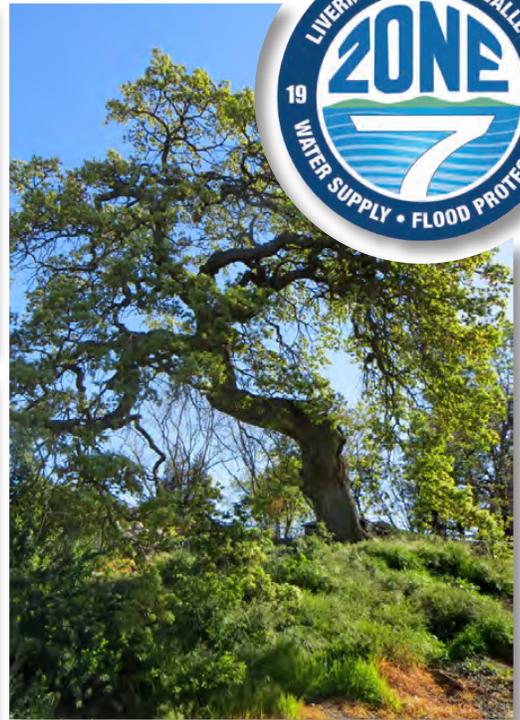


Arroyo Mocho Medeiros Reach Floodplain Reconnection Project

Final Initial Study/Mitigated Negative Declaration



Prepared for:
Alameda County Flood Control and Water
Conservation District, Zone 7

Prepared by:
Horizon Water and Environment

With assistance from:
Alnus Ecological, FlowWest
and H. T. Harvey and Associates

February 2019

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Final Initial Study/Mitigated Negative Declaration

Prepared for:

Alameda County Flood Control and
Water Conservation District, Zone 7
100 North Canyons Parkway
Livermore, CA 94551

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February 2019

Horizon Water and Environment. 2019. *Arroyo Mocho Medeiros Reach Floodplain Reconnection Project Initial Study/Mitigated Negative Declaration*. Prepared for Alameda County Flood Control and Water Conservation District, Zone 7. February. Oakland, CA. (HWE 16.002.)

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Appendix C	Noise Calculations
Appendix D	Mitigation Monitoring and Reporting Plan
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Acronyms and Abbreviations

A

AB	Assembly Bill
ADA	Americans with Disabilities Act

B

BAAQMD	Bay Area Air Quality Management District
BART	Bay Area Rapid Transit
BMP	Best Management Practices

C

CAL FIRE	California Department of Forestry and Fire Protection
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code
CCC	Central California Coast
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CGS	California Geological Survey
City	City of Livermore
CNDDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CRAM	California Rapid Assessment Method
CRHR	California Register of Historical Resources
CRPR	California Rare Plant Rank
CWA	Clean Water Act
CY	cubic yards

D

dB	decibel
dBA	A-weighted decibel
Delta	Sacramento–San Joaquin River Delta
DPM	diesel particulate matter
DPS	distinct population segment
DWR	California Department of Water Resources

E

EACCS	East Alameda County Conservation Strategy
EO	Executive Order
ESA	Endangered Species Act

F

F&G Code	Fish and Game Code
FEMA	Federal Emergency Management Agency
FTA	Federal Transit Administration

G

GHG	greenhouse gas
GIS	Geographic Information Systems
GPS	Global Positioning System

H

Horizon	Horizon Water and Environment
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I

IS/MND	initial study/mitigated negative declaration
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L

LARPD	Livermore Area Recreation and Parks District
L_{dn}	day/night noise level
L_{eq}	equivalent sound level
L_{max}	maximum sound level
LUST	leaking underground storage tank

M

MBTA	Migratory Bird Treaty Act
MLD	Most Likely Descendent
MMP	Mitigation and Monitoring Plan

N

NAHC	Native American Heritage Commission
NOA	naturally occurring asbestos
NO_x	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWIC	Northwest Information Center

O

OEHHA	Office of Environmental Health Hazard Assessment
OGNR	Oak Grove Nature Reserve

P

$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
PM_{10}	particulate matter less than 10 microns in diameter
PPV	peak particle velocity

PRC	Public Resources Code
Proposed Project	Arroyo Mocho Floodplain and Riparian Forest Restoration Project – Medeiros Reach
R	
RiVR	Riparian Vegetation Reference
RPW	Relatively Permanent Water
RWQCB	Regional Water Quality Control Board
S	
SB	Senate Bill
SHPO	State Historic Preservation Officer
SMMP	Stream Management Master Plan
SFBAAB	San Francisco Bay Area Air Basin
SMZ	sediment management zone
SP	state fully protected
SSC	California Species of Special Concern
SWAMP	Surface Water Ambient Monitoring Program
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
T	
TAC	toxic air contaminant
TCR	tribal cultural resource
TNW	Traditional Navigable Waters
TPZ	Tree Protection Zone
U	
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
V	
VdB	vibration decibel
Z	
Zone 7	Alameda County Flood Control and Water Conservation District, Zone 7

Chapter 1 Introduction

The Alameda County Flood Control and Water Conservation District, Zone 7 (hereinafter Zone 7) has prepared this initial study/mitigated negative declaration (IS/MND) to provide the public, responsible agencies, and trustee agencies with information about the potential environmental effects of the proposed Arroyo Mocho Medeiros Reach Floodplain Reconnection Project (Proposed Project). Arroyo Mocho, a major tributary of Arroyo de la Laguna, flows through the City of Livermore (City) in Alameda County, California (**Figure 1-1**). This document was prepared pursuant to the requirements of the California Environmental Quality Act (CEQA) of 1970 (as amended) (Public Resources Code [PRC] Section 21000 et seq.) and the State CEQA Guidelines (Title 14 California Code of Regulations [CCR] Section 15000 et seq.).

1.1 Relation to Previous Project Proposal

In April 2018, Zone 7 released for public review an IS/MND for the Arroyo Mocho Medeiros Reach Floodplain and Riparian Restoration Project, a multi-benefit project aimed at addressing flooding, enhancing the riparian corridor, and managing sediment upstream of Holmes Street. Following the public review period, Zone 7 elected to defer major elements from that work and evaluate them as a potential future project in its Stream Management Master Plan update, which is currently underway. The Proposed Project assessed in this IS/MND represents a substantially reduced scope of work compared to the May 2018 proposal. The current proposal focuses on expanding flood detention capacity in the middle reach of the Arroyo Mocho watershed.

Key changes in the current proposed project:

- No excavation to increase flood detention in the Oak Grove Nature Reserve (OGNR), which reduces proposed flood detention from 63 acre-feet (af) to 22 af;
- No creation of in-channel sediment management zones or other topographic features;
- Habitat enhancements reduced to targeted control of invasive non-native vegetation; and
- Construction timeline reduced from approximately 385 working days to approximately 75 working days.

1.2 Intent and Scope of this Document

This IS/MND has been prepared in accordance with CEQA, under which the Arroyo Mocho Medeiros Reach Floodplain Reconnection Project constitutes a “project.” Zone 7, as the lead agency under CEQA, will consider the potential environmental impacts of Proposed Project activities when it considers whether to approve the Proposed Project. This IS/MND is an informational document to be used in the local planning and decision-making process. The

IS/MND does not recommend approval or denial of the Proposed Project but provides decision-makers and the public with information on which to base an informed decision.

The IS/MND describes the Proposed Project and its environmental setting, including the project area's existing conditions and applicable regulatory requirements. This IS/MND also evaluates potential environmental impacts of the Proposed Project on the following resources:

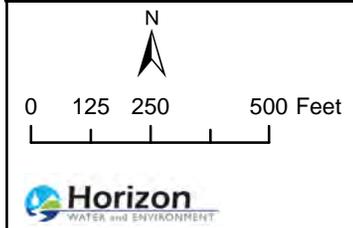
- Aesthetics
- Agricultural and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resource
- Geology, Soils, and Seismicity
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and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

1.3 Public Involvement Process

Public disclosure and dialogue are priorities under CEQA. Accordingly, CEQA requires a period during the IS/MND process when interested stakeholders, interested public agencies, and members of the general public can provide comments on the impacts of the Proposed Project. In accordance with Sections 15073 and 15105(b) of the State CEQA Guidelines, Zone 7 is now circulating this document for a minimum 30-day public and agency review. All comments received prior to 5:00 p.m. on the date identified for closure of the public comment period in the Notice of Intent will be considered.

Input, questions, or comments on this Proposed Project can be sent to:

Elke Rank
Zone 7 Water Agency
100 North Canyons Parkway, Livermore CA 94551
(925) 454-5000
erank@zone7water.com



- Project Area
- Arroyo Mocho
- Direction of Flow

**Figure 1-1
Proposed Project Location**

Arroyo Mocho Medeiros Reach
Floodplain Reconnection Project

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1.4 Organization of this Document

This IS/MND document contains the following elements:

Chapter 1, *Introduction*. This chapter provides a brief introduction to the Proposed Project, summarizes the scope and contents of the IS/MND, provides contact information for commenting on the document, and describes impact terminology used in this document.

Chapter 2, *Project Description*. This chapter summarizes the Proposed Project, including identification of the purpose and objectives of the Proposed Project followed by descriptions of the design elements, implementation, best management practices, and related permits and approvals.

Chapter 3, *Environmental Checklist*. This chapter presents the environmental checklist used to evaluate the Proposed Project's potential environmental effects. The checklist is based on the information provided in Appendix G of the State CEQA Guidelines. This chapter includes a brief environmental setting description for each resource topic and describes the Proposed Project's anticipated environmental impacts.

Chapter 4, *Environmental Factors Potentially Affected*. This chapter lists the environmental factors potentially affected by the Proposed Project based on the environmental impact evaluation in Chapter 3.

Chapter 5, *Determination*. This chapter contains a determination on the Proposed Project based on conclusions and recommendations of the environmental evaluation.

Chapter 6, *Report Preparers*, provides a list of persons involved in preparing this IS/MND.

Chapter 7, *References*, provides a bibliography of printed references, web sites, and personal communications used in preparing this IS/MND.

Chapter 8, *Responses to Public Comments*, addresses substantive comments received during the public comment period on the IS/MND.

Appendices. The following appendix materials are provided to support the environmental evaluation:

Appendix A Air Quality and Greenhouse Gas Emissions Calculations

Appendix B Biological Resources Information

Appendix C Noise Calculations

Appendix D Mitigation Monitoring and Reporting Plan

Appendix E Public Comments Received on the IS/MND

Appendix F Recreational Use License Agreement

1.5 Impact Terminology

This IS/MND uses the following terminology to describe environmental effects of the Proposed Project:

- A finding of *no impact* is made when the analysis concludes that the Proposed Project would not affect the particular environmental resource or issue.

- An impact is considered *less than significant* if the analysis concludes that there would be no substantial adverse change in the environment and that no mitigation is needed.
- An impact is considered *significant* if it would result in a substantial adverse change in the physical conditions of the environment. Significant impacts are identified by using specific significance criteria as a basis of evaluation. Mitigation measures are identified to reduce otherwise significant impacts to a less-than-significant level.

This IS/MND identifies particular mitigation measures that are intended to lessen Proposed Project impacts. The State CEQA Guidelines (14 CCR Section 15370) define mitigation as:

- avoiding the impact altogether by not taking a certain action or parts of an action;
- minimizing impacts by limiting the degree or magnitude of the action and its implementation;
- rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
- reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and
- compensating for the impact by replacing or providing substitute resources or environments.

2.1 Background

Zone 7 provides flood protection in eastern Alameda County and is the groundwater basin manager of the Livermore–Amador Valley groundwater basin. Zone 7 maintains flood protection for about 37 miles of stream channels (approximately one third of the total in the valley; the remainder is owned by cities, other public agencies, and private landowners). Zone 7 completed the Stream Management Master Plan (SMMP) in 2006 to aid in the management of its flood protection system. Implementation of the SMMP is intended to improve watershed management through the installation of multi-benefit projects that improve water supply and quality, enhance and restore native habitat, and are part of a fiscally responsible regional approach. The Proposed Project is part of a regional flood control strategy for Arroyo Mocho in Zone 7's Service Area.

Additionally, Zone 7 supplies drinking water to retailers serving about 240,000 people in Livermore, Pleasanton, Dublin, and, through special agreement with the Dublin San Ramon Services District, serving the Dougherty Valley area in San Ramon. Zone 7 also supplies raw or untreated water for agricultural purposes to 3,500 acres, primarily consisting of vineyards in the southern portion of Livermore.

Zone 7 receives nearly 90 percent of its water supply from the Sacramento–San Joaquin River Delta (Delta) via the South Bay Aqueduct; the remaining comes from local rain runoff, or from supply stored at Lake Del Valle. This imported water is sent directly to one of two water treatment facilities or is released to the major arroyos for recharge of the groundwater basin. Generally, summer flows in the arroyos, including the project reach on Arroyo Mocho, are comprised of imported water for the purposes of groundwater recharge.

2.2 Project Purpose and Need

2.2.1 Need for the Project

The Proposed Project is an integral component of the regional flood control strategy for Arroyo Mocho in Zone 7's Service Area. The project was originally conceived in the 2006 SMMP as Projects R3-3 and R3-4. Current modeling shows that during 100-year events flood risk in the Medeiros Reach exists at the downstream end of the reach near Holmes Street. The SMMP update, currently in preparation, identifies the need for additional flood detention in the middle and upper watershed of Arroyo Mocho. Because the watershed is developed, flood detention opportunities are limited and would provide incremental protection, with no single project providing all the flood detention necessary to reduce risk of flooding downstream. The Medeiros Reach is unique in that the channel is not constrained by development and approximately 40 acres of current floodplain and available adjacent land for floodplain expansion still exists in the reach. Floodplain reconnection in this reach would provide opportunities to reduce flood risk at Holmes Street and, to a limited extent, regionally in the Zone 7 Service Area.

2.2.2 Proposed Project Objectives

The Proposed Project objectives fall into three categories:

- **Flood Risk Reduction:** Provide flood detention to reduce peak flows at the project site and reduce downstream flood impacts.
- **Habitat Enhancement:** Improve existing riparian habitat quality by controlling invasive vegetation.
- **Recreation/Community:** Preserve/enhance recreational value of site and allow for future recreational development by the City in the OGNR.

Zone 7's primary objective is flood risk reduction. Habitat enhancement (invasive species control activities) and recreational elements (trail enhancements) would be completed only if grant funds are available to cover the cost of the work.

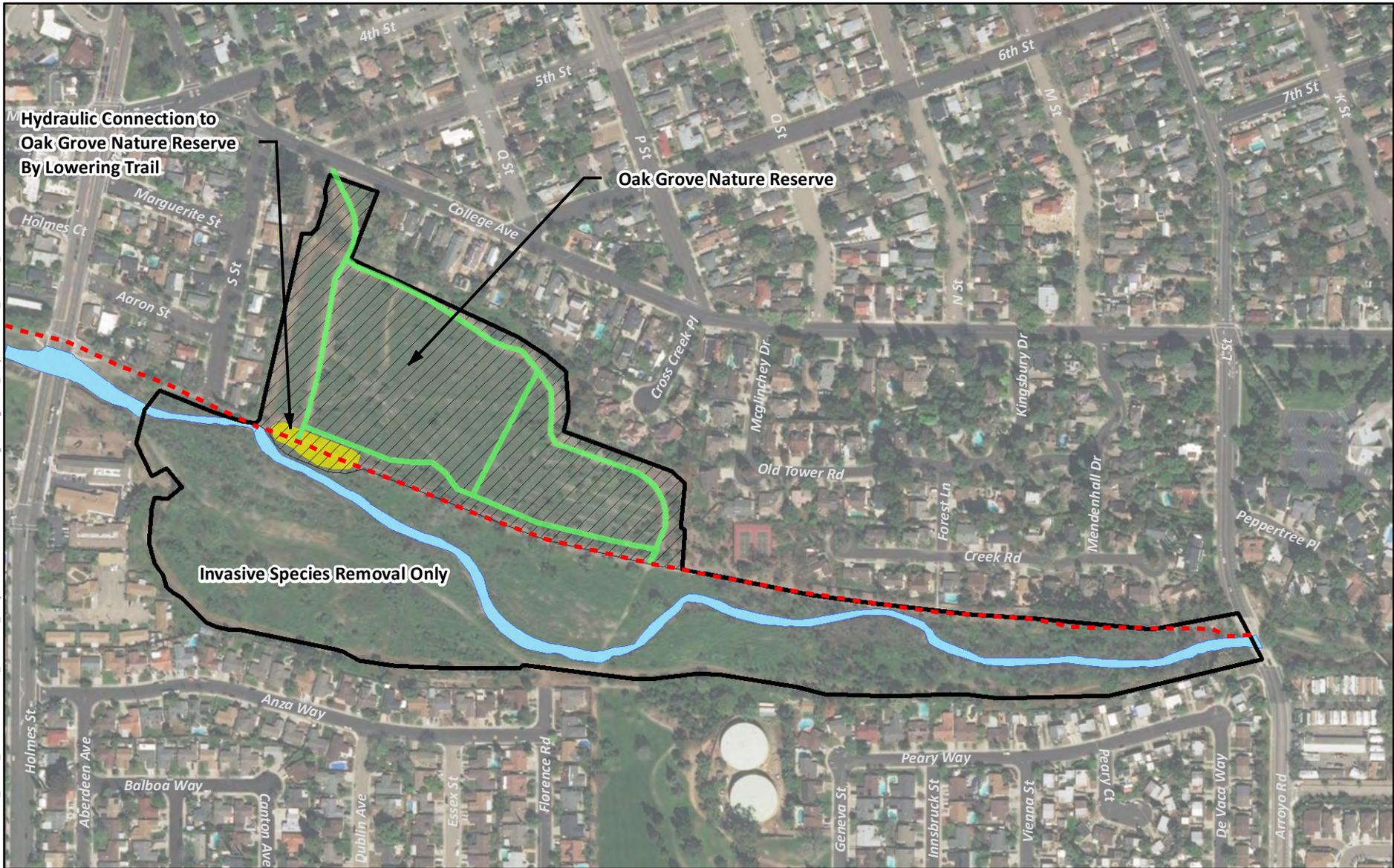
2.3 Project Area

The Proposed Project encompasses approximately 40 acres within the 0.7-mile-long Medeiros Reach of Arroyo Mocho that would be subject to invasive species control activities; of that area, 15 acres would be part of the floodplain reconnection effort (Figure 1-1 and **Figure 2-1**). The Medeiros Reach is bounded by Holmes Street on the west (downstream) and Arroyo Road on the east (upstream). The arroyo passes through areas of undeveloped open space (i.e., adjacent to the OGNR) at Medeiros Parkway, with the existing Arroyo Mocho Trail along its north bank. Residential development is present along College Avenue to the north and Anza Way and Peary Way to the south. Land within the project area is owned by Zone 7. Public roadways and bridges are owned by the City.

2.4 Description of the Proposed Project

Design and implementation of the Proposed Project are focused on accomplishing the project objectives described in Section 2.2.2. Actions to achieve these objectives are described below and depicted in Figure 2-1.

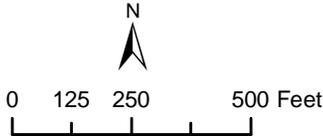
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Hydraulic Connection to
Oak Grove Nature Reserve
By Lowering Trail

Oak Grove Nature Reserve

Invasive Species Removal Only



- Project Area
- Proposed Trails
- Construction Zone
- Lowered Trail Area
- Arroyo Mocho Trail
- Arroyo Mocho

Figure 2-1
Proposed Project
Features



Arroyo Mocho Medeiros Reach
Floodplain Reconnection Project

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Floodplain Reconnection

The Medeiros Reach receives a substantial sediment load from the upstream watershed, which, coupled with localized fluvial geomorphological factors, generally results in a depositional condition in the reach. However, urbanization (i.e., channel confinement and creation of impervious surfaces) has led to incision of Arroyo Mocho and subsequent disconnection from its floodplain in many areas. The City regularly removes sediment as a maintenance activity in the main channel at the Holmes Street Bridge, which prevents natural aggradation of the channel that would otherwise promote a broader floodplain and braided channel forms. Because of potential flooding concerns, allowing natural aggradation of the main channel to recreate braiding and floodplain access to flows is not possible. Therefore, the Proposed Project focuses on reconnecting the channel to the historic floodplain in the OGNR.

The Arroyo Mocho Trail currently functions as a levee that separates Arroyo Mocho from its historical floodplain in the OGNR. The Proposed Project would restore floodplain functions within the OGNR by lowering a section of the trail (Figure 2-1) to allow flows of approximately 3,000 cubic feet per second and greater (approximately a 25-year storm event¹) to enter the OGNR, creating a temporary floodwater detention basin with a capacity of approximately 22 af. Because sediment is typically deposited by winter flows, it is possible that the capacity of the stream channel at Holmes Street could be reduced after a sediment-mobilizing storm event (2- to 5- year or greater) because of sediment deposition. If this occurs early in the rainy season, this circumstance could result in earlier activation (i.e., at a lower flow rate) of the floodplain connection to the OGNR for subsequent events until sediment removal maintenance occurs.

The proposed elevation of the lowered trail section would be approximately 3 feet lower than the existing trail elevation in this area. The trail would be graded on either side of the lowered section to comply with requirements of the Americans with Disabilities Act (ADA) for trail slopes, which require a slope no greater than 5 percent. The dimensions of the lowered trail section would be refined during subsequent hydraulic modeling to optimize flood attenuation in the OGNR.

On the north (OGNR) side of the lowered trail, a buried vegetated rock trench is to protect this slope from erosion during the high-velocity flows expected during a filling event. The embankment would be constructed from ½-ton rock that would be backfilled with local fine soils, covered with coir fabric, and hydroseeded with native grasses. This embankment would resist the erosive forces of water spilling over the lowered trail weir during the initial phases of basin filling.

~~The design for the trail connection may also include an 8- to 12-inch-diameter, reinforced concrete pipe culvert, approximately 120 feet in length, that would connect the basin to Arroyo Mocho. The culvert would be constructed adjacent to and outside the footprint of the excavation for lowering the trail. This culvert would serve to drain the basin more quickly than local infiltration, thereby restoring its capacity in case of successive large storm events. The culvert pipe would have a one-way flap or duckbill gate on its downstream end to prevent inflow from Arroyo Mocho to the basin. This would dramatically reduce potential for stranding of fish in the OGNR. The proposed grading plan would require excavation of up to~~

¹ The 25-year return interval flow statistically occurs once every 25 years, or has a 4-percent chance of occurring once in any particular year.

~~approximately 2,500 cubic yards (CY) of native soil, sand, and gravel. This material may be reused where possible to elevate walking paths in the OGNR.~~

Because the floodplain in the OGNR would be activated on very infrequent flood events, it could still be developed and function in the future as a community park, in accordance with the City's *Oak Grove Nature Reserve Master Plan*.

Revegetation

Approximately 15-20 trees would be removed during construction, primarily non-native species (London Plane Tree [*Platanus xhispanica*], pine [*Pinus* sp.], and ornamentals) and possibly one or more sycamore trees (*Platanus racemose*). Revegetation would take place to replace those trees removed to lower the asphalt bike trail. Native trees would be installed from container stock, cuttings, and/or seed. Container stock would be propagated by a native plant nursery from local ecotype collections within Alameda County. All soil surfaces disturbed by earthwork would be hydroseeded with a native grass and forb seed mix composed of commercially available species from Central or Northern California ecotypes.

Invasive Species Management

Several invasive weed species are abundant at the site and the overall riparian habitat would benefit from strategic invasive non-native species management. If grant funds are available to cover the cost, Zone 7 would remove high-priority non-native species throughout the Medeiros reach including tree of heaven (*Ailanthus altissima*), tamarisk (*Tamarix parviflora*), and Himalayan blackberry (*Rubus armeniacus*). Invasive tree of heaven and tamarisk would be treated using the cut stump herbicide method; above-ground biomass would be finely chipped and left on-site, and herbicide (approved by the U.S. Environmental Protection Agency [EPA] for use adjacent to aquatic environments) would be painted onto the freshly cut stumps. Himalayan blackberry growth would be managed primarily with herbicides but may also include mechanical removal methods. All invasive species management treatments would adhere to California Invasive Plant Council guidelines and recommendations, where appropriate.² If grant funds are not available to pay for these activities, Zone 7 may elect to defer or reduce the scope of invasive species management.

Trail Improvements

If grant funds are available, existing dirt trails within the OGNR would be improved with aggregate base rock placed in 15-foot widths, which is the Zone 7 flood control standard and approximately the width of the existing trails.

² Available at <https://www.cal-ipc.org/>.

2.5 Construction Plan

2.5.1 Construction Schedule

An estimated construction schedule is provided in **Table 2-1**. The schedule has been developed based on the design engineer’s professional judgment and environmental considerations. The timing and specific sequence of work and methods would be determined by the construction contractor but would comply with Zone 7’s operational requirements and environmental protection and mitigation measures determined through CEQA and regulatory permitting. As indicated in Table 2-1, work on the trail would take place only during the dry season or as permitted by the regulatory agencies.

Construction activities would occur Monday through Friday and would be in compliance with the City Noise Ordinance, which limits construction hours to 7:00 a.m. to 8:00 p.m.; typical work hours are anticipated to be 7:00 a.m. to 4:00 p.m. After-hours work and work on Saturdays, Sundays, and holidays may be permitted at the discretion of the City. No nighttime work is anticipated.

Table 2-1. Estimated Construction Schedule for the Proposed Project

Project Component	Estimated Number of Work Days	Estimated Work Period	
		Start	Completion
Mobilization/Site Preparation	5 days	August 2019	August 2019
Lowered Berm/Trail Work	15 days	August 2019	September 2019
OGNR Trail Creation	30 days	August 2019	September 2019
Demobilization/Cleanup	10 days	September 2019	October 2019
Revegetation	15 days	November 2019	April 2020
Adaptive Vegetation Management	15 days	April 2020	December 2021

Adaptive vegetation management would include follow-up invasive species management activities for two years following the initial work. This follow-up effort would address any regrowth of invasive species and would be accomplished utilizing the same methods as the initial effort.

2.5.2 Construction Equipment and Workers

Proposed Project construction would involve clearing and grubbing, excavation, earth moving, and hauling of soil off site. Specific pieces of equipment would be determined by the construction contractor, but are anticipated to include the following types of equipment:

- excavators (e.g., Caterpillar 336F);
- scrapers;
- bulldozers (e.g., Caterpillar D8);

- medium backhoe;
- grader;
- haul trucks;
- handheld powered cutters;
- haul trucks;
- forklift;
- pavers;
- paving equipment; and
- rollers.

2.5.3 Construction Staging Areas, Access, and Traffic

Proposed locations for construction staging are shown in **Figure 2-2**. Designated staging areas have been identified near the access points at College Avenue, in the OGNR, and adjacent to Florence Road (for some invasive species removal work). Construction trailers and/or offices may be located in these areas and/or within the OGNR detention basin. Construction staging areas would provide materials and equipment storage, employee parking, and hazardous materials storage and containment.

Construction vehicles and equipment would access the project area at the designated point on College Avenue and Florence Road. Trucks off-hauling the 2,500 CY of excavated material (approximately 125-160 trips) to Vasco Road Landfill would travel from College Avenue west to Holmes Street (via Fourth Street), continuing west on Murrieta Boulevard to East Stanley Road, then west on East Stanley Road to State Route 84 north, followed by Interstate 580 east, exiting at North Vasco Road. Trucks hauling material to Chain of Lakes would follow the same route to Interstate 580 west, exiting at El Charro Road.

Lowering of the trail to allow flood detention at the OGNR would require temporary closure of the trail for approximately 30 consecutive days (a total of 4 weeks, including weekends). Temporary fencing would be placed along Arroyo Mocho Trail to separate continued recreational use from adjacent construction activity.

2.5.4 Construction Best Management Practices

Proposed Project construction would utilize and implement best management practices (BMPs) to avoid and minimize adverse effects on people and the environment. BMPs would be implemented before, during, and after construction as specified. The BMPs for the Proposed Project are identified at the end of this chapter in **Table 2-3**.

2.6 Operations and Maintenance

Zone 7's routine maintenance of flood control facilities includes activities such as vegetation management, weed abatement, and working with the local police department to have homeless encampments removed. Zone 7 does not anticipate that additional annual maintenance activities would be needed to maintain the lowered trail or OGNR as a detention facility. The property would continue to be inspected monthly as part of Zone 7's routine maintenance program. In accordance with the Recreational Use License Agreement between Zone 7 and the City of Livermore, the City would continue to maintain the property for recreational use. Currently, the Livermore Area Recreation and Parks District (LARPD) maintains the Arroyo Mocho bike trail on the City's behalf.

2.7 Responsible and Trustee Agencies

Responsible agencies are defined in CEQA (Pub. Res. Code Section 21069) as public agencies other than the lead agency that have responsibility for carrying out or approving a project. The following responsible agencies have been identified for the Proposed Project under CEQA:

- San Francisco Bay Regional Water Quality Control Board;
- California Department of Fish and Wildlife, Bay-Delta Region; and
- City of Livermore.

Under CEQA (Pub. Res. Code Section 21070), trustee agencies are state agencies that have jurisdiction by law over natural resources affecting a project, that are held in trust for the people of the State of California. The following relevant trustee agency has been identified for the Proposed Project under CEQA:

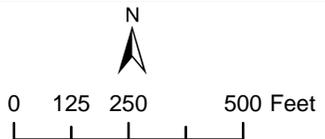
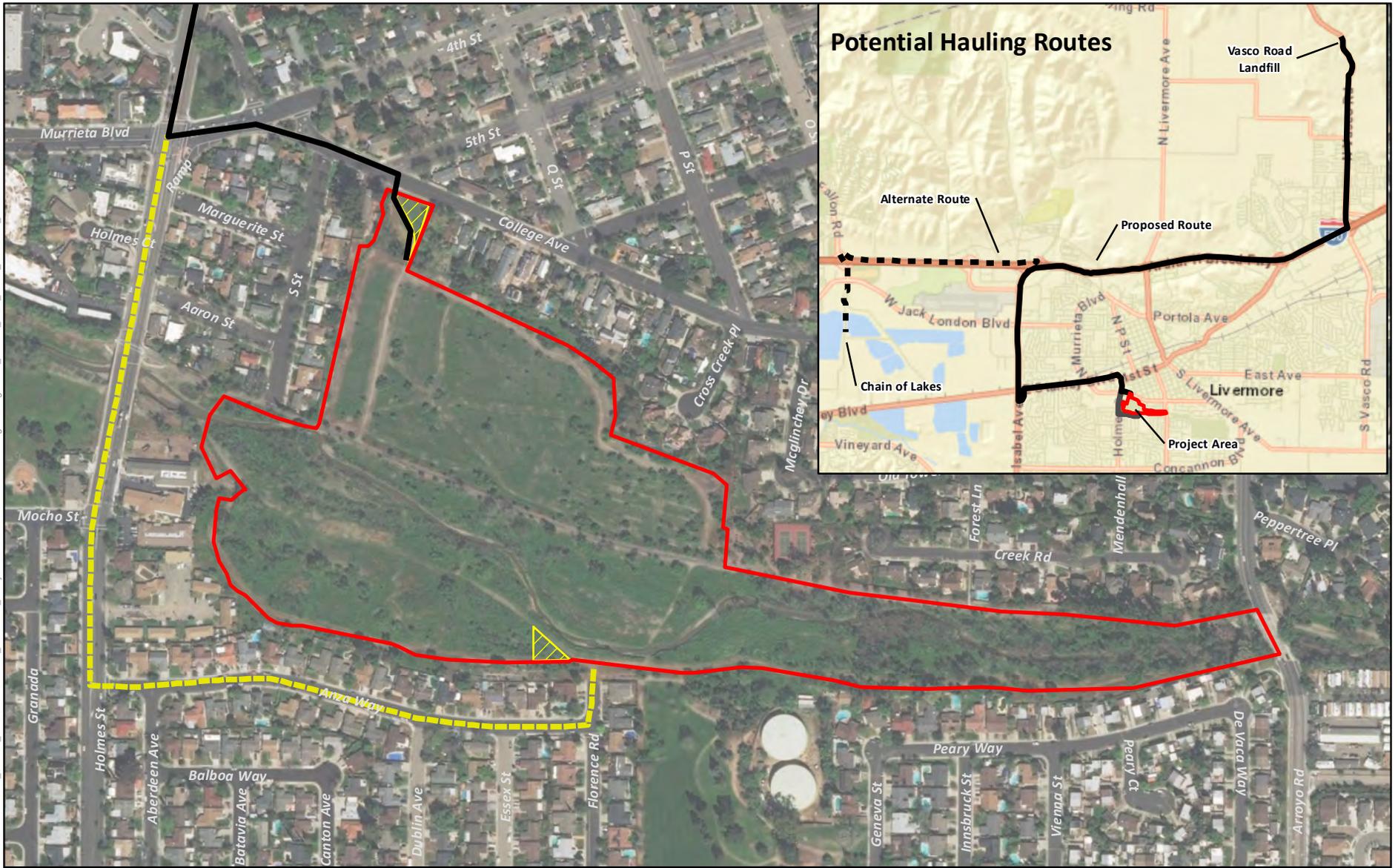
- California Department of Fish and Wildlife, Bay-Delta Region (jurisdiction over fish and wildlife resources held in trust for the people of the State of California).

2.8 Required Permits and Approvals

The permitting and regulatory compliance requirements for the Proposed Project are listed in **Table 2-2**. In addition to the requirements summarized below, the Proposed Project must conform to the policies and standards established in the current *City of Livermore General Plan* (City of Livermore 2004) and applicable City Ordinances, which is relevant to all resource topics analyzed under CEQA and described in the various sections of Chapter 3 of this IS/MND.

Table 2-2. Permitting and Regulatory Requirements Applicable to the Proposed Project

Regulatory Agency	Law/Regulation	Purpose	Permit/Authorization Type
U.S. Army Corps of Engineers (USACE) – San Francisco District	Clean Water Act (CWA) Section 404	Regulates placement of dredged and fill materials into waters of the United States.	CWA 404 Nationwide Permit
San Francisco Bay Regional Water Quality Control Board	CWA Section 401 with Waste Discharge Requirements	Water quality certification for placement of materials into waters of the United States.	401 Water Quality Certification
	CWA Section 402	National Pollutant Discharge Elimination System (NPDES) program regulates stormwater and construction discharges.	A Stormwater Pollution Prevention Plan (SWPPP) would be prepared and implemented in accordance with the State Water Board’s Construction General Permit Order 2009-0009-DWQ, as amended
	Porter-Cologne Water Quality Control Act	Regulates discharges of materials to land and protection of beneficial uses of waters of the State.	Waste Discharge Requirements
California Department of Fish and Wildlife (CDFW) – Bay-Delta Region	Fish and Game Code (F&G Code) Section 1600	Applies to activities that will substantially modify a river, stream or lake; includes reasonable conditions necessary to protect those resources.	Lake and Streambed Alteration Agreement (1602 permit)
U.S. Fish and Wildlife Service (USFWS)	Endangered Species Act (ESA)	If a CWA 404 Nationwide Permit is required, USACE must consult with USFWS if threatened or endangered species may be affected by the Proposed Project.	Informal Consultation
State Historic Preservation Officer (SHPO)	National Historic Preservation Act (NHPA) Section 106	If a CWA 404 Nationwide Permit is required, USACE must consult with SHPO if historic properties or prehistoric archaeological sites may be affected by the Proposed Project.	SHPO Consultation
City of Livermore	City Code and Ordinances	City Code and Ordinances require compliance with conditions to ensure that projects do not conflict with surrounding land uses.	Encroachment permit, haul permit



- Project Area
- Potential Hauling Route
- South of Trail Hauling Route
- Staging Areas

Note: Construction staging will also take place within Oak Grove Nature Reserve.

Figure 2-2
Construction Access, Staging, and Haul Route

Arroyo Mocho Medeiros Reach
Floodplain Reconnection Project

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Table 2-3. Proposed Project Best Management Practices

Number	Title	BMP Description
<p>BMPs 1 through 13 would be implemented by Zone 7 and its Contractors, as appropriate, for all activities associated with the Proposed Project. The majority of these BMPs would be implemented prior to and during construction.</p>		
BMP-1	Construction Work Windows	<p>A. Ground-disturbing activities in the channel will occur during the dry season (April 1 through October 15 or as allowed by permits). The construction work window may be extended provided that there is no measurable precipitation forecasted in the National Weather Service 72-hour forecast and consistent with the terms of regulatory permits and approvals. Ground disturbance may occur year-round on the Arroyo Mocho Trail and in the Oak Grove Nature Reserve.</p> <p>B. Work activities will occur during daylight hours and will be limited to 7 a.m.–8 p.m. Monday through Friday; <u>typical work hours are anticipated to be 7:00 a.m. to 4:00 p.m.</u> After-hours work and work on Saturdays, Sundays, and holidays may be permitted at the discretion of the City.</p>
BMP-2	Area of Disturbance	<p>A. To minimize impacts on natural resources, soil disturbance will be kept to the minimum footprint necessary to complete project construction.</p>
BMP-3	Erosion and Sediment Control	<p>A. All soils disturbed or exposed during construction activities will be seeded and stabilized using erosion control measures including but not limited to erosion control fabric or hydromulch. Areas below the ordinary high water mark are exempt from this BMP.</p> <p>B. Erosion control fabrics will consist of natural fibers that will biodegrade over time and are wildlife friendly. No plastic or other non-porous material will be used as part of a permanent erosion control approach. Plastic sheeting may be used to temporarily protect a slope from runoff.</p> <p>C. Erosion control measures will be installed according to manufacturer’s specifications. Appropriate erosion control measures include, but are not limited to, the following: silt fences, straw bale barriers, erosion control blankets and mats, and soil stabilization measures (e.g., tackified straw with seed, jute blankets, broadcast and hydroseeding).</p> <p>D. All temporary construction-related erosion control methods (e.g., silt fences) shall be removed at the completion of each construction period, or as directed by the Project Engineer.</p>
BMP-4	On-site Hazardous Materials Management	<p>A. An inventory of all hazardous materials used (and/or expected to be used) at the worksite and the end products that are produced (and/or expected to be produced) after their use will be maintained by the worksite manager.</p> <p>B. As appropriate, containers will be properly labeled with a “Hazardous Waste” label and hazardous waste will be properly recycled or disposed of off-site.</p>

Number	Title	BMP Description
		<ul style="list-style-type: none"> C. Contact of chemicals with precipitation will be minimized by storing chemicals in watertight containers or in a storage shed (completely enclosed), with appropriate secondary containment to prevent any spillage or leakage. D. Petroleum products, chemicals, cement, fuels, lubricants, and non-storm drainage water or water contaminated with the aforementioned materials will not contact soil and will not be allowed to enter surface waters. E. All toxic materials, including waste disposal containers, will be covered when they are not in use, and located as far away as possible from a direct connection to the storm drainage system or surface water.
BMP-5	Spill Prevention and Response Plan	<p>To minimize the potential adverse effects due to the release of chemicals, fuels, lubricants, and non-storm drainage water into channels, Zone 7 will require that a Spill Prevention and Response Plan be developed and implemented by the Contractor and all field personnel. The plan will contain guidelines for cleanup and disposal of spilled and leaked materials at the project site. The plan will include, but not be limited to, the following guidance and procedures for Contractor’s field personnel in spill prevention, hazardous material control, and cleanup of accidental spills:</p> <ul style="list-style-type: none"> A. Contractor will notify Zone 7 immediately of any spills. B. Equipment and materials for cleanup of spills will be available on site, and spills and leaks will be cleaned up immediately and disposed of according to the following guidelines: <ul style="list-style-type: none"> 1. For small spills on impervious surfaces, absorbent materials will be used to remove the spill, rather than hosing it down with water. 2. For small spills on pervious surfaces such as soil, the spill will be excavated and properly disposed of rather than being buried. 3. Absorbent materials will be collected and disposed of properly and promptly. B. Field personnel will ensure that hazardous materials are properly handled and natural resources are protected by all reasonable means. C. Spill response kits will be on hand at all times while hazardous materials are in use (e.g., at crew trucks and other logical locations). All field personnel will be advised of these locations. D. Zone 7 staff or subcontractor(s) will routinely inspect the work site to verify that spill prevention and response measures are properly implemented and maintained.
BMP-6	Existing Hazardous Materials	<ul style="list-style-type: none"> A. If hazardous materials are encountered at the project site, Zone 7 will remove and dispose of them according to the Spill Prevention and Response Plan (see BMP-5).
BMP-7	Vehicle and Equipment Maintenance	<ul style="list-style-type: none"> A. Equipment will be thoroughly cleaned of soil and vegetation before being delivered to the site to minimize the potential for spreading pathogens or exotic/invasive species. Equipment will be inspected by Zone 7 and may be rejected if Zone 7 determines that it is has not been adequately cleaned.

Number	Title	BMP Description
		<ul style="list-style-type: none"> B. Incoming equipment will be checked for leaking oil and fluids. Leaking equipment will not be allowed on the project site. C. All vehicles and equipment will be kept clean. Excessive build-up of oil and grease will not be permitted. D. All equipment used for in-channel work will be inspected for leaks each day prior to initiation of work. Action will be taken to prevent or repair leaks prior to use. E. No equipment servicing will take place in the lakebed, channel, or immediate floodplain, unless equipment stationed in these locations cannot be relocated. F. If it is necessary for servicing of equipment to take place at the job site, a protected area will be designated for equipment servicing to reduce threats to water quality from vehicle fluid spills. Designated areas will not directly connect to the ground or surface water. The service area will be clearly designated with berms, sandbags, or other barriers. Secondary containment, such as a drain pan, to catch spills or leaks will be used when removing or changing fluids. Fluids will be stored in appropriate containers with covers and will be recycled or disposed of at an appropriate off-site location. G. If emergency repairs are required in the field, only those repairs necessary to move equipment to a more secure location will be conducted in the lakebed, channel, or floodplain. H. Vehicle and equipment washing can occur on site only as needed to prevent the spread of sediment, pathogens, or exotic/invasive species. No runoff from vehicle or equipment washing will be allowed to enter water bodies without being subjected to adequate filtration (e.g., vegetated buffers, hay wattles or bales, and silt screens). Other proper track-out systems can be used to prevent the spread of sediment from the site.
BMP-8	Dust Management Controls and Air Quality Protection	<p>Zone 7 will implement the following applicable Bay Area Air Quality Management District's (BAAQMD's) Basic Construction Mitigation Measures to reduce emissions of fugitive dust and equipment exhaust:</p> <ul style="list-style-type: none"> A. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. B. All haul trucks transporting soil, sand, or other loose material off-site shall be covered. C. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. D. All vehicle speeds on unpaved roads shall be limited to 15 mph. E. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. F. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure [13 CCR Section 2485]). Clear signage shall be provided for construction workers at all access points.

Number	Title	BMP Description
		<p>G. All construction equipment shall be maintained and properly tuned in accordance with manufacturer’s specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.</p> <p>H. Post a publicly visible sign with the telephone number and person to contact at Zone 7 regarding dust complaints. This person shall respond and take corrective action within two business days. The BAAQMD’s phone number shall also be visible to ensure compliance with applicable regulations.</p>
BMP-9	Public Safety Measures	<p>Zone 7 will implement the following public safety measures during construction:</p> <p>A. Signs will be posted at job sites warning the public of construction work and to exercise caution.</p> <p>B. If needed, traffic control will be provided to allow trucks to safely enter and exit the work site.</p> <p>C. At least one lane of any roadway affected by construction activity or construction traffic will remain open at all times during construction. If necessary, the Contractor will use traffic control measures to ensure that emergency response vehicles will have through access at all times.</p>
BMP-10	Work Site Housekeeping	<p>Zone 7 employees and Contractors will implement the following site housekeeping measures during construction:</p> <p>A. Maintain the work site in neat and orderly conditions on a daily basis.</p> <p>B. Leave the site in a neat, clean, and orderly condition when work is complete at the end of each construction season.</p> <p>C. As needed, paved access roads and trails will be swept and cleared of any residual vegetation or dirt resulting from the construction activity.</p> <p>D. All trash will be properly disposed of.</p>
BMP-11	Fill, Spoils, and Stockpiled Materials	<p>A. Temporary fill materials, excavated spoils that have not yet been hauled off site, and stockpiled material will be placed and protected in a manner such that they are not subject to erosion.</p>
BMP-12	Minimize Spread of Weeds and Invasive Species	<p>Zone 7 will employ the following measures to minimize the spread of invasive plant species.</p> <p>A. Prior to grading or soil disturbance, infestations of highly invasive species such as tree of heaven or tamarisk, if present within areas of temporary disturbance, will be removed and all plant material with seeds will be disposed of off-site, either in a landfill, incinerator, or in a high-temperature composting facility that can compost using methods known to kill weed seeds, taking care to prevent any seed dispersal during the process</p>

Number	Title	BMP Description
		<p>by bagging material or covering trucks transporting such material from the site. All invasive species treatments will adhere to California Invasive Plant Council guidelines and recommendations, as appropriate.</p> <p>B. All ground disturbing equipment used adjacent to the riparian corridors will be washed (including wheels, tracks, and undercarriages) both before and after being used at the site (see also BMP-7).</p> <p>C. All erosion control materials used on site, such as straw wattles, mulch, and fill material, will be certified weed free.</p> <p>D. All disturbed soils will be stabilized and planted with a native seed mix from a local source following construction.</p>
BMP-13	<u>Mosquito Abatement</u>	<p><u>If standing water is present on the project site for more than 4 days during construction, Zone 7 will notify the Alameda County Mosquito Abatement District to allow mosquito abatement activities in accordance with <i>The Alameda County Mosquito Abatement District Control Program (2011)</i>.</u></p>

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Chapter 3 Environmental Checklist

- | | |
|--|--|
| 1. Proposed Project Title | Arroyo Mocho Medeiros Reach Floodplain Reconnection Project |
| 2. Lead Agency Name and Address | Alameda County Flood Control and Water Conservation District, Zone 7
100 North Canyons Parkway, Livermore, CA 94551 |
| 3. Contact Person, Phone Number and Email | Elke Rank
Zone 7 Water Agency
(925) 454-5000
erank@zone7water.com |
| 4. Proposed Project Location and APN | Medeiros Reach of Arroyo Mocho between Holmes Street and Arroyo Road in Alameda County
Section, Township, Range: Sections 16, 17; T3S, R2E
USGS Quadrangle: Livermore
APN: 97-90-39-7, 97-137-2-9, 97-149-89, 97-149-70 |
| 5. Property Owner | Alameda County Flood Control and Water Conservation District, Zone 7 |
| 6. General Plan Designation | Open Space – Parks, Trailways, Recreation Areas (OSP) |
| 7. Zoning | Open Space – Floodplain (OS-F) – Trailway and Creek; Education and Institutions (E) – Open Space (Habitat Areas) |
| 8. Description of Proposed Project | See Chapter 2, <i>Project Description</i> |
| 9. Surrounding Land Uses and Setting | Residential, open space, and educational uses; see Chapter 2, <i>Project Description</i> , for more information |
| 10. Other Public Agencies Whose Approval or Input May Be Needed | <ul style="list-style-type: none"> ▪ U.S. Army Corps of Engineers ▪ San Francisco Bay Regional Water Quality Control Board ▪ California Department of Fish and Wildlife, Bay-Delta Region ▪ U.S. Fish and Wildlife Service ▪ State Historic Preservation Officer ▪ City of Livermore |

This chapter of the IS/MND assesses the Proposed Project's environmental impacts based on the environmental checklist provided in Appendix G of the State CEQA Guidelines. The environmental resources and potential environmental impacts of the Proposed Project are described in the individual sections below. Each section (3.1 through 3.19) provides a brief overview of existing environmental conditions for the particular resource topic to help the reader understand the conditions that could be affected by the Proposed Project. In addition, each section includes a discussion of the rationale used to determine the significance level of environmental impacts for each checklist question. Resources reviewed for relevant information are cited as applicable.

3.1 Aesthetics

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Proposed Project:				
a. Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Checklist Responses

a. Adversely Affect a Scenic Vista — *Less than Significant*

The *City of Livermore General Plan* (City of Livermore 2014) Community Character Element has designated the view of Arroyo Mocho looking west from Arroyo Road as a scenic vista. Currently, this portion of Arroyo Mocho is densely vegetated with a mixture of native and non-native vegetation, with some landscaping plants growing alongside the riparian corridor (**Figure 3-1**). The Proposed Project would not alter the riparian vegetation that is visible from Arroyo Road. Lowering of the trail near the OGNR, including removal of up to 20 trees, would not be visible from Arroyo Road during construction. This impact would be **less than significant**.

b. Damage Scenic Resources within a State Scenic Highway — *No Impact*

No scenic highways or resources have been designated in the project area under the California Department of Transportation (Caltrans) definition (Caltrans 2018). Therefore, there would be **no impact** on scenic resources.

c. Degrade Existing Visual Character or Quality — *Less than Significant*

Up to 20 trees could be removed within the construction area (**Figure 2-1**), including, if necessary, to improve the trails in the OGNR. Invasive species removal, if conducted, would create a more natural appearance for portions of the creek that are currently degraded. Although construction activities would result in temporary disruption of the natural appearance of the surrounding environment for visitors and nearby residents, these activities would be temporary (lasting approximately 75 work days). In the long term, the Proposed

Project would improve the overall visual character of the stream reach and the OGNR. The impact on the existing visual character and quality would be **less than significant**.

d. New Sources of Light or Glare — *No Impact*

The Proposed Project would include no permanent lighting or building surfaces that would create a new source of substantial light or glare. Construction activities would take place during daytime hours and so would not produce additional temporary light sources. Therefore, there would be **no impact** related to light or glare.



N

0 125 250 500 Feet

- Photo Location
- Project Area
- Arroyo Mocho
- Direction of Flow

Figure 3-1
Site Photographs

Arroyo Mocho Medeiros Reach
Floodplain Reconnection Project

Figure 3-1. Site Photographs



<p>Photo No. 1</p>	<p>Date: March 2018</p>	
<p>Description: Looking west at the Arroyo Mocho Trail from Arroyo Road.</p>		
<p>Photo No. 2</p>	<p>Date: March 2018</p>	
<p>Description: Looking east at the Arroyo Mocho Trail from near Holmes Street.</p>		

Figure 3-1. Site Photographs



Photo No. 3	Date: March 2016	 A photograph of a narrow, shallow channel of water flowing through a wooded area. The water is clear and reflects the surrounding greenery. The banks are lined with dense vegetation, including tall, thin trees and thickets of pink-flowered tamarisk trees on the right side. The scene is brightly lit, suggesting a sunny day.
Description: Looking west at the Arroyo Mocho channel from Arroyo Road. Non-native tamarisk (pink vegetation on right side of bank) would be removed.		
Photo No. 4	Date: March 2018	 A landscape photograph showing a wide, open area with a mix of green grass and bare, brown trees. The sky is overcast with heavy, grey clouds. In the foreground, there is a dirt path or road. The background shows a line of trees and a distant horizon.
Description: Looking east at the Oak Grove Nature Reserve from west edge near residences.		

Figure 3-1. Site Photographs



<p>Photo No. 5</p>	<p>Date: July 2015</p>	
<p>Description: Looking north at Oak Grove Nature Reserve from Arroyo Mocho Trail.</p>		
<p>Photo No. 6</p>	<p>Date: March 2016</p>	
<p>Description: Looking west at Arroyo Mocho channel near the center of the Medeiros Reach.</p>		

3.2 Agricultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
<p>In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state’s inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the Proposed Project:</p>				
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 (FMMP) of the California Resources Agency, to nonagricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC section 12220(g)), timberland (as defined by PRC section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Involve other changes in the existing environment that, because of their location or nature, could result in a conversion of Farmland to a non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Checklist Responses

a-e. Convert Important Farmland; Conflict with Existing Zoning, Williamson Act Contract, or Forest Land or Timberland Zoning; Convert Forest Land; or Result in Other Changes That Could Convert Farmland or Forest — *No Impact*

The Proposed Project would be confined to the stream channel, riparian corridor, multi-use trail, and the OGNR. None of these areas are designated as Important Farmland or forest land. Because no farmland or forest land would be affected, there would be **no impact** related to loss of, or conflicting uses with, agricultural or forest lands associated with implementation of the Proposed Project.

3.3 Air Quality

	Potentially Significant Impact	Less than significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
When available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the Proposed Project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Violate any air quality standard or contribute substantially to an existing or Proposed Projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the Proposed Project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion of Checklist Responses

a. Conflict with or Obstruct Implementation of the Applicable Air Quality Plan — *No Impact*

A project is deemed inconsistent with air quality plans if it would result in population and/or employment growth that exceeds growth estimates included in the applicable air quality plan, which, in turn, would generate emissions not accounted for in the applicable air quality plan emissions budget. Therefore, projects need to be evaluated to determine whether they would generate population and employment growth and, if so, whether that growth would exceed the growth rates included in the relevant air plans. The Proposed Project would not involve the construction of any residential, commercial, or industrial structures that would generate population and/or long-term employment growth (see related discussion in Section 3.13, "Population and Housing").

The Proposed Project is located within the San Francisco Bay Area Air Basin (SFBAAB) and the City of Livermore. The SFBAAB, including Livermore Valley, is a state and federal non-attainment area for ozone and particulate matter less than 2.5 microns in diameter (PM_{2.5}).

and a state nonattainment area for particulate matter less than 10 microns in diameter (PM₁₀) (BAAQMD 2018, California Air Resources Board [CARB] 2018, U.S. Environmental Protection Agency [USEPA] 2018). BAAQMD's Final 2017 Clean Air Plan, titled "Spare the Air, Cool the Climate," describes how BAAQMD will reduce emissions of toxic air contaminants and continue to make progress toward attaining state and federal air quality standards (BAAQMD 2017a). These proposed measures include controlling PM emissions from paving operations, fugitive dust, track-out during construction, and bulk material handling and transport. The Open Space and Conservation Element of the *City of Livermore General Plan* contains goals and policies to protect local air quality and limit emissions of pollutants (City of Livermore 2014). Specific policies related to protecting air quality include requiring project developers to develop and implement a construction-period air pollution control plan that is consistent with the dust and emission-abatement actions in the BAAQMD's *CEQA Air Quality Guidelines* (BAAQMD 2017b). The Proposed Project would be in compliance with this policy because it includes BMP-8, Dust Management Controls and Air Quality Protection, which implements the BAAQMD's Basic Construction Mitigation Measures to reduce emissions of fugitive dust and equipment exhaust. The Proposed Project would not conflict with or impair implementation of applicable air quality plans established by the BAAQMD or local general plans. Because the Proposed Project would not generate growth or conflict with the applicable policies from the BAAQMD air quality plan (2017a) and the City's general plan, there would be **no impact** related to inconsistency with air quality planning.

b. Violate any Air Quality Standard or Contribute Substantially to an Existing or Proposed Projected Air Quality Violation — *Less than Significant*

During construction of the Proposed Project, the combustion of fossil fuels for operation of construction equipment, sediment/material hauling, and worker trips would result in construction-related emissions of criteria air pollutants. In addition, construction activities would generate fugitive dust from grading and excavation activities. The Proposed Project's criteria air pollutant emissions during construction were modeled using conservative assumptions for equipment use, scheduling, and haul routes, as detailed in **Appendix A, Air Quality and Greenhouse Gas Emissions Calculations**, and Chapter 2, *Project Description*. Modeled emissions are shown in **Table 3-1**. Operational criteria air pollutant emissions would be generated by periodic maintenance-related vehicle trips to the site. Maintenance-related emissions were not quantified and would not be likely to exceed the applicable thresholds since the level of activity would be substantially less than the Proposed Project's construction activities, which would not exceed average daily significance thresholds, as described below.

The BAAQMD has established mass emission thresholds and rules regarding emissions of pollutants. As shown in Table 3-1, the estimated construction-related emissions associated with the Proposed Project would be less than these mass emissions significance thresholds. Construction emissions, in particular fugitive dust (PM₁₀) emissions, would also be controlled by implementation of BMP-8 and meet the BAAQMD requirements for fugitive dust BMPs. Implementation of BMP-8 would reduce oxides of nitrogen (NO_x) and other criteria pollutant emissions by minimizing idling times of construction equipment and ensuring that all equipment is properly maintained and tuned in accordance with manufacturer's specifications. Therefore, the impact of criteria pollutant emissions during construction

would be **less than significant** and the Proposed Project would not contribute substantially to an air quality violation.

Table 3-1. Estimated Construction-Related Criteria Pollutant Emissions for the Proposed Project

	Pollutant						
	ROG	NO _x	CO	PM ₁₀ Exhaust	PM ₁₀ Fugitive	PM _{2.5} Exhaust	PM _{2.5} Fugitive
Estimated Project Average Daily Emissions – 2019 (lbs/day) ¹	4.07	47.19	30.56	2.05	6.52	1.88	2.80
BAAQMD Daily Emissions Threshold (lbs/day) ²	54	54	None	82	BMPs	54	BMPs
Exceed Threshold?	N	N	N	N	N	N	N

Note: “BMPs” indicates that no calculation is required because compliance with BMPs is considered by BAAQMD to reduce the emission to below the threshold.

¹ Estimates of fugitive dust emissions (PM₁₀ and PM_{2.5}) do not account for any watering that would be performed in accordance with BMP-8, Dust Management Controls and Air Quality Protection. Therefore, actual fugitive dust emissions would be less than those shown.

² The daily emissions threshold is based on the BAAQMD’s CEQA Air Quality Guidelines (BAAQMD 2017b).

c. Result in a Cumulatively Considerable Net Increase of Any Criteria Pollutant for Which the Proposed Project Region Is a Nonattainment Area — *Less than Significant*

As described above, the project site is in a region that is designated in nonattainment for ozone and particulate matter. The Proposed Project would temporarily emit construction-related particulate matter, ozone precursors, and other criteria pollutants. However, these emissions would not be substantial or considered cumulatively considerable because the emissions would not violate the BAAQMD’s air quality standards. The BAAQMD considers projects with emissions that do not exceed its air quality emission thresholds to not be cumulatively considerable. The Proposed Project would include BMP-8, which implements the BAAQMD’s Basic Construction Mitigation Measures, to reduce emissions of fugitive dust and equipment exhaust. Maintenance-related emissions would not be substantial due to their minimal frequency and duration and the potential emission sources (limited worker vehicles). Therefore, the Proposed Project would have a **less-than-significant impact**.

d. Expose Sensitive Receptors to Substantial Pollutant Concentrations — *Less than Significant*

Construction-related activities could result in the generation of toxic air contaminants (TACs), specifically diesel particulate matter (DPM) from off-road equipment exhaust emissions. Due to the variable nature of construction activity, the generation of TAC emissions in most cases would be temporary, especially considering the short amount of time such equipment is typically operated within an influential distance of sensitive receptors. According to the Office of Environmental Health Hazard Assessment (OEHHA), the assessment of cancer risk and chronic non-cancer health impacts is typically based on a 70-

year exposure period, and there is considerable uncertainty in trying to evaluate the cancer risk from projects that will only last a small fraction of a lifetime (OEHHA 2015).

The Proposed Project's construction activities would also result in local emissions of fugitive dust. However, implementation of BMP-2, Area of Disturbance, and BMP-8, Dust Management Controls and Air Quality Protection, as part of the Proposed Project would minimize fugitive dust emissions such that they would not be substantial.

The project site is located in a region with occurrences of naturally occurring asbestos (NOA) (U.S. Geological Survey [USGS] and California Geological Survey [CGS] 2011). No known sources of asbestos are present in the project area, however, and USGS mapping shows no known occurrences of NOA in portions of Alameda County near the project area. Thus, the Proposed Project's excavation activities are unlikely to disturb NOA and result in a potentially significant impact on sensitive receptors. Therefore, the Proposed Project's effect on nearby sensitive receptors due to construction-related air pollutant emissions, including NOA, would be less than significant.

No long-term operation and maintenance activities would occur that could emit DPM; therefore, the Proposed Project's operational activities would not be anticipated to expose sensitive receptors to DPM concentrations. Therefore, the impact on sensitive receptors from operation and maintenance activities would be **less than significant**.

e. Create Objectionable Odors — *Less than Significant*

Diesel exhaust from construction activities may generate temporary odors while construction of the Proposed Project is underway. Excavated and recently exposed vegetation, soil, or sediment may contain decaying organic material that may create an objectionable odor. Odors due to organic material are expected to be minimal because of the nature of the alluvial soils in project reach and the limited area of excavation. Once construction activities have been completed, these odors would cease. No additional maintenance activities would take place in the project area.

The intensity of the odor perceived by a receptor depends on the distance of the receptor from excavation areas and the amount and quality of the exposed soil or sediment material. The nearest sensitive receptors would include multiple residences adjacent to the northern portion of the project area, the nearest of which would be approximately 80 feet from the area of exposed sediment and excavation activity. Following the conclusion of excavation activities, exposed sediment and soil in the project area would be revegetated. Impacts related to potential generation of objectionable odors, if any, are thus expected to be temporary and **less than significant**.

3.4 Biological Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Proposed Project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Conflict with the provisions of an adopted Habitat Conservation Plan (HCP); Natural Community Conservation Plan; or other approved local, regional, or state HCP?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

Ecologists of H. T. Harvey & Associates and Horizon Water and Environment (Horizon) conducted biological site assessments to characterize existing conditions on the project site; to determine whether any sensitive biological resources such as wetlands, streams, or habitats for special-status species are located on the project site; and to determine whether project activities would result in potentially significant adverse biological impacts. For the purposes of this IS/MND, sensitive biological resources include the following:

- plants or animals that are listed as rare, threatened, or endangered or as species of special concern, pursuant to federal or state law, and habitat essential to special-status species of plants or wildlife;
- natural communities indicated as rare or threatened by the California Natural Diversity Database (CNDDB) maintained by the California Department of Fish and Wildlife (CDFW);
- wetlands and streams, and the riparian vegetation surrounding them; and
- natural communities and associated buffers protected pursuant to applicable plans, policies, and regulations.

The evaluation of potential impacts of the project on biological resources is based on information gathered during reconnaissance surveys of the site as well as a review of relevant background information. Ecologists reviewed background information from the following sources:

- CNDDB (2018) mapping data (**Figure 3-2**) and California Native Plant Society (CNPS 2018) data on special-status species and sensitive habitat occurrences on the project site, in Alameda County for CNPS's California Rare Plant Rank (CRPR) 3 and 4 species¹, and in the surrounding project region for CRPR 1 and 2 species, defined as the *Livermore, California* USGS 7.5-minute quadrangle and the surrounding eight quadrangles (provided in **Appendix B, Biological Resources Information**)
- Draft Technical Memorandum 1: Ecological Baseline Conditions Report (Urban Creeks Council and Zone 7 Water Agency 2014)
- Evaluation of the Potential Historical and Current Occurrence of Steelhead with the Livermore–Amador Valley (Hanson et al. 2004)
- Natural Resource Conservation Service (NRCS) soil survey maps (NRCS 2018)
- The East Alameda County Conservation Strategy (EACCS) (ICF 2010)
- Draft Arroyo Mocho Ecological Baseline Study: Avian Community Assessment (2016-2017) (Avocet Research Associates and Horizon Water and Environment 2018)
- Arroyo Mocho Weed Management Memorandum (Horizon Water and Environment 2018a)

¹ The CNPS, a non-governmental conservation organization, has developed rankings for plant species of concern in California in the CNPS Inventory of Rare and Endangered Plants. Lichens, vascular, and non-vascular plants included in these rankings are defined as follows: Rank 1A = plants considered extinct; Rank 1B = plants rare, threatened, or endangered in California and elsewhere; Rank 2A = plants considered extinct in California but more common elsewhere; Rank 2B = plants rare, threatened, or endangered in California but more common elsewhere; Rank 3 = plants about which more information is needed - review list; and Rank 4 = plants of limited distribution-watch list.

Biologists from H. T. Harvey & Associates conducted reconnaissance field surveys on March 17, 2016 and March 21, 2016. These surveys were conducted to (1) assess existing biotic habitats and general wildlife communities on the project site; (2) assess the site for its potential to support special-status species and their habitats; and (3) identify potential sensitive habitats (such as waters of the U.S./State and riparian habitat). In addition, these ecologists recorded a list of all plant and animal species observed during the reconnaissance survey (see Appendix B). Biotic habitats were mapped in the field using a handheld Global Position System (GPS) unit (Trimble® Geo7X) and the Geographic Information Systems (GIS) Pro and GIS Kit application on Apple iPads (Garafa, LLC), and with the aid of aerial images (Google Inc. 2016). A delineation of waters of the U.S. was conducted by staff of Horizon in March 2016. Invasive woody plants in the project area were mapped by Horizon between June and September 2016. Nine bird surveys were completed by Avocet Research Associates at eight points within the Proposed Project area in the period between May 2016 and February 2017. Horizon staff conducted the California Rapid Assessment Method (CRAM) on the project site in May and September 2016.

The following six biotic habitats were identified on the project site: (1) alluvial stream, (2) mixed riparian woodland and scrubland, (3) mixed scrubland, (4) upland ruderal grassland, (5) riparian ruderal grassland, and (6) developed (**Figure 3-3**). These habitats are described in more detail below. Sensitive habitats on the project site that are of limited distribution and/or are particularly important ecologically include mixed riparian woodland and scrubland and alluvial stream.

Alluvial Stream. Arroyo Mocho, an alluvial stream, originates on the highest ridges of the Diablo Mountains near Mines Road in the far northeastern corner of Santa Clara County. The stream flows through the cities of Livermore and Pleasanton and drains into Arroyo de la Laguna, which empties into Alameda Creek, and ultimately, the San Francisco Bay. Arroyo Mocho in the Medeiros Reach has a streambed substrate of cobbles with some small amounts of sand. The stream meanders through the project site, roughly following its natural alignment, as evidenced by historical topography maps from 1906 through 1989 (NETR 2016). During the reconnaissance survey, approximately 1 to 2 feet of quickly flowing water was observed in the stream, in addition to some riffles and deeper pools, though historical aerial images indicate that the stream dries up completely and consistently by summer or early fall. However, Zone 7 periodically conveys Delta water from the State Water Project, when available, via the South Bay Aqueduct into Arroyo Mocho for groundwater recharge during the spring, summer, and fall (Zone 7 Water Agency 2006). This conveyance results in periodic flows in the project reach during the dry season. The jurisdictional boundaries of the stream were delineated by Horizon staff in March 2016; those delineated boundaries are depicted in Figure 3-2. No jurisdictional wetlands were detected during that delineation.

Arroyo Mocho provides breeding, foraging, and dispersal habitat for the Sierran treefrog (*Pseudacris sierra*), which was heard calling during the site visit, and the common California red-sided garter snake (*Thamnophis sirtalis infernalis*), which was not observed but can often be found along stream banks and riparian corridors in the project region.

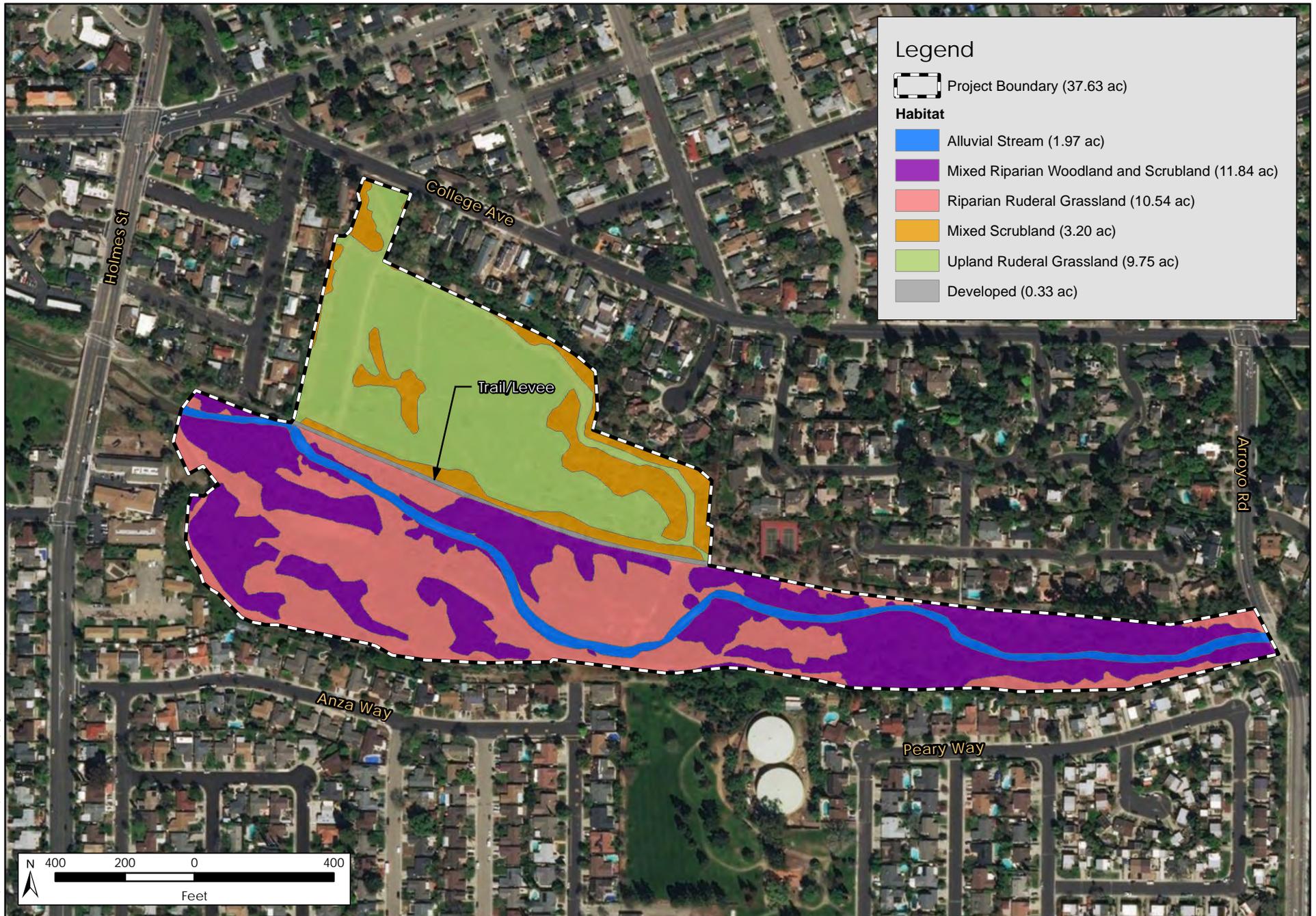
Aquatic-associated bird species recorded along the stream corridor include the Canada goose (*Branta canadensis*), mallard (*Anas platyrhynchos*), and belted kingfisher (*Megaceryle alcyon*) (Avocet Research Associates and Horizon Water and Environment 2018).

Mixed Riparian Woodland and Scrubland. The broad floodplain along the project reach located south of the trail supports mixed riparian woodland and scrubland that is associated with the Arroyo Mocho channel. Due to the patchiness of this habitat type, a minimum mapping unit of approximately 400 square feet (less than 0.01 acre) was used. As such, individual shrubs and small-statured trees, and patches of woody species smaller than the minimum mapping unit, were incorporated into the riparian ruderal grassland habitat type (see below). The existing mixed riparian woodland and scrubland has been heavily degraded by previous anthropogenic impacts including quarrying, fire, and a reduction in flood frequency via incision of the main channel. Consequently, this woody plant community displays a patchy distribution across the floodplain and is co-dominated by native woody riparian plant species and invasive plant species. Native woody riparian species in this habitat type include red willow (*Salix laevigata*), sandbar willow (*Salix exigua*), Fremont cottonwood (*Populus fremontii*), western sycamore (*Platanus racemosa*), California buckeye (*Aesculus californica*), mulefat (*Baccharis salicifolia*), and valley oak (*Quercus lobata*), which were all observed on site. Several dense stands of the highly invasive tree of heaven (*Ailanthus altissima*) occur on the downstream end of the site, and several patches of non-native Himalayan blackberry (*Rubus armeniacus*) occur on the upstream portion of the site. Fewer individuals of nonnative tamarisk (*Tamarix parviflora*), blue gum eucalyptus (*Eucalyptus globulus*), Washington fan palm (*Washingtonia robusta*), and goldenrain tree (*Koelreuteria paniculata*) are also present. Common herbaceous species observed include poison hemlock (*Conium maculatum*), California man-root (*Marah fabacea*), smilo grass (*Stipa miliacea*), and milk thistle (*Silybum marinum*).

Riparian habitats in California generally support exceptionally rich animal communities and contribute a disproportionately high amount to landscape-level wildlife species diversity. However, the riparian woodland habitat on the project site is limited in size and structural diversity, having been affected by urbanization and its associated anthropogenic effects, reducing the diversity of species that this habitat can support. Nevertheless, remnant woody snags and willow thickets provide foraging habitat for many species of migrant songbirds and breeding habitat for a number of others. Bird species observed on site in this habitat include the Bewick's wren (*Thryomanes bewickii*), spotted towhee (*Pipilo maculatus*), song sparrow (*Melospiza melodia*), Hutton's vireo (*Vireo huttoni*), Nuttall's woodpecker (*Picoides nuttallii*), and many others.

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N:\Projects\38003843-01\Reports\Initial Study\Fig 3-3 Habitat Map.mxd



H. T. HARVEY & ASSOCIATES
Ecological Consultants

Figure 3-3. Habitat Map
Arroyo Mocho Medeiros Reach Floodplain Reconnection Project
Initial Study/Mitigated Negative Declaration (3843-01)
November 2018

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Mixed Scrubland. Scattered stands of woody species less than 15 feet tall are located north of the trail and were mapped as mixed scrubland. Due to the patchiness of this habitat type, a minimum mapping unit of approximately 400 square feet (less than 0.01 acre) was used. As such, individual shrubs and small-statured trees, and patches of woody species smaller than the minimum mapping unit, were incorporated into the upland ruderal grassland habitat type (see below). The majority of the mixed scrubland on the project site is dominated by small-statured almond (*Prunus dulcis*) trees that were formerly part of an orchard. Beneath the almond trees, the herbaceous layer is dominated by grasses and forbs such as wild oats (*Avena* sp.), ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), California poppy (*Eschscholzia californica*), fiddleneck (*Amsinckia* sp.), and various species of lupine (*Lupinus* spp.). Dense stands of native shrubs are also present on the site; they lack an understory and are dominated by California sagebrush (*Artemisia californica*) and coyote brush (*Baccharis pilularis*).

Burrows of the California ground squirrel (*Otospermophilus beecheyi*) are present in this habitat on site, and other small mammals such as the deer mouse (*Peromyscus maniculatus*) and Botta's pocket gopher (*Thomomys bottae*) are expected to occur in these grasslands and to attract foraging grassland-associated predators such as the red-tailed hawk (*Buteo jamaicensis*), which has been observed on the site, and coyote (*Canis latrans*), which is expected to occur. The trees scattered throughout this habitat (and at a lower density in the upland ruderal grassland) support nesting by common bird species such as the California scrub-jay (*Aphelocoma californica*), oak titmouse (*Baeolophus inornatus*), northern mockingbird (*Mimus polyglottos*), and bushtit (*Psaltriparus minimus*), which have been documented on the project site (Avocet Research Associates and Horizon Water and Environment 2018). The scattered trees also provide perches for hunting raptors, including species documented on the site such as the Cooper's hawk (*Accipiter cooperii*) and American kestrel (*Falco sparverius*).

Upland Ruderal Grassland. Upland areas of the project site lacking substantial cover of woody shrubs and trees were mapped as upland ruderal grassland. Non-native, annual grasses such as wild oats, ripgut brome, and soft chess dominate this habitat type as was observed on site. Common forbs documented in the upland ruderal grassland include a suite of native species, such as California poppy, fiddleneck, and various species of lupine. Solitary shrubs (such as coyote brush), small statured trees (including some almond trees), and patches of woody species that did not meet the minimum mapping unit criteria were also incorporated into the upland ruderal grassland habitat type.

Common reptiles such as the western fence lizard (*Sceloporus occidentalis*), gopher snake (*Pituophis catenifer*), and southern alligator lizard (*Elgaria multicarinata*) are likely to breed and forage in the on-site grasslands, taking refuge in the burrows of small mammals or beneath debris in vegetation. Migrating and wintering white-crowned sparrows (*Zonotrichia leucophrys*) and golden-crowned sparrows (*Zonotrichia atricapilla*) are common foragers on seeds in this habitat and were observed on site. A number of mammal species, such as the deer mouse and Botta's pocket gopher, are also known to breed and forage in these grasslands. Animal species expected to occur in the upland ruderal grassland habitat on the site are adapted to some human disturbance due to the recreational activities that occur there.

Riparian Ruderal Grassland. South of the trail, the grassland habitat is similar to the upland grassland areas north of the trail but has developed within the active floodplain and as such, contains some facultative wetland grassland species such as curly dock (*Rumex crispus*), creeping wild-rye (*Elymus triticoides*), and rush (*Juncus* sp.) intermixed with the upland annual grasses. Other common non-native grasses present in the riparian grassland areas on site include smilo grass and foxtail barley (*Hordeum murinum*). In addition, a large infestation of mustard (*Brassica* sp.) and wild radish (*Raphanus sativus*) was observed during the reconnaissance survey. Wildlife use of the riparian ruderal grassland is expected to be similar to that described for the upland ruderal grassland above.

Developed. The Arroyo Mocho Trail was mapped as developed habitat and is devoid of vegetation. In the eastern portion of the site, the trail occurs along the project's northern boundary and is bound to the north by residential development and associated landscaping, including a variety of trees such as non-native eucalyptus and palm trees. In the western portion of the site, the trail bisects the project, occurring along the southern boundary of the OGNR. Paved trails do not provide high-quality wildlife habitat; however, snakes and lizards may bask on this surface, and a wide variety of wildlife cross or move along the road in route to other habitats.

Overall Habitat Quality. As part of its ecological baseline conditions study for the Stream Management Master Plan Update, Zone 7 evaluated watershed conditions near the easternmost portion of the project site (Urban Creeks Council and Zone 7 Water Agency 2014). Assessment methods included the CRAM, which assesses wetland condition; Surface Water Ambient Monitoring Program bioassessment (SWAMP), which assesses biological integrity and aquatic invertebrate communities; and Riparian Vegetation Reference (RiVR), which assesses riparian woodland condition; as well as a multimetric scoring index (fish IBI) relating the ability of a stream to support native fish populations. Based on each of these methodologies, assessment sites received a score of Excellent, Good, Fair, or Poor. The area adjacent to the eastern end of the project site received a CRAM score of Fair, a SWAMP score of Poor, a RiVR score of Poor, and a Fish score of Good. The overall composite score for the site was Fair, indicating that the landscape and its resources have been affected by urbanization and its associated anthropogenic effects and that channelization has simplified the arroyo and riparian vegetation (Urban Creeks Council and Zone 7 Water Agency 2014). However, the fish community appears to be in good condition, suggesting that there are areas where management actions could maintain or improve existing conditions (Urban Creeks Council and Zone 7 Water Agency 2014). Bird surveys conducted by Avocet Research Associates recorded 67 bird species over nine surveys, and an additional 40 or more species have been reported from the site on eBird (Avocet Research Associates and Horizon Water and Environment 2018, Cornell Lab of Ornithology 2018), indicating a relatively high overall diversity of bird use among the site's habitats. Horizon staff conducted CRAM for the project site, which resulted in an average index score of 62 (possible scores range from 25 to 100) (Horizon Water and Environment 2018b).

Discussion of Checklist Responses

a. **Have a Substantial Adverse Effect, Either Directly or Through Habitat Modifications, on Any Species Identified as a Candidate, Sensitive, or Special-status Species — *Less than Significant with Mitigation***

Appendix B provides a list of special-status species known to occur in the project vicinity. Figure 3-2 shows CNDDDB occurrences of special-status species within 5 miles of the Proposed Project.

A discussion of the Proposed Project's potential effects on special-status species and the resultant level of impacts are provided below.

Plants

The CNPS (2018) and CNDDDB (2018) identify 80 special-status plant species as potentially occurring in the project region for CRPR 1 and 2 species, and in Alameda County for CRPR 3 and 4 species. In addition, the CNDDDB (2018) has documented occurrences of 16 special-status plant species in the general project vicinity (defined as the area within a 5-mile radius of the project site). However, many of these occurrences are historical populations that have been extirpated as a result of urbanization. Extant populations of several of these plant species do still occur to the north of the project site in natural habitats; however, these species all require alkaline soils that are absent from the project site, and as a result, these species are not expected to be present on the site itself. Furthermore, the EACCS does not map the project site as providing suitable habitat for any of its six focal plant species.

All special-status plant species identified as potentially occurring in the project region were determined to be absent from the project site due to one or more of the following reasons:

- a lack of specific habitat (e.g., vernal pools) and/or edaphic requirements (e.g., serpentine or alkaline soils) for the species in question;
- the elevation range of the species is outside of the range on the project site; and/or
- the species is known to be extirpated from the general vicinity of the project site.

In conclusion, no special-status plant species are expected to occur on the project site, and no impacts on such species would occur as a result of the Proposed Project. A list of all common plant species observed during the reconnaissance survey is included as Appendix B.

Special-status Animal Species

A number of special-status animal species are known to exist in the project region based on known distributions and historical CNDDDB (2018) records. However, most such species are absent from the site due to the urbanization that has occurred in surrounding areas, a lack of suitable habitat, and other factors. **Table 3-2** lists the special-status animals that could potentially occur on the project site based upon our review of current CNDDDB (2018) records, EACCS mapping, and other data sources, coupled with our review of habitat conditions on the project site and knowledge of species distributions in the site vicinity.

Several other special-status animal species were considered for occurrence within the project boundary but ultimately rejected. Those species include the California tiger salamander (*Ambystoma californiense*), federally and state threatened; the California red-legged frog (*Rana draytonii*), federally threatened and a California species of special concern; the Central California Coast (CCC) distinct population segment (DPS) steelhead (*Oncorhynchus mykiss*), federally threatened; the burrowing owl (*Athene cunicularia*), a California species of special concern; the tricolored blackbird (*Agelaius tricolor*), state listed as threatened; and the yellow warbler (*Setophaga petechia*), yellow-breasted chat (*Icteria virens*), and San Francisco common yellowthroat (*Geothlypis trichas sinuosa*), which are California species of special concern.

Table 3-2. Special-Status Animal Species with Potential to Occur on the Project Site

Scientific Name	Common Name	Regulatory Status ¹	EACCS Focal Species
<i>Elanus leucurus</i>	White-tailed kite	SP	No
<i>Actinemys marmorata</i>	Western pond turtle	SSC	No

¹. Key to Abbreviations: SSC = California Species of Special Concern; SP = State Fully Protected.

The California tiger salamander is known to occur in the project vicinity (CNDDDB 2018). However, many of the occurrences in the vicinity were recorded prior to extensive urban development of the area, and suitable breeding habitat is no longer present in or near the project area. For example, the nearest historical occurrence of a California tiger salamander to the project site was recorded in 1978, near the project’s eastern boundary (CNDDDB 2018). Suitable habitat is no longer present at this location as a result of development, and the species is considered extirpated from this location (CNDDDB 2018). The project site lacks suitable aquatic breeding habitat, as Arroyo Mocho is too flashy for use as breeding habitat by this species, which typically breeds in slow-water pools or ponds. Thus, for California tiger salamanders to be present on the site, potential breeding ponds in nearby upland areas must be close enough for individuals to disperse between these ponds and the project site (i.e., within 1.3 miles, the species’ maximum known dispersal capabilities). However, the nearest known extant breeding habitat is located approximately 2.5 miles south of the project site in Sycamore Grove Regional Park (CNDDDB 2018), and the nearest potential breeding pond (based on a review of aerial photographs) is approximately 1.8 miles to the southwest. Additionally, the project site is surrounded by dense urban-suburban development including multiple-lane roadways, which serves as an impediment to dispersal between potentially suitable breeding habitat and the project site. Further, the project site is not mapped as either potential breeding or upland habitat for the California tiger salamander by the EACCS. Therefore, the California tiger salamander is not expected to occur on the project site.

The California red-legged frog is also known to occur in the project vicinity (CNDDDB 2018). Although the project site lacks suitable aquatic breeding habitat for this species, it is mapped as potential upland/movement habitat by the EACCS (ICF 2010). In order for California red-legged frogs to be present on the site, potential breeding ponds or pools in nearby areas must

be close enough for individuals to disperse between these ponds and the project site (i.e., within 1 to 2 miles). The nearest recorded occurrence of a red-legged frog is from 1999 and is located 2.2 miles north of the project site along Cayetano Creek (CNDDDB 2018). However, Cayetano Creek is located north of U.S. Interstate 580, which, coupled with dense surrounding urban-suburban development and other roadways, creates an effective dispersal barrier between the creek and the project site. Dense urban-suburban development also separates the project site from all other locations of potentially suitable breeding habitat, the nearest of which is located approximately 1.8 miles to the southwest. Further, Arroyo Mocho dries up annually during the summer and fall months, reducing its suitability as a movement corridor for California red-legged frogs. Therefore, California red-legged frogs are not expected to occur on the project site.

CCC steelhead are not currently present in the Alameda Creek watershed, including the Arroyo Mocho, due to the presence of a number of downstream barriers, such as the Alameda County Flood Control Channel weir on the lower Alameda Creek flood control channel (Hanson et al. 2004). Further, it is unlikely that Arroyo Mocho historically provided consistently suitable habitat conditions for steelhead passage, spawning, and/or juvenile rearing to support self-sustaining populations (Hanson et al. 2004). However, the EACCS considers Arroyo Mocho a potentially suitable migratory corridor for the species if downstream barriers are removed, giving steelhead the opportunity to move from ocean environments to suitable spawning and rearing sites along southeasterly reaches of Arroyo Mocho (ICF 2010). Nevertheless, until downstream barriers are removed, CCC steelhead are not expected to occur on the project site.

Burrowing owls are known to occur in the project vicinity (CNDDDB 2018). They require habitat of short vegetation, with few trees and shrubs, and underground burrow complexes, which are needed for nesting, roosting, and refuge from predators. Burrowing owls may occupy a variety of grassland areas, agricultural fields, public parks, vacant urban lots, and airports. Multiple observations of nesting and foraging burrowing owls have been made in and around the Livermore airport, which is located 3 miles northwest of the project site, and two pairs of burrowing owls were observed using ground squirrel burrows in a school yard 2.8 miles east of the project site (CNDDDB 2018). Numerous other burrowing owl sightings, located 3 to 4 miles north and northeast of the project site, have been documented as well (CNDDDB 2018). Burrowing owls typically remain close to their breeding sites, using the same burrow and adjacent burrows for roosting and foraging within a 1- to 2-mile radius. During the reconnaissance survey, seven active ground squirrel burrows were located within the open upland ruderal grassland area. However, no sign (whitewash, pellets, prey item remains, etc.) of burrowing owls was found at or near the burrow entrances, and the urban surroundings reduce the likelihood that burrowing owls nest, or regularly roost or forage, on the project site. Further, the EACCS does not map the project site as suitable habitat for the burrowing owl, and no burrowing owls were recorded on the site during the focused bird surveys by Avocet Research Associates (Avocet Research Associates and Horizon Water and Environment 2018) or have been recorded on or in the immediate vicinity of the site by birders using eBird (Cornell Lab of Ornithology 2018). Given the lack of known occurrences on or very near the site and the lack of burrowing owl sign during the reconnaissance survey of the site and Avocet Research Associates' year-long avian study within the project site (Avocet Research Associates and Horizon Water and Environment 2018), the extensive urbanization of the areas surrounding the project site, and the isolation of the site from

known occupied owl habitat in the region, burrowing owls are not expected to be present on the project site.

The project site does not provide suitable breeding habitat (i.e., dense emergent vegetation near fresh water) for the tricolored blackbird, state listed as threatened. The nearest recorded occurrence of this species is located over 1.7 miles to the southwest (CNDDDB 2018) of the project site. Preferred foraging habitat includes crops such as alfalfa, irrigated pastures, and grain fields, as well as annual grasslands. Tricolored blackbirds also forage in remnant native habitats including seasonal wetlands, riparian scrub, and marsh. The EACCS maps the project site as potentially suitable foraging habitat for the tricolored blackbird. However, the project site lacks cropland, seasonal wetland, and marsh habitats and the grasslands present are ruderal (i.e., disturbed). Thus, based on the lack of breeding habitat as well as high-quality foraging habitat, tricolored blackbirds are not expected to occur on the project site.

Both the yellow warbler and common yellowthroat are riparian-associated species that are known to occur on the project site as migrants (Avocet Research Associates and Horizon Water and Environment 2018). The yellow-breasted chat is a riparian-associated species that could potentially occur on the site as a migrant. Although the yellow warbler, yellow-breasted chat, and San Francisco subspecies of the common yellowthroat are designated as California species of special concern when nesting, none of these species have been recorded nesting on the project site (Avocet Research Associates and Horizon Water and Environment 2018) or are expected to nest on the site due to the relatively low quality of the riparian habitat currently present. In addition, the project site is likely outside the range of the San Francisco common yellowthroat, and any yellowthroats that breed on or near the site likely represent the non-special-status subspecies *arizela* (Grinnell and Miller 1944, Richmond et al. 2011, Gardali and Evens 2008). Thus, these three species would not be considered special-status species when occurring on the site as migrants. A list of all common animal species observed during the reconnaissance survey is included as Appendix B.

Following are discussions of the two special-status animal species (western pond turtle and white-tailed kite) that could potentially occur on the site, and a discussion of potential project impacts on these species.

Western Pond Turtle. The western pond turtle (*Actinemys marmorata*), a California species of special concern, is known to occur in the project vicinity (CNDDDB 2018). Records include an adult and juvenile seen basking on algal mats in a pond associated with Arroyo Las Positas 2.1 miles north of the project site, as well as an observation of a turtle in a stock pond 3 miles south of the project site. The reach of Arroyo Mocho within the project boundaries provides suitable dispersal habitat for western pond turtles, particularly during winter and early spring rainfall events, and individual turtles may use the surrounding vegetation and woody debris piles near and on the banks of the creek as refugia. However, western pond turtles are not expected to use the project site for nesting, given the absence of year-round aquatic habitats and emergent vegetation for both adult and juvenile foraging and underwater refugia. Further, all ground-disturbing activities within the channel banks would occur during the dry season when no water is flowing, although pools of standing water may be present. Therefore, turtles are unlikely to be present on the project site during construction activities.

In the unlikely event that western pond turtles are present during project activities, individual turtles may be harmed or killed due to crushing by personnel or equipment used during project activities, or as a result of desiccation or burying (e.g., during lowering of the trail). Although western pond turtles are widespread in the region, their numbers are generally low and individuals of this species can be long lived. Thus, the loss of an individual, particularly a reproductive female, could reduce the viability of the local population, and this impact is considered potentially significant. However, the Proposed Project would not result in a long-term loss of habitat.

Implementation of **Mitigation Measure BIO-1** would reduce impacts on western pond turtles to a **less-than-significant level**.

Mitigation Measure BIO-1. Conduct Preconstruction Survey for Western Pond Turtles.

Zone 7 shall require that a qualified biologist conduct a survey for western pond turtles within 48 hours prior to commencement of work within the channel banks in any given area where water is present. If a western pond turtle is found in an area where it could be injured or killed by project activities, the qualified biologist will relocate the turtle to an appropriate site outside the project area (i.e., upstream or downstream of the activity area).

White-tailed Kite. The white-tailed kite (*Elanus leucurus*), a California fully protected species, is known to nest in the project vicinity (CNDDDB 2018) and there have been numerous sightings of white-tailed kites within the project area (Avocet Research Associates and Horizon Water and Environment 2018, Cornell Lab of Ornithology 2018). White-tailed kites may nest in riparian areas and utilize adjacent open grassland and agricultural fields for foraging (Dunk 1995). On the project site, a variety of large native trees such as valley oaks and non-native trees such as eucalyptus provide suitable nesting habitat for up to one pair of nesting white-tailed kites and the adjacent upland ruderal grasslands and riparian ruderal grasslands provide potential foraging habitat. Therefore, white-tailed kites may be present the site during project activities.

Based on site observations, the areal extent of the site, and known breeding densities of the white-tailed kite, no more than one pair of white-tailed kites would nest in or immediately adjacent to the project site. If this species does nest on the site, implementation of the Proposed Project may result in the loss of nesting habitat and could result in the removal of an active nest. In addition, during project activities increased disturbance near active nests could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. However, because no more than one nesting pair could be affected, the Proposed Project's impacts would not substantially reduce regional populations of this species. Thus, impacts on the white-tailed kite and its habitats would be **less than significant**. Nevertheless, the loss of any active nests of protected birds would be in violation of federal and state laws (as discussed in item 3.4[d] below).

Non-Nesting Special-Status Birds. As described above, the yellow warbler and common yellowthroat are known to occur on the project site as nonbreeding migrants or foragers but are not expected to breed on the site under existing conditions due to the relatively low

quality of the riparian habitat. The Proposed Project would have some potential to temporarily disturb foraging habitat for these species. Project activities may result in a temporary direct impact through the alteration of foraging patterns (e.g., avoidance of work sites because of increased noise and activity levels during project activities) but would not result in the loss of individuals. In addition, the project site does not currently provide important foraging habitat used regularly or by large numbers of individuals. Further, as described above, these species are designated as species of special concern only when nesting. Therefore, the temporary disturbance of foraging habitat for the yellow warbler and common yellowthroat would be **less than significant**.

b. Have a Substantial Adverse Effect on Riparian Habitat or Other Sensitive Natural Community — *Less than Significant*

Two sensitive riparian habitat types (mixed riparian woodland and scrubland and riparian ruderal grassland) occur on the site, associated with Arroyo Mocho. The 100-year floodplain along the reach of Arroyo Mocho that flows through the project site extends outside of the top of the streambanks and supports mixed riparian woodland and scrubland and floodplain ruderal grassland that is associated with the Arroyo Mocho channel. Common riparian woody species in this habitat type include red willow, Fremont cottonwood, sandbar willow, and mulefat. In addition, this habitat supports upland trees such as valley oak and California buckeye. Vines such as Himalayan blackberry are present in patches within the riparian zone. Common herbaceous species include poison hemlock, California man-root, smilo grass, and milk thistle. It should be noted that California sycamore also occurs in the mixed riparian woodland and scrubland but is not a dominant species. Although sycamore alluvial woodland, a sensitive habitat type, occurs approximately 1 mile south of the project site (CNDDDB 2018), it is not present within the site itself. The sycamore trees on the site are not dominant enough for the habitat to be considered the *Platanus racemosa* – *Salix laevigata* – *Baccharis salicifolia* sensitive vegetation association type, but this habitat could be considered to be an example of the sensitive *Salix laevigata*-*Salix lasiolepis*/*Baccharis salicifolia* association (61.205.07; California Department of Fish and Game 2010). This vegetation association, which can have either red willow or arroyo willow (*Salix lasiolepis*), or a combination of both, is considered G3/S3, with global and state rarity ranks of “vulnerable.” Valley sink scrub is another sensitive habitat type that has been documented by the CNDDDB (2018) approximately 4 miles to the northeast of the project site. Due to the lack of the alkaline and saline soils on the project site (NRCS 2016) that are characteristic of valley sink scrub, this sensitive habitat was determined to be absent.

Impacts Due to Disturbance of Riparian Ruderal Grassland

The Proposed Project would temporarily disturb up to 0.21 acre of low-quality riparian ruderal grassland in the 100-year floodplain along the Arroyo Mocho stream channel. The project would not result in any temporary or permanent impacts on mixed riparian woodland and scrubland. Compared to riparian vegetation dominated by trees and shrubs, herbaceous riparian vegetation provides relatively low functions and values for wildlife. The preponderance of non-native species within this habitat type further reduces its quality as habitat for wildlife. Implementation of BMP-2, BMP-3, and BMP-12 would minimize the project’s effects on riparian ruderal grassland by limiting disturbance, preventing erosion and sedimentation, and minimizing the introduction or spread of invasive weeds within the

understory. Further, temporarily disturbed ruderal grassland would be revegetated with native grasses following the completion of construction activities. As a result, temporary project impacts on riparian ruderal grassland would not have substantial ecological effects and thus would be less than significant.

Impacts Caused by Non-Native and Invasive Plant Species

The project site contains several invasive plant species, including Himalayan blackberry, tamarisk, and tree of heaven, which have been identified as high priority species for removal from the project site (Horizon Water & Environment 2018a) and have an impact rating of “high” or “moderate” (Cal-IPC 2018). Many non-native, invasive plant species produce seeds that germinate readily following disturbance. Further, disturbed areas are highly susceptible to colonization by non-native, invasive species that occur locally, or whose propagules are transported by personnel, vehicles, and other equipment. Activities such as trampling, equipment staging, grading, and vegetation removal are all factors that would contribute to disturbance. Areas of disturbance could serve as the source for promoting the spread of non-native species, which could degrade the ecological values of riparian habitat and adversely affect native plants and wildlife that occur there. Invasive species can have an adverse effect on native species and habitats in several ways, including by altering nutrient cycles, fire frequency and/or intensity, and hydrologic cycles; by creating changes in sediment deposition and erosion; by dominating habitats and displacing native species; by hybridizing with native species; and by promoting non-native animal species (Bossard et al. 2000).

Proposed Project activities could potentially introduce new weeds that could spread to the sensitive riparian corridor. However, the Proposed Project would implement the following BMPs (see Chapter 2, Table 2-3) to prevent the introduction of new invasive species onto the project site:

- BMP-7: Vehicle and Equipment Maintenance and
- BMP-12: Minimize Spread of Weeds and Invasive Species

As indicated in Chapter 2, *Project Description*, Section 2.4, the project includes removal and management of vegetation. These activities would be conducted in a manner that minimizes the potential for dispersal of invasive vegetation on site and off site in accordance with BMP-13. Furthermore, spread of invasive weeds within the project site would not be considered a significant impact due to the current disturbed nature of the site and the existing high level of weed invasion present under baseline conditions. As a result, project spread of invasive weeds to sensitive habitats and the species they support would be less than significant.

Conclusion

The Proposed Project would result in temporary disturbance of up to 0.21 acre of ruderal riparian grassland. This potential impact would be minimized through implementation of BMP-2, BMP-3, and BMP-12 and the revegetation of temporarily disturbed areas following the completion of construction activities. Implementation of BMPs would also minimize the potential for dispersal of invasive vegetation on site and off site. Overall, impacts of the project on riparian habitat and other sensitive natural communities would be **less than significant**.

c. Have a Substantial Adverse Effect on Federally Protected Wetlands — *Less than Significant*

The boundaries of jurisdictional waters of the U.S./state, which are regulated by the USACE and Regional Water Quality Control Board (RWQCB), were delineated within the project site by Horizon Water and Environment on March 17, 2016. A total of 1.97 acres of potential non-wetland (i.e., riverine) waters were delineated within the Proposed Project boundary. It is anticipated that the USACE would consider Arroyo Mocho to be a Relatively Permanent Water (RPW) that flows directly into Traditional Navigable Waters (TNW). No jurisdictional, vegetated wetlands were detected during the delineation.

The Proposed Project would not result in any permanent or temporary disturbance of the stream channel. Nevertheless, the stream at this location may be indirectly affected by vegetation removal at the site, as well as other soil disturbances that would increase the potential for soil erosion, thereby negatively influencing aquatic habitats and water quality. Contamination of these habitats with pollutants and sediment can adversely affect ecosystem health and reduce habitat quality for plant and animal species. As a result, indirect project impacts on the stream would constitute a substantial adverse effect, in the absence of BMPs. However, the project would implement the following BMPs (see Table 2-3) to avoid and minimize impacts on jurisdictional waters during construction:

- BMP-2: Area of Disturbance
- BMP-3: Erosion and Sediment Control
- BMP-4: On-site Hazardous Materials Management
- BMP-5: Spill Prevention and Response Plan
- BMP-7: Vehicle and Equipment Maintenance
- BMP-11: Fill, Spoils, and Stockpiled Materials

With implementation of these BMPs, impacts on potential waters of the U.S./state due to trail lowering and ~~culvert construction~~ would be less than significant.

d. Substantially Interfere with Wildlife Movement, Established Wildlife Corridors, or the Use of Native Wildlife Nursery Sites — *Less than Significant with Mitigation*

For many species, the landscape is a mosaic of suitable and unsuitable habitat types. Environmental corridors such as stream courses are segments of suitable habitat that provide connectivity between larger areas of suitable habitat, allowing species to disperse through otherwise unsuitable areas. On a broader level, corridors also function as avenues along which wide-ranging animals can travel, plants can propagate, genetic interchange can occur, populations can move in response to environmental changes and natural disasters, and threatened species can be replenished from other areas. Arroyo Mocho, including the reach within the project site, functions as a wildlife movement corridor, connecting undeveloped habitats to the south and east of Livermore with those located to the north and west. Aquatic species such as fish, amphibians, and western pond turtles use Arroyo Mocho for movement between upstream and downstream areas.

Although CCC steelhead are not currently present in Arroyo Mocho due to the presence of a number of downstream barriers, the EACCS considers Arroyo Mocho a potentially suitable migratory corridor for the species if downstream barriers are removed (ICF 2010). Thus, the Proposed Project would also increase the quality of habitat available to CCC steelhead, should they be present in the project reach in the future. Further, the off-channel flood attenuation basin at OGNR has been designed to allow flows approximating the 25-year peak and larger to spill into the basin. During these times, stream velocities in the main channel near the off-channel attenuation basin are predicted to range from 8 to 12 feet per second, which is above velocities where even adult steelhead are expected to be moving for sustained periods of time. If steelhead were present during these flows, they would likely have already accessed the floodplain on the south side of the project site, away from the off-channel flood attenuation basin, where flows would be slow and they could take cover during the high-flow event. Thus, should CCC steelhead be present on the project site in the future, it would very unlikely for individuals to become stranded in the flood attenuation basin.

~~With regard to operations of the attenuation basin, a culvert would be installed to allow the basin to drain more quickly than local infiltration, thereby restoring its capacity in case of multiple large storm events in succession. The culvert has been designed with the lowest possible invert elevations to connect to Arroyo Mocho. Arroyo Mocho's bed elevation is approximately 472.5 feet in the vicinity of the culvert outlet, and the culvert outlet elevation would be set at 473 feet to elevate it slightly above the bed. It would be installed either level or slightly sloped (e.g., 0.5 percent) so as to drain completely from the flood attenuation basin to Arroyo Mocho. This would place the invert in the basin at an elevation between 473 feet and 474 feet, perched 2-3 feet above the bottom of the basin (471 feet). A one-way flap or duckbill gate would be installed on the Arroyo Mocho termination so that water in the pipe would only flow outward toward Arroyo Mocho. This flap or gate would prevent in-migration of fish during the recession of high flows when the basin is draining through the culvert.~~

Although a number of animal species reside and breed on the project site, no large-scale or regionally important wildlife nurseries are present on the site or would be impacted by the Proposed Project. However, disturbance related to project activities during the bird breeding season (February 1 through August 31, for most species) could result in the incidental loss of eggs or nestlings, either directly through the destruction or disturbance of active nests or indirectly by causing the abandonment of nests. The habitats at the project site currently represent a very small proportion of the habitats that support these species regionally. Further, with the exception of the white-tailed kite (as discussed in item 3.4[a] above), no special-status bird species are expected to nest on the project site. Therefore, project impacts on nesting and foraging bird species that use the site, due to habitat impacts or disturbance of nesting birds, would not rise to the CEQA standard of having a substantial adverse effect, and these impacts would not constitute a significant impact on these species or their habitats. Nevertheless, all native bird species are protected from direct take by federal and state statutes; any activity that would affect nesting birds protected under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (F&G Code) would be a potentially significant impact.

Implementation of **Mitigation Measure BIO-2** would reduce impacts on nesting birds to a less-than-significant level through avoidance and minimization of conflicts during

construction. As a result, impacts on nesting birds would be **less than significant with mitigation**.

Mitigation Measure BIO-2. Avoid and Minimize Impacts on Nesting Birds.

Zone 7 will implement the following measures to ensure that project activities comply with the MBTA and F&G Code:

- A. Avoidance. To the extent feasible, construction activities should be scheduled to avoid the nesting season. If construction activities are scheduled to take place outside the nesting season, all impacts on nesting birds protected under the MBTA and F&G Code will be avoided. The nesting season for most birds in Alameda County extends from February 1 through August 31.
- B. Preconstruction/Pre-disturbance Surveys. If it is not possible to schedule construction activities between September 1 and January 31, preconstruction surveys for nesting birds should be conducted by a qualified ornithologist to ensure that no nests will be disturbed during project implementation. Surveys should be conducted no more than seven days prior to the initiation of construction activities. During this survey, the ornithologist will inspect all trees and other potential nesting habitats in and immediately adjacent to the impact area for nests.
- C. Buffers. If an active nest is found sufficiently close to work areas to be disturbed by these activities, the ornithologist will determine the extent of a construction-free buffer zone to be established around the nest (typically 300 feet for raptors and 100 feet for other species), to ensure that no nests of species protected by the MBTA and F&G Code will be disturbed during project implementation.
- D. Inhibition of Nesting. If construction activities will not be initiated until after the start of the nesting season, all potential nesting substrates (e.g., bushes, trees, grasses, and other vegetation) that are scheduled to be removed by the project may be removed prior to the start of the nesting season (e.g., prior to February 1). This will preclude the initiation of nests in this vegetation and prevent the potential delay of the project due to the presence of active nests in these substrates.

**e. Conflict with Local Policies or Ordinances Protecting Biological Resources —
*Less than Significant***

The City of Livermore has an adopted tree ordinance (Chapter 12.20 in the Municipal Code) which is generally intended to preserve mature trees within the public right-of-way. The Proposed Project would remove trees on county-owned property zoned for uses including Floodplain. As such, the City's ordinance would not apply to this project. Recognizing the aesthetic appeal of trees in this creekside setting, in addition to their habitat value, Zone 7 intends to select replacement trees that enhance the riparian corridor.

Implementation of the Proposed Project would require removal of mature trees along the portion of the Arroyo Mocho Trail to be lowered, as part of the invasive species control activities throughout the reach, and potentially in the OGNR to improve trails. Approximately 15-20 trees would be removed during project-related construction activities, primarily non-native species (London Plane Tree [*Platanus xhispanica*], pine [*Pinus* sp.], tamarisk [*Tamarix parviflora*], and ornamentals) and possibly one or more sycamore trees (*Platanus racemose*). Recognizing the ecological value of mature trees in the project area, Zone 7 shall comply with all applicable ordinances and regulations related to removal or damage of all protected trees. This impact would be **less than significant**.

f. Conflict with the Provisions of an Adopted HCP, Natural Community Conservation Plan, or Other Approved Conservation Plan — No Impact

The project site is not located within the boundaries of an adopted Habitat Conservation Plan or Natural Community Conservation Plan. However, it is located within the area covered by the EACCS. The EACCS was created with the intention to provide a framework to protect, enhance, and restore natural resources in East Alameda County while streamlining the environmental permitting process for development and infrastructure projects. It is not, however, an official Habitat Conservation Plan. The EACCS was prepared in partnership with various Alameda County agencies, such as the Congestion Management Agency, Waste Management Authority, and Resource Conservation District; CDFW; Cities of Dublin, Livermore, and Pleasanton; East Bay Regional Park District; San Francisco RWQCB; NRCS; U.S. Fish and Wildlife Service (USFWS); and Zone 7. The EACCS provides an inventory of biological resources within its study area and describes the requirements of environmental compliance with the federal Endangered Species Act, California Endangered Species Act, CEQA, National Environmental Protection Act, and other applicable laws. It presents mitigation standards that include avoidance and minimization measures and a compensation program to offset impacts from projects in its study area. The “focal” special-status species of the EACCS include 13 wildlife species and six plant species. The EACCS does not directly provide permits for projects; however, the USFWS has developed a Programmatic Biological Opinion for effects on focal listed species of projects that receive CWA Section 404 permits from the USACE.

The overarching goals of the EACCS are as follows:

- coordinate the protection of remaining natural communities where they occur to allow them and associated species to persist within the study area;
- avoid and minimize project-level impacts on species and their habitats;
- preserve major local and regional connections between habitat areas and among existing protected areas; and
- restore natural communities that have been degraded or lost over time where possible.

Mitigation requirements of the EACCS are outlined for each focal special-status species. A scoresheet has been developed for each focal special-status species using the life history

characteristics that that make habitat suitable for that species and allows for a standardized method of assessment for project and mitigations sites by a qualified biologist (see Appendix E of the EACCS [ICF 2010]). In addition, the EACCS requires mitigation for impacts on natural communities to be addressed separately in the project's CEQA document for each affected "land cover", or habitat type. Generally, land cover types should be replaced at a 3:1 mitigation ratio.

The EACCS has mapped the project site as mixed riparian forest and woodland and urban land. This mapping was field-verified by H. T. Harvey & Associates plant ecologist Maya Goklany during the reconnaissance survey on March 21, 2016. Due to the relatively coarse scale of habitat mapping in the EACCS, Ms. Goklany adjusted these habitat types to reflect the specific conditions of the project site. For instance, due to the lack of tree canopy and presence of dense shrubs in some areas within the riparian corridor of Arroyo Mocho, this area was classified as mixed riparian woodland and scrubland for the purposes of this Initial Study/Mitigated Negative Declaration. A specific conservation goal of the EACCS (Goal 8) is to "improve the overall quality of riparian communities and the hydrologic and geomorphic processes that support them to increase the amount of riparian habitat for focal species and promote native biodiversity." As such, the proposed project would comply with this goal by reducing downstream flood impacts and improving existing riparian habitat quality by controlling invasive vegetation.

The EACCS is not a regulatory mechanism, rather it is a tool to inform decisions during standard environmental permitting processes for projects that occur in the EACCS study area. Avoidance and minimization measures outlined in this document are consistent with the goals of the EACCS. Therefore, the project is not anticipated to conflict with the provisions of the EACCS. Further, the project study area is outside of any approved Habitat Conservation Plan or Natural Conservation Community Plan and would therefore have **no impact** on such plans.

3.5 Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Proposed Project:				
a. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 of the State CEQA Guidelines?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the State CEQA Guidelines?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion of Checklist Responses

Cultural resources include prehistoric archaeological sites; historic-era archaeological sites; tribal cultural resources (TCRs); and historic buildings, structures, landscapes, districts, and linear features. The Livermore area has a rich cultural past that is represented by many examples of these various types of cultural resources. Originally occupied by the Chochenyo Costanoan people (Milliken et al. 2009), the area was used by the Spanish missions to raise cattle by the early 1800s. Robert Livermore began raising cattle in the area by 1831, and in 1839 he was granted the Rancho Las Positas in partnership with Jose Noriega. The rancho prospered and, after the Gold Rush and the annexation of California by the United States, it became a popular stopover for people travelling from the Bay Area to Stockton and points beyond. The town of Livermore was established in 1869 as a station for the Central Pacific Railroad, eventually incorporating in 1876 (Kyle et al. 2002). The *City of Livermore General Plan (2004)* reports that 400 cultural resources have been recorded within the City planning area, of which 45 have been determined eligible for listing in the National Register of Historic Places (NRHP).

A record search was conducted by the Northwest Information Center (NWIC) of the California Historical Resources Information System at Sonoma State University. The purpose of the record search was to identify the presence of any previously recorded cultural resources within the project site, and to determine whether any portions of the project site had been surveyed for cultural resources. The record search (NWIC File No. 17-2120) indicated that a vast majority of the project area has not been previously surveyed for cultural resources. The only surveys conducted were at the very eastern end of the project area for the replacement of the bridge across Arroyo Mocho at Arroyo Road, and a narrow linear survey diagonally

(northeast/southwest) through the area for a fiber optic cable installation. Another three cultural resources surveys have been conducted within a ¼-mile search buffer. The record search also identified two previously recorded cultural resources within or immediately adjacent to the project boundary. These are the Holmes Street bridge over Arroyo Mocho on the project's west end and a 60-foot section of narrow-gauge rail track under the bridge on Arroyo Street. Ten additional resources have been recorded within the ¼-mile buffer; all are single-family dwellings.

A field investigation was conducted of the entire project area by a qualified archaeologist from Horizon Water and Environment on March 21, 2018. No archaeological resources were identified during the course of the survey.

**a. Cause a Substantial Adverse Change in the Significance of a Historical Resource
– No Impact**

As defined in Section 15064.5 of the State CEQA Guidelines, historical resources are resources that are:

- listed in, or determined to be eligible for listing in, the California Register of Historical Resources (CRHR) (PRC Section 5024.1[e]);
- included in a local register of historic resources (PRC Section 5020.1[k]) or identified as significant in an historic resource survey meeting the requirements of PRC Section 5024.1(g); or
- determined by a lead agency to be historically significant.

To be eligible for listing in the CRHR, a cultural resource must meet one of the criteria found in PRC 5024.1(c). The criteria for listing in the CRHR include resources that:

- (1) Are associated with the events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- (2) Are associated with the lives of persons important in our past;
- (3) Embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of an important creative individual, or possess high artistic values; or
- (4) Have yielded, or may be likely to yield, information important in prehistory or history.

As previously discussed, two resources have been recorded within or immediately adjacent to the project area: the Holmes Street bridge and a short segment of narrow-gauge rail track. The site record for the bridge indicates that the four-lane concrete structure does not appear to be eligible for listing.

The short section of rail track was recorded during a survey for the replacement of the Arroyo Street bridge across Arroyo Mocho (Baker 1983). Research found that the rail line was built in 1925 as a spur off of the Southern Pacific line from the Kaiser Paving Company gravel cleaning plant that was located near the present-day corner of Holmes Street and East Stanley

Boulevard. The narrow-gauge track was actually laid along the Arroyo Mocho creek bed, eventually ending near the current location of Concannon Winery. The rail line operated until 1931, when the gravel plant was moved to Livermore. By 1983, all of the track had been removed between Holmes and Arroyo Roads. The report further notes that, while parts of the existing bicycle path may have been built on the railroad grade, much of the original line was actually built in the creek bed. The report concludes that the railroad lacks physical integrity and is, therefore, not eligible for listing. It was further noted that the then-extant portion of track would be removed by the Arroyo Street bridge replacement project. According to the California Department of Transportation Local Historic Bridge Survey (Caltrans 2018), the bridge (#33C0195) was replaced in 1987.

As described above, no historical resources, as defined in Section 15064.5 of the State CEQA Guidelines, are known to be located within the project footprint; therefore, there would be **no impact** on historical resources.

It is important to note that historical resources that are archaeological in nature may be accidentally discovered during project construction. Archaeological resources discovered during construction are discussed further in item 3.5(b) below.

b. Cause a Substantial Adverse Change in the Significance of an Archaeological Resource – *Less than Significant with Mitigation*

An archaeological survey of the project area was conducted on March 21, 2018, by a qualified archaeologist from Horizon. No archaeological resources, as defined in Section 15064.5 of the State CEQA Guidelines, were identified within the project footprint. Although an archaeological survey was conducted and no archaeological resources were identified, archaeological remains may be buried with no surface manifestation. Excavation activities related to the Proposed Project have a low potential for uncovering archaeological materials during construction; however, the possibility remains that such excavations could uncover buried archaeological materials. Prehistoric materials most likely would include obsidian and chert flaked-stone tools (e.g., projectile points, knives, and choppers), tool-making debris, or milling equipment such as mortars and pestles. Historic-era materials that might be uncovered include cut (square) or wire nails, tin cans, glass fragments, or ceramic debris.

If archaeological remains are accidentally discovered that are determined eligible for listing in the CRHR, and project activities would affect them in a way that would render them ineligible for such listing, a significant impact would result. Should previously undiscovered archaeological resources be found, implementation of **Mitigation Measure CR-1** would require the contractor to immediately halt work if materials are discovered, evaluate the finds for NRHP/CRHR eligibility, and implement appropriate mitigation measures, as necessary. Implementation of Mitigation Measure CR-1 would reduce impacts related to accidental discovery of significant archaeological resources to a level that is **less than significant with mitigation**.

Mitigation Measure CR-1: Immediately Halt Construction If Cultural Resources Are Discovered, Evaluate All Identified Cultural Resources for Eligibility for Inclusion in the NRHP/CRHR, and Implement Appropriate Mitigation Measures for Eligible Resources.

Zone 7 shall include this measure in construction plans and specifications. If any cultural resources, such as structural features, unusual amounts of bone or shell, flaked or ground stone artifacts, historic-era artifacts, human remains, or architectural remains, are encountered during any project construction activities, work shall be suspended immediately at the location of the find and within a radius of at least 50 feet and Zone 7 will be contacted.

All cultural resources accidentally uncovered during construction within the project site shall be evaluated for eligibility for inclusion in the NRHP/CRHR. Resource evaluations will be conducted by individuals who meet the U.S. Secretary of the Interior's professional standards in archaeology, history, or architectural history, as appropriate. If any of the resources meet the eligibility criteria identified in PRC Section 5024.1 or 14 CCR Section 21083.2(g), mitigation measures will be developed and implemented in accordance with State CEQA Guidelines Section 15126.4(b) before construction resumes.

For resources eligible for listing in the NRHP/CRHR that would be rendered ineligible by the effects of project construction, additional mitigation measures shall be implemented. Mitigation measures for archaeological resources may include (but are not limited to) avoidance; incorporation of sites within parks, greenspace, or other open space; capping the site; deeding the site into a permanent conservation easement; or data recovery excavation. Mitigation measures for archaeological resources shall be developed in consultation with responsible agencies and, as appropriate, interested parties such as Native American tribes. Native American consultation is required if an archaeological site is determined to be a TCR. Implementation of the approved mitigation would be required before resuming any construction activities with potential to affect identified eligible resources at the site.

c. Directly or Indirectly Destroy a Unique Paleontological Resource or Site or a Unique Geologic Feature – *No Impact*

The project area is underlain by Quaternary stream channel gravels and sand (Dibblebee 1980). More specifically, the soils within the project footprint consist of Livermore very gravelly, coarse sandy loam and riverwash that have a thickness of at least 6 feet (Natural Resources Conservation Service 2018). Although Pleistocene fossils have been recovered from the Lawrence Livermore National Laboratory campus (City of Livermore 2004), the recent and active nature of the soils and geology of the project site indicates a very low probability for the existence of paleontological resources. Furthermore, the project site does not contain any unique geological features. As a result, the Proposed Project would have **no impact** on paleontological resources.

d. Disturb Any Human Remains, Including Those Interred Outside of Dedicated Cemeteries – *Less than Significant with Mitigation*

No evidence of human remains was observed at the project site, nor are human remains known to exist in or near the project area. Although unlikely, there is the possibility that excavations associated with construction could uncover burials, if they are present. Impacts on accidentally discovered human remains would be considered a significant impact. Implementation of **Mitigation Measure CR-2** would require that, if human remains are uncovered, work must be halted and the County Coroner must be contacted. Adherence to these procedures and provisions of the California Health and Safety Code would reduce potential impacts on human remains to a level that is **less than significant with mitigation**.

Mitigation Measure CR-2: Immediately Halt Construction if Human Remains Are Discovered and Implement Applicable Provisions of the California Health and Safety Code.

Zone 7 shall include this measure in construction plans and specifications. If human remains are accidentally discovered during the Proposed Project's construction activities, the requirements of California Health and Human Safety Code Section 7050.5 shall be followed. Potentially damaging excavation shall halt in the vicinity of the remains, with a minimum radius of 100 feet, and the Alameda County Coroner shall be notified. The Coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (California Health and Safety Code Section 7050.5[b]). If the Coroner determines that the remains are those of a Native American, he or she must contact the Native American Heritage Commission (NAHC) by phone within 24 hours of making that determination (California Health and Safety Code Section 7050[c]). Pursuant to the provisions of PRC Section 5097.98, the NAHC shall identify a Most Likely Descendent (MLD). The MLD designated by the NAHC shall have at least 48 hours to inspect the site and propose treatment and disposition of the remains and any associated grave goods. Zone 7 shall work with the MLD to ensure that the remains are removed to a protected location and treated with dignity and respect.

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3.6 Geology, Soils, and Seismicity

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

Discussion of Checklist Responses

a. Expose People or Structures to Adverse Effects Involving:

1. Rupture of Known Earthquake Fault — *No Impact*

Ground surface ruptures occur along earthquake fault lines. The project site is not located within an Alquist-Priolo Fault Zone or near any known active faults (California Geological Survey [CGS] 2008). The Livermore Fault occurs approximately 0.24 mile west of the project area but is considered inactive with undifferentiated Quaternary displacement (i.e., no known movement within the last 1.3 million years) (CGS 2010). The probability of ground rupture of a known earthquake fault at the project site is minimal; therefore, there would be **no impact**.

2. Strong Seismic Groundshaking — *No Impact*

The Proposed Project is located in a seismically active area that can be expected to experience strong earthquake groundshaking during the lifetime of the Proposed Project. Earthquakes on larger regional faults in the area would likely result in higher ground motion at the site than earthquakes on smaller faults located near the project site. The Proposed Project would not involve construction of new housing or other buildings. As such, the Proposed Project would not change the risks associated with strong seismic groundshaking relative to the baseline. Therefore, there would be **no impact**.

3. Seismically Induced Ground Failure, Including Liquefaction — *Less than Significant*

The project site is located in an area designated as a seismic hazard liquefaction zone (CGS 2008). In addition, the Proposed Project includes the active channel and floodplain of Arroyo Mocho and is underlain by alluvial soils (Livermore very gravelly, coarse sandy loam and Riverwash) and a shallow water table that increase the risk of liquefaction and differential settlement (CGS 2008; Natural Resources Conservation Service [NRCS] 2018; Wagner et al. 1991). Project-related construction activities affecting the existing trail would adhere to construction standards for grading, excavation, and earthwork as described in the 2016 California Building Code (CBC), Appendix J, *Grading*. With adherence to current CBC standards, potential seismic-related hazards, including ground failure and liquefaction, would be **less than significant**.

4. Landslides, Including Seismically Induced Landslides — *No Impact*

The project site and surrounding area are relatively flat. No substantial landslides or debris flows were identified in the project area through review of aerial photographs, seismic hazard maps (CBC 2008), or field observations. The Proposed Project would not change the risks associated with landslides relative to the baseline. Therefore, there is **no impact**.

b. Result in Substantial Soil Erosion or Loss of Topsoil — *Less than Significant*

Construction activities, including clearing and grubbing, excavation, and staging/ stockpiling, would have the potential to contribute to erosion during the construction period and in the near-term following construction. To limit the potential for erosion and loss of topsoil, the Proposed Project would implement the following BMPs described in Table 2-3:

- BMP-1: Construction Work Windows
- BMP-2: Area of Disturbance
- BMP-3: Erosion and Sediment Control

BMP-3, in particular, would specify that all soils disturbed or exposed during construction activities be seeded and stabilized using measures such as erosion control fabric or hydromulch, except those within the channel below the ordinary high water mark. As described in Chapter 2, *Project Description*, the Proposed Project would likely not affect an area greater than 1 acre, triggering the requirement for a Stormwater Pollution Prevention Plan (SWPPP) that includes erosion control and hazardous materials management measures in accordance with the SWRCB's Construction General Permit. BMP-3, however, would involve substantially similar measures on the part of Zone 7 and its contractors to reduce potential erosion and loss of topsoil. Overall, with implementation of BMPs, the Proposed Project would not result in the loss of topsoil or an increase in erosion. As a result, this impact would be **less than significant**.

c. Be Located on a Geologic Unit or Soil That Is Unstable, or That Would Become Unstable as a Result of the Proposed Project, and Potentially Result in On- or Off-site Landslide, Lateral Spreading, Subsidence, Liquefaction, or Collapse — *Less than Significant*

As stated in item 3.6(a)(4) above, the project area is relatively flat and not susceptible to landslides or debris flows, and the Proposed Project would not increase the potential for off-site landslide. In addition, the Proposed Project would not involve removal of groundwater or other subsurface resources and would not increase risks of subsidence or collapse. Lateral spreading is the horizontal movement of gently sloped (i.e., less than 5 percent slope), saturated, loose soil. Lateral spreading typically occurs along streambanks or depositional areas where saturated, unconsolidated sediments overlie a more compacted soil layer. The alluvial soils at the project site may be susceptible to lateral spreading under certain conditions. However, as discussed in item 3.6(a)(1) above, project-related grading, excavation, and earthwork would adhere to CBC standards. This impact would be **less than significant**.

d. Be Located on Expansive Soil — *Less than Significant*

Expansive soils are predominantly composed of clays and can undergo substantial volume change in response to changes in moisture content. During wetting and drying cycles, expansive soils may shrink and swell, creating differential ground movements. This uneven movement can fracture concrete foundations and footings, resulting in potential damage or failure of infrastructure.

Soils underlying the project site consist of Livermore very gravelly, coarse sandy loam and Riverwash and exhibit a low plasticity index rating (NRCS 2018). The physical characteristics of these soils are not consistent with expansive soil properties. Therefore, this impact would be **less than significant**.

e. Have Soils Incapable of Adequately Supporting the Use of Septic Tanks or Alternative Wastewater Disposal Systems in Areas Where Sewers Are Not Available for the Disposal of Wastewater — *No Impact*

The Proposed Project would not include any uses, features, or facilities that would generate wastewater. During construction, portable restroom facilities would be provided for construction workers and sewage would be hauled off site. Septic tanks or other alternative wastewater disposal systems would not be necessary; therefore, the Proposed Project would have **no impact**.

3.7 Greenhouse Gas Emissions

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

Discussion of Checklist Responses

a. Generate Greenhouse Gas Emissions — *Less than Significant*

The Proposed Project would generate greenhouse gas (GHG) emissions during construction and operation. Construction-related GHG emissions would result from the combustion of fossil-fueled construction equipment, material hauling, and worker trips. Estimated emissions associated with the project’s construction activities would be 142 metric tons of CO₂ equivalents (CO₂e) per year and a total of up to approximately 145 metric tons of CO₂e over the entire construction period for the project (2019-2020). Construction-related emissions were estimated using the California Emission Estimator Model (CalEEMod) version 2016.3.2, which uses estimates from CARB’s models for off-road vehicles and EMFAC2014. Project construction assumptions, including equipment usage, schedule, and haul routes used for this analysis, were based on information in Chapter 2, *Project Description*, in particular Section 2.5. Appendix A contains Proposed Project GHG emissions estimates.

No additional maintenance activities would be conducted as a result of the Proposed Project beyond those routine activities already being conducted by Zone 7.

The BAAQMD does not have a recommended threshold for construction-related GHG emissions but does have an operational GHG threshold of 1,100 MT CO₂e/yr (BAAQMD 2017). Construction and operational emissions would both fall below the operational threshold. Therefore, the proposed project would not conflict with any plans or policies adopted to reduce GHG emissions. Impacts related to generation of GHG emissions would be **less than significant**.

b. Conflict with Plans or Policies to Reduce Greenhouse Gas Emissions — *Less than Significant*

The Proposed Project would be subject to statewide and local GHG emission reduction plans and policies. The State of California implemented Assembly Bill (AB) 32 to reduce GHG emissions to 1990 levels by 2020. Senate Bill (SB) 32 codified an overall goal for reducing California’s GHG emissions to 40 percent below 1990 levels by 2030. Executive Orders (EOs)

S-3-05 and B-16-2012 further extend this goal to 80 percent below 1990 levels by 2050. EO B-55-18 set a goal of statewide carbon neutrality by 2045 and net negative emissions thereafter. Through the Climate Change Element of its General Plan (2009), the City of Livermore set a GHG emissions reduction target of 15 percent below 2008 levels by 2020 and the City's Climate Action Plan (2012) provides details on how this goal will be met with proposed measures and supporting actions that include limiting idling times for both on- and off-road heavy-duty vehicles. To limit the potential for vehicle idling times to result in emissions that would conflict with these policies, the Proposed Project would implement the following BMP described in Table 2-3:

- BMP-8: Dust Management Controls and Air Quality Protection

For the reasons detailed here and in item 3.7(a) above, the Proposed Project would not conflict with AB 32 or SB 32, the local general plan, or the City's climate action plan. Therefore, this impact would be **less than significant**.

3.8 Hazards and Hazardous Materials

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

Discussion of Checklist Responses

a. **Create a Hazard Through Transport, Use, or Disposal of Hazardous Materials — *Less than Significant***

Construction activities for the Proposed Project would require handling of hazardous materials, such as fuels, lubricating fluids, and solvents for use with construction equipment on site. Accidental spills or improper use, storage, transport, or disposal of these hazardous materials could result in a public hazard or the transport of hazardous materials (particularly during storm events) to the underlying soils and groundwater.

Although these hazardous materials could pose a hazard as described above, Proposed Project activities would be required to comply with extensive regulations so that substantial risks would not result. All storage, handling, and disposal of these materials would be done in accordance with regulations established by the California Department of Toxic Substances Control, USEPA, Occupational Safety and Health Administration, California Office of Emergency Services, Certified Unified Program Agencies, and California Occupational Safety and Health Administration. Project BMPs, as described in Table 2-3, include specific provisions that would minimize the potential for, and effects from, spills occurring during construction, specifically the following:

- BMP-4: On-site Hazardous Materials Management
- BMP-5: Spill Prevention and Response Plan
- BMP-6: Existing Hazardous Materials

These spill prevention BMPs, and other construction BMPs identified in Table 2-3, would prevent or minimize potential for releases of hazardous materials or risks to workers during routine activities.

As a result of compliance with the applicable regulations as described above, no significant risks would result to construction workers, the public, or the environment from the construction-related transport, use, storage, or disposal of hazardous materials.

Long-term operation of the Proposed Project would involve no additional maintenance activities by Zone 7 aside from those already underway and therefore would not result in additional risks to workers, the public, or the environment from transport, use, storage, or disposal of hazardous materials. Therefore, this impact would be **less than significant**.

b. **Create a Hazard Through Reasonably Foreseeable Upset and Accident Conditions Involving the Release of Hazardous Materials — *Less than Significant***

The Proposed Project's construction would require the use, transport, and disposal of hazardous materials; however, as described in item 3.8(a) above, compliance with the applicable regulations and implementation of appropriate BMPs would ensure that no substantial risks would result to construction workers, the public, or the environment from reasonably foreseeable upset or accident conditions involving the use of hazardous materials for the Proposed Project's construction activities. Long-term operation of the Proposed Project would involve no additional maintenance activities by Zone 7 aside from those already underway and therefore would not result in additional risks to workers, the public,

or the environment from upset or accident conditions involving the release of hazardous materials. Therefore, this impact would be **less than significant**.

c. Generate Hazardous Emissions or Use Hazardous Materials Within 0.25 Mile of Schools — *Less than Significant*

Several schools are located within 0.25 mile (1,320 feet) of the project site: Livermore Valley Joint Unified School District (675 feet south); Holy Cross Lutheran Church – preschool (700 feet west); Little Rascals Learning Center (1,160 feet north); and Granada High School (1,370 feet west). As discussed in item 3.8(a) above, during construction, hazardous materials would be limited to fuels, lubricating fluids, and solvents for use with excavation equipment on site. Use of these hazardous materials would be confined to the project site, and the potential for accidental onsite spills would be minimized through implementation of appropriate BMPs. As discussed in Section 3.3, “Air Quality,” construction of the Proposed Project may result in DPM and gasoline fuel combustion emissions; however, these emissions would not substantially affect any nearby sensitive receptors. Any handling of hazardous materials or emission of hazardous substances during construction activities would be in accordance with applicable local, state, and federal standards, ordinances, and regulations. To reduce fugitive dust and protect ambient air quality during construction, the following BMP would be implemented (Table 2-3):

- BMP-8: Dust Management Controls and Air Quality Protection

Following compliance with applicable regulations for hazardous materials and implementation of health and safety requirements and BMPs, hazards near existing or proposed schools would be **less than significant**.

d. Be Located on a Listed Toxic Site, and Related Impacts — *Less than Significant*

No hazardous waste or hazardous substance sites are known to occur within the project area. Aerial photographs from 1949 to 2017 show no substantial changes in land use in the project area. Historic cleanup sites in the vicinity of the project site generally involve leaking underground storage tanks (LUSTs) containing petroleum products (SWRCB 2018), including:

- former LUST cleanup site for gasoline at American Savings Bank, adjacent to the north side of the project site at 1429 College Avenue;
- former LUST cleanup site for waste oil at U.S. Veteran’s Administration Hospital, approximately 900 feet southwest of the Arroyo Road crossing;
- former LUST cleanup site for diesel at Valley Memorial Hospital, approximately 1,000 feet northwest of the project site at 1111 East Stanley Boulevard; and
- several other LUST cleanup sites along First Street through the downtown area, approximately 1,300 to 3,000+ feet north of the project site.

There are no known open hazardous materials release sites within 0.25 mile of the project site. The local groundwater gradient generally mirrors surface topography, flowing in a west-

northwest direction (SWRCB 2018; USGS 2015). No known hazardous materials release sites are located upgradient of the project site and the potential to encounter existing hazardous materials is minimal. In addition, the following BMPs would be implemented, as described in Table 2-3:

- BMP-5: Spill Prevention and Response Plan (if necessary)
- BMP-6: Existing Hazardous Materials

BMP-6 states that, in the event that contamination or hazardous materials are encountered during construction (as evident by indicators such as chemical odors or oily sheens), Zone 7 shall remove and dispose of them according to the Spill Prevention and Response Plan, as outlined in BMP-5. If clean-up or remediation is required, Zone 7 would ensure that any hazardous waste materials removed during construction are handled, transported, and disposed of according to federal, state, and local requirements. With these procedures in place, impacts related to the discovery of unknown hazardous waste or hazardous substance sites within the project area would be **less than significant**.

e, f. Create Hazards in the Vicinity of a Public or Private Airstrip — *No Impact*

The project area is not located within 2 miles of any public or private airport or airstrip. The closest airport, Meadowlark Field, is 4.0 miles southeast of the project site. The Proposed Project would not conflict with any airport land use plan or operation of nearby airports. Therefore, there would be **no impact**.

g. Interfere with Emergency Response or Evacuation Plan — *Less than Significant*

The project site is located within the Arroyo Mocho riparian corridor and project activities would not substantially interfere with access or vehicle movement along surface streets around the project site. The following BMPs would be implemented during construction:

- BMP-9: Public Safety Measures

Truck traffic entering and exiting the project site would be managed in accordance with BMP-9, which provides safety measures to minimize potential impacts on local traffic patterns. The Proposed Project would not interfere with any existing emergency response or evacuation plan. This impact would be **less than significant**.

h. Expose People or Structures to Risk of Wildland Fires — *Less than Significant*

The project site is within an urban, local responsibility area not identified as a Very High Fire Hazard Severity Zone (California Department of Forestry and Fire Protection [CAL FIRE] 2008). The nearest fire department is located approximately 300 feet north of the project site at 1617 College Avenue. The project site consists of open space supporting mixed scrubland, ruderal lands, and mixed riparian woodland and scrubland. Construction equipment within this vegetated area could present an ignition source and fire hazard; however, construction contractors must comply with the following requirements in the Public Resources Code during construction activities at any sites with forest-, brush-, or grass-covered land:

- Earthmoving and portable equipment with internal combustion engines must be equipped with a spark arrestor to reduce the potential for igniting a wildland fire (PRC Section 4442).
- Appropriate fire-suppression equipment must be maintained from April 1 to December 1, the highest-danger period for fires (PRC Section 4428).
- On days when a burning permit is required, flammable materials must be removed to a distance of 10 feet from any equipment that could produce a spark, fire, or flame, and the construction contractor must maintain the appropriate fire-suppression equipment (PRC Section 4427).
- On days when a burning permit is required, portable tools powered by gasoline-fueled internal combustion engines must not be used within 25 feet of any flammable materials (PRC Section 4431).

Compliance with these regulatory requirements would minimize the potential to expose people or structures to a substantial risk of wildland fires.

Long-term operation of the Proposed Project would involve no additional maintenance activities by Zone 7 aside from those already underway and therefore would not result in additional exposure of people or structures to risk of wildland fires. Therefore, the impact from construction-related and operational activities associated with the Proposed Project would be **less than significant**.

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3.9 Hydrology and Water Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than- Significant Impact	No Impact
Would the Proposed Project:				
a. Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on site or off site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on-site or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h. Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- | | | | | | |
|----|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| i. | Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| j. | Contribute to inundation by seiche, tsunami, or mudflow? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
-

Discussion of Checklist Responses

a, f. Violate Water Quality Standards or Waste Discharge Requirements, or Otherwise Substantially Degrade Water Quality — *Less than Significant*

Arroyo Mocho is listed as impaired for diazinon and water temperature under the CWA Section 303(d) list (SWRCB 2012). Diazinon is an insecticide, whose principal source in this area is urban runoff/storm sewers. Elevated water temperature may be caused by a number of different factors, including lack of riparian vegetation (i.e., shading) or low flows. Both diazinon and water temperature can cause adverse effects on aquatic life and other beneficial uses.

The Proposed Project would not contribute additional inputs of diazinon to the Arroyo Mocho system because insecticides are not proposed for use during construction or operation and the Proposed Project would not increase urban runoff rates. As described in Chapter 2, *Project Description*, removal of invasive plant species could improve conditions for native vegetation, which could provide increased shading to help reduce water temperatures. Floodplain reconnection may serve to increase sequestration of water and sediment-borne pollutants during flood events.

During construction activities, water quality could be temporarily reduced in the immediate project area and areas downstream because ground-disturbing activities could result in the release of fine sediment and/or other contaminants. The following BMPs would be implemented, as described in Table 2-3:

- BMP-1: Construction Work Windows
- BMP-3: Erosion and Sediment Control
- BMP-4: On-site Hazardous Materials Management
- BMP-5: Spill Prevention and Response Plan
- BMP-7: Vehicle and Equipment Maintenance
- BMP-10: Work Site Housekeeping

Implementation of these BMPs would substantially reduce the potential for adverse water quality impacts during construction. For example, BMP-1 would require that ground-disturbing activities occur during the dry season in the channel, which would minimize potential for sediment and other construction-related water quality contaminants to be transported downstream. Similarly, BMP-3 would require implementation of erosion and sediment control measures, while BMP-4 would require on-site hazardous materials management, thereby limiting potential for hazardous materials to be accidentally released or discharged to the surface water system.

Overall, with implementation of appropriate BMPs as described above, the Proposed Project would not violate water quality standards or waste discharge requirements. Over the long term, following completion of construction, the Proposed Project's effects on water quality could be beneficial. As a result, this impact would be **less than significant**.

b. Substantially Deplete Groundwater Supply or Recharge — *Less than Significant*

The Proposed Project would not draw groundwater or use groundwater resources during construction or operation and would not increase impervious surface area.

As described in Chapter 2, *Project Description*, this reach of Arroyo Mocho contributes to groundwater recharge, and Zone 7 manages summertime flows in this area for the specific purpose of promoting groundwater recharge. By providing for flood detention within the OGNR during large flow events, the Proposed Project would increase the wetted footprint of the Medeiros Reach. This would allow increased opportunities for groundwater recharge, as water would spread out and slow down as it flows across the project area during these flow events, making it more likely to percolate through the soil and into the groundwater table. As a result, the Proposed Project's operational effects related to groundwater recharge may be beneficial. This impact would be **less than significant**.

c, d. Alter Existing Drainage Patterns, such as to Result in Substantial Erosion, Siltation, or Flooding On or Off Site — *Less than Significant*

The Proposed Project would alter existing drainage patterns through floodplain reconnection, as described in Chapter 2, *Project Description*. The Proposed Project would involve lowering a portion of the Arroyo Mocho Trail to create a connection to the OGNR that would be activated during high-flow events (approximately a 25-year storm event) to allow flows of approximately 3,000 cubic feet per second and greater to enter the OGNR, creating a temporary floodwater detention basin with a capacity of approximately 22 af.

These modifications would have a beneficial effect on drainage patterns in this reach of Arroyo Mocho; none of the drainage modifications would result in substantial erosion, siltation, or flooding on or off site. The connection to the OGNR would detain flood flows, reducing the amount and velocity of flood flows that could overtop the Holmes Street bridge. Because sediment accumulates at Holmes Street during storm flows, it is possible that the capacity of the stream channel would be reduced at the time of a given storm event because of sediment deposition earlier in the wet season. This circumstance could result in activation of the floodplain connection to the OGNR at more frequent intervals than assumed under the design (i.e., sediment-free) condition.

During construction, drainage patterns would be temporarily altered by ground-disturbing activities, such as excavation and use of heavy construction equipment at the trail adjacent to the channel area. These activities could cause or lead to erosion and siltation because loosened soil may be more easily dislodged and transported downstream by streamflows. The following BMPs would be implemented, as described in Table 2-3:

- BMP-1: BMP-1: Construction Work Windows
- BMP-2: Area of Disturbance
- BMP-3: Erosion and Sediment Control

These BMPs would minimize these potential effects. Overall, the long-term effects of the Proposed Project on drainage patterns would be largely beneficial, and short-term construction effects would not be significant with implementation of BMPs. Therefore, this impact would be **less than significant**.

e. Create or Contribute Runoff Water that Would Exceed the Capacity of Existing or Planned Stormwater Drainage Systems or Provide Substantial Additional Sources of Polluted Runoff — *Less than Significant*

The Proposed Project would route streamflow during high-flow events (at approximately 3,000 cfs, or a 25-year storm event) through a connection to the OGNR detention basin, thereby decreasing flow volumes in the reach by up to 22 af. The Proposed Project would help to alleviate backwater conditions at Holmes Street, which is an area of heightened sediment deposition as the roadway bridge creates a barrier to downstream flow. This would allow water to flow more freely from the project reach to areas downstream during high-flow events. Because sediment accumulates at Holmes Street during storm flows, it is possible that the capacity of the stream channel would be reduced at the time of a given storm event because of sediment deposition earlier in the wet season. This circumstance could result in activation of the floodplain connection to the OGNR at more frequent intervals than assumed under the design (i.e., sediment-free) condition. During high-flow events, the Proposed Project would improve the capacity and function of the Arroyo Mocho stream channel, which serves to drain stormwater flows and runoff from the Livermore urban area. This would result in a beneficial effect on the existing stormwater drainage system.

During construction, the Proposed Project would involve the use of heavy construction equipment containing hazardous materials (e.g., fuel, oil), which could potentially lead to accidental releases of such pollutants. As described in items 3.9(a) and 3.9(f) above, the Proposed Project would implement BMP-3, BMP-4, and BMP-7 to appropriately manage hazardous materials. With implementation of these BMPs, accidental releases of hazardous materials would be unlikely and construction activities would not result in substantial discharges of polluted runoff. Overall, this impact would be **less than significant**.

g. Place Housing within 100-Year Flood Hazard Area — *No Impact*

The Proposed Project would not involve the construction of housing. Therefore, **no impact** would occur.

h. Place Structures within 100-Year Flood Hazard Area — *Less than Significant*

The Proposed Project would not place any structures in the 100-year flood hazard area. The project area is largely within the 100-year flood hazard area, as mapped by the Federal Emergency Management Agency (FEMA) (FEMA 2018). The 100-year flood hazard area covers most of the Arroyo Mocho channel and adjacent floodplain, extending to approximately the edge of the urban development on either side of the channel/floodplain; the OGNR is largely outside the flood hazard area.

The Proposed Project would improve the ability of the stream channel to carry flows during 25-year storm events (approximately 3,000 cfs) by detaining up to 22 af at the OGNR, which would reduce the potential for flooding in the area. Activation could potentially occur more

frequently if sediment is present under the Holmes Street bridge. Lowering of the trail adjacent to the OGNR would directly replace an existing structure, ~~and possible installation of a drainage culvert between the channel and the OGNR would not affect the floodplain.~~ No new structures would be constructed in a flood hazard area. Removal of invasive plant species would reduce the amount of vegetation present in the channel, which would reduce impediments to flow.

Overall, by creating a connection to the OGNR that would be activated at flows approximating a 25-year or higher storm event, the Proposed Project would improve the system's ability to handle a large flood. The proposed modifications to the stream channel and floodplain (e.g., lowering of the trail, connection to the OGNR) would not have a substantial adverse effect on passage of 100-year flood flows. Therefore, this impact would be **less than significant**.

i. Expose People or Structures to Significant Risk of Loss, Injury, or Death Involving Flooding, including Flooding as a Result of the Failure of a Levee or Dam — No Impact

The Proposed Project is outside of the mapped inundation areas for Patterson Reservoir and Del Valle Reservoir (i.e., the nearest dams/reservoirs that could potentially fail) (Alameda County 2016). Construction of improvements would occur during summertime, when flooding is not a concern. Otherwise, the project proposes to detain flood waters in the OGNR and would not pose any risk of loss, injury, or death to people or structures. Furthermore, the Proposed Project would not include construction of any houses or structures that could be damaged in the event of a dam failure. As a result, the Proposed Project is anticipated to have a beneficial effect with respect to flooding. **No impact** would occur.

j. Potentially Contribute to Seiche, Tsunami, and Mudflow Hazards — No Impact

The project area is not in a location affected by seiche, tsunami, or mudflow. The Proposed Project is within the City of Livermore, which is approximately 20 miles inland from San Francisco Bay, is not near any large standing bodies of water, and is relatively flat. Additionally, the Proposed Project would not introduce any land uses or features that could contribute to seiche, tsunami, or mudflows. The side slopes of the lowered trail would be very shallow (approximately a 2% slope), resulting in no concerns with regard to general stability and would not be expected to fail or cause hazards. Therefore, **no impact** would occur.

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3.10 Land Use and Planning

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Proposed Project:				
a. Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Proposed Project (including a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Checklist Responses

a. Divide an Established Community — *No Impact*

Arroyo Mocho provides flood protection and serves as a recreational amenity for the local community. Roadways cross the creek at regular intervals, and none of these would be affected during or after project construction. There is no potential to physically divide an established community; therefore, there would be **no impact**.

b. Conflict with Land Use Plans or Policies — *No Impact*

The Proposed Project would be located in an existing stream channel in Livermore, in an area known as Medeiros Parkway, which is designated Open Space (Parks, Trailways, Recreation Areas) in the City’s General Plan (City of Livermore 2014). The two parcels are zoned Open Space – Floodplain (Trailway and Creek) and Education and Institutions (Open Space – Habitat Areas) in the City’s Zoning Ordinance. The project was developed as part of the *Zone 7 Stream Management Master Plan* (Zone 7 Water Agency 2006a) and would implement the plans or policies of the SMMP (Zone 7 Water Agency 2006b), which are not in conflict with the City’s General Plan. In addition, the Proposed Project would be located within the *Oak Grove Nature Reserve Master Plan* area (City of Livermore and the Livermore Area Recreation and Parks District [LARPD] 2005). The plan proposes redeveloping the site for passive recreational uses. The Proposed Project would not conflict with future recreational uses. Therefore, there would be **no impact** on land use plans and policies.

c. Conflict with Habitat Conservation Plans — *No Impact*

The project site is not located within the boundaries of an adopted Habitat Conservation Plan or Natural Community Conservation Plan. However, it is located within the area covered by the EACCS (see discussion in item 3.4[f] in Section 3.4, “Biological Resources.” Avoidance and minimization measures outlined in this document are consistent with the goals of the EACCS. Therefore, the project is not anticipated to conflict with the provisions of the EACCS. Further,

the project study area is outside of any approved Habitat Conservation Plan or Natural Conservation Community Plan and would therefore have **no impact** on such plans.

3.11 Mineral Resources

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

Discussion of Checklist Responses

a-b. Result in Loss of Availability of Regionally or Locally Important Mineral Resources — *No Impact*

The Proposed Project would be contained within and adjacent to an existing stream channel. The OGNR is a former quarry; however, the site was abandoned and the City developed a master plan concept to develop a park at the former quarry site in 2005 (City of Livermore 2017). The Proposed Project would have **no impact** with respect to the loss of availability of mineral resources.

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3.12 Noise

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Proposed Project result in:				
a. Exposure of persons to or generation of noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. A substantial permanent increase in ambient noise levels in the Proposed Project vicinity above levels existing without the Proposed Project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. A substantial temporary or periodic increase in ambient noise levels in the Proposed Project vicinity above levels existing without the Proposed Project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. For a Proposed Project located within an airport land use plan area, or, where such a plan has not been adopted, within 2 miles of a public airport or public-use airport, would the Proposed Project expose people residing or working in the Proposed Project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. For a Proposed Project within the vicinity of a private airstrip, would the Proposed Project expose people residing or working in the Proposed Project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Noise Concepts and Terminology

Noise can be defined as unwanted sound. Sound is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). Different types of measurements are used to characterize the time-varying nature of sound. Below are brief definitions of these measurements and other terminology used in this section.

- **Sound** is a vibratory disturbance created by a vibrating object, which, when transmitted by pressure waves through a medium such as air, can be detected by a receiving mechanism, such as the human ear or a microphone.
- **Noise** is sound that is loud, unpleasant, unexpected, or otherwise undesirable.

- **Decibel (dB)** is a dimensionless measure of sound on a logarithmic scale, which indicates the squared ratio of sound pressure amplitude to a reference sound pressure amplitude. The reference pressure is 20 micro-pascals. dB is used to quantify sound intensity.
- **A-weighted decibel (dBA)** is an overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.
- **Maximum sound level (L_{max})** is the maximum sound level measured during the measurement period.
- **Equivalent sound level (L_{eq})** is the equivalent steady-state sound level that, in a stated period of time, would contain the same acoustical energy as a time-varying sound level during that same period of time.
- **Community Noise Equivalent Level (CNEL)** is the average A-weighted noise level during a 24-hour day, obtained after adding 5 decibels to measurements taken in the evening (7 to 10 pm) and 10 decibels to measurements taken between 10 pm and 7 am.
- **Day/Night Noise Level (L_{dn})** is the average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 pm and 7:00 am.

In general, human sound perception is such that a change in sound level of 3 dB is just noticeable, a change of 5 dB is clearly noticeable, and a change of 10 dB is perceived as doubling or halving the sound level. **Table 3-3** presents example noise levels for common noise sources, the levels are measured adjacent to the source.

Table 3-3. Examples of Common Noise Levels

Source	Noise Level (dBA)
Weakest sound heard by average ear	0
Whisper	30
Normal conversation	60
Ringling telephone	80
Power lawnmower	90
Tractor	96
Hand drill	98
Bulldozer	105
Chain saw	110
Ambulance siren	120
Jet engine at takeoff	140

Source: National Institute of Safety and Health 2018

The term *noise-sensitive land uses*, also referred to in this section as *sensitive receptors* include residences, schools, hospitals, or other similar locations where excess noise would negatively affect normal functions.

Discussion of Checklist Responses

a. **Expose People to Noise Levels in Excess of Local or County Standards — *Less than Significant***

The Proposed Project would generate noises associated with construction activities (e.g., grading, excavation, and material hauling), which would be temporary and cease once construction is complete. Following construction, no additional maintenance-related noise sources would result from the Proposed Project.

Noise from operation of construction equipment could affect sensitive receptors (e.g., residents) in the project vicinity. Grading, excavation, and material hauling activities would take place primarily at the trail segment between the stream channel and the OGNR, approximately 100 feet from the nearest adjacent residence; trucks traveling to and from the construction area could be as close as 75 feet away from the nearest adjacent residences. The nearest schools are Joe Michell Elementary School and Del Valle Continuation High School (formerly Phoenix High School) at 2,400 and 3,200 feet respectively, measured from the center of the project site. The nearest medical facilities are Livermore Auto Accident Injury Clinic and Bayside Pediatrics, which are 1,780 and 1,840 feet from the center of the project site, respectively. Multiple nursing homes and assisted living facilities are located along the western edge of the project site, roughly 1,050 feet from the center of the site.

As shown and discussed further in **Appendix C**, noise levels and subsequent impacts from the Proposed Project are analyzed based on estimated noise levels from the operation of the two loudest pieces of construction equipment as measured from the center of the project site. This impact methodology follows recommended construction noise analysis methods (Federal Transit Administration [FTA] 2006). Using the equations shown in Appendix C and the two noisiest pieces of equipment (hauling truck and scraper), the noise levels at the nearest receptors (i.e., residences along Cross Creek Place, Peary Way, Creek Road, Anza Way, Holmes Street, Aaron Street, South S Street, and College Avenue), located approximately 400 feet from the center of the project site, would be 73.5 dBA during the short period of construction. This noise level would be less than the City's 75 dBA threshold for the designated typical construction hours, which is used as the basis for determining impacts.

The City of Livermore's Noise Ordinance limits construction activities to 7:00 a.m. to 8:00 p.m. Monday through Friday and 9:00 a.m. to 6:00 p.m. on Saturday (City of Livermore 2018). According to Municipal Code Section 9.36.110, Exceptions, a project proponent could still be in compliance with the City Noise Ordinance if construction activities needed to occur outside of these hours, as long as the proponent requested and received approval for a deviation from the permissible construction hours from the city engineer and/or building official. Construction that complies with the time-of-day restrictions for construction activities would result in less-than-significant noise impacts with regard to the generation of noise in excess of thresholds. As indicated in BMP-1, the Proposed Project would comply with the City's Noise Ordinance. No nighttime work is anticipated. In addition, as described above, noise levels

from the project’s construction would not exceed the City’s threshold. Therefore, the Proposed Project would be in compliance with applicable thresholds, and this impact would be **less than significant**.

b. Expose People or Buildings to Excessive Groundborne Vibration or Noise — *Less than Significant with Mitigation*

Vibration thresholds for buildings occur at a peak particle velocity (PPV) of 0.12 inch per second for buildings extremely susceptible to vibration damage; the human annoyance threshold for infrequent events is at 80 vibration decibels (VdB) and the human perception threshold is at 65 VdB. Vibration and ground-borne noise levels were estimated following methods described in the FTA *Noise and Vibration Impact Assessment* (FTA 2006) to determine the PPV that could affect buildings and the VdB for annoyance since there are no applicable City of Livermore vibration-related thresholds or recommended methodology. The analysis assumed that the equipment, working in nearest proximity to residences, with the greatest vibration potential would have vibration sound levels similar to those of a loaded truck. **Table 3-4** shows relevant parameters for the loaded truck and distance to sensitive receptors to be below vibration thresholds.

Table 3-4. Construction Equipment and Vibration Distances

Equipment	PPV at 25 feet	Distance to PPV of 0.12 in/sec	Noise Vibration Level at 25 feet	Distance to Noise Vibration of 80 VdB	Distance to Noise Vibration of 65 VdB
Loaded Trucks	0.076	18 feet	86	40 feet	135 feet
<i>Note: Calculations are provided in Appendix C.</i>					

The nearest sensitive receptors (residences) would be approximately 80 feet from the main areas where loaded trucks would be traveling through the OGNR and therefore would not be located within the building vibration threshold distance or the annoyance noise vibration threshold distance. The identified site access at College Avenue passes within 75 feet of some residences, which is also outside of the annoyance noise vibration threshold distance. Although portions of the project would be within the human perception threshold distance, this would not be considered a significant impact due to the short-term duration of project construction activities. Therefore, this impact would be **less than significant**.

c. Result in a Permanent Substantial Increase in Ambient Noise Levels — *Less than Significant*

Once construction is completed, the Proposed Project would not involve additional maintenance activities aside from those already conducted by Zone 7. Therefore, the Proposed Project would not result in a permanent substantial increase in ambient noise levels and the impact would be **less than significant**.

d. Result in a Substantial Temporary Increase in Ambient Noise Levels — *Less than Significant*

The Proposed Project would result in temporary increases in ambient noise levels during daytime hours from proposed construction activities. Noise calculations are detailed in Appendix C. As discussed under item 3.12(a) above, construction associated with the Proposed Project would comply with the City's hourly restrictions in accordance with BMP-1. During the permissible hours described above, construction in the City is not governed by a specific noise-level restriction. Therefore, noise increases resulting from construction during exempt hours would not be considered substantial. Because the Proposed Project would comply with the hourly restrictions for construction activities, noise impacts related to a substantial temporary increase noise from construction activities would be **less than significant**.

e, f. Expose People to Excessive Noise Levels within Airport Land Use Plan Area or Vicinity of Public or Private Airstrips — *No Impact*

The Proposed Project is not located within an airport land use plan area or within 2 miles of a public airport or private airport or airstrip. Livermore Municipal Airport is the closest airport (2.1 miles away) and the project is not within that airport's Airport Influence Area, Airport Protection Area, or 55 CNEL Noise Contour (Alameda County 2012). There would be **no impact** related to airport noise exposure.

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3.13 Population and Housing

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

Discussion of Checklist Responses

a-c. Induce Population Growth or Displace Housing or Population — *No Impact*

Growth inducement would not occur because the purpose of the Proposed Project is limited to flood detention, floodplain reconnection, and invasive species removal. No existing housing would be displaced that would necessitate construction of replacement housing, and no people would be displaced. Therefore, there would be **no impact** with respect to population and housing.

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3.14 Public Services

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

Discussion of Checklist Responses

a. Result in Substantial Adverse Impacts on Public Services – *Less than Significant*

As described in Section 3.13, “Population and Housing,” the Proposed Project would not involve construction of housing and would not increase population. Therefore, the Proposed Project would not increase demand for public services over the long term. Likewise, the Proposed Project would not construct any new commercial buildings that would create new employment opportunities or encourage individuals to move to the area. Following construction, maintenance of the Arroyo Mocho channel would be accomplished through Zone 7’s existing maintenance program.

During construction, Zone 7 and/or its contractor(s) would be required to comply with the California Fire Code and portions of the Public Resources Code related to operation of combustion-engine equipment in wildland fire hazard areas (see item 3.8[h] in Section 3.8, “Hazards and Hazardous Materials”). Compliance with these regulations would minimize the potential for construction activities to ignite a fire that could result in a call for service from the local fire department. Moreover, even if the Proposed Project were to require a response from the fire department during construction, it would be an isolated event (i.e., not a long-term increase in service demand) that would not result in the need to construct new or expanded public facilities. The Proposed Project would not be expected to require police protection service during construction or operation.

Construction activities would temporarily close the Arroyo Mocho Trail, which could cause recreationists to seek out and use other trails or recreational facilities in the area; although the Arroyo Mocho Trail is well used, this temporary effect would not result in the need to construct new or expanded trails or similar facilities. See Section 3.15, "Recreation," for additional discussion.

Because no increase in population would result, the Proposed Project would not result in substantial effects on schools or other public facilities (e.g., hospitals). The Proposed Project would have **no impact** on public services.

3.15 Recreation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Proposed Project:				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Checklist Responses

a. Increase Use of Existing Parks or Recreational Facilities — *Less than Significant*

The project area includes the multi-use Arroyo Mocho Trail along the north side of the creek and the OGNR located north of the creek, both just east of Holmes Street. Currently, LARPD maintains the bike trail on the City’s behalf. Lowering of the trail to allow flood detention at the OGNR would require temporary closure of the trail for up to four weeks. The temporary rerouting of trail users would not substantially increase the use of other trails, parks, or recreational facilities in the City, nor would it result in the substantial physical deterioration of other trails, parks, or recreational facilities because the only onsite facility is the trail, and adjoining trail segments would remain open and available for recreational use.

Creation and grading of trails at the OGNR would involve approximately 30 days of activity. While a Master Plan exists to develop park facilities at the OGNR (City of Livermore and LARPD 2005), the site is currently not in active use as a formal public recreational facility. The site is informally used by the community for dog walking, wildlife viewing, and accessing the Arroyo Mocho Trail and creek. Project-related improvements would not preclude future development of recreational facilities at the OGNR. Community members who use the OGNR could use other open space areas and trail segments along the Arroyo Mocho or could use other park facilities in the City during the construction period. The potential temporary increase in use of other trails, parks, or recreational facilities in the City by this neighborhood would not result in the substantial physical deterioration of other trails, parks, or recreational facilities as such facilities already serve the larger community.

Invasive species removal activities would not have any impact on recreation at the project site or nearby recreational facilities as these project activities would be located outside of the OGNR and would not impede access to or use of the trail. This impact would be **less than significant**.

b. Create New or Altered Facilities — *No Impact*

The City of Livermore has a master plan to develop recreational facilities at the OGNR. The Proposed Project would involve minimal modifications to the topography of the OGNR to allow its use as a flood detention basin; and improve existing trails with aggregate base; ~~and, potentially, to install a drainage culvert~~ on the site. The Proposed Project would not construct or expand active recreational facilities at the OGNR; therefore, there would be **no impact**.

3.16 Transportation/Traffic

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Proposed Project:				
a. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion of Checklist Responses

a. Conflict with Applicable Circulation Plans — *Less than Significant with Mitigation*

As described in Chapter 2, *Project Description*, an average of 10 workers would enter the project site each weekday during the 75 days of active construction (see Table 2-1). Workers would park their commute vehicles in the areas at Florence Road (on the south) and College Avenue (on the north) or on streets with ample parking available (as depicted in Figure 2-2). Construction equipment and delivery trucks would access the site through the same area.

Although the primary source of traffic for the Proposed Project would be workers commuting to and from the site, during the brief excavation period traffic would also result from trucks hauling excavated material from the OGNR. An estimated 2,500 CY of material would be excavated. It is anticipated that most of this material could be reused to create graded trails in the OGNR, but some material could be removed from the site if determined to be unsuitable for onsite use. Two potential routes have been identified to haul material to either the Vasco Road Landfill or the Chain of Lakes. As a worst-case estimate, this analysis assumes that all materials would be hauled to Vasco Road Landfill. Assuming that each truck would carry 8 CY of material, approximately 315 round trips from the site to Vasco Road Landfill would be required during approximately 32-40 work days (8-10 weeks) of the excavation period (if no material were used onsite and all 2,500 CY of material were removed). This would result in approximately 8-10 round trips per day, or approximately one round trip every hour during the daily 9-hour work period (typically 7:00 a.m. to 4 p.m.). This work period would coincide with morning and evening peak traffic hours of 7:00 a.m.-9:00 a.m. and 4:00 p.m.-6:00 p.m. Monday through Friday.

The primary travel route for truck traffic between the OGNR and Vasco Road Landfill would be from College Avenue west to Holmes Street (via Fourth Street), continuing west on Murrieta Boulevard to East Stanley Road, then west on East Stanley Road to State Route 84 north, followed by Interstate 580 east, exiting at North Vasco Road (see Figure 2-2 in Chapter 2, *Project Description*). Although this route would be longer (approximately 13 miles) than the most direct route (8 miles), it would avoid truck travel through residential neighborhoods and the downtown business district, relying as much as possible on major roadways and highways. This truck route also would comply with General Plan Policy P1 under Objective CIR-11.2 in the Circulation Element: "No through truck traffic shall be allowed in residential areas." Any vegetation not chipped and spread on-site from invasive species removal activities on the south side of the trail would be transported south on Florence Road, west on Anza Way, and north on Holmes Street where the route would continue along the primary travel route heading west on Murrieta Boulevard to East Stanley Road. Trucks hauling material to Chain of Lakes would travel on Interstate 580 and El Charro Road.

The addition of 8-10 vehicles per day on these roadways could adversely affect local circulation patterns during peak traffic periods. Implementation of **Mitigation Measure TRAN-1** would limit truck traffic to the hours of 9:00 a.m. to 4:00 p.m. Monday through Friday, avoiding impacts on peak-hour traffic. This restriction would avoid impacts during peak travel hours and reduce the impact to a less-than-significant level.

Because the Proposed Project is located within and adjacent to the Arroyo Mocho stream channel, construction activity would not directly affect motor vehicle traffic on the surrounding roadways; however, the Arroyo Mocho Trail travels along the levee on the north side of the streambank and passes directly through the area of construction. This Class I bike trail, managed by LARPD on the City's behalf, connects Isabel Avenue in the western portion of Livermore to Robertson Park east of Arroyo Road. The Proposed Project would directly affect the trail just east of Holmes Street, where the trail would be lowered. Construction in this area would require temporary closure of the trail for approximately 4 weeks. This would interfere with the cross-town connectivity of the Arroyo Mocho Trail, which would be a potentially significant impact. Implementation of **Mitigation Measure TRAN-2** would

require Zone 7 to designate an alternate bike route during trail closures and provide informative signage, reducing the impact to a less-than-significant level.

Following the completion of project construction, Zone 7 employees and their contractors would continue to conduct periodic maintenance activities at the project site approximately four times per month as under existing conditions. These vehicle trips to and from the site would have a minimal effect on traffic circulation in the project area.

Therefore, considering both short-term and long-term effects on motor vehicle and nonmotorized modes of transportation, the impact of the Proposed Project on traffic circulation would be **less than significant with mitigation**.

Mitigation Measure TRAN-1: Limit Truck Traffic to Off-Peak Hours on Weekdays.

Zone 7 shall limit the hours of off-hauling truck traffic to 9:00 a.m.-4:00 p.m. Monday through Friday to avoid impacts on circulation patterns during peak traffic hours.

Mitigation Measure TRAN-2: Provide an Alternate Route for the Arroyo Mocho Trail during Closures.

Zone 7 shall work with the City of Livermore and LARPD to identify a suitable alternate route for bicyclists and pedestrians during construction closure of the Arroyo Mocho Trail that provides connectivity around the project area. The following measures will be implemented by Zone 7 and its contractors to minimize impacts on trail users:

- A. Trail closure signs shall be posted at the Arroyo Mocho Trail intersections with Holmes Street and Arroyo Road. The signs shall state the date range during which the trail will be closed and shall indicate the route of pedestrian and/or bike path detours during construction. Signs shall be posted at least 2 weeks in advance of trail closure or per City of Livermore and/or LARPD request.
- B. Upon City of Livermore and/or LARPD request, Zone 7 and its contractors shall place “share the road” signs along the bicycle detour route during trail closure.

b. Conflict with Congestion Management Program — *Less than Significant*

As described in item 3.16(a) above, the primary traffic-generating element of the Proposed Project would be worker commute trips and truck trips hauling excavated material off site. The travel route identified for these trucks would comply with congestion management policies in the City of Livermore General Plan that restrict truck travel in residential areas. Therefore, the impact on congestion management programs would be **less than significant**.

c. Change Air Traffic Patterns — *No Impact*

There are no airports in the immediate project vicinity, and the Proposed Project does not include any features related to airports or air traffic. There would be **no impact** on air traffic or airport service.

d. Increase Hazards Due to Design Features — *No Impact*

The Proposed Project would not introduce unsafe design features or incompatible uses into the area. The following BMP would be implemented, as described in Table 2-3:

- BMP-9: Public Safety Measures

BMP-9 includes a requirement that signs be posted at the work site warning the public of construction work and allows for traffic control to allow trucks to safely enter and exit the work site, if needed. Therefore, there would be **no impact** on roadway or intersection safety as a result of the Proposed Project.

e. Result in Inadequate Emergency Access — *Less than Significant*

There would be a minimal, temporary increase in local traffic due to the Proposed Project during construction, primarily resulting from worker commute trips and trucks hauling excavated material off site. BMP-9 includes provisions to ensure that at least one travel lane would remain open at all times on any roadway affected by construction activity or construction traffic; however, no lane or road closures are proposed or anticipated as part of the Proposed Project. There would be **no impact** on emergency access.

f. Conflict with Alternative Transportation Policies or Facilities — *Less than Significant with Mitigation*

The Livermore Bicycle, Pedestrian, and Trails Active Transportation Plan (City of Livermore 2018) provides a comprehensive and current set of policies, data, and programs to improve walking, biking and trails in Livermore. The Active Transportation Plan serves as a framework to implement the development of pedestrian and bicycle facilities in the City. The plan identifies the Arroyo Mocho Trail as a Class 1a paved, shared-use path and indicates a proposed Class 3A bike trail along College Avenue north of the OGNR.

The Proposed Project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities. As described in item 3.16(a) above, construction activities would require a temporary closure of the Arroyo Mocho Trail for approximately 4 weeks, which would temporarily decrease performance of this facility. Implementation of Mitigation Measure TRAN-2 would reduce impacts on pedestrian, bicycle, and other alternative transportation facilities to a **less-than-significant** level.

3.17 Tribal Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-significant Impact	No Impact
<p>Would the Proposed Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:</p>				
<p>a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k)?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>b. 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 Section 5024.1? In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion of Checklist Responses

a. Cause a Substantial Adverse Change to Tribal Cultural Resources Listed or Eligible for Listing in the California Register of Historical Resources or a Local Register of Historical Resources — *Less than Significant*

Prior to the arrival of the Spanish explorers in northern California in the late 1700s, the Livermore Valley was occupied by Native California peoples who spoke the Chochenyo dialect of the San Francisco Bay Costanoan language (Milliken et al. 2009). Mission records indicate that the population of the area was moderately high, supporting about 1,000 people. At least one village, *sewnen*, is known to have existed in the Livermore area (Levy 1978).

None of the Native American tribes in the project area have submitted letters of interest to Zone 7 pursuant to PRC Section 21080.3.1(b)(1); however, in the spirit of compliance with PRC Section 21080.3.1, Zone 7 notified local tribes identified by the NAHC as having a traditional and cultural association with the project area, about the Proposed Project. The Native Americans contacted by Zone 7 are listed in **Table 3-5**. Furthermore, the NAHC did not report the presence of any resources listed in the Sacred Lands File for the project area.

Table 3-5. Native American Consultation

Organization/Tribe	Name of Contact	Letter Date	Comments (as of April 23)
Ms. Rosemary Cambra, Chairperson	Muwekma Ohlone Indian Tribe of the SF Bay Area	March 21, 2018	No response to date.
Mr. Tony Cerda, Chairperson	Costanoan Rumsen Carmel Tribe	March 21, 2018	No response to date.
Mr. Andrew Galvan	Ohlone Indian Tribe	March 21, 2018	No response to date.
Ms. Katherine Erolinda Perez, Chairperson	North Valley Yokuts Tribe	March 21, 2018	No response to date.
Ms. Ann Marie Sayers, Chairperson	Indian Canyon Mutsun Band of Costanoan	March 21, 2018	No response to date.
Ms. Irene Zwierlein, Chairperson	Amah Mutsun Tribal Band	March 21, 2018	No response to date.

Zone 7 did not receive requests for formal consultation under PRC Section 21080.3.1(b)(2) from any of those individuals contacted. No TCRs that are listed or eligible for listing in the CRHR or a local register of historical resources have been identified within the project area. Therefore, there would be **no impact**.

b. Cause a Substantial Adverse Change to Tribal Cultural Resources Determined by the Lead Agency to Be Significant — *Less than Significant with Mitigation*

As mentioned above, although Zone 7 notified tribes with a traditional and cultural affiliation with the area about the Proposed Project, none of the tribes contacted identified TCRs in the project area. Furthermore, no TCRs determined by the lead agency, in its discretion and supported by substantial evidence, to be significant are known to be located in the project vicinity. As a result, it appears that there would be no impact on TCRs. However, it is possible that Native American archaeological remains or Native American human remains that could be TCRs could be discovered during the course of construction. If such resources are identified, they would be treated according to **Mitigation Measure CR-1** or **Mitigation Measure CR-2**, respectively, as described in Section 3.5, “Cultural Resources.” Implementation of these mitigation measures would result in a less-than-significant impact with regard to TCRs. As a result, this impact would be **less than significant with mitigation**.

3.18 Utilities and Service Systems

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-significant Impact	No Impact
Would the Proposed Project:				
a. Exceed wastewater treatment requirements of the applicable RWQCB?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Require or result in the construction of new water or wastewater treatment facilities or an expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Require or result in the construction of new stormwater drainage facilities or an expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Have sufficient water supplies available to serve the Proposed Project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Result in a determination by the wastewater treatment provider which serves or may serve the Proposed Project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Be served by a landfill with insufficient permitted capacity to accommodate the Proposed Project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion of Checklist Responses

a-e. Exceed Wastewater Treatment Requirements; Require New or Expanded Water, Wastewater, or Stormwater Facilities; or Result in a Determination by a Water or Wastewater Provider that it Has Insufficient Capacity to Serve the Project – No Impact

The Proposed Project is limited to flood detention, trail improvements, and invasive species removal within the Arroyo Mocho channel, adjacent floodplain, and the OGNR. These activities would not require new municipal water or wastewater service to be established on site. During construction, workers would use portable sanitary restrooms, which would be

provided and serviced by a third-party supplier. No other wastewater would be generated that may require disposal at the municipal wastewater treatment plant.

Project construction activities would temporarily use water for dust control, vehicle washing, and plant establishment (irrigation). This water would be supplied by existing infrastructure and water trucks or an on-site connection to Zone 7 or Cal Water lines available immediately off site. Other than this potential temporary irrigation connection for three growing seasons while replacement trees become established, the Proposed Project would not require new or expanded water facilities or entitlements.

Overall, **no impact** on water or wastewater capacity or quality would occur.

f, g. Be Served by a Landfill with Insufficient Capacity or Fail to Comply with Applicable Statutes and Regulations Related to Solid Waste – *Less than Significant*

The Proposed Project would require export of, at maximum, approximately 2,500 CY of alluvial material (soil, sand, and gravel). It is anticipated that most of the material excavated from the trail would be reused to create graded trails in the OGNR; however, some of the excavated material could be loaded onto trucks and hauled to the landfill. Invasive vegetation removed may also be sent to the landfill. For exported materials, the Vasco Road Sanitary Landfill, located at 4001 North Vasco Road in Livermore (approximately 5.75 miles northeast of the project site), would have sufficient capacity to accommodate those needs; the landfill had 7.4 million cubic yards of remaining capacity as of October 2016 (California Department of Resources Recycling and Recovery [CalRecycle] 2018a). The Altamont Landfill & Resource Recovery facility also would have available capacity (CalRecycle 2018b). The anticipated landfill diversion rates for the Proposed Project would be in accordance with the California Integrated Waste Management Act requirements for jurisdictions.

As such, the Proposed Project would not require or result in the need to construct new or expanded utilities or otherwise adversely affect utilities or service systems. Therefore, this impact would be **less than significant**.

3.19 Mandatory Findings of Significance

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

Discussion of Checklist Responses

a. Degrade Environmental Quality, Fish or Wildlife, and Historic Resources — *Less than Significant with Mitigation*

Wildlife Habitat and Populations; Rare and Endangered Species

The Proposed Project would not substantially reduce the number or restrict the range of a rare or endangered plant or animal species. Special-status wildlife species that could be affected by the Proposed Project are white-tailed kite and western pond turtle. The Proposed Project could have adverse effects related to riparian habitat and tree removal. With implementation of Mitigation Measures BIO-1 and BIO-2, in the short term, both construction-related and operational impacts would be reduced to **less-than-significant** levels.

California History and Prehistory

Proposed Project activities could affect unknown cultural resources in the project reach; however, implementation of Mitigation Measures CR-1 and CR-2 would reduce this impact to a **less-than-significant** level.

b. Cumulative Impacts — *Less than Significant with Mitigation*

A cumulative impact refers to the combined effect of “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts” (State CEQA Guidelines Section 15355). As defined by the State of California, cumulative impacts reflect “the change in the environment which results from the incremental impact of the Proposed Project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time” (State CEQA Guidelines Section 15355[b]).

The Proposed Project’s primary effects on the environment are related to biological resources and transportation/traffic. Long-term effects on other resource topics considered in this document (e.g., cultural resources, noise) would be reduced to a less-than-significant level after mitigation and would not overlap with cumulative projects in a way that could result in a considerable contribution to a significant cumulative impact.

Based on review of the City of Livermore Community Development Department’s website (City of Livermore 2018) and OPR’s CEQANet database, planned projects in the general area that may combine with the Proposed Project to produce a cumulative impact include the following:

- Pleasant View Annexation (City Project No. 2016-22) involves an approximately 1,500-foot extension of a sanitary sewer main in Arroyo Road and Pleasant View Lane, roadway improvements in Arroyo Road, an emergency vehicle access in Pleasant View Lane, and annexation of 22 parcels in unincorporated Alameda County. Construction began in November 2017, and all improvements except for the resurfacing work for Arroyo Road and Pleasant View Lane have been completed (City of Livermore 2016a, 2016b).
- Civic Center Meeting Hall (City Project No. 2004-39) is a project approved by the City Council in March 2016 that involves demolition of the old Main Library building at the corner of Pacific Avenue and South Livermore Avenue and construction of an approximately 6,750-square-foot building containing a 124-seat meeting hall, an 80-seat-capacity meeting room, lobby, restrooms, storage and utility rooms, and AV/tech room. The project started construction in January 2018, and is anticipated to be completed by spring 2019 (City of Livermore 2016c).
- Vasco Road/I-580 Interchange Improvements include construction at the Vasco Road/I-580 interchange to address poor levels of service on and in the vicinity of the interchange; enhance safety, operations, and traffic capacity; and mitigated future congestion generated by continuing development as part of the City’s General plan in the Vasco Road area. The project has been in development for many years; funding is included in the City’s Capital Improvement Program for 2017/18 (City of Livermore 2016a).

- Tharaldson Hospitality Development is proposing to construct a 122-room hotel at 5200 Wolf House Drive and a 108-room hotel at 5400 Wolf House Drive (City of Livermore 2018).

Zone 7 conducts routine maintenance activities in watersheds within its service area, generally limited to channels owned by the agency. Small projects, like graffiti abatement, fence repair, and road repairs, may occur throughout the service area year-round. Channel bank repairs are limited to summer (dry) months, and typically up to 10 such repairs are completed each year. Due to the nature of the local soils, most of the bank repair activities are located in the City of Pleasanton, well downstream from the Arroyo Mocho site in Livermore.

The projects listed above involve residential development, commercial development, transportation infrastructure, or capital improvements. These projects are located in the same geographic area as the Proposed Project and may affect similar types of resources (e.g., biological resources, transportation/traffic). All of these projects would be required to comply with the same regional air quality and GHG regulations as would the Proposed Project, and each would be required to reduce or mitigate significant impacts in those areas. Thus, none of the identified projects have the potential to combine with the Proposed Project to result in a significant cumulative impact to which the Proposed Project might make a substantial contribution.

The overall contribution of the Proposed Project to impacts on fish, wildlife, and transportation/traffic would be less than significant with mitigation. The Proposed Project's contribution to impacts on these resources would not be cumulatively considerable (i.e., would be **less than significant with mitigation**).

c. Effects on Human Beings — *Less than Significant with Mitigation*

All of the potentially adverse effects on human beings identified in this initial study would be avoided or reduced by BMPs incorporated into the Proposed Project or would be mitigated to a less-than-significant level by implementation of measures identified in this document. Specifically, impacts related to odors would be less than significant and temporary because of the distance from stockpiles of organic materials to the nearest sensitive receptors; fugitive dust would be controlled during construction through implementation of BMP-8, Dust Management Controls and Air Quality Protection; and noise impacts would be reduced to a **less-than-significant** level through implementation of Mitigation Measure NOI-1. With this mitigation, no substantial adverse effects on human beings would result.

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Chapter 4

Environmental Factors Potentially Affected

The environmental factors checked below would potentially be affected by this Proposed Project, as indicated by the checklist on the preceding pages.

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

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Chapter 5 Determination

The conclusions and recommendations contained herein are professional opinions derived in accordance with current standards of professional practice. They are based on a review of the sources of information listed in the file, and the comments received, conversations with knowledgeable individuals; the preparer's personal knowledge of the area; and, where necessary, a visit to the site. For further information, see the environmental background information contained in the permanent file on this Proposed Project.

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 Proposed Project have been made by or agreed to by the Proposed Project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the Proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the Proposed Project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the Proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier 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 12-13-2018

Name: Elke Rank
Alameda County Flood Control and
Water Conservation District, Zone 7

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Chapter 6 Report Preparation

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Chapter 7

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Chapter 8 Responses to Comments

8.1 Public Review of IS/MND

CEQA requires a period during the IS/MND process when interested stakeholders, interested public agencies, and members of the general public can provide comments on the impacts of the Proposed Project. In accordance with Sections 15073 and 15105(b) of the State CEQA Guidelines, Zone 7 circulated the document for a minimum 30-day public and agency review period. The review period extended 35 days, from December 17, 2018, to January 22, 2019. All comments received prior to 5:00 p.m. on January 22 are identified in this chapter and considered by Zone 7 in its deliberations on the Proposed Project.

In accordance with Section 15073 of the State CEQA Guidelines, Zone 7 submitted the IS/MND to the State Clearinghouse for public review starting December 17, 2018. In addition, Zone 7 circulated a Notice of Intent to Adopt the IS/MND to interested agencies and individuals, including the Alameda County Clerk. According to the State Clearinghouse CEQANet database, the public review period ended on January 22, 2019. During this review period, nine comment letters were received.

In accordance with State CEQA Guidelines Section 15074(b), Zone 7 must consider the IS/MND together with comments received during the public review period before adopting the IS/MND. The State CEQA Guidelines do not require the preparation of responses to comments for negative declarations; however, this chapter has been prepared to document that the comments received do not affect the IS/MND's conclusions that the Proposed Project would not have any significant effects on the environment.

8.2 Comments and Responses

Zone 7 received nine comment letters on the IS/MND, as indicated in **Table 8-1**. Comments are summarized and responses provided below. The actual comment letters are provided as **Appendix E** of this IS/MND.

Where changes to the text of the IS/MND are indicated in the responses that follow, the locations and nature of those changes are listed below in Section 8.3, "Revisions to the IS/MND." Changes are indicated in the text of the document (Chapters 1-7 that precede this chapter) with new text underlined and deleted text in ~~strikeout~~.

None of the revisions to the text of the IS/MND alter the impact analysis or significance conclusions of the document. Therefore, recirculation of the document is not required.

Table 8-1. Public Comments Received

Comment Letter	Commenter	Affiliation	Date Received
A	Frank Chambers	Resident, Cross Creek Place	December 21, 2018
B	Erika Castillo, Regulatory and Public Affairs Director	Alameda County Mosquito Abatement District	January 18, 2019
C	Karen Anderson	Resident	January 20, 2019
D	Karen Anderson	Resident	January 20, 2019
E	Karen Anderson	Resident	January 22, 2019
F	Karen Anderson	Resident	January 22, 2019
G	Pamela Lung, Senior Civil Engineer	City of Livermore Community Development Department	January 21, 2019
H	Ken Condreva	Resident	January 21, 2019
I	Paul Spence, Community Development Director	City of Livermore Community and Economic Development Department	June 8, 2018

Letter A – Frank Chambers, Resident, Cross Creek Place

The commenter, a resident of the adjacent neighborhood, provides historical context for the establishment of trails in the OGNR as firebreaks around 1990. The commenter suggests that, because the trails were originally established by “a bulldozer driver” with limited input from neighbors, “a little meandering would improve things for the walkers.”

Response: After implementation of the Proposed Project, these trails would continue to need to be accessed by large equipment such as bulldozers and fire engines, and therefore meanders may not be appropriate for this location. LARPD and the City of Livermore could consider such changes at a later date, as part of their master recreational planning for this park.

The commenter points out that homeless individuals sometimes occupy the OGNR and their presence should be considered during construction of the Proposed Project and future development of the OGNR.

Response: Zone 7 will coordinate with LARPD, the City of Livermore, and perhaps other agencies regarding appropriate notification for affected individuals before construction activities begin.

Letter B – Erika Castillo, Regulatory and Public Affairs Director, Alameda County Mosquito Abatement District

The commenter indicates that the OGNR must discharge all captured water within 4 days to avoid mosquito production. For this reason, the district requests that the drainage culvert should include a one-way flap instead of a duckbill gate.

Response: Testing revealed that there is a range of infiltration rates across the OGNR. In general, in a 25-year event, it is expected that water would infiltrate in about 2 days. In a

100-year event, it would likely take more than 4 days for all water to infiltrate; however, this type of large storm would be a very unusual occurrence.

The district requests that willows not be planted to mitigate for construction-related tree removal, because willow trees in seasonally flooded areas are the primary habitat for a specific mosquito species.

Response: Willow plantings are not planned as part of this project.

The commenter states that all areas that would hold water should have an all-weather access route.

Response: Zone 7 may improve some trails depending on grant funding. Further, it is expected that a 25-year event, which itself is unusual, would only preclude access to the asphalt trail for about 4 hours, and access to trails in OGNR itself for perhaps 2 days.

The district requests notification if water stands for more than 4 days during the construction process, to allow mosquito abatement.

Response: Zone 7 appreciates the district's concerns regarding the potential for the Proposed Project to create temporary mosquito breeding habitat. BMP-13, "Mosquito Abatement," has been added to the list of BMPs identified in Table 2-3 to address this issue. Note that construction would occur in the dry months, so it is very unlikely that standing water would be present during the construction process.

Letter C – Karen Anderson, Resident

The commenter commends Zone 7 for responding to public opinion in scaling back the proposed work.

Response: Zone 7 appreciates the community's interest in the project.

In items 2a through 2k, the commenter provides suggestions about additional measures to reduce effects on all animals (regardless of listing status) that may be present on the project site.

Response: Zone 7 appreciates the commenter's suggestions regarding compassionate consideration to species in the project area. Mitigation Measures BIO-1 and BIO-2 identify Zone 7's commitment to implementing legally mandated requirements for protected plant and wildlife species affected by the Proposed Project (including western pond turtle); in addition, required permits would be obtained from the appropriate regulatory agencies and preconstruction nest surveys would be conducted by a qualified biologist before work begins. Construction activities would ramp up gradually on the project site, and animals would have sufficient time and warning to vacate the area without harm.

Letter D – Karen Anderson, Resident

The commenter provides suggestions about various resources on the project site that may be of historical value.

Response: The commenter's suggestions about protection of historical items at the project site are appreciated. These items do not fall under the regulations identified in Section 3.5, "Cultural Resources," of the IS/MND. As such, Zone 7 is not required to address protection or preservation of these items. Zone 7 will discuss with LARPD and the City of Livermore options for a possible kiosk or other informational signage.

Letter E – Karen Anderson, Resident

The commenter clarifies that the previous comments were intended to include frogs and eggs that may be present along the banks when excavation begins.

Response: See the response to Letter C above.

Letter F – Karen Anderson, Resident

The commenter expands on previous comments with recommendations to protect nesting birds, killdeer, western pond turtles, lizards, salamanders, and burrowing animals in the project area. Additional suggestions address a desire to see Arroyo Mocho run year-round and restating the wish for compassionate protection of injured animals. The commenter closes by thanking Zone 7 for “the polite and serious way you listened to us.”

Response: Zone 7 deeply appreciates the involvement of the commenter and others in the community in developing the Proposed Project. With regard to environmental protections for wildlife in the project area, see the response to Letter C above.

Letter G – Pamela Lung, City of Livermore

The City appreciates Zone 7’s willingness to revise the previously proposed Floodplain and Riparian Restoration Project in response to community input.

Response: Zone 7 appreciates the City’s input and continued engagement in the process of developing this project.

With regard to the 90% design plans provided to the City, the commenter requests that the perimeter trail around the OGNR be elevated so that it can be used when the basin is flooded.

Response: Zone 7 may improve some trails depending on grant funding. Further, it is expected that a 25-year event, which itself is unusual, would only preclude access to the asphalt trail for about 4 hours, and access to trails in OGNR itself for perhaps 2 days.

Regarding item 3.16(d), “Substantially Increase Hazards due to a Design Feature,” in Section 3.16, “Transportation/Traffic,” of the IS/MND, the commenter suggests that Zone 7 elevate the perimeter trail in the OGNR and provide signage indicating the detoured trail route.

Response: See the response to the previous comment. Furthermore, the City is the recreational use manager for this area and may post warning signs or similar notification as it deems appropriate. See highlighted information in **Appendix F, Recreational Use License Agreement**.

The commenter suggests that the IS/MND consider adding a reference to the City’s active transportation plan in the discussion of traffic and transportation.

Response: The discussion in Section 3.16, “Transportation/Traffic,” of the IS/MND has been revised in item 3.16(f), “Conflict with Alternative Transportation Policies or Facilities,” to reference the City’s active transportation plan. The Proposed Project is consistent with the plan.

The commenter recommends that the Proposed Project rely on an exit to Holmes Street rather than College Avenue for the haul route.

Response: Zone 7 appreciates the City’s recommendation; however, no safe access to Holmes Street is available on the north side of the arroyo that would be suitable for construction vehicles and haul trucks.

Letter H – Ken Condreva, Resident

The commenter indicates that the bike path in the OGNR is very popular.

Response: Zone 7 acknowledges the popularity of the Arroyo Mocho Trail and intends to ensure its continued accessibility for much of the construction period; refer to Mitigation Measure TRAN-2 on page 3-79 of the IS/MND for the approach to rerouting bicycle traffic during the anticipated 4-week closure. Outside of the construction window, operation and use of the trail is the responsibility of the City of Livermore and LARPD. Because the project is designed to allow water to overtop the road only very infrequently, damage to the bike path may also occur only infrequently, if at all. The engineering design analyzed and accounts for erosion at and undermining of the bike trail. Appropriate erosion control measures are included in the design.

Concerns are raised about the potential for clogging of the proposed culvert that would connect the OGNR to Arroyo Mocho, leaving standing water in the preserve for long periods of time.

Response: Project plans no longer include a pipe culvert.

The commenter provides photographs documenting that water levels in the OGNR decrease slowly (less than 1 inch per day) and would attract mosquitoes.

Response: Testing revealed that there is a range of infiltration rates across the OGNR. In general, in a 25-year event, it is expected that water would infiltrate in about 2 days. In a 100-year event, it would likely take more than 4 days for all water to infiltrate; however, this type of large storm would be a very unusual occurrence.

Letter I – Paul Spence, City of Livermore

This letter was submitted to Zone 7 in response to a previous IS prepared for the Arroyo Mocho Medeiros Reach Floodplain and Riparian Restoration Project.

Response: The project proposed in the prior IS was a much larger project which included a more intensive restoration and revegetation plan along the Arroyo and extensive excavation in the OGNR to provide greater flood retention. The current project that is the subject of this IS has been revised significantly. The comments provided in the letter no longer apply or have been considered during development of the current project where applicable.

8.3 Revisions to the IS/MND

Chapter 1.0, Introduction

On page 1-5, in Section 1.4, “Organization of this Document,” the following revisions have been made:

- Chapter 8, *Responses to Public Comments*, has been added to the list of chapters.
- Appendix D, *Mitigation Monitoring and Reporting Plan*; Appendix E, *Public Comments Received on the IS/MND*; and Appendix F, *Recreational Use License Agreement*, have been added to the list of appendices.

Chapter 2.0, Project Description

On page 2-5, the last paragraph on the page under “Floodplain Reconnection” has been deleted because project plans no longer include construction of a culvert that would connect the basin to Arroyo Mocho.

Beginning on page 2-13, Table 2-3, “Proposed Project Best Management Practices,” has been revised as follows:

- BMP-1 has been revised to clarify that, although work activities are allowed by the City 7 a.m.–8 p.m. Monday through Friday, typical work hours are anticipated to be 7:00 a.m. to 4:00 p.m.
- BMP-13, Mosquito Abatement, has been added with reference to the Alameda County Mosquito Abatement District.

Chapter 3.0, Environmental Checklist

Section 3.4, Biological Resources

On page 3-32, the conclusion to item 3.4(c) regarding impacts on wetlands has been revised to delete the reference to a culvert because it has been removed from the project plans.

On page 3-33, item 3.4(d) regarding impacts on wildlife movement has been revised to delete the paragraph beginning “With regard to operations of the attenuation basin.” The project design no longer includes the culvert.

Section 3.9, Hydrology and Water Quality

On page 3-59, the second paragraph of item 3.9(h) regarding placement of structures in a 100-year flood hazard area has been revised to delete the reference to construction of a drainage culvert between the channel and the OGNR because project plans no longer include construction of the culvert.

Section 3.12, Noise

On page 3-65, the checklist for item (b) has been corrected from “Less than Significant with Mitigation Incorporated” to “Less-than-Significant Impact” because no mitigation is required to reduce this impact to a less-than-significant level.

On page 3-68, the heading for item (b) has been corrected from “Less than Significant with Mitigation Incorporated” to “Less-than-Significant Impact” because no mitigation is required to reduce this impact to a less-than-significant level.

Section 3.15, Recreation

On page 3-76, item 3.15(b) regarding creation of new recreational facilities has been revised to delete the reference to a culvert because it has been removed from the project plans.

Section 3.16, Transportation/Traffic

On page 3-80, item 3.16(f) has been revised to include a discussion of the *Livermore Bicycle, Pedestrian, and Trails Active Transportation Plan* (City of Livermore 2018).

Chapter 7.0, References

On page 7-1, under the heading “2.0, Project Description,” a citation to *The Alameda County Mosquito Abatement District Control Program* (Alameda County Mosquito Abatement District 2011) has been added.

On page 7-7, under the heading “3.16, Transportation/Traffic,” a citation to the *Livermore Bicycle, Pedestrian, and Trails Active Transportation Plan* (City of Livermore 2018) has been added.

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