detail: S-001978

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## Identifiers

Report No.: S-001978

Other IDs:

Cross-refs:

## Citation information

Author(s): Anthony V. Aiello

Year: 1960 (Jan)

Title: The Islands of Contra Costa

Affiliation:

No. pages:

No. maps:

Attributes: Architectural/historical, Other research

Inventory size:

Disclosure: Not for publication

Collections: No

## General notes

### Associated resources

No. resources: 0

Has informals: No

### Location information

County(ies): Contra Costa

USGS quad(s): ~All quads - Contra Costa Co.

Address:

PLSS:

### Database record metadata

	<i>Date</i>	<i>User</i>	
<i>Entered:</i>	4/7/2005	nwic-main	
<i>Last modified:</i>	2/6/2017	hagell	
<i>IC actions:</i>	<i>Date</i>	<i>User</i>	<i>Action taken</i>
	4/7/2005	jay	Appended records from NWICmain bibliographic database.
	9/17/2015	mikulikc	database incomplete: no affiliation submitted
	11/30/2016	neala	added 'all quads CCO'
	2/6/2017	hagell	added attribute
<i>Record status:</i>	Verified		

## Report Detail: S-002458

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### Identifiers

*Report No.:* S-002458

*Other IDs:*

*Cross-refs:*

### Citation information

*Author(s):* Neil Ramiller, Suzanne Ramiller, Roger Werner, and Suzanne Stewart

*Year:* 1981 (Jan)

*Title:* Overview of Prehistoric Archaeology for the Northwest Region, California Archaeological Sites Survey: Del Norte, Humboldt, Mendocino, Lake, Sonoma, Napa, Marin, Contra Costa, Alameda

*Affiliation:* Northwest Regional Office, California Archaeological Sites Survey, Anthropological Studies Center, Sonoma State University

*No. pages:*

*No. maps:*

*Attributes:* Archaeological, Other research

*Inventory size:*

*Disclosure:* Not for publication

*Collections:* No

---

*Sub-desig.:* a

*Author(s):* Suzanne Ramiller

*Year:* 1982 (Jan)

*Title:* Prehistoric Archaeology Overview Northwest Region; California Archaeological Inventory, Volume I: Humboldt and Del Norte Counties

*Affiliation:* Anthropological Studies Center, Sonoma State University

*Report type(s):* Archaeological, Other research

*Inventory size:*

*No. pages:*

*Disclosure:* Not for publication

*Collections:* No

*PDF Pages:* 6-59

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*Sub-desig.:* b

*Author(s):* Roger H. Werner

*Year:* 1982 (Jan)

*Title:* Archaeological Overview of Mendocino and Lake Counties

*Affiliation:* Anthropological Studies Center, Sonoma State University

*Report type(s):* Archaeological, Other research

*Inventory size:*

*No. pages:*

*Disclosure:* Not for publication

*Collections:* Yes

*PDF Pages:* 60-132

## Report Detail: S-002458

21-2079 :: Flow Trail Project

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*Sub-desig.:* c

*Author(s):* Suzanne Stewart

*Year:* 1982 (Jan)

*Title:* Prehistoric Archaeology Overview Northwest Region; California Archaeological Inventory, Volume 3: Napa and Sonoma Counties

*Affiliation:* Anthropological Studies Center, Sonoma State University

*Report type(s):* Archaeological, Other research

*Inventory size:*

*No. pages:*

*Disclosure:* Not for publication

*Collections:* No

*PDF Pages:* 133-266

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*Sub-desig.:* d

*Author(s):* Suzanne B. Stewart

*Year:* 1982 (Jan)

*Title:* Archaeological Overview of Alameda, Contra Costa, and Marin Counties

*Affiliation:* Anthropological Studies Center, Sonoma State University

*Report type(s):* Archaeological, Other research

*Inventory size:*

*No. pages:*

*Disclosure:* Not for publication

*Collections:* No

*PDF Pages:* 267-345

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*Sub-desig.:* e

*Author(s):* Neil Ramiller

*Year:* 1982 (Jan)

*Title:* Environmental Overview of the Northwest Region

*Affiliation:* Anthropological Studies Center, Sonoma State University

*Report type(s):* Archaeological, Other research

*Inventory size:*

*No. pages:*

*Disclosure:* Not for publication

*Collections:* No

*PDF Pages:* 346-420

### General notes

### Associated resources

<i>Primary No.</i>	<i>Trinomial</i>	<i>Name</i>
P-01-000080	CA-ALA-000060	Castro Valley
P-01-000084	CA-ALA-000307	West Berkeley Shell Mound
P-01-000086	CA-ALA-000309	Emeryville Shellmound
P-01-000104	CA-ALA-000328	Nelson's 328
P-01-000119	CA-ALA-000389	Site #1
P-01-000124	CA-ALA-000394	Pleasanton Meadows Site
P-01-000125	CA-ALA-000396	Noble's Rest Stop
P-01-000126	CA-ALA-000398	ICR-WR-4
P-01-000127	CA-ALA-000399	ICR-WR-5
P-01-000137	CA-ALA-000410	ICR-WR-16
P-01-000139	CA-ALA-000413	Santa Rita Village
P-01-002053	CA-ALA-000300	
P-01-002104	CA-ALA-000397	ICR-WR-3
P-07-000047	CA-CCO-000030	[none]
P-07-000079	CA-CCO-000137	Monument Site; Concord Man Si

## Report Detail: S-002458

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P-07-000080	CA-CCO-000138	Hotchkiss Mound
P-07-000081	CA-CCO-000139/H	Simone Mound
P-07-000082	CA-CCO-000140	Bethel Tract
P-07-000083	CA-CCO-000141	C-141, Orwood Mound #2
P-07-000092	CA-CCO-000150	Veale Tract #1
P-07-000093	CA-CCO-000151	[none]
P-07-000105	CA-CCO-000222/H	Keller Ranch
P-07-000131	CA-CCO-000250	Nelson Survey Map #250a
P-07-000146	CA-CCO-000267	Nelson No. 267
P-07-000147	CA-CCO-000268	Voided, see P-07-000461, P-07-
P-07-000148	CA-CCO-000269	Nelson No. 269
P-07-000149	CA-CCO-000270	Nelson No. 270
P-07-000150	CA-CCO-000271	Nelson No. 271
P-07-000151	CA-CCO-000272	Nelson No. 272
P-07-000168	CA-CCO-000290	Nelson No. 290
P-07-000173	CA-CCO-000295	Nelson No. 295
P-07-000175	CA-CCO-000298	Nelson's No. 298, Stege
P-07-000177	CA-CCO-000300	Nelson's 300, Stege
P-07-000185	CA-CCO-000308	Stone Valley Site
P-07-000186	CA-CCO-000309	The Rossmoor Site
P-07-000190	CA-CCO-000352	Diablo Road Site
P-07-000323	CA-CCO-000553/H	Alvarado Park, Wildcat Regional
P-07-000440	CA-CCO-000259	Barker's Rodeo
P-07-000447	CA-CCO-000389	492-1-A
P-07-000448	CA-CCO-000390	492-2-A
P-07-000449	CA-CCO-000391	492-3-B
P-07-000462	CA-CCO-000655	Nelson's 268B
P-07-000470	CA-CCO-000372	[none]
P-07-000474	CA-CCO-000392	492-4-B
P-07-000476	CA-CCO-000698/H	Nelson No. 259
P-07-000481	CA-CCO-000356	[none]
P-07-000674	CA-CCO-000311	Burial Notes
P-07-000710	CA-CCO-000349	Voided, see P-07-000323
P-07-000724	CA-CCO-000377	SL-1
P-07-004621		#1 Claeys Ranch
P-08-000015	CA-DNO-000011/H	Ta'gia n te (OHP)
P-08-000018	CA-DNO-000014/H	Clnya'tLtcI (Waterman 1925)
P-08-000021	CA-DNO-000017/H	MesLteLn
P-08-000090	CA-DNO-000088	Cemetery of Meslteltun
P-12-000125	CA-HUM-000067/H	Loud 67
P-12-000175	CA-HUM-000118	Patrick's Point #4
P-12-000186	CA-HUM-000129/H	Tsa'hpekw
P-12-000194	CA-HUM-000169	Tsurai
P-12-000199	CA-HUM-000174	Cone Rock, Sea Gull Rock
P-12-000202	CA-HUM-000177	MM-1 -- First Night Out Site; MM
P-12-000207	CA-HUM-000182	Shelter Cove, X-1
P-12-000209	CA-HUM-000184	Etter Mound, X-3
P-12-000210	CA-HUM-000185	X-4
P-12-000211	CA-HUM-000186	X-5
P-12-000263	CA-HUM-000245	Stormy Saddle Site
P-12-000264	CA-HUM-000246	Pine Ridge Site
P-12-000266	CA-HUM-000248	Humboldt Gully Site
P-12-000336	CA-HUM-000323	Nooning Creek
P-12-000442	CA-HUM-000435	Mud Springs Site
P-12-000445	CA-HUM-000439	RNP-S-4
P-12-000458	CA-HUM-000452	RNP-S-22; REDW00072
P-12-000824	CA-HUM-000841	Little Black Sand Site; SC-7
P-17-000006	CA-LAK-000261	The Houx Site; Fredrickson "A"
P-17-000026	CA-LAK-000510	5A

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P-17-000035	CA-LAK-000753	14A
P-17-000072	CA-LAK-000036/H	Borax Lake Archaeological Distri
P-17-000114	CA-LAK-000089/H	Rattlesnake Island
P-17-000177	CA-LAK-000153	Mauldin 97
P-17-000286	CA-LAK-000267	Mauldin 196
P-17-000287	CA-LAK-000268	Previously CA-LAK-785
P-17-000289	CA-LAK-000271	[none]
P-17-000290	CA-LAK-000272	CA-LAK-272/Full Circle Field 2
P-17-000307	CA-LAK-000291	Mauldin 221
P-17-000320	CA-LAK-000305	Sam Alley Site
P-17-000392	CA-LAK-000380	The Mostin Site
P-17-000407	CA-LAK-000395	GR-11
P-17-000437	CA-LAK-000425/H	LAK-S270
P-17-000446	CA-LAK-000435/H	Diwi'lem
P-17-000470	CA-LAK-000471	27A
P-17-000531	CA-LAK-000585	2A
P-17-000535	CA-LAK-000589/H	Lewis Colony Site
P-17-000546	CA-LAK-000605	G-99
P-17-000550	CA-LAK-000609/H	G-103
P-17-000551	CA-LAK-000610	G-104
P-17-000554	CA-LAK-000613/H	Ford Flat Site
P-17-000572	CA-LAK-000643	Pirate's Buried Site
P-17-000610	CA-LAK-000711	PBL9
P-17-000639	CA-LAK-000741	[none]
P-17-000640	CA-LAK-000742/H	[none]
P-17-000673	CA-LAK-000785	Voided: see P-17-000287
P-17-000787	CA-LAK-000944/H	Middle Creek CCC Camp
P-17-000812	CA-LAK-000971/H	[none]
P-21-000017	CA-MRN-000266	PB 266
P-21-000034	CA-MRN-000001	Nelson No. 1; Olompali
P-21-000039	CA-MRN-000008	[none]
P-21-000051	CA-MRN-000020	Nelson No. 20
P-21-000053	CA-MRN-000022	Nelson No. 22
P-21-000057	CA-MRN-000026	Nelson No. 26
P-21-000058	CA-MRN-000027	Nelson No. 27
P-21-000106	CA-MRN-000076	Nelson No. 76
P-21-000143	CA-MRN-000115	Nelson No. 115
P-21-000163	CA-MRN-000138	Nelson No. 138
P-21-000177	CA-MRN-000152	Nelson No. 152
P-21-000217	CA-MRN-000192	Nelson No. 192
P-21-000221	CA-MRN-000196	Nelson No. 196
P-21-000235	CA-MRN-000216/H	DNG-1
P-21-000242	CA-MRN-000232/H	PB 232 b
P-21-000245	CA-MRN-000235/H	Beardsley's 301
P-21-000252	CA-MRN-000242/H	PB No. 242 - Cauley
P-21-000262	CA-MRN-000275	PB 275
P-21-000283	CA-MRN-000298/H	DNG-2
P-21-000290	CA-MRN-000307/H	Probably 232 C
P-21-000291	CA-MRN-000308/H	[none]
P-21-000295	CA-MRN-000315	Nelson No. 86C
P-21-000332	CA-MRN-000357/H	Bayonet Midden
P-21-000335	CA-MRN-000362	Lyon's Site
P-21-000342	CA-MRN-000370	S.A. VIII
P-21-000346	CA-MRN-000374	[none]
P-21-000347	CA-MRN-000375	4-MRN-248
P-21-000368	CA-MRN-000402	[none]
P-21-000369	CA-MRN-000403	[none]
P-21-000370	CA-MRN-000404	[none]
P-21-000651	CA-MRN-000358	S.A. II (San Antonio II)

## Report Detail: S-002458

21-2079 :: Flow Trail Project

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P-21-000653	CA-MRN-000391	[none]
P-21-002539	CA-MRN-000682	S.A. VII (Northwestern Archaeol.
P-23-000143	CA-MEN-000069	69
P-23-000387	CA-MEN-000320	Voided; See P-23-000590
P-23-000450	CA-MEN-000455	"Digger Post"
P-23-000475	CA-MEN-000483	[none]
P-23-000478	CA-MEN-000486	[none]
P-23-000492	CA-MEN-000500	[none]
P-23-000534	CA-MEN-000583	[none]
P-23-000535	CA-MEN-000584	Matuko
P-23-000536	CA-MEN-000585	[none]
P-23-000537	CA-MEN-000586	[None]
P-23-000539	CA-MEN-000588	[none]
P-23-000590	CA-MEN-000643/H	Eel River Work Center
P-23-000786	CA-MEN-000851	[none]
P-23-000789	CA-MEN-000854	Upper Twin Rocks
P-23-000790	CA-MEN-000855	Milling Stone Basin
P-23-000791	CA-MEN-000856	Wagon Trail
P-23-000792	CA-MEN-000857/H	White Hawk Top
P-23-000793	CA-MEN-000858	White Hawk Yoostabe
P-23-000796	CA-MEN-000861	Long Doe Petroglyph
P-23-000835	CA-MEN-000900	Upper Coffee Mill Flat
P-23-001034	CA-MEN-001111	Spring Site
P-23-001060	CA-MEN-001154	Neiyi
P-23-001063	CA-MEN-001157	S-6435
P-23-001520	CA-MEN-001633	Olkat
P-23-002898	CA-MEN-000405/H	Fenenga 1
P-23-002915	CA-MEN-000482	MEN-482
P-23-002936	CA-MEN-000546	Possibly Barrett's (1908, p. 140)
P-23-002945	CA-MEN-000555	[none]
P-28-000015	CA-NAP-000001/H	#1; Goddard; Oakville
P-28-000027	CA-NAP-000014	Las Trancas
P-28-000028	CA-NAP-000015/H	Suscol Mound #5
P-28-000029	CA-NAP-000016	#16; Suscol Mound #1
P-28-000032	CA-NAP-000021	ACRS-PV-I
P-28-000045	CA-NAP-000039	Tulukai
P-28-000061	CA-NAP-000057	Peripoli
P-28-000063	CA-NAP-000060	UCMA Napa 60-50
P-28-000066	CA-NAP-000063	Usibelli Coal Mine Site
P-28-000077	CA-NAP-000074	#4
P-28-000088	CA-NAP-000089	#23
P-28-000092	CA-NAP-000093	Possibly Kroeber's "Topai"
P-28-000093	CA-NAP-000094	#28
P-28-000097	CA-NAP-000098	#32
P-28-000123	CA-NAP-000129	B-53-GG
P-28-000125	CA-NAP-000131	Genoa Site
P-28-000150	CA-NAP-000158	B-59-Z
P-28-000199	CA-NAP-000234	Roy Pridmore #3
P-28-000209	CA-NAP-000247	ACRS-BD-6
P-28-000218	CA-NAP-000261	D.T.Davis #49; UCAS-B 277
P-28-000222	CA-NAP-000270	CA-NAP-270
P-28-000310	CA-NAP-000410	Querried Quarry Site
P-28-000311	CA-NAP-000411/H	[none]
P-28-000329	CA-NAP-000432	T-23
P-28-000330	CA-NAP-000433	T-41 - UCD Files
P-28-000362	CA-NAP-000468	Mudflat Site (2)
P-28-000418	CA-NAP-000535	Tom's Mounds
P-28-000419	CA-NAP-000536	[none]
P-28-000420	CA-NAP-000537	[none]



## Report Detail: S-002458

21-2079 :: Flow Trail Project

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P-28-000421	CA-NAP-000538	[none]
P-28-000422	CA-NAP-000539	Klaffke's Mound
P-28-000428	CA-NAP-000545	I
P-28-000828	CA-NAP-000032	#32; Kolb; Rutherford; Pistorias
P-28-000912	CA-NAP-000311	Voided - see P-28-000212
P-49-000073	CA-SON-000004/H	Carrillo Adobe
P-49-000079	CA-SON-000020	Lithic Scatter
P-49-000087	CA-SON-000030	CA-SON-30/358
P-49-000112	CA-SON-000084	Santa Rosa Creek Site
P-49-000135	CA-SON-000159	Stony Glenn Lane
P-49-000194	CA-SON-000222	Nelson No. 222
P-49-000228	CA-SON-000256	P-30
P-49-000264	CA-SON-000292	The Ranch Site
P-49-000265	CA-SON-000293	Probably Kelly's Site "Tiwut-Huy
P-49-000271	CA-SON-000299	"Kili"
P-49-000291	CA-SON-000320	"Loken-Huye" (Kelly)
P-49-000292	CA-SON-000321	Peter's 321
P-49-000295	CA-SON-000324	Peter's 324
P-49-000318	CA-SON-000347	Gleason Beach 1
P-49-000329	CA-SON-000358	VOIDED - see P-49-000087
P-49-000330	CA-SON-000359	Hidden Valley Ranch
P-49-000340	CA-SON-000369	Atcacinateawalli
P-49-000342	CA-SON-000371	Foster's Ranch
P-49-000360	CA-SON-000389	Carriger Creek site
P-49-000362	CA-SON-000391	S.A.1
P-49-000363	CA-SON-000392	King #5
P-49-000369	CA-SON-000400	S.A. VII (Northwestern Archaeol.
P-49-000371	CA-SON-000402	TC-1
P-49-000423	CA-SON-000455/H	Gables Site
P-49-000424	CA-SON-000456	[none]
P-49-000434	CA-SON-000466	[none]
P-49-000483	CA-SON-000518	SDA-30
P-49-000512	CA-SON-000547/H	H-51
P-49-000521	CA-SON-000556/H	H-41
P-49-000548	CA-SON-000583/H	SRI-3001
P-49-000620	CA-SON-000670/H	SDA-1
P-49-000653	CA-SON-000710	SDA-61
P-49-000671	CA-SON-000729	SDA-104
P-49-000682	CA-SON-000740	G.E.- 8
P-49-000683	CA-SON-000741	G.E.- 9
P-49-000730	CA-SON-000789	Geyser Forty-Four
P-49-000731	CA-SON-000790	Geyser Forty-Five
P-49-000732	CA-SON-000791	Geyser Forty-Six
P-49-000733	CA-SON-000792	Geyser Forty-Seven
P-49-000846	CA-SON-000906	Miller's Garden Site
P-49-000860	CA-SON-000920	[none]
P-49-000887	CA-SON-000948	[none]
P-49-000913	CA-SON-000976	[none]
P-49-000914	CA-SON-000977	[none]
P-49-000915	CA-SON-000978	[none]
P-49-000916	CA-SON-000979	[none]
P-49-000917	CA-SON-000980	[none]
P-49-000959	CA-SON-001025	Redwood Thompson Site
P-49-000970	CA-SON-001036	Soledad
P-49-000976	CA-SON-001042	[none]
P-49-000978	CA-SON-001044	Walnut Orchard Site
P-49-000981	CA-SON-001047	Rosehip Site
P-49-000982	CA-SON-001048	Laguna Grande
P-49-000983	CA-SON-001049	Willow Marsh Site

## Report Detail: S-002458

21-2079 :: Flow Trail Project

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P-49-000990	CA-SON-001058	[none]
P-49-000992	CA-SON-001060	Madrone Knoll
P-49-001081	CA-SON-001154	Site No. 1
P-49-001082	CA-SON-001155	Site No. 2
P-49-001083	CA-SON-001156	Site No. 3
P-49-001084	CA-SON-001157	Site No. 4
P-49-001085	CA-SON-001158	Site No. 5
P-49-001086	CA-SON-001159/H	Site No. 6
P-49-001087	CA-SON-001160	Site No. 7
P-49-001109	CA-SON-001182	Doberman Terrace
P-49-001121	CA-SON-001195	Covert Lane Site

No. resources: 262

Has informals: No

### Location information

County(ies): Alameda, Contra Costa, Del Norte, Humboldt, Lake, Marin, Mendocino, Napa, Sonoma

USGS quad(s): ~All quads - Alameda Co., ~All quads - Contra Costa Co., ~All quads - Del Norte Co., ~All quads - Humboldt Co., ~All quads - Lake Co., ~All quads - Marin Co., ~All quads - Mendocino Co., ~All quads - Napa Co., ~All quads - Sonoma Co.

Address:

PLSS:

### Database record metadata

	Date	User	Action taken
Entered:	4/7/2005	nwic-main	
Last modified:	4/15/2021	hagell	
IC actions:	Date	User	Action taken
	4/7/2005	jay	Appended records from NWICmain bibliographic database.
	8/29/2016	hagell	edited titles, affiliations of additional citations
	4/11/2017	raelync	Report verified; awaiting verification of 55 resources.
	10/16/2018	rinerg	report GIS verified; 40 resources pending verification; marked 'db complete'
	12/3/2020	hagell	edited affiliation

Record status: Verified

# Report Detail: S-009462

21-2079 :: Flow Trail Project

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## Identifiers

Report No.: S-009462

Other IDs:

Cross-refs:

## Citation information

Author(s): Teresa Ann Miller

Year: 1977 (Jun)

Title: Identification and Recording of Prehistoric Petroglyphs in Marin and Related Bay Area Counties

Affiliation: San Francisco State University

No. pages:

No. maps:

Attributes: Thesis/dissertation

Inventory size:

Disclosure: Not for publication

Collections: No

## General notes

Masters Thesis. Unrecorded petroglyph locations are included.

## Associated resources

<i>Primary No.</i>	<i>Trinomial</i>	<i>Name</i>
P-07-000323	CA-CCO-000553/H	Alvarado Park, Wildcat Regional
P-21-000087	CA-MRN-000057	Nelson No. 57
P-21-000376	CA-MRN-000414	Deer Island Area #1
P-21-000378	CA-MRN-000416	Deer Island Area #3
P-21-000379	CA-MRN-000417	Deer Island Area #4
P-21-000380	CA-MRN-000418	Deer Island Area #5
P-21-000381	CA-MRN-000419	Deer Island Area #6
P-21-000382	CA-MRN-000420	17 Novato
P-21-000383	CA-MRN-000421	Novato #18
P-21-000384	CA-MRN-000422	Novato #19
P-21-000386	CA-MRN-000425	Tiburon 3 Field #3
P-21-000387	CA-MRN-000426	Tiburon 4 Field #4
P-21-000388	CA-MRN-000427	Tiburon 5 Field #5
P-21-000389	CA-MRN-000428	Tiburon 6 Field #6
P-21-000390	CA-MRN-000429	Tiburon 7 Field #7
P-21-000391	CA-MRN-000430	Tiburon 8 Field #8
P-21-000392	CA-MRN-000431	Tiburon 9, 10, 11
P-21-000393	CA-MRN-000432	Tiburon 12
P-21-000394	CA-MRN-000433	Tiburon 13 Field #13
P-21-000395	CA-MRN-000434	Tiburon 14 & 15 Field #14 & #15
P-21-000396	CA-MRN-000435	Tiburon 16 Field #16
P-21-000397	CA-MRN-000436	Tiburon 17 Field #17
P-21-000398	CA-MRN-000437	Tiburon 18 Field #18
P-21-000399	CA-MRN-000438	Tiburon 19 Field #19
P-21-000400	CA-MRN-000439	Tiburon 20A
P-21-000401	CA-MRN-000440	Tiburon 21 Field #21
P-21-000402	CA-MRN-000442	Tiburon 1
P-21-000546	CA-MRN-000424	Tiburon 2
P-23-000434	CA-MEN-000433	Bell Springs Petroglyph Rock
P-23-000789	CA-MEN-000854	Upper Twin Rocks
P-23-000790	CA-MEN-000855	Milling Stone Basin
P-49-000629	CA-SON-000682	Steward's 9 PT.
P-49-000785	CA-SON-000844	Petaluma #1
P-49-000787	CA-SON-000846	Petaluma #3

No. resources: 34

Has informals: Yes

# Report Detail: S-009462

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## Location information

*County(ies):* Alameda, Contra Costa, Lake, Marin, Mendocino, Napa, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano, Sonoma

*USGS quad(s):* ~All quads - Alameda Co., ~All quads - Contra Costa Co., ~All quads - Lake Co., ~All quads - Marin Co., ~All quads - Mendocino Co., ~All quads - Napa Co., ~All quads - San Francisco Co., ~All quads - San Mateo Co., ~All quads - Santa Clara Co., ~All quads - Santa Cruz Co., ~All quads - Solano Co., ~All quads - Sonoma Co.

*Address:*

*PLSS:*

## Database record metadata

<i>Date</i>	<i>User</i>	
<i>Entered:</i> 4/7/2005	nwic-main	
<i>Last modified:</i> 1/20/2021	hagell	
<i>IC actions:</i> <i>Date</i>	<i>User</i>	<i>Action taken</i>
4/7/2005	jay	Appended records from NWICmain bibliographic database.
10/5/2010	muchb	updated county list as per thesis content
7/2/2015	riner	marked Verified
7/13/2016	reguindir	edited database
7/14/2016	simsa	Updated GIS: deleted point and poly features; retained other report features for each county involved in report
4/11/2017	raelync	Report verified, awaiting verification of 28 resources.
4/14/2017	grahams	resources verified
1/20/2021	hagell	edited notes.
<i>Record status:</i> Verified		

# Report Detail: S-009583

21-2079 :: Flow Trail Project

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## Identifiers

Report No.: S-009583

Other IDs:

Cross-refs:

## Citation information

Author(s): David W. Mayfield

Year: 1978 (Dec)

Title: Ecology of the Pre-Spanish San Francisco Bay Area

Affiliation: San Francisco State University

No. pages:

No. maps:

Attributes: Other research, Thesis/dissertation

Inventory size:

Disclosure: Not for publication

Collections: No

## General notes

Masters Thesis. A study of the ecological setting of part of the San Francisco Bay Area as it existed prior to Spanish colonization. Contact the author for permission to reproduce the thesis (see page 4).

## Associated resources

No. resources: 0

Has informals: No

## Location information

County(ies): Alameda, Contra Costa, San Francisco, San Mateo, Santa Clara, Santa Cruz

USGS quad(s): Altamont, Antioch North, Antioch South, Benicia, Big Basin, Brentwood, Briones Valley, Byron Hot Springs, Calaveras Reservoir, Castle Rock Ridge, Clayton, Cupertino, Diablo, Dublin, Farallon Islands, Franklin Point, Half Moon Bay, Hayward, Honker Bay, Hunters Point, Jersey Island, La Costa Valley, La Honda, Las Trampas Ridge, Lick Observatory, Livermore, Los Gatos, Mare Island, Mendenhall Springs, Milpitas, Mindego Hill, Montara Mtn, Morgan Hill, Mount Day, Mountain View, Newark, Niles, Oakland East, Oakland West, Palo Alto, Petaluma Point, Pigeon Point, Redwood Point, Richmond, San Francisco North, San Francisco South, San Gregorio, San Jose East, San Jose West, San Leandro, San Mateo, San Quentin, Santa Teresa Hills, Tassajara, Vine Hill, Walnut Creek, Woodside

Address:

PLSS:

## Database record metadata

	Date	User	
Entered:	4/7/2005	nwic-main	
Last modified:	2/1/2021	hagell	
IC actions:	Date	User	Action taken
	4/7/2005	jay	Appended records from NWICmain bibliographic database.
	7/16/2015	rinerg	set Collections=No; set Status=Verified
	3/10/2016	rinerg	add quads: Farallon Islands, Petaluma Point.
	9/6/2017	hagell	added Point Bonita quad
	6/12/2018	rinerg	remove quad: Point Bonita
	2/1/2021	hagell	edited notes

Record status: Verified

# Report Detail: S-009795

21-2079 :: Flow Trail Project

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## Identifiers

Report No.: S-009795

Other IDs:

Cross-refs:

## Citation information

Author(s): Thomas Lynn Jackson

Year: 1986 (Jun)

Title: Late Prehistoric Obsidian Exchange in Central California

Affiliation: Stanford University

No. pages:

No. maps:

Attributes: Other research, Thesis/dissertation

Inventory size:

Disclosure: Not for publication

Collections: Yes

## General notes

This report contains copyrighted material. Do not release until client has contacted Thomas Lynn Jackson, received permission, and the NWIC has received written verification. PhD dissertation.

## Associated resources

Primary No.	Trinomial	Name
P-06-000025	CA-COL-000001	S-1 Miller
P-07-000047	CA-CCO-000030	[none]
P-07-000080	CA-CCO-000138	Hotchkiss Mound
P-07-000188	CA-CCO-000312	Franks
P-07-000440	CA-CCO-000259	Barker's Rodeo
P-17-000320	CA-LAK-000305	Sam Alley Site
P-17-000601	CA-LAK-000702	1
P-21-000163	CA-MRN-000138	Nelson No. 138
P-21-000218	CA-MRN-000193/H	Rancho Olompali
P-21-000235	CA-MRN-000216/H	DNG-1
P-21-000242	CA-MRN-000232/H	PB 232 b
P-21-000283	CA-MRN-000298/H	DNG-2
P-21-000290	CA-MRN-000307/H	Probably 232 C
P-21-000368	CA-MRN-000402	[none]
P-21-000423	CA-MRN-000471	San Jose Village
P-21-000628	CA-MRN-000201	Jesse Peter 201
P-23-001589	CA-MEN-001704	Tciya
P-23-001659	CA-MEN-001844	Men. X
P-23-003068	CA-MEN-001809	Men-1704S
P-23-003119	CA-MEN-001929	[none]
P-28-000015	CA-NAP-000001/H	#1; Goddard; Oakville
P-28-000068	CA-NAP-000065	#65
P-28-000116	CA-NAP-000118	Glass Mt. III; Glass Mt. II
P-28-000199	CA-NAP-000234	Roy Pridmore #3
P-28-000205	CA-NAP-000240	Big Basin No. 1
P-28-000828	CA-NAP-000032	#32; Kolb; Rutherford; Pistorias
P-49-000135	CA-SON-000159	Stony Glenn Lane
P-49-000360	CA-SON-000389	Carriger Creek site
P-49-000423	CA-SON-000455/H	Gables Site
P-49-000424	CA-SON-000456	[none]
P-49-000518	CA-SON-000553	[none]
P-49-000521	CA-SON-000556/H	H-41
P-49-000533	CA-SON-000568	Smiley
P-49-000536	CA-SON-000571	Poolside Cupule Rocks
P-49-000558	CA-SON-000593/H	Son 3 (SFSC); Son 4 (SFSC); H-

# Report Detail: S-009795

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P-49-000801 CA-SON-000860/H 82-12  
P-57-000114 CA-YOL-000139 Elation Hill

No. resources: 37

Has informals: No

## Location information

County(ies): Alameda, Colusa, Contra Costa, Lake, Marin, Mendocino, Napa, San Francisco, Solano, Sonoma, Yolo

USGS quad(s): ~All quads - Colusa Co., ~All quads - Contra Costa Co., ~All quads - Marin Co., ~All quads - Napa Co., ~All quads - San Francisco Co., ~All quads - Solano Co., ~All quads - Sonoma Co., ~All quads - Yolo Co., Aetna Springs, Albion, Altamont, Asti, Bartlett Mtn, Bartlett Springs, Benmore Canyon, Big Foot Mtn, Boonville, Burbeck, Clearlake Oaks, Cloverdale, Cold Spring, Comptche, Cow Mountain, Crockett Peak, Detert Reservoir, Dublin, Elk Mountain, Elledge Peak, Eureka Hill, Fort Bragg, Foster Mountain, Fouts Springs, Glascock Mtn, Greenough Ridge, Gualala, Gube Mountain, Hayward, Highland Springs, Hopland, Hough Springs, Hunters Point, Jericho Valley, Lake Pillsbury, Lakeport, Las Trampas Ridge, Laughlin Range, Leesville, Livermore, Lucerne, Mallo Pass Creek, Mathison Peak, Mcguire Ridge, Middletown, Midway, Mount St Helena, Northspur, Noyo Hill, Oakland East, Oakland West, Ornbau Valley, Philo, Point Arena, Potato Hill, Potter Valley, Purdys Gardens, Redwood Point, Richmond, San Leandro, Saunders Reef, St John Mtn, The Geysers, Upper Lake, Van Arsdale Reservoir, Whispering Pines, Wilbur Springs, Willits, Wilson Valley, Yorkville, Zeni Ridge

Address:

PLSS:

## Database record metadata

	Date	User	Action taken
Entered:	4/7/2005	nwic-main	
Last modified:	8/4/2017	raelync	
IC actions:	Date	User	Action taken
	4/7/2005	jay	Appended records from NWICmain bibliographic database.
	10/21/2015	rinerg	add quads: 'all Yolo', 'all Solano', 'all Napa', 'all Sonoma', 'all Marin'; remove quad: Las Trampas Ridge; add about 75 more quads based on GIS portions in Mendocino, Lake, Colusa, ContraCosta counties
	11/30/2016	neala	added SFR & ALA county areas, fixed northern boundary, & added all appropriate quads
	4/11/2017	raelync	Report verified, awaiting verification of 17 resources.

Record status: Verified

# Report Detail: S-010876

21-2079 :: Flow Trail Project

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## Identifiers

Report No.: S-010876

Other IDs:

Cross-refs:

## Citation information

Author(s): Angela M. Banet, Robert M. Harmon, Sondra A. Jarvis, and John W. Schoenfelder

Year: 1989

Title: Cultural Resources Assessment of the Proposed Rancho Paraiso Development, Walnut Creek, Contra Costa County, California

Affiliation: Basin Research Associates, Inc.

No. pages:

No. maps:

Attributes: Archaeological, Field study

Inventory size: c 210 ac

Disclosure: Not for publication

Collections:

## General notes

### Associated resources

No. resources: 0

Has informals: No

### Location information

County(ies): Contra Costa

USGS quad(s): Clayton

Address:

PLSS:

### Database record metadata

	Date	User	
Entered:	4/7/2005	nwic-main	
Last modified:	3/7/2008	hagell	
IC actions:	Date	User	Action taken
	4/7/2005	jay	Appended records from NWICmain bibliographic database.

Record status:



# Report Detail: S-014337

21-2079 :: Flow Trail Project

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## Identifiers

Report No.: S-014337

Other IDs:

Cross-refs:

## Citation information

Author(s): David Chavez

Year: 1992 (Jul)

Title: Cultural Resources Investigations for the Contra Costa Water District Emergency Storage Reservoir Program EIR, Contra Costa County, California

Affiliation: David Chavez & Associates

No. pages:

No. maps:

Attributes: Archaeological, Field study

Inventory size: c 53.8 ac

Disclosure: Not for publication

Collections: No

## General notes

### Associated resources

No. resources: 0

Has informals: No

### Location information

County(ies): Contra Costa

USGS quad(s): Clayton, Vine Hill, Walnut Creek

Address:

PLSS:

### Database record metadata

Date	User	Action taken
Entered: 4/7/2005	nwic-main	
Last modified: 1/22/2016	mikulic	
IC actions: Date	User	Action taken
4/7/2005	jay	Appended records from NWICmain bibliographic database.
1/21/2016	simsa	Updated GIS: removed features that were not surveyed; merged all features

Record status: Verified

# Report Detail: S-016660

21-2079 :: Flow Trail Project

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## Identifiers

Report No.: S-016660

Other IDs:

Cross-refs:

## Citation information

Author(s): Jeffrey B. Fentress

Year: 1992 (Jul)

Title: Prehistoric Rock Art of Alameda and Contra Costa Counties, California

Affiliation: California State University, Hayward

No. pages:

No. maps:

Attributes: Archaeological, Other research, Thesis/dissertation

Inventory size:

Disclosure: Not for publication

Collections: No

## General notes

## Associated resources

Primary No.	Trinomial	Name
P-01-000035	CA-ALA-000014	Mortar Rock Park
P-01-000039	CA-ALA-000019/H	[none]
P-01-000071	CA-ALA-000051	Vargas Road Petroglyph
P-01-000080	CA-ALA-000060	Castro Valley
P-01-000128	CA-ALA-000400	ICR-WR-6
P-01-000137	CA-ALA-000410	ICR-WR-16
P-01-000138	CA-ALA-000412	DOT-04-92-1
P-01-000144	CA-ALA-000418	[none]
P-01-000195	CA-ALA-000477/H	Drove Right To It Site
P-01-000198	CA-ALA-000480	Site 1
P-01-000199	CA-ALA-000481/H	HBR-1 & 2
P-01-002112	CA-ALA-000505	[none]
P-07-000029	CA-CCO-000009	Los Vaqueros #24 (LV-24)
P-07-000094	CA-CCO-000152	[none]
P-07-000189	CA-CCO-000320/H	Los Vaqueros #2 (LV-2)
P-07-000193	CA-CCO-000375	YBL-7; Live Oak Camp
P-07-000212	CA-CCO-000417	LOCUS 11: C1, C2, C3, C4, CS,
P-07-000216	CA-CCO-000428	[none]
P-07-000219	CA-CCO-000434/H	Vasco Caves
P-07-000230	CA-CCO-000450/H	Los Vaqueros #16, 21, 22 (LV-1
P-07-000242	CA-CCO-000462	Los Vaqueros #31 (LV-31)
P-07-000255	CA-CCO-000482	YBL-1
P-07-000260	CA-CCO-000487	YBL-6
P-07-000271	CA-CCO-000500	Site 1
P-07-000301	CA-CCO-000530	Fossil Ridge #1
P-07-000302	CA-CCO-000531	Fossil Ridge 2
P-07-000323	CA-CCO-000553/H	Alvarado Park, Wildcat Regional
P-07-000344	CA-CCO-000577	AR Site 2
P-07-000345	CA-CCO-000578	Peter Banks Rock
P-07-000346	CA-CCO-000579	Amos Site
P-07-000347	CA-CCO-000580	Amos Rock
P-07-000348	CA-CCO-000581	Star Rock/Stair Rock
P-07-000356	CA-CCO-000590	Old Stump Site BRMs #3
P-07-000362	CA-CCO-000597	Kellogg Unit #4 (K-4)
P-07-000374	CA-CCO-000609	Site 1 (Keller Landfill)
P-07-000725	CA-CCO-000382	Rock City #1
P-07-000726	CA-CCO-000383	Rock City #2

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P-07-000727	CA-CCO-000384	Rock City #3
P-07-000730	CA-CCO-000395	Rock City #4
P-07-000734	CA-CCO-000416	MD-2
P-07-000736	CA-CCO-000424	[none]
P-07-000738	CA-CCO-000429	Artist Point
P-07-000739	CA-CCO-000430	Shotstar

No. resources: 43

Has informals: No

### Location information

County(ies): Alameda, Contra Costa

USGS quad(s): ~All quads - Alameda Co., ~All quads - Contra Costa Co.

Address:

PLSS:

### Database record metadata

Date	User
Entered: 4/7/2005	nwic-main
Last modified: 7/31/2017	moored

IC actions: Date	User	Action taken
4/7/2005	jay	Appended records from NWICmain bibliographic database.
10/2/2009	muchb	updated county information
9/18/2015	riner	fill out the lists of counties and quads based on map coverage
4/21/2017	raelync	Report verified; awaiting verification of 21 resources.
6/2/2017	raelync	Report verified; awaiting verification of 11 resources.
7/31/2017	moored	Resources Verified

Record status: Verified

# Report Detail: S-017835

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## Identifiers

Report No.: S-017835

Other IDs:

Cross-refs:

## Citation information

Author(s): Judy Myers Suchey

Year: 1975 (Dec)

Title: Biological Distance of Prehistoric Central California Populations Derived from Non-Metric Traits of the Cranium

Affiliation: University of California, Riverside

No. pages:

No. maps:

Attributes: Thesis/dissertation

Inventory size:

Disclosure: Not for publication

Collections: Yes

## General notes

Burials from Santa Cruz Island and Sacramento, San Joaquin, & Los Angeles counties were also examined. The GIS contains report polygons from the paper maps. This report extends outside the NWIC service area (into San Joaquin, Sacramento, & Los Angeles counties).

## Associated resources

Primary No.	Trinomial	Name
P-01-000086	CA-ALA-000309	Emeryville Shellmound
P-01-000104	CA-ALA-000328	Nelson's 328
P-01-000105	CA-ALA-000329/H	Nelsons 329; Ryan Mound
P-06-000025	CA-COL-000001	S-1 Miller
P-07-000080	CA-CCO-000138	Hotchkiss Mound
P-07-000081	CA-CCO-000139/H	Simone Mound
P-07-000083	CA-CCO-000141	C-141, Orwood Mound #2
P-07-000087	CA-CCO-000145	Byron Tract
P-21-000017	CA-MRN-000266	PB 266
P-21-000193	CA-MRN-000168	Nelson No. 168
P-21-000242	CA-MRN-000232/H	PB 232 b
P-21-000252	CA-MRN-000242/H	PB No. 242 - Cauley
P-48-000010	CA-SOL-000002	Peterson 2
P-57-000145	CA-YOL-000013	Mustang Site

No. resources: 14

Has informals: No

## Location information

County(ies): Alameda, Colusa, Contra Costa, Marin, Other, Solano, Yolo

USGS quad(s): ~All quads - Alameda Co., ~All quads - Colusa Co., ~All quads - Contra Costa Co., ~All quads - Marin Co., ~All quads - Solano Co., ~All quads - Yolo Co.

Address:

PLSS:

## Database record metadata

Date	User	Action taken
Entered: 4/7/2005	nwic-main	
Last modified: 7/17/2019	hagell	
IC actions: Date	User	Action taken
4/7/2005	jay	Appended records from NWICmain bibliographic database.
4/11/2017	raelync	Report verified, awaiting verification of 8 resources.
4/21/2017	moored	Resources verified

Record status: Verified

# Report Detail: S-018217

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## Identifiers

Report No.: S-018217

Other IDs:

Cross-refs:

## Citation information

Author(s): Glenn Gmoser

Year: 1996 (Apr)

Title: Cultural Resource Evaluations for the Caltrans District 04 Phase 2 Seismic Retrofit Program, Status Report

Affiliation: California Department of Transportation

No. pages:

No. maps:

Attributes: Archaeological, Architectural/historical, Other research

Inventory size:

Disclosure: Not for publication

Collections: No

## General notes

Status report of the evaluation of bridge structures. There were no location maps in the report.

## Associated resources

Primary No.	Trinomial	Name
P-01-000014	CA-ALA-000483	Site 2
P-01-000023	CA-ALA-000002/H	Ohlones Cemetery
P-01-000227	CA-ALA-000548/H	Vallejo Mill
P-07-000108	CA-CCO-000225	Anaclario Site
P-07-000119	CA-CCO-000237	Loud's 422
P-38-000002	CA-SFR-000002	Shellmound No. 439
P-38-000004	CA-SFR-000004/H	Yerba Buena Island
P-41-000273	CA-SMA-000321	Hamilton #2; San Mateo Shellmo
P-43-000106	CA-SCL-000092/H	Sargent Ranch; US-1
P-43-000297	CA-SCL-000289	GP-1
P-43-000624	CA-SCL-000677	The 237/880 Site
P-43-001078	CA-SCL-000699/H	The Dollhouse Site; Dollhouse Si
P-44-000010	CA-SCR-000002/H	Aptos Creek
P-44-000201	CA-SCR-000199H	Cactus Gardens
P-44-000300	CA-SCR-000313	Granite Ck. Rd./Highway 17 Inter
P-49-000195	CA-SON-000223	Nelson No. 223

No. resources: 16

Has informals: No

## Location information

County(ies): Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Santa Cruz, Sonoma

USGS quad(s): ~All quads - Alameda Co., ~All quads - Contra Costa Co., ~All quads - Marin Co., ~All quads - Napa Co., ~All quads - San Francisco Co., ~All quads - San Mateo Co., ~All quads - Santa Clara Co., ~All quads - Santa Cruz Co., ~All quads - Sonoma Co.

Address:

PLSS:

## Database record metadata

Date	User	Action taken
Entered: 4/7/2005	nwic-main	
Last modified: 6/15/2017	raelync	
IC actions: Date	User	Action taken
4/7/2005	jay	Appended records from NWICmain bibliographic database.
10/13/2014	hagell	edited database
7/14/2015	rinerg	set status=Verified

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4/11/2017	raelync	report verified, awaiting verification of 7 resources.
4/21/2017	moored	Resources Verified

*Record status:* Verified

# Report Detail: S-020395

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## Identifiers

Report No.: S-020395

Other IDs:

Cross-refs:

## Citation information

Author(s): Donna L. Gillette

Year: 1998 (May)

Title: PCNs of the Coast Ranges of California: Religious Expression or the Result of Quarrying?

Affiliation: California State University, Hayward

No. pages:

No. maps:

Attributes: Other research, Thesis/dissertation

Inventory size:

Disclosure: Not for publication

Collections: No

## General notes

Masters Thesis. This report extends outside the NWIC service area (into Fresno, Kern, Santa Barbara, San Luis Obispo, & Trinity counties; and into Oregon.).

## Associated resources

Primary No.	Trinomial	Name
P-07-000094	CA-CCO-000152	[none]
P-07-000323	CA-CCO-000553/H	Alvarado Park, Wildcat Regional
P-12-000050	CA-HUM-000983	Squaw Rock
P-17-000071	CA-LAK-000034	Bachelor Valley No. 4; Smith's 1
P-17-001315	CA-LAK-001577	Lakeport PCN Boulder
P-21-000087	CA-MRN-000057	Nelson No. 57
P-21-000376	CA-MRN-000414	Deer Island Area #1
P-21-000378	CA-MRN-000416	Deer Island Area #3
P-21-000379	CA-MRN-000417	Deer Island Area #4
P-21-000381	CA-MRN-000419	Deer Island Area #6
P-21-000382	CA-MRN-000420	17 Novato
P-21-000383	CA-MRN-000421	Novato #18
P-21-000384	CA-MRN-000422	Novato #19
P-21-000386	CA-MRN-000425	Tiburon 3 Field #3
P-21-000387	CA-MRN-000426	Tiburon 4 Field #4
P-21-000388	CA-MRN-000427	Tiburon 5 Field #5
P-21-000389	CA-MRN-000428	Tiburon 6 Field #6
P-21-000390	CA-MRN-000429	Tiburon 7 Field #7
P-21-000391	CA-MRN-000430	Tiburon 8 Field #8
P-21-000392	CA-MRN-000431	Tiburon 9, 10, 11
P-21-000393	CA-MRN-000432	Tiburon 12
P-21-000394	CA-MRN-000433	Tiburon 13 Field #13
P-21-000395	CA-MRN-000434	Tiburon 14 & 15 Field #14 & #15
P-21-000396	CA-MRN-000435	Tiburon 16 Field #16
P-21-000397	CA-MRN-000436	Tiburon 17 Field #17
P-21-000398	CA-MRN-000437	Tiburon 18 Field #18
P-21-000399	CA-MRN-000438	Tiburon 19 Field #19
P-21-000400	CA-MRN-000439	Tiburon 20A
P-21-000401	CA-MRN-000440	Tiburon 21 Field #21
P-21-000402	CA-MRN-000442	Tiburon 1
P-21-000419	CA-MRN-000465	Whit's Rock
P-21-000433	CA-MRN-000481	ARS 78-72-Rock 1
P-21-000546	CA-MRN-000424	Tiburon 2
P-21-000620	CA-MRN-000636	Petroglyph site south of Ring Mo
P-21-000621	CA-MRN-000637	Petroglyph site on small north sl

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P-21-000624	CA-MRN-000640	Petroglyph site near Taylor Road
P-21-000661	CA-MRN-000452	Pat's Rock
P-23-000434	CA-MEN-000433	Bell Springs Petroglyph Rock
P-23-000809	CA-MEN-000874	Knight's Valley 2
P-23-000810	CA-MEN-000875	Knight's Valley Baby Rock
P-23-001698	CA-MEN-001912	Spyrock Road Petroglyphs
P-23-001725	CA-MEN-001941	Genesis #4,5,6,7,8; "V" Greenfie
P-23-001792	CA-MEN-002020	Potter Valley Petroglyphs
P-23-001798	CA-MEN-002028	Genesis #9
P-23-001799	CA-MEN-002029	Genesis #10
P-23-001803	CA-MEN-002034	Genesis #16
P-23-001804	CA-MEN-002035	Infinity #1
P-23-001930	CA-MEN-002200	Keystone Petroglyph Site
P-23-001942	CA-MEN-002213	Huntley Peak Petroglyphs
P-23-001950	CA-MEN-002221	Hidden Hill Petroglyph
P-23-001963	CA-MEN-002235	Watershed Down Petroglyph Sit
P-35-000013	CA-SBN-000012	
P-43-000067	CA-SCL-000048	Rancho Paso del Verde
P-43-000080	CA-SCL-000063	SFSU-SCL-6
P-43-000287	CA-SCL-000279	ARS 77-97-1
P-43-000289	CA-SCL-000281	ARS 77-97-3
P-43-000504	CA-SCL-000503	COE-29
P-49-000046	CA-SON-000929	Jan's Rock
P-49-000240	CA-SON-000268	Steward's 8 Pt.
P-49-000533	CA-SON-000568	Smiley
P-49-000550	CA-SON-000585	Yorty Cupule Rock
P-49-000629	CA-SON-000682	Steward's 9 PT.
P-49-000785	CA-SON-000844	Petaluma #1
P-49-000787	CA-SON-000846	Petaluma #3
P-49-000868	CA-SON-000928	Mike Whitson Rock I
P-49-000960	CA-SON-001026	Nana's Rocks
P-49-000975	CA-SON-001041	Lee's Rock
P-49-001004	CA-SON-001075	Kellies Rock
P-49-001087	CA-SON-001160	Site No. 7
P-49-001239	CA-SON-001319	Kathleen's Rock
P-49-002121	CA-SON-001383	Banded Rock Petroglyph Rock

No. resources: 71

Has informals: Yes

## Location information

County(ies): Alameda, Contra Costa, Humboldt, Lake, Marin, Mendocino, Other, San Benito, Santa Clara, Sonoma

USGS quad(s): ~All quads - Alameda Co., ~All quads - Contra Costa Co., ~All quads - Humboldt Co., ~All quads - Lake Co., ~All quads - Marin Co., ~All quads - Mendocino Co., ~All quads - San Benito Co., ~All quads - Santa Clara Co., ~All quads - Sonoma Co.

Address:

PLSS:

## Database record metadata

	Date	User	
Entered:	4/7/2005	nwic-main	
Last modified:	6/25/2020	hagell	
IC actions:	Date	User	Action taken
	4/7/2005	jay	Appended records from NWICmain bibliographic database.
	9/14/2016	hagell	edited notes
	3/27/2017	hagell	added note
	4/11/2017	raelync	Report verified, awaiting verification of 26 resources.
	6/6/2017	castrom	Verification Process is In Progress.
	6/14/2017	castrom	Resources all verified. Report Marked Verified.



# Report Detail: S-020395

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*Record status:* Verified

# Report Detail: S-030204

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## Identifiers

Report No.: S-030204

Other IDs:

Cross-refs:

## Citation information

Author(s): Donna L. Gillette

Year: 2003 (Jun)

Title: The Distribution and Antiquity of the California Pecked Curvilinear Nucleated (PCN) Rock Art Tradition.

Affiliation: University of California, Berkeley

No. pages:

No. maps:

Attributes: Archaeological, Other research

Inventory size:

Disclosure: Not for publication

Collections: No

## General notes

This report extends outside of the NWIC service area (into Fresno, San Luis Obispo, Santa Barbara, & Kern counties).

## Associated resources

Primary No.	Trinomial	Name
P-01-002148	CA-ALA-000571	Alameda PCN
P-21-000384	CA-MRN-000422	Novato #19
P-23-000810	CA-MEN-000875	Knight's Valley Baby Rock

No. resources: 3

Has informals: Yes

## Location information

County(ies): Alameda, Colusa, Contra Costa, Del Norte, Humboldt, Lake, Marin, Mendocino, Monterey, Napa, Other, San Benito, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano, Sonoma, Yolo

USGS quad(s): ~All quads - Alameda Co., ~All quads - Colusa Co., ~All quads - Contra Costa Co., ~All quads - Del Norte Co., ~All quads - Humboldt Co., ~All quads - Lake Co., ~All quads - Marin Co., ~All quads - Mendocino Co., ~All quads - Monterey Co., ~All quads - Napa Co., ~All quads - San Benito Co., ~All quads - San Francisco Co., ~All quads - San Mateo Co., ~All quads - Santa Clara Co., ~All quads - Santa Cruz Co., ~All quads - Solano Co., ~All quads - Sonoma Co., ~All quads - Yolo Co.

Address:

PLSS:

## Database record metadata

Date	User	Action taken
Entered: 7/12/2005	kellyn	
Last modified: 1/20/2021	hagell	
IC actions: Date	User	Action taken
12/5/2016	hagell	added counties to note
4/28/2017	hagell	edited note
5/12/2017	raelync	Report verified; awaiting verification of 2 resources.

Record status: Verified

# Report Detail: S-032596

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## Identifiers

Report No.: S-032596

Other IDs:	Type	Name
	Other	Contract #04A2098
	Caltrans	EA No. 447600

Cross-refs:

## Citation information

Author(s): Randall Milliken, Jerome King, and Patricia Mikkelsen

Year: 2006 (Dec)

Title: The Central California Ethnographic Community Distribution Model, Version 2.0, with Special Attention to the San Francisco Bay Area, Cultural Resources Inventory of Caltrans District 4 Rural Conventional Highways

Affiliation: Consulting in the Past; Far Western Anthropological Research Group, Inc.

No. pages:

No. maps:

Attributes: Archaeological, Other research

Inventory size:

Disclosure: Not for publication

Collections: No

## General notes

The study extends outside the NWIC service area (into Calaveras, Amador, Tuolumne, Mariposa, Madera, & Tulare counties).

## Associated resources

No. resources: 0

Has informals: No

## Location information

County(ies): Alameda, Contra Costa, Lake, Marin, Monterey, Napa, Other, San Benito, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano, Sonoma, Yolo

USGS quad(s): ~All quads - Alameda Co., ~All quads - Contra Costa Co., ~All quads - Marin Co., ~All quads - Monterey Co., ~All quads - Napa Co., ~All quads - San Benito Co., ~All quads - San Francisco Co., ~All quads - San Mateo Co., ~All quads - Santa Clara Co., ~All quads - Santa Cruz Co., ~All quads - Solano Co., Aetna Springs, Allendale, Annapolis, Arched Rock, Asti, Bird Valley, Bodega Head, Brooks, Calistoga, Camp Meeker, Cazadero, Clarksburg, Clearlake Highlands, Cloverdale, Cotati, Courtland, Cuttings Wharf, Davis, Detert Reservoir, Duncans Mills, Eldorado Bend, Esparto, Fort Ross, Geyserville, Glascock Mtn, Glen Ellen, Grays Bend, Guerneville, Guinda, Healdsburg, Jericho Valley, Jimtown, Kelseyville, Kenwood, Knights Landing, Knoxville, Lake Berryessa, Liberty Island, Madison, Mare Island, Mark West Springs, Merritt, Middletown, Monticello Dam, Mount St Helena, Mt Vaca, Novato, Petaluma, Petaluma Point, Petaluma River, Point Reyes Ne, Rutherford, Sacramento West, Santa Rosa, Saxon, Sears Point, Sebastopol, Sonoma, Taylor Monument, The Geysers, Tombs Creek, Two Rock, Valley Ford, Warm Springs Dam, Whispering Pines, Wilson Valley, Winters, Woodland, Zamora

Address:

PLSS:

## Database record metadata

Date	User	Action taken
Entered: 3/1/2007	hagell	
Last modified: 11/7/2017	raelync	
IC actions: Date	User	Action taken
3/30/2015	neala	data review; added Lake county quads
6/12/2015	mikulikc	corrected Yolo County quad locations from "all quads" to quads intersecting the GIS feature for S-032596
10/20/2015	rinerg	remove '~All quads - Sonoma', replace with Sonoma quads intersecting report feature
7/20/2016	moored	GIS edited shape

Record status: Verified

# Report Detail: S-033600

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## Identifiers

Report No.: S-033600

Other IDs: Type	Name
Agency Nbr	Contract No. 04A2098
Caltrans	EA No. 447600

Cross-refs:

## Citation information

Author(s): Jack Meyer and Jeff Rosenthal

Year: 2007 (Jun)

Title: Geoarchaeological Overview of the Nine Bay Area Counties in Caltrans District 4

Affiliation: Far Western Anthropological Research Group, Inc.

No. pages:

No. maps:

Attributes: Archaeological, Other research

Inventory size:

Disclosure: Not for publication

Collections: No

## General notes

9 unrecorded prehistoric resources.

## Associated resources

Primary No.	Trinomial	Name
P-01-000001	CA-ALA-000554	Castlewood Site
P-01-000002	CA-ALA-000555	Meadowlark Dairy Site
P-01-000014	CA-ALA-000483	Site 2
P-01-000063	CA-ALA-000043	De Avillo
P-01-000064	CA-ALA-000044	Kaiser
P-01-000067	CA-ALA-000047	4 Ala-47
P-01-000080	CA-ALA-000060	Castro Valley
P-01-000124	CA-ALA-000394	Pleasanton Meadows Site
P-01-000139	CA-ALA-000413	Santa Rita Village
P-01-000140	CA-ALA-000414	Iverson Site
P-01-001795	CA-ALA-000566	Hayward Bypass Site
P-01-002110	CA-ALA-000467	H&A-HBP-1
P-01-002160	CA-ALA-000574	Bernal/680
P-01-002162	CA-ALA-000576	Curtner Site
P-01-002245	CA-ALA-000586	Hwy 238-1
P-07-000019	CA-CCO-000696	Burial Site
P-07-000024	CA-CCO-000004	Slater site
P-07-000037	CA-CCO-000018/H	Marsh Site; Marsh House; The P
P-07-000047	CA-CCO-000030	[none]
P-07-000075	CA-CCO-000133	Ader site
P-07-000079	CA-CCO-000137	Monument Site; Concord Man Si
P-07-000088	CA-CCO-000146	Holland Tract
P-07-000089	CA-CCO-000147	CCO-147
P-07-000108	CA-CCO-000225	Anaclario Site
P-07-000182	CA-CCO-000305	Prehistoric Archaeological Site C
P-07-000185	CA-CCO-000308	Stone Valley Site
P-07-000186	CA-CCO-000309	The Rossmoor Site
P-07-000217	CA-CCO-000431	Murwood School Site
P-07-000239	CA-CCO-000459	Los Vaqueros #15 (LV-15)
P-07-000401	CA-CCO-000637	Dam Site
P-07-000721	CA-CCO-000368	Dutra 1
P-21-000010	CA-MRN-000249/H	4-MRN-249
P-21-000048	CA-MRN-000017	Nelson No. 17
P-21-002615	CA-MRN-000674	Pelican site

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P-28-000009	CA-NAP-000863	Adams Street Site
P-28-000028	CA-NAP-000015/H	Suscol Mound #5
P-28-000301	CA-NAP-000399	B- 55- V V
P-28-000967	CA-NAP-000916	Double Whoa!
P-38-000006	CA-SFR-000006	Loud's Presidio Mound
P-38-000028	CA-SFR-000028	BART Burial
P-38-000101	CA-SFR-000112	49 Stevenson
P-38-000102	CA-SFR-000113	5th & Market
P-38-000119	CA-SFR-000114	[none]
P-41-000080	CA-SMA-000077	University Village Site (Gerow)
P-41-000284	CA-SMA-000273	Coyote Pt. Marina
P-43-000016	CA-SCL-000755	SCU/Old Alameda Burial site
P-43-000189	CA-SCL-000178	MH-22
P-43-000296	CA-SCL-000288	[none]
P-43-000308	CA-SCL-000300	CA-Scl-300
P-43-000310	CA-SCL-000302	CA-Scl-302
P-43-000423	CA-SCL-000418/H	[none]
P-43-000424	CA-SCL-000419/H	441 N. 1st
P-43-000448	CA-SCL-000447/H	formerly known as CA-SCL-6E
P-43-000451	CA-SCL-000450	Rosendin 1
P-43-000485	CA-SCL-000484	[none]
P-43-000561	CA-SCL-000566	[none]
P-43-000604	CA-SCL-000609	Ronald McDonald House
P-43-000608	CA-SCL-000613/H	Stanford Man II
P-43-000614	CA-SCL-000619	Elk Site
P-43-000623	CA-SCL-000675	"Coyote Creek Site"
P-43-001015	CA-SCL-000553	Orchard 1001-1
P-43-001058	CA-SCL-000674	DC-1
P-43-001080	CA-SCL-000702	Waste Management Site
P-43-001163	CA-SCL-000828	Fuel Farm Site
P-43-001194	CA-SCL-000832	Iowa Avenue and Sunnyvale Ave
P-43-001576	CA-SCL-000849	152/156-5
P-48-000007	CA-SOL-000391	Fairfield PEC-1
P-48-000157	CA-SOL-000324	[none]

No. resources: 68

Has informals: Yes

## Location information

County(ies): Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma

USGS quad(s): ~All quads - Alameda Co., ~All quads - Contra Costa Co., ~All quads - Marin Co., ~All quads - Napa Co., ~All quads - San Francisco Co., ~All quads - San Mateo Co., ~All quads - Santa Clara Co., ~All quads - Solano Co., ~All quads - Sonoma Co.

Address:

PLSS:

## Database record metadata

Date	User	Action taken
Entered: 9/24/2007	guldenj	
Last modified: 6/20/2017	moored	
IC actions: Date	User	Action taken
7/16/2015	rinerg	set Status=verified
8/22/2016	paganob	updated other identifiers
4/11/2017	raelync	report verified, awaiting verification of 1 resource.
6/19/2017	bentonb	all resources verified, report record status = verified

Record status: Verified

# Report Detail: S-049780

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## Identifiers

Report No.: S-049780

Other IDs: 

Type	Name
OTIS Report Number	FHWA_2016_0615_001

Cross-refs:

## Citation information

Author(s): Brian F. Byrd, Adrian R. Whitaker, Patricia J. Mikkelsen, and Jeffrey S. Rosenthal

Year: 2017 (Jun)

Title: San Francisco Bay-Delta Regional Context and Research Design for Native American Archaeological Resources, Caltrans District 4

Affiliation: California Department of Transportation, District 4

No. pages:

No. maps:

Attributes: Archaeological, Management/planning, Other research

Inventory size:

Disclosure: Not for publication

Collections: No

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Sub-desig.: a

Author(s): Julianne Polanco

Year: 2016 (Aug)

Title: FHWA\_2016\_0615\_001, Caltrans District 4 Archaeological Context

Affiliation: California Office of Historic Preservation

Report type(s): OHP Correspondence

Inventory size:

No. pages:

Disclosure: Unrestricted

Collections: No

PDF Pages: 489-510

## General notes

A portion of this report extends outside the NWIC service area (into Sacramento County). According to the report, 1,798 Native American archaeological resources are within the study area.

## Associated resources

Primary No.	Trinomial	Name
P-01-000001	CA-ALA-000554	Castlewood Site
P-01-000002	CA-ALA-000555	Meadowlark Dairy Site
P-01-000014	CA-ALA-000483	Site 2
P-01-000015	CA-ALA-000565/H	Sii Túupentak
P-01-000022	CA-ALA-000001/H	Mission San Jose
P-01-000033	CA-ALA-000012	[none]
P-01-000034	CA-ALA-000013/H	SFSC-ALA-1
P-01-000038	CA-ALA-000017	[none]
P-01-000062	CA-ALA-000042	Jensen
P-01-000066	CA-ALA-000046	Nielson Farm; Stoneridge Place
P-01-000080	CA-ALA-000060	Castro Valley
P-01-000084	CA-ALA-000307	West Berkeley Shell Mound
P-01-000086	CA-ALA-000309	Emeryville Shellmound
P-01-000087	CA-ALA-000310	Nelson's 310
P-01-000089	CA-ALA-000312	Nelson's 312
P-01-000104	CA-ALA-000328	Nelson's 328
P-01-000105	CA-ALA-000329/H	Nelsons 329; Ryan Mound
P-01-000106	CA-ALA-000330	Nelson's 330
P-01-000107	CA-ALA-000331	Nelson's 331
P-01-000116	CA-ALA-000342	Voided: see P-01-002162

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P-01-000117	CA-ALA-000343	M.H. Podell Presidio Apartments
P-01-000139	CA-ALA-000413	Santa Rita Village
P-01-000152	CA-ALA-000428/H	Geary Ranch
P-01-000175	CA-ALA-000453	Alvarado-Niles 1
P-01-000197	CA-ALA-000479	Dowe Ave Site
P-01-000201	CA-ALA-000485	SL1
P-01-000202	CA-ALA-000486/H	SL2
P-01-000234	CA-ALA-000424	Ardenwood Estates (AE) #1
P-01-000237	CA-ALA-000466	Olympia #1
P-01-001795	CA-ALA-000566	Hayward Bypass Site
P-01-002120	CA-ALA-000514	Hidden Valley Ranch
P-01-002160	CA-ALA-000574	Bernal/680
P-01-002162	CA-ALA-000576	Curtner Site
P-01-002245	CA-ALA-000586	Hwy 238-1
P-01-002280	CA-ALA-000621	Central Chevrolet
P-01-010509	CA-ALA-000604	Mandela-1
P-01-010610	CA-ALA-000613/H	Canyon Oaks
P-01-011556	CA-ALA-000684	Fremont Blvd South
P-07-000019	CA-CCO-000696	Burial Site
P-07-000021	CA-CCO-000001	CCO-1
P-07-000029	CA-CCO-000009	Los Vaqueros #24 (LV-24)
P-07-000033	CA-CCO-000014	Sherwood
P-07-000037	CA-CCO-000018/H	Marsh Site; Marsh House; The P
P-07-000047	CA-CCO-000030	[none]
P-07-000066	CA-CCO-000124	[none]
P-07-000070	CA-CCO-000128	Dal Porto Mound
P-07-000079	CA-CCO-000137	Monument Site; Concord Man Si
P-07-000080	CA-CCO-000138	Hotchkiss Mound
P-07-000089	CA-CCO-000147	CCO-147
P-07-000093	CA-CCO-000151	[none]
P-07-000098	CA-CCO-000156	Garden Road Cul-de Sac Site
P-07-000105	CA-CCO-000222/H	Keller Ranch
P-07-000117	CA-CCO-000235	Loud's 423a
P-07-000118	CA-CCO-000236	Buchan, Jones Mound, Loud #42
P-07-000147	CA-CCO-000268	Voided, see P-07-000461, P-07-
P-07-000148	CA-CCO-000269	Nelson No. 269
P-07-000149	CA-CCO-000270	Nelson No. 270
P-07-000150	CA-CCO-000271	Nelson No. 271
P-07-000154	CA-CCO-000275	Nelson No. 275
P-07-000168	CA-CCO-000290	Nelson No. 290
P-07-000173	CA-CCO-000295	Nelson No. 295
P-07-000174	CA-CCO-000297	Nelson's No. 297
P-07-000175	CA-CCO-000298	Nelson's No. 298, Stege
P-07-000176	CA-CCO-000299	Nelson's No. 299
P-07-000185	CA-CCO-000308	Stone Valley Site
P-07-000186	CA-CCO-000309	The Rossmoor Site
P-07-000189	CA-CCO-000320/H	Los Vaqueros #2 (LV-2)
P-07-000197	CA-CCO-000397	CCO 1(SFSC)
P-07-000217	CA-CCO-000431	Murwood School Site
P-07-000227	CA-CCO-000447/H	Los Vaqueros #9 (LV-9)
P-07-000230	CA-CCO-000450/H	Los Vaqueros #16, 21, 22 (LV-1
P-07-000238	CA-CCO-000458/H	Los Vaqueros #13 (LV-13)
P-07-000239	CA-CCO-000459	Los Vaqueros #15 (LV-15)
P-07-000242	CA-CCO-000462	Los Vaqueros #31 (LV-31)
P-07-000309	CA-CCO-000538	Big Break Regional Shoreline
P-07-000359	CA-CCO-000593	HT-6
P-07-000365	CA-CCO-000600	[none]
P-07-000366	CA-CCO-000601	Voided, see P-07-000461
P-07-000400	CA-CCO-000636	Hopper Mortar Site

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P-07-000401	CA-CCO-000637	Dam Site
P-07-000440	CA-CCO-000259	Barker's Rodeo
P-07-000441	CA-CCO-000284	Nelson No. 284
P-07-000459	CA-CCO-000474/H	PRC #1
P-07-000461	CA-CCO-000654	Nelson No. 268
P-07-000462	CA-CCO-000655	Nelson's 268B
P-07-000721	CA-CCO-000368	Dutra 1
P-07-000724	CA-CCO-000377	SL-1
P-07-000790	CA-CCO-000725	Road 3A Site
P-07-000792	CA-CCO-000726/H	Powerline Site
P-07-002570	CA-CCO-000750	MP20; Mile Post 20 Site (UPDA)
P-07-002592	CA-CCO-000755/H	Gas Line Site
P-07-002650	CA-CCO-000767	Biggs Mound
P-07-004537	CA-CCO-000832	PATP Site
P-21-000002	CA-MRN-000003	Nelson No. 3
P-21-000036	CA-MRN-000005/H	Nelson No. 5
P-21-000043	CA-MRN-000012	Nelson No. 12
P-21-000045	CA-MRN-000014	Nelson No. 14
P-21-000048	CA-MRN-000017	Nelson No. 17
P-21-000051	CA-MRN-000020	Nelson No. 20
P-21-000057	CA-MRN-000026	Nelson No. 26
P-21-000058	CA-MRN-000027	Nelson No. 27
P-21-000066	CA-MRN-000035	Nelson No. 35
P-21-000070	CA-MRN-000039	Nelson No. 39
P-21-000072	CA-MRN-000042	Nelson No. 42
P-21-000073	CA-MRN-000043	Nelson No. 43
P-21-000074	CA-MRN-000044	Nelson No. 44
P-21-000075	CA-MRN-000045	Nelson No. 45
P-21-000097	CA-MRN-000067/H	Nelson No. 67
P-21-000106	CA-MRN-000076	Nelson No. 76
P-21-000109	CA-MRN-000080	Nelson No. 80
P-21-000142	CA-MRN-000114	Nelson No. 114
P-21-000143	CA-MRN-000115	Nelson No. 115
P-21-000152	CA-MRN-000127	Nelson No. 127
P-21-000163	CA-MRN-000138	Nelson No. 138
P-21-000164	CA-MRN-000139	Nelson No. 139
P-21-000165	CA-MRN-000140	Nelson No. 140
P-21-000166	CA-MRN-000141	Nelson No. 141
P-21-000167	CA-MRN-000142	Nelson No. 142
P-21-000175	CA-MRN-000150/H	Nelson No. 150
P-21-000177	CA-MRN-000152	Nelson No. 152
P-21-000193	CA-MRN-000168	Nelson No. 168
P-21-000195	CA-MRN-000170	Nelson No. 170
P-21-000196	CA-MRN-000171	Nelson No. 171
P-21-000199	CA-MRN-000174	Nelson No. 174
P-21-000200	CA-MRN-000175	Nelson No. 175
P-21-000217	CA-MRN-000192	Nelson No. 192
P-21-000218	CA-MRN-000193/H	Rancho Olompali
P-21-000219	CA-MRN-000194	VOID, see P-21-000220
P-21-000220	CA-MRN-000195	Nelson No. 195
P-21-000221	CA-MRN-000196	Nelson No. 196
P-21-000222	CA-MRN-000197	Nelson No. 197
P-21-000256	CA-MRN-000254	The Dominican College Site
P-21-000295	CA-MRN-000315	Nelson No. 86C
P-21-000305	CA-MRN-000327	Nelson No. 195e
P-21-000306	CA-MRN-000328	S.A. II (San Antonio II)
P-21-000327	CA-MRN-000352	ARS 05-018
P-21-000332	CA-MRN-000357/H	Bayonet Midden
P-21-000337	CA-MRN-000365	[none]; Miwok Park



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P-21-000346	CA-MRN-000374	[none]
P-21-000369	CA-MRN-000403	[none]
P-21-000423	CA-MRN-000471	San Jose Village
P-21-000459	CA-MRN-000526	VOID, see P-21-000218
P-21-000462	CA-MRN-000529	Lost Luggage Site
P-21-000528	CA-MRN-000601	Burdell Spring #1
P-21-000541	CA-MRN-000255	[none]
P-21-000544	CA-MRN-000406	[none]
P-21-000552	CA-MRN-000507/H	VOID, see P-21-000218
P-21-000664	CA-MRN-000495	Irma's Site
P-21-000675	CA-MRN-000644/H	Mission Avenue Midden
P-21-002625	CA-MRN-000678	ARS 05-018
P-27-000613	CA-MNT-000530	H-28
P-28-000028	CA-NAP-000015/H	Suscol Mound #5
P-28-000029	CA-NAP-000016	#16; Suscol Mound #1
P-28-000175	CA-NAP-000189/H	"Possibly one of Vallejo's sites"
P-28-000176	CA-NAP-000190	Hageman #1
P-28-000667	CA-NAP-000795	Hageman #3
P-28-000874	CA-NAP-000265	Fagan Creek
P-38-000004	CA-SFR-000004/H	Yerba Buena Island
P-38-000006	CA-SFR-000006	Loud's Presidio Mound
P-38-000007	CA-SFR-000007	Bayshore Mound
P-38-000017	CA-SFR-000017	Nelson 394
P-38-000021	CA-SFR-000021/H	Sutro Bath Sites
P-38-000022	CA-SFR-000022H	Mission San Francisco de Asis;
P-38-000026	CA-SFR-000026	Void, see P-38-000006
P-38-000028	CA-SFR-000028	BART Burial
P-38-000029	CA-SFR-000029	AC-28
P-38-000030	CA-SFR-000030	AC-29
P-38-000031	CA-SFR-000031	AC-30
P-38-000101	CA-SFR-000112	49 Stevenson
P-38-000102	CA-SFR-000113	5th & Market
P-38-000119	CA-SFR-000114	[none]
P-38-000162	CA-SFR-000129	Crissy Field Site
P-38-000172	CA-SFR-000135	560 Mission St.
P-38-004265	CA-SFR-000136/H	1166-1188 Howard Street Afford
P-38-004318	CA-SFR-000147	Site JSG-1
P-38-004319	CA-SFR-000148/H	Central Freeway Touchdown Ra
P-38-004326	CA-SFR-000151/H	Tehama Street Site
P-38-004329	CA-SFR-000154/H	SFWBA Block 10
P-38-004352	CA-SFR-000155	Site JSG-2
P-38-004638	CA-SFR-000171	Quint Street Site
P-38-004882	CA-SFR-000175	ASC 71/10-1
P-38-005131	CA-SFR-000191/H	Schlage Lock
P-38-005503	CA-SFR-000205	Transbay Burial 1
P-41-000001	CA-SMA-000151	Nelson's 412, 413, 414; UC-ARF
P-41-000009	CA-SMA-000004	Nelson's 372; Sewell 1; San Mat
P-41-000011	CA-SMA-000006/H	Nelson's #364; Sewell 3
P-41-000027	CA-SMA-000022	Half Moon Bay
P-41-000028	CA-SMA-000023	San Bruno
P-41-000037	CA-SMA-000033	Nelson 372b
P-41-000044	CA-SMA-000040	SM-1
P-41-000075	CA-SMA-000072	[none]
P-41-000080	CA-SMA-000077	University Village Site (Gerow)
P-41-000081	CA-SMA-000078	[none]
P-41-000086	CA-SMA-000083	Fair Oaks Site
P-41-000087	CA-SMA-000084	[none]
P-41-000103	CA-SMA-000100	[none]
P-41-000117	CA-SMA-000115	Montara Beach Site

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P-41-000127	CA-SMA-000125	Filoli
P-41-000136	CA-SMA-000134	Probably Nelson #406
P-41-000141	CA-SMA-000139	[none]
P-41-000142	CA-SMA-000140	Nelson #415
P-41-000149	CA-SMA-000147	3 College of San Mateo
P-41-000152	CA-SMA-000150	1050 Ralston Ave
P-41-000160	CA-SMA-000160	Hiller Mound
P-41-000204	CA-SMA-000204	Jasper Ridge Site
P-41-000244	CA-SMA-000248	Tarlton Site
P-41-000252	CA-SMA-000256	SLAC-2
P-41-000259	CA-SMA-000263/H	Oak Knoll
P-41-000263	CA-SMA-000267	1416 Bay Road
P-41-000265	CA-SMA-000269	Stanford Man I
P-41-000284	CA-SMA-000273	Coyote Pt. Marina
P-41-000308	CA-SMA-000314	San Mateo Shellmound #3; Ham
P-41-000315	CA-SMA-000335/H	Davey Glen Site
P-41-002076	CA-SMA-000368/H	Carnduff Farmstead and prehist
P-43-000016	CA-SCL-000755	SCU/Old Alameda Burial site
P-43-000019	CA-SCL-000134/H	WVC-3
P-43-000021	CA-SCL-000001	Castro-Ponce Mound
P-43-000024	CA-SCL-000004/H	Spartan Stadium
P-43-000026	CA-SCL-000006	Marcello's Enclosure
P-43-000027	CA-SCL-000007/H	Lick Mill
P-43-000032	CA-SCL-000012/H	Smaller Ynigo Mound
P-43-000050	CA-SCL-000030/H	The Third Location of Mission Sa
P-43-000057	CA-SCL-000038	Alms House Mound
P-43-000082	CA-SCL-000065	West Valley College 2
P-43-000085	CA-SCL-000068	WVC-6
P-43-000087	CA-SCL-000070/H	10-17-73-1; WVC-19
P-43-000137	CA-SCL-000124	ARS 77-21
P-43-000141	CA-SCL-000128/H	Holiday Inn Site; West San Carlo
P-43-000167	CA-SCL-000155/H	Jose Maria Alviso Adobe
P-43-000277	CA-SCL-000268/H	4-SCL-268
P-43-000285	CA-SCL-000276	Rincon 1
P-43-000295	CA-SCL-000287/H	Sand Hill Road Site
P-43-000302	CA-SCL-000294	ARS 77-21
P-43-000308	CA-SCL-000300	CA-Scl-300
P-43-000310	CA-SCL-000302	CA-Scl-302
P-43-000321	CA-SCL-000314	[none]
P-43-000324	CA-SCL-000317/H	Pueblo de San Jose de Guadalu
P-43-000334	CA-SCL-000327	[none]
P-43-000349	CA-SCL-000343	Ernst Site
P-43-000360	CA-SCL-000354	FC-1
P-43-000423	CA-SCL-000418/H	[none]
P-43-000465	CA-SCL-000464	Stanford-EIP
P-43-000479	CA-SCL-000478	Temporary Site # AES-1
P-43-000485	CA-SCL-000484	[none]
P-43-000549	CA-SCL-000548	[none]
P-43-000576	CA-SCL-000581	[none]
P-43-000578	CA-SCL-000583	Greer Road
P-43-000579	CA-SCL-000584	Creekbank Site
P-43-000581	CA-SCL-000586/H	Golf Course Site
P-43-000586	CA-SCL-000591	Downstream Site
P-43-000587	CA-SCL-000592/H	Area A
P-43-000588	CA-SCL-000593	Berryessa Creek Site
P-43-000595	CA-SCL-000600	Alma Adobe
P-43-000604	CA-SCL-000609	Ronald McDonald House
P-43-000608	CA-SCL-000613/H	Stanford Man II
P-43-000614	CA-SCL-000619	Elk Site

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P-43-000618	CA-SCL-000623	Children's Hospital
P-43-000624	CA-SCL-000677	The 237/880 Site
P-43-000662	CA-SCL-000628	Lockhead Site
P-43-000989	CA-SCL-000806	Buchanan Property
P-43-000990	CA-SCL-000807/H	Woolen Mills Chinatown
P-43-001058	CA-SCL-000674	DC-1
P-43-001060	CA-SCL-000678	ARCO Burials
P-43-001071	CA-SCL-000690	CA-SCL-Lick
P-43-001163	CA-SCL-000828	Fuel Farm Site
P-43-001164	CA-SCL-000829	VOIDED: duplicate of P-43-0009
P-43-001172	CA-SCL-000830	Evelyn and Fair Oaks Isolated B
P-43-001194	CA-SCL-000832	Iowa Avenue and Sunnyvale Ave
P-43-001279	CA-SCL-000846/H	PL-1
P-43-001531	CA-SCL-000894H	Fox California Theatre
P-43-001594	CA-SCL-000851	MST Site; 195 Tully Road
P-43-001768	CA-SCL-000861	Sanborn Avenue
P-43-001838	CA-SCL-000867	Coolidge Avenue Site
P-43-001871	CA-SCL-000870	971 Schiele Ave., San Jose
P-43-002704	CA-SCL-000919	Penitencia Creek Site
P-43-003005	CA-SCL-000928	Milpitas Great Mall Site
P-48-000007	CA-SOL-000391	Fairfield PEC-1
P-48-000019	CA-SOL-000011	Siebe, Lucchetti
P-48-000033	CA-SOL-000025/H	[none]
P-48-000075	CA-SOL-000069	A
P-48-000083	CA-SOL-000236	Nelson No. 236
P-48-000150	CA-SOL-000315	Green Valley 'B'
P-48-000175	CA-SOL-000355/H	Lynch Ranch Site
P-48-000176	CA-SOL-000356	Green Valley Creek Site
P-48-000188	CA-SOL-000364/H	Rockville/Suisun Roads
P-48-000898		Hale Site
P-49-000199	CA-SON-000227	Nelson No. 208A
P-49-001011	CA-SON-001082/H	1-Lane Site
P-49-001862	CA-SON-002226	Spring Site

No. resources: 289

Has informals: Yes

## Location information

County(ies): Alameda, Contra Costa, Marin, Napa, Other, San Francisco, San Mateo, Santa Clara, Solano, Sonoma

USGS quad(s): Ano Nuevo, Antioch North, Antioch South, Benicia, Birds Landing, Bolinas, Bouldin Island, Brentwood, Briones Valley, Byron Hot Springs, Calaveras Reservoir, Castle Rock Ridge, Clayton, Cordelia, Cupertino, Cuttings Wharf, Denverton, Diablo, Dublin, Elmira, Fairfield North, Fairfield South, Glen Ellen, Half Moon Bay, Hayward, Honker Bay, Hunters Point, Isleton, Jersey Island, La Costa Valley, La Honda, Las Trampas Ridge, Livermore, Los Gatos, Mare Island, Milpitas, Mindego Hill, Montara Mtn, Mountain View, Mt George, Napa, Newark, Niles, Novato, Oakland East, Oakland West, Palo Alto, Petaluma, Petaluma Point, Petaluma River, Point Bonita, Redwood Point, Richmond, Rio Vista, San Francisco North, San Francisco South, San Geronimo, San Jose East, San Jose West, San Leandro, San Mateo, San Quentin, San Rafael, Santa Teresa Hills, Sears Point, Sonoma, Tassajara, Vine Hill, Walnut Creek, Woodside, Woodward Island

Address:

PLSS:

## Database record metadata

Date	User	Action taken
Entered: 1/18/2018	vickeryn	
Last modified: 2/1/2021	hagell	
IC actions: Date	User	Action taken
7/17/2018	vickeryn	Added additional citation 'a'.
11/16/2018	SalazarM	Added general note
11/27/2018	akmenkalnsj	Corrected author and affiliation on addl citation 'a' (Polanco 2016); added San Rafael, Los Gatos, Santa Teresa Hills quads; database complete

## Report Detail: S-049780

21-2079 :: Flow Trail Project

---

12/4/2018	akmenkalnsj	Verified
8/9/2019	rinerq	add quads: 'Ano Nuevo', 'Castle Rock Ridge'
12/12/2019	hagell	added P#s, note, & 'Isleton' to quads.

*Record status:* Verified

## **Attachment 4**

---

**APE PHOTOS**

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**CULTURAL RESOURCES PHOTOGRAPH RECORD**

**Project Name: Flow Trail Project, Walnut Creek, California**  
**Project Number: 448.29.55**

<b>Date</b>	<b>Frame Number</b>	<b>Site/Iso #</b>	<b>Description</b>	<b>View</b>
9/16/2022	IMG_8649	-	APE overview from west end off of Ohlone Trail and near Valley Vista Rd parking lot	S
9/16/2022	IMG_8658	-	APE overview from Ohlone Trail and Paraiso Trail intersection	W
9/16/2022	IMG_8659	-	APE overview from Ohlone Trail and Paraiso Trail intersection	E
9/16/2022	IMG_8669	-	APE overview between the north and south legs of Paraiso Trail	W
9/16/2022	IMG_8670	-	APE overview between the north and south legs of Paraiso Trail	S
9/16/2022	IMG_8680	-	APE overview from east end at intersection of Paraiso Trail's north and south legs	S



IMG\_8649



IMG\_8658



IMG\_8659



IMG\_8669



IMG\_8670



IMG\_8680



## **Appendix E**

---

### **Aquatic Resources Delineation Report**

# Final Aquatic Resources Delineation Report

Walnut Creek Flow Trail Project  
January 2023



Richmond, CA

501 Canal Boulevard, Suite I  
Reno, NV 94804



## City of Walnut Creek Public Works

Mike Vickers  
1666 North Main Street  
Walnut Creek, CA 94596



Collaboration. Commitment. Confidence.™

## FINAL AQUATIC RESOURCES DELINEATION REPORT

Walnut Creek Flow Trail Project

Prepared for:

Michael Vickers  
City of Walnut Creek  
Public Works  
1666 North Main Street  
Walnut Creek, CA 94596

Prepared by:

A handwritten signature in blue ink that reads "Cord Hute".

---

Cord Hute  
Senior Scientist II

NCE  
501 Canal Boulevard, Suite I  
Richmond, CA 94804

## Executive Summary

NCE performed a field investigation on September 9, 2022, evaluating the potential jurisdictional status of waters of the United States for the Walnut Creek Flow Project in Contra Costa County, California.

The United States Fish and Wildlife Service (USFWS), National Wetland Inventory (NWI) identified an unnamed stream channel within the survey area. The United States Geological Survey (USGS) did not identify any streams or wetlands within the survey area.

NCE surveyed a total of 11.7 acres. Within the survey area, NCE delineated one aquatic resource, an unnamed stream channel, that is potentially a jurisdictional water of the United States (**Appendix A, Figure 1**):

- Unnamed stream: this stream is an intermittent water, Cowardin classified as intermittent, Riverine, and is approximately 0.01 acres in size within the survey area.

These findings should be considered preliminary until the United States Army Corps of Engineers issues a final approved jurisdictional determination. This delineation was conducted in accordance with the following guidance:

- 1987 Corps of Engineers Wetland Delineation Manual;
- Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0), May 2010; and,
- A Field Guide to the Identification of the Ordinary High-Water Mark (OHWM) in the Arid West Region of the Western United States, August 2008.

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## LIST OF ACRONYMS AND ABBREVIATIONS

City	City of Walnut Creek
MSL	Mean Sea Level
NWI	National Wetlands Inventory
NRCS	Natural Resource Conservation Service
OHWM	Ordinary High Water Mark
Project	Walnut Creek Flow Trail Project
RPW	Relatively Permanent Water
TNW	Traditional Navigable Waterway
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WOUS	Waters of the United States

## 1.0 INTRODUCTION

### 1.1 Contact and Project Information

On behalf of the City of Walnut Creek (City), NCE conducted a formal United States Army Corps of Engineers (USACE) aquatic resources delineation within the survey area of the Walnut Creek Flow Trail Project (project). The City contact is Michael Vickers:

Michael Vickers  
City of Walnut Creek, Public Works  
1666 North Main Street  
Walnut Creek, CA 94596

Cord Hute of NCE conducted the aquatic resources delineation on September 9, 2022. Cord Hute will act as the agent for the City.

The project is located on the northwestern edge of the City of Walnut Creek in Contra Costa County, California (**Appendix B, Figure 1**). The survey area consists of 11.7 acres of City of Walnut Creek property within the Lime Ridge Open Space area, extending roughly 1.6 miles in length. An unnamed stream channel bisects the middle of the survey area in a northeast to a southwest direction. Surrounding land uses are primarily agricultural land and residential housing (**Appendix B, Figure 2**).

The survey area may be found on United States Geological Survey (USGS) 7.5-minute series topographic Clayton quadrangle map (**Appendix B, Figure 3**).

### 1.2 Purpose

The purpose of this report is to identify and describe aquatic resources and to identify possible sensitive plant, fish, and wildlife species in the survey area. This report facilitates efforts to:

- Avoid or minimize impacts to aquatic resources during the project development process
- Document aquatic resource boundary determinations for review by the USACE
- Provide early indications of known sensitive species within the survey area
- Provide background information
- Support possible future permit applications

## 2.0 BACKGROUND

### 2.1 Site Description

#### 2.1.1 Location

The survey area is located in the City of Walnut Creek, Contra Costa County, California, with the survey area primarily within undeveloped areas of the Lime Ridge Open Space Area. Valley Vista Road is located near the western end of the trail (**Appendix B, Figures 1 and 2**). The survey area is located within Section 20 and 21, Township 1 North, Range 1 West (Mount Diablo Meridian baseline). The survey area is within the USGS Walnut Creek 7.5-minute quadrangle map (**Appendix B, Figure 3**). At the western terminus of the site, the latitude is 37.923303 N and the longitude is -121.996596 W.

#### 2.1.2 Site Access

To access the survey area from downtown Walnut Creek: Follow Civic Drive north, turn west on Ygnacio Valley Road, turn south on Walnut Avenue, turn east on Blackstone Drive, turn north on Wiget Lane, turn east on Cedro Lane, go straight onto Valley Vista Road, and turn into the parking area for Lime Ridge Open Space immediately south of Boundary Oak Golf Course.

#### 2.1.3 Land Use

The land use within the survey area consists entirely of open space lands (Lime Ridge Open Space), an area administered by the City. The unnamed stream connects to Arroyo Cerro Del southwest of the southern boundary of the survey area. Surrounding the survey area is primarily agricultural land and residential housing (**Appendix B, Figure 2**).

#### 2.1.4 Vegetation

Based on the California Wildlife Habitat Relationships (CWHR) Dataset, the survey area land cover includes annual grassland with areas of chamise-redshank chaparral in the western one-third of the project site (**Appendix B, Figure 4**).

#### 2.1.5 Soils

The soils at the survey area have been mapped by the Department of Agriculture, Natural Resource Conservation Service (NRCS), and were downloaded from the Web Soil Survey (NRCS 2023b). NRCS identified one soil types within the survey area (**Appendix B, Figure 5**). The soil type and its hydric status is presented below and in **Table 1**.

##### BdF: Briones Loamy Sand, 30 to 50 Percent Slopes

Briones Loamy Sand, 30 to 50 percent slopes consists of somewhat excessively drained, moderately deep soils over sandstone. Briones soils are on uplands and are strongly sloping to steep. The parent material of this soil type is residuum weathered from sandstone. The soil profile is sand or loamy sand throughout and usually has a little more clay in the lower part. Briones soils are on hills and uplands at elevations of 500 to 1,000 feet and are underlain by soft to firm coarse grained sandstone. This soil type has medium to rapid runoff, and has rapid permeability but slow or very slow permeability into the sandstone. This soil is not hydric (NRCS 2023a).



**Table 1. Soils within the Survey Area**

Map Unit Symbol	Name	Acres in Survey Area	Percent of Survey Area	NRCS Hydric List
BdF	Briones Loamy Sand, 30 to 50 percent slopes	0.1	100.0%	No
Totals for the Survey Area		0.1	100.0%	

**2.1.6 Hydrology**

Direct precipitation and storm water are the primary surface water sources for the unnamed stream. In addition, the unnamed stream is hydrologically connected to a traditional navigable waterway (TNW). The unnamed stream flows in a southwestern direction into Arroyo Cerro Del which then empties into Pine Creek. Pine Creek deposits into Walnut Creek, which is a TNW.

**2.1.7 National Wetland Inventory**

The United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) identifies the unnamed creek as a freshwater emergent wetland (PEM1A), crossing the proposed trail at one location (**Appendix B, Figure 6**).

### 3.0 METHODS

#### 3.1 Research and Field Methodology

Prior to the field investigation, USGS topographic maps, aerial photographs, USFWS NWI mapping, and a NRCS custom soil report of the survey area were reviewed for indications of ephemeral, intermittent, and perennial drainages as well as mapped wetlands and spring locations.

##### *Wetlands*

The survey area was investigated for the presence of wetlands utilizing the USACE 1987 three-parameter (vegetation, hydrology, and soils) methodology. This methodology was refined in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0), May 2010 and requires the collection of data on soils, vegetation, and hydrology at several locations to establish the potential jurisdictional boundary of wetlands.

##### *Drainage*

The survey area was delineated for drainages utilizing the presence of Ordinary High Water Mark (OHWM) indicators, evidence of frequent surface water flows, and a connection to a TNW. These characteristics were indicative of a jurisdictional waters of the United States (WOUS). Arid West Ephemeral and Intermittent Stream OHWM Data Sheets were completed for each drainage with the presence of OHWM indicators. If the drainage had OHWM indicators present, the drainage was followed to determine if the drainage flowed into another drainage with OHWM indicators or if these indicators terminated. Where the drainage exhibited OHWM indicators, width measurements were taken to be used in determining an average width of the drainage and height measurements from the OHWM to the drainage bottom were taken. When drainages with OHWM indicators left the survey area, an attempt was made to follow the drainage to determine if OHWM indicators terminated or a connection to a TNW. The OHWM indicator locations were recorded with a Trimble Geo7x GPS unit and representative photographs were taken.

#### 3.2 Survey Data Integration

Boundaries of the potential aquatic resources within the survey area were mapped using a Trimble Geo7x GPS unit and digitized in ESRI ArcGIS Pro 2.4.0 software. The horizontal datum is NAD 1983 and no vertical data was collected.

#### 3.3 Property Owner Access

A signed letter from the property owner, allowing the USACE to access the property is not required, as the survey area is located within the Lime Ridge Open Space, which is a public recreation area.

4.0 RESULTS

4.1 Landscape Setting

The survey area is approximately 11.7 acres. The entire survey area was field delineated by NCE on September 9, 2022. The survey area encompasses a portion of an unnamed stream channel through the middle of the project area. Surrounding the survey area, topography slopes upward from the west to the east (**Appendix B, Figure 3**). Elevation of the survey area ranges from 300 feet at the western boundary of the survey area to 830 feet msl at the eastern boundary of the survey area.

4.2 Aquatic Resources

One aquatic resource was delineated and is presented below. The photographs are noted as Photograph Point (PP) in **Appendix C**, and photo directions are indicated in **Appendix B, Figure 7**. A list of the plants identified within the survey area is in **Appendix D**. The OHWM datasheet is in **Appendix E**.

4.2.1 Unnamed Stream

The unnamed stream runs through the survey area and connects to Arroyo Cerro Del which then empties into Pine Creek. Pine Creek deposits into Walnut Creek, which is a TNW. The stream begins northeast of the northern boundary of the survey area and flows to the southwest. The dominant OHWM indicator was that the drainage has a break in bank slope. Other OHWM indicators are a change in vegetation species and cover.

The unnamed stream contained no water flow at the OHWM data point at the time of delineation. Within the survey area, the unnamed stream is approximately 100 feet in length and has an average OHWM width of 5 feet. Data point 1 was taken at a representative location of the unnamed stream within the survey area:

The unnamed stream is not identified on the USGS 7.5-minutes topo map (**Appendix B, Figure 3**). USFWS, NWI identified the unnamed stream as an intermittent rivine channel (**Appendix B, Figure 6**). The unnamed stream connects to Walnut Creek, a TNW.

4.3 Aquatic Resources Types and Amounts and Federal Jurisdictional Status

Below is **Table 2** of the aquatic resources identified within the survey area.

**Table 2. Aquatic Resources within the Survey Area**

Aquatic Resource Name	Aquatic Resources Classification		Aquatic Resource Size (acre) Required for all Resources	Aquatic Resource Size (linear feet) Required only for Stream Channels
	Cowardin	Location (lat/long)		
Unnamed Stream	Unknown Perennial Riverine	37.922243 N -121.988925 W	0.01	100
<b>Total</b>			0.01	100

**Appendix A, Figure 1** depicts the proposed jurisdictional aquatic resources and **Table 3** presents the proposed jurisdictional status of the aquatic resources within the survey area.

**Table 3. Waters of the U.S. Proposed Jurisdictional Status**

4.0 RESULTS

Class	Total Acres	Jurisdictional	Non-Jurisdictional
Unnamed Stream – Intermittent, Riverine	0.01	0.01	0
<b>TOTAL</b>	0.01	0.01	0

**4.4 Significant Nexus**

The U.S Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook (USACE 2007) was consulted to aid the preliminary determination whether an area would be subject to USACE jurisdiction under Section 404 of the Clean Water Act. The significant nexus test, outlined in a memorandum jointly authored by the U.S. Environmental Protection Agency and USACE, was applied to each potentially jurisdictional habitat type (Grumbles and Woodley 2008). To facilitate potentially jurisdictional determination consistent with the guidance, each water body delineated was evaluated as a TNW, Relatively Permanent Water (RPW), or non-RPW, based on the following definitions:

- TNWs include all waters subject to the ebb and flow the tide, or waters that are presently used, have been used in the past, or may be used in the future to transport interstate or foreign commerce, and all waters that are navigable in fact under federal law for any purpose.
- RPWs are waters that flow continuously at least seasonally (typically at least 3 months of the year) and are not TNWs.
- Non-RPWs are waters that do not have continuous flow at least seasonally.

The following types of water bodies are subject to Clean Water Act jurisdiction:

- All TNWs and adjacent wetlands;
- Relatively permanent tributaries of TNWs and wetlands with a continuous surface connection to such tributaries; and
- Non-relatively permanent tributaries of TNWs and adjacent wetlands if they have a significant nexus to a TNW. Non-RPWs and adjacent wetlands are determined to have a significant nexus to a TNW if they significantly affect the chemical, physical, or biological integrity of a downstream TNW.

NCE's professional opinion is that the unnamed stream is hydrologically connected to the downgradient Walnut Creek, which is a TNW. The unnamed stream can affect the chemical, physical, and/or biological integrity of Walnut Creek, resulting in a significant nexus to Walnut Creek. Based on the above information, NCE believes that the unnamed stream is a federally jurisdictional water. The unnamed stream is also a waters of the State of California.

**Appendix F** contains the Aquatic Resource Excel Sheet and the GIS metadata.

The above findings should be considered preliminary until the USACE makes an approved jurisdictional determination. Areas deemed jurisdictional will then be subject to the regulatory requirements of the federal Clean Water Act.

## 5.0 OTHER STUDIES

NCE conducted reconnaissance-level field survey to inventory habitats, special status species, and non-special status species within the study area. Database research and literature reviews were conducted in support of these surveys. Information requests for biological resources known to occur in the vicinity of the Project area were also made.

The following preliminary research was conducted:

- Database searches for biological resources within the Project area, including:
  - USFWS Information for Planning and Conservation (IPaC) (USFWS 2023)
  - CDFW California Natural Diversity Database (CNDDDB) (CDFW 2023)
  - CNPS Inventory of Rare and Endangered Vascular Plants of California (CNPS 2023)
- Review of previous biological reports prepared for the Project area, including:
  - Nomad Ecology. 2021. "Biological Resources Assessment, Lime Ridge Trails Project".
  - Nomad Ecology. 2021. "Draft Botanical Resource Survey Report, Lime Ridge Trails Project".

NCE biologists conducted focused biological field surveys within the Project area on April 5, April 25, and May 9, 2023 to identify special-status plants and wildlife that may occur within the Project area based on their habitat requirements and the existing site conditions. A previous site visit was conducted on September 9, 2022 to identify sensitive animal and plant species present in the Project area. These surveys were timed within the blooming period for all five (5) of the sensitive plant species potentially present in the Project area. The survey involved walking parallel and meandering transects on the Project site ensuring 100% coverage for potential special-status plants, observing animal tracks and sign, observing and listening for birds and other animals, documenting presence or absence of special-status species, and documenting observed habitat in the Project site and buffer.

The April 5 and April 25, 2023 surveys were conducted by Senior Biologist Cord Hute and Staff Biologist Annabel Li. The May 9, 2023 survey was conducted by Staff Biologists Annabel Li and Catrina Vaz. The September 9, 2022 survey was conducted by Senior Biologist Cord Hute. On the days of the 2023 surveys, the temperature ranged from 58°F – 68°F. The skies were clear with winds at 5 – 8 miles per hour. On the September 9, 2022 survey, the temperature ranged from 70°F – 95°F., skies were clear with winds at 2.5 – 6.3 miles per hour. Survey equipment included a 10x magnification hand lens, binoculars, and smartphone utilizing the ESRI Field Maps application.

No special-status plant species were observed in the Project site or buffer during the September 9, 2022, or April 5, April 25, and May 9, 2023 surveys. During the May 9, 2023 survey, one Diablo helianthella (*Helianthella castanea*) individual and a population of Mount Diablo fairy lantern (*Calochortus pulchellus*) composed of about 25 individuals were observed about 450 ft north of the Project area along the Paraiso Trail in the oak woodland understory. The individual Diablo helianthella and the Mount Diablo fairy lantern population served as references for the focused biological survey within the Project area.

During the April 5, 2023 survey, a small pond was observed adjacent to an approximately 110-ft section of the proposed trail located approximately 1,500 ft east of the junction of the proposed trail and Timberleaf Trail (Figure 4). The pond was not observed during previous surveys and was

5.0 OTHER STUDIES

likely present this year due to unusually high rainfall. The pond provides suitable habitat for California red-legged frog (CRLF) (*Rana draytonii*), a Federally threatened and California species of special concern, and CRLF tadpoles were observed approximately 1.1 miles southeast of the Project area in 2018 (Nomad 2021). During the April 25, 2023 survey, tadpoles were observed in the pond, but were too small to accurately identify them to the species level. During the May 9, 2023 survey, visual observation of the tadpoles positively identified these tadpoles as California red-legged frog (*Rana draytonii*). No other frog species were identified within the pond.

A single coast horned lizard (*Phrynosoma blainvillii*), a California species of special concern, was observed during the September 9, 2022 survey near the center area of the Project site.

## 6.0 REFERENCES

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- United States Fish and Wildlife Service. National Wetlands Inventory (NWI) mapping. <https://www.fws.gov/wetlands/data/mapper.html>
- United States Geological Survey. Walnut Creek, California 7.5-minute series topographic quadrangle. U.S. Department of the Interior.



**Appendix A**

---

**AQUATIC RESOURCES DELINEATION MAP**

**Waters of the U.S. Proposed Jurisdictional Status**

Class	Total Acres
Unnamed Channel - Ephemeral	0.01
<b>Total</b>	<b>0.01</b>



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- Legend**
- Survey Area
  - ▬ Unnamed Stream - Ephemeral
  - OHWM Survey Point



**Flow Trail Project, City of Walnut Creek**  
Proposed Delineation Map

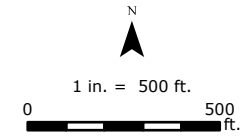


FIGURE  
**1**

SOURCE Bing Hybrid Basemap, NCE 2023	JOB NUMBER 448.29.55	DRAWN sdavenport	DATE 1/23/2023	REVISED -	APPROVED -
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**Appendix B**  
SUPPORTING MAPS



**Legend**  
 Survey Area



**Flow Trail Project**  
**City of Walnut Creek**  
 Project Vicinity Map

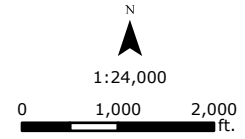



FIGURE  
**1**



SOURCE Bing Hybrid Basemap	JOB NUMBER 448.29.55	DRAWN sdavenport	DATE 1/19/2023	REVISED -	APPROVED -
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**Legend**

 Survey Area


**SOURCE**  
Bing Hybrid Basemap

**Flow Trail Project, City of Walnut Creek**  
Project Survey Area

<b>JOB NUMBER</b> 448.29.55	<b>DRAWN</b> sdavenport	<b>DATE</b> 1/19/2023	<b>REVIS</b> -
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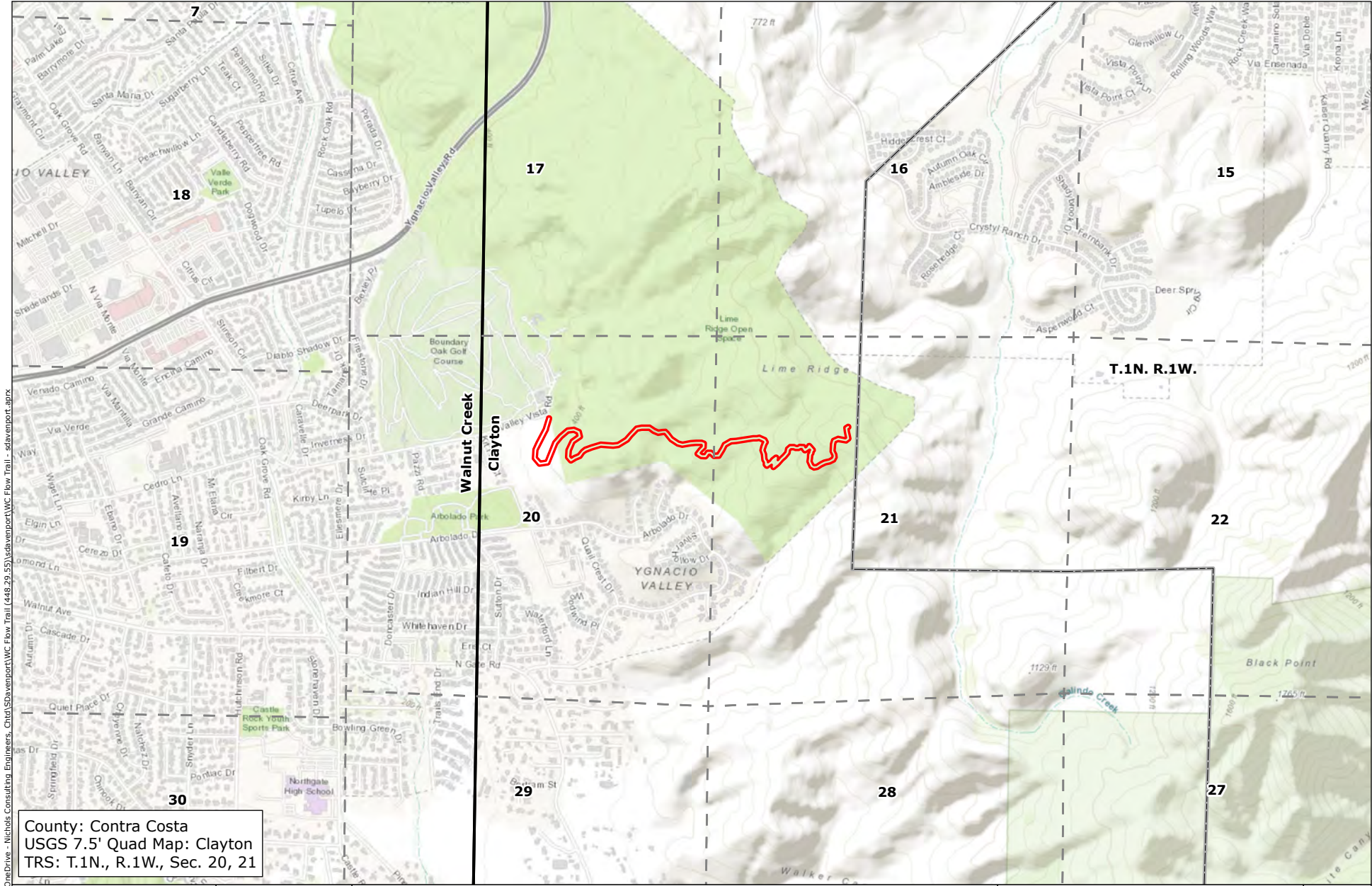
N

1 in. = 500 ft.



**FIGURE**  
**2**

**APPROVED**  
-



County: Contra Costa  
 USGS 7.5' Quad Map: Clayton  
 TRS: T.1N., R.1W., Sec. 20, 21

- Legend**
- Survey Area
  - Quadrangle
  - Township
  - Section



Flow Trail Project, City of Walnut Creek  
 Topographic Quadrangle Map

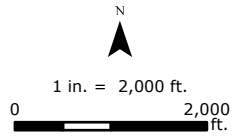


FIGURE  
**3**

Document Path: C:\Users\Sbryan\OneDrive - Nichols Consulting Engineers, Chet\Sbavenport\WC Flow Trail - sdavenport.aprx

SOURCE USGS Topographic Map	JOB NUMBER 448.29.55	DRAWN sdavenport	DATE 1/20/2023
			REVISED -
			APPROVED -

Document Path: C:\Users\Sbryan\OneDrive - Nichols Consulting Engineers, Chet\SDavenport\WC Flow Trail (448.29.55)\sdavenport\WC Flow Trail - sdavenport.aprx



Flow Trail Project, City of Walnut Creek  
 CWHR Type (Vegetation Communities) Map

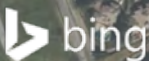


1 in. = 500 ft.  
 0 500 ft.

FIGURE  
 4

SOURCE Bing Hybrid Basemap, CA Wildlife Habitat Relationships Dataset	JOB NUMBER 448.29.55	DRAWN sdavenport	DATE 1/20/2023	REVISED -	APPROVED -
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Flow Trail Project, City of Walnut Creek  
NRCS Soil Map

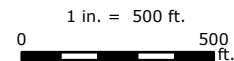


FIGURE  
5

SOURCE  
Bing Hybrid Basemap, NRCS Soils

JOB NUMBER  
448.29.55

DRAWN  
sdavenport

DATE  
1/19/2023

REVISED  
-

APPROVED  
-





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- Legend**
- Survey Area
  - Wetland Type**
  - Freshwater Emergent Wetland
  - Freshwater Pond



**Flow Trail Project, City of Walnut Creek**  
National Wetlands Inventory Map

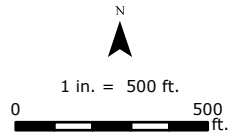
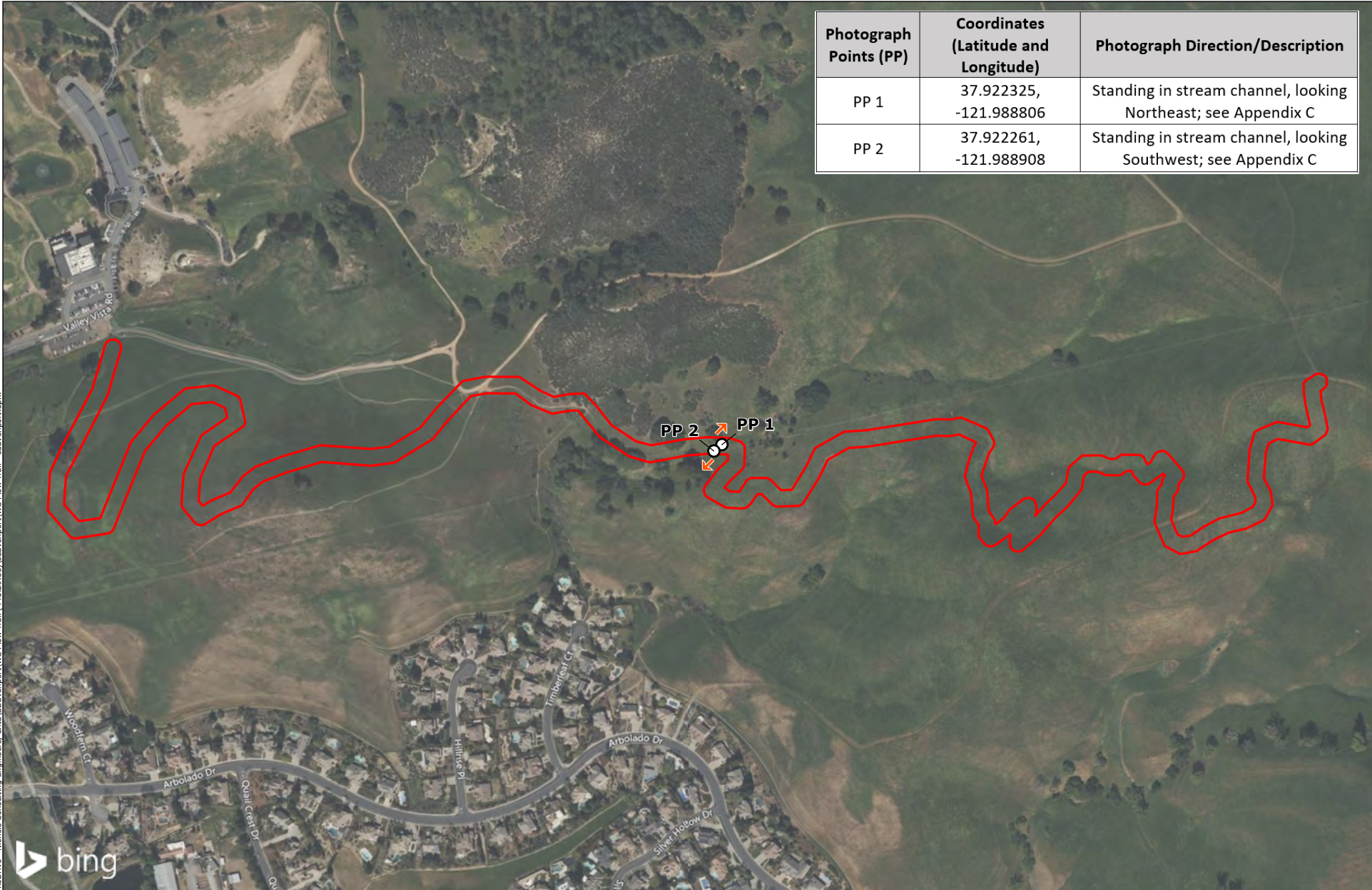


FIGURE  
**6**

SOURCE Bing Hybrid Basemap, NWI	JOB NUMBER 448.29.55	DRAWN sdavenport	DATE 1/19/2023	REVISED -	APPROVED -
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Document Path: C:\Users\SBryan\OneDrive - Nichols Consulting Engineers, Chet\SDavenport\WC Flow Trail (448.29.55)\sdavenport\WC Flow Trail - sdavenport.aprx



Photograph Points (PP)	Coordinates (Latitude and Longitude)	Photograph Direction/Description
PP 1	37.922325, -121.988806	Standing in stream channel, looking Northeast; see Appendix C
PP 2	37.922261, -121.988908	Standing in stream channel, looking Southwest; see Appendix C



- Legend**
- ▭ Survey Area
  - ➔ Photograph Directions
  - Photograph Points (PP)



**Flow Trail Project, City of Walnut Creek**  
Ground Level Photograph Locations and Directions Map

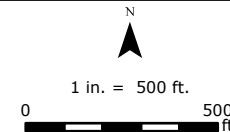


FIGURE  
**7**

SOURCE Bing Hybrid Basemap, NCE 2023	JOB NUMBER 448.29.55	DRAWN sdavenport	DATE 1/23/2023	REVISED -	APPROVED -
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**Appendix C**

**REPRESENTATIVE PHOTOGRAPHS**



Photograph Point (PP) 1: Standing downstream in stream channel looking northeast.



PP 2: Standing upstream on right bank looking southwest.

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**Appendix D**  
PLANT LIST

**Plants Identified Within the Survey Area  
September 2022 Aquatic Resources Delineation**

Scientific Name	Common Name	Native: Y/N	Wetland Indicator Status*
<i>Alnus rhombifolia</i>	White alder	Y	FACW
<i>Artemisia douglasiana</i>	California mugwort	Y	FACW
<i>Arctostaphylos viscida</i>	Sticky whiteleaf manzanita	Y	NL
<i>Avena fatua</i>	Wild oat	N	NL
<i>Bromus diandrus</i>	Ripgut brome	N	NL
<i>Croton setigerus</i>	Dove weed	Y	OBL
<i>Cynosurus echinatus</i>	Annual dogtail	N	NL
<i>Equisetum arvense</i>	Common horsetail	Y	FAC
<i>Euphorbia oblongata</i>	Eggleaf spurge	N	NL
<i>Evernia prunastri</i>	Oakmoss	Y	NL
<i>Hordeum murinum</i>	Foxtail barley	N	FAC
<i>Lactuca serriola</i>	Prickly lettuce	N	FACU
<i>Lathyrus latifolius</i>	Everlasting pea	N	NL
<i>Lonicera hispidula</i>	Pink honeysuckle	Y	FACU
<i>Quercus agrifolia</i>	Coast live oak	Y	NL
<i>Quercus lobata</i>	Valley oak	Y	NL
<i>Salvia mellifera</i>	Black sage	Y	FACU
<i>Silybum marianum</i>	Blessed milkthistle	N	NL
<i>Torilis arvensis</i>	Field hedge parsley	N	NL
<i>Toxicodendron diversilobum</i>	Poison oak	Y	FAC
<i>Trichostema lanceolatum</i>	Vinegarweed	N	FACU

\*Western Mountains, Valleys, and Coast Wetland Indicator Status:

- OBL = occurs in aquatic resources > 99% of time
- FACW = occurs in aquatic resources 67-99% of time
- FAC = occurs in aquatic resources 34-66% of time
- FACU = occurs in aquatic resources 1-33% of time
- NI = indicator status not known in this region
- NL = no wetland status

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**Appendix E**

**ORDINARY HIGH WATER MARK DATASHEET**

Project: Walnut Creek Flow Trail  
 Project Number: NA  
 Stream: Unnamed stream  
 Investigator(s): Cord Hute

Date: 9/9/2022 Time: 2:00pm  
 Town: Walnut Creek State: CA  
 Photo begin file# NA Photo end file# NA

Y  / N  Do normal circumstances exist on the site?  
 Y  / N  Is the site significantly disturbed?

Location Details: Runs through the center of project site.  
 Projection: NAD 1983 Datum: MDBM  
 Coordinates: 37.922243N/-121.988925

Notes: Stream is located in undisturbed lands within Lime Ridge Open Space area. Stream channel is not disturbed by human activities. Stream is intermittent and channelized.

Brief site description: See above.

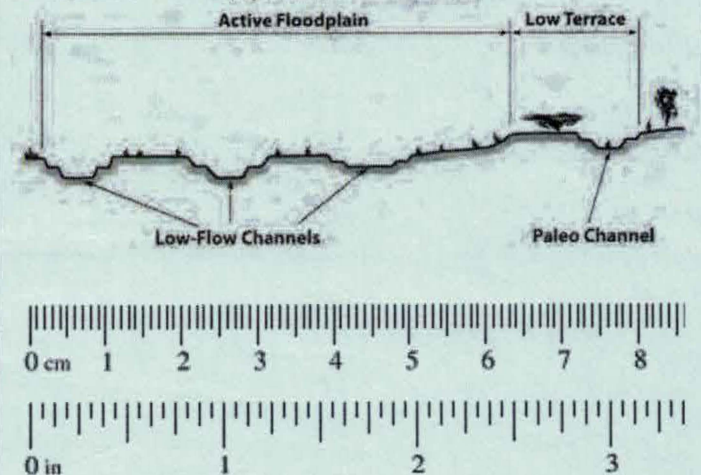
**Checklist of resources (if available):**

- Aerial photography  
 Dates: 7/2022
- Topographic maps  
 Scale:
- Geologic maps
- Vegetation maps
- Soils maps
- Rainfall/precipitation maps
- Existing delineation(s) for site
- Global positioning system (GPS)
- Other studies
- Stream gage data  
 Gage number:  
 Period of record:
- Clinometer / level
- History of recent effective discharges
- Results of flood frequency analysis
- Most recent shift-adjusted rating
- Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

The dominant Wentworth size class that imparts a characteristic texture to each zone of a channel cross-section is recorded in the average sediment texture field under the characteristics section for the zone of interest.

Millimeters (mm)	Inches (in)	Wentworth size class	
10.08	256	Boulder	Gravel
2.56	64	Cobble	
0.157	4	Pebble	
0.079	2.00	Granule	
0.039	1.00	Very coarse sand	Sand
0.020	0.50	Coarse sand	
1/2 0.0098	0.25	Medium sand	
1/4 0.005	0.125	Fine sand	
1/8 0.0025	0.0625	Very fine sand	
1/16 0.0012	0.031	Coarse silt	Silt
1/32 0.00061	0.0156	Medium silt	
1/64 0.00031	0.0078	Fine silt	
1/128 0.00015	0.0039	Very fine silt	Mud
		Clay	

Hydrogeomorphic Floodplain Units - Intermittent and Ephemeral Channel Forms (representative cross-section)





Walk the channel and floodplain within the study area to get an impression of the vegetation and geomorphology present at the site. Record any potential anthropogenic influences on the channel system in "Notes" above.

Locate the low-flow channel (lowest part of the channel). Record observations.

Characteristics of the low-flow channel:

Average sediment texture: Medium silt

Total veg cover: 90 % Tree: 0 % Shrub: 0 % Herb: 90 %

Community successional stage:

NA

Mid (herbaceous, shrubs, saplings)

Early (herbaceous & seedlings)

Late (herbaceous, shrubs, mature trees)

Dominant species present: Grasses (non-native), Rumex crispus, Lolium perenne

Other:

Walk away from the low-flow channel along cross-section. Record characteristics of the low-flow/active floodplain boundary.

Characteristics used to delineate the low-flow/active floodplain boundary:

Change in total veg cover

Tree

Shrub

Herb

Change in overall vegetation maturity

Change in dominant species present

Other

Presence of bed and bank

Drift and/or debris

Other: \_\_\_\_\_

Other: \_\_\_\_\_

Continue walking the channel cross-section. Record observations below.

Characteristics of the low-flow channel:

Average sediment texture: medium silt

Total veg cover: 90 % Tree: 0 % Shrub: 0 % Herb: 90 %

Community successional stage:

NA

Mid (herbaceous, shrubs, saplings)

Early (herbaceous & seedlings)

Late (herbaceous, shrubs, mature trees)

Dominant species present: Same as above

Other:

**Continue walking the channel cross-section. Record indicators of the active floodplain/low terrace boundary.**  
 Characteristics used to delineate the active floodplain/ low terrace boundary:

Change in average sediment texture  
 Change in total veg cover       Tree       Shrub       Herb  
 Change in overall vegetation maturity  
 Change in dominant species present  
 Other       Presence of bed and bank  
                                           Drift and/or debris  
                                           Other: \_\_\_\_\_  
                                           Other: \_\_\_\_\_

**Walk the active floodplain/low terrace boundary both upstream and downstream of the cross-section to verify that the indicators used to identify the transition are consistently associated the transition in both directions.**  
 Consistency of indicators used to delineate the active floodplain/low terrace boundary:

Y  N  Change in average sediment texture  
 Y  N  Change in total veg cover       Tree       Shrub       Herb  
 Y  N  Change in overall vegetation maturity  
 Y  N  Change in dominant species present  
 Y  N  Other:      Y  N  Presence of bed and bank  
                                          Y  N  Drift and/or debris  
                                          Y  N  Other: \_\_\_\_\_  
                                          Y  N  Other: \_\_\_\_\_

**If the characteristics used to delineate the active floodplain/low terrace boundary were NOT consistently associated with the transition in both the upstream and downstream directions, repeat all steps above.**

**Continue walking the channel cross-section. Record characteristics of the low terrace.**  
 Characteristics of the low terrace:

Average sediment texture: \_\_\_\_\_  
 Total veg cover: \_\_\_\_\_%    Tree: \_\_\_\_\_%    Shrub: \_\_\_\_\_%    Herb: \_\_\_\_\_%

Community successional stage:

NA       Mid (herbaceous, shrubs, saplings)  
 Early (herbaceous & seedlings)       Late (herbaceous, shrubs, mature trees)

Dominant species present: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Other:  \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**If characteristics used to delineate the active floodplain/low terrace boundary were deemed reliable, acquire boundary.**  
 Active floodplain/low terrace boundary acquired via:

Mapping on aerial photograph       GPS  
 Digitized on computer       Other: \_\_\_\_\_

**Appendix F**

**AQUATIC RESOURCES SPREADSHEET AND GIS METADATA**