

Arroyo Las Positas Weir Replacement

Initial Study / Mitigated Negative Declaration



Prepared for:
Zone 7 Water Agency
100 North Canyons Parkway
Livermore, CA 94551

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TABLE OF CONTENTS

	Page
1.0 MITIGATED NEGATIVE DECLARATION	1
1.1 PROJECT DESCRIPTION:	1
1.2 DETERMINATION:.....	1
1.3 MITIGATION MEASURES	1
2.0 PROJECT OVERVIEW	1
2.1 PROJECT LOCATION	2
2.2 DESCRIPTION OF PROPOSED ACTION	2
2.3 PROJECT SCHEDULE	14
2.4 CONSTRUCTION EQUIPMENT	14
3.0 INITIAL STUDY AND DETERMINATION.....	16
3.1 INITIAL STUDY AND ENVIRONMENTAL CHECKLIST FORM.....	16
3.2 DETERMINATION: (TO BE COMPLETED BY THE LEAD AGENCY)..	17
4.0 ENVIRONMENTAL REVIEW CHECKLIST	18
4.1 ENVIRONMENTAL FACTORS	18
4.2 AESTHETICS	18
4.2.1 Setting	18
4.2.2 Answers to Check List Questions	19
4.3 AGRICULTURE RESOURCES	19
4.3.1 Setting	20
4.3.2 Answers to Check List Questions	20
4.4 AIR QUALITY	21
4.4.1 Setting	21
4.4.2 Answers to Check List Questions	22
4.4.3 Mitigation Measures.....	23
4.5 BIOLOGICAL RESOURCES	24
4.5.1 Setting	24
4.5.2 Vegetation and Wildlife	25
4.5.3 Answers to Check List Questions	28
4.5.4 Mitigation Measures.....	33
4.6 CULTURAL RESOURCES	35
4.6.1 Setting	35
4.6.2 Regulatory Setting	36
4.6.3 Answers to Check List Questions	37
4.6.4 Mitigation Measures.....	38
4.7 GEOLOGY AND SOILS	38
4.7.1 Setting	38
4.7.2 Seismic Hazards.....	40



TABLE OF CONTENTS (Continued)

	Page
4.7.3 Regulatory Setting	42
4.7.4 Answers to Check List Questions	43
4.7.5 Mitigation Measures.....	44
4.8 HAZARDS AND HAZARDOUS MATERIALS.....	44
4.8.1 Setting	45
4.8.2 Regulatory Setting	46
4.8.3 Answers to Check List Questions	47
4.8.4 Mitigation Measures.....	49
4.9 HYDROLOGY AND WATER QUALITY.....	49
4.9.1 Setting	50
4.9.2 Answers to Check List Questions	50
4.9.3 Mitigation Measures.....	51
4.10 LAND USE AND PLANNING.....	52
4.10.1 Setting	52
4.10.2 Answers to Check List Questions	53
4.11 MINERAL RESOURCES.....	53
4.11.1 Setting	53
4.11.2 Answers to Check List Questions	53
4.12 NOISE	54
4.12.1 Setting	54
4.12.2 Answers to Check List Questions	56
4.12.3 Mitigation Measures.....	57
4.13 POPULATION AND HOUSING	57
4.13.1 Setting	57
4.13.2 Answers to Check List Questions	58
4.14 PUBLIC SERVICES	59
4.14.1 Setting	59
4.14.2 Answers to Check List Questions	60
4.15 RECREATION.....	61
4.15.1 Setting	61
4.15.2 Answers to Check List Questions	62
4.16 TRANSPORTATION/TRAFFIC	62
4.16.1 Setting	62
4.16.2 Answers to Check List Questions	63
4.16.3 Mitigation Measures.....	64
4.17 UTILITIES AND SERVICE SYSTEMS	64
4.17.1 Setting	65
4.17.2 Answers to Check List Questions	66



TABLE OF CONTENTS (Continued)

	Page
4.18 MANDATORY FINDINGS OF SIGNIFICANCE (SECTION 15065)	67
4.18.1 Answers to Check List Questions	67
5.0 REFERENCES.....	68

TABLES

2.4-1 Expected Use of Construction Equipment for the Arroyo Los Positas Weir Project	15
4.5-1 Vegetation and Wildlife Species Observed at the Arroyo Las Positas Weir Replacement Project.....	26
4.13-1 Demographic Characteristics in the Project Area	58

FIGURES

2.1-1 Regional Map	3
2.1-2 Project Site Map.....	5
2.2-1 Plan and Cross-Section Views of Existing and Proposed Facilities	7
2.2-2 Erosion Control Plan	9
4.5-1 Special Status Species Occurrences	29
4.11-1 Magnitude of Common Sounds.....	55

PHOTOGRAPHS

2-1 Existing Concrete Pad and Sill.....	11
2-2 Existing North Channel Bank	11
2-3 Existing South Channel Bank.....	12
2-4 Access Corridor from the Southern Laydown Area to Stream Bank	13
2-5 Lateral Access from Top of Stream Bank to Weir Site	13
2-6 Northern Laydown Area	14

APPENDICES

APPENDIX A: MITIGATION MONITORING PLAN
APPENDIX B: SPECIES LIST
APPENDIX C: CALIFORNIA NATURAL DIVERSITY DATABASE
APPENDIX D: CULTURAL RESOURCES



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1.0 MITIGATED NEGATIVE DECLARATION

1.1 PROJECT DESCRIPTION:

The Zone 7 Water Agency (Zone 7) proposes to remove an existing concrete pad currently used to control stream flow in Arroyo Las Positas under the North Livermore Avenue Bridge and to replace it with a V-notched concrete weir. Because of increased flow through the Arroyo Las Positas, the existing concrete pad has been unable to sufficiently control flow to allow accurate stage and discharge measurements at the Arroyo Las Positas near Livermore gauging station. The purpose of the project is to provide Zone 7 with a control structure that accommodates seasonal flows that will provide accurate stage and discharge data for the stream, especially during the periods of low flow.

1.2 DETERMINATION:

An Initial Study has been prepared by Zone 7 and has been determined that the proposed project would, as mitigated, not have a significant effect upon the environment for the following reasons:

- The proposed project would have no impact or less-than-significant impacts on Aesthetics, Agricultural Resources, Land Use Planning, Mineral Resources, Population and Housing, Public Services, Recreation, Transportation / Traffic, or Utilities and Service Systems.
- Potentially significant impacts would be mitigated to less-than-significant levels for Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, and Noise.

1.3 MITIGATION MEASURES

The proposed project will employ project design and construction practices as well as mitigation measures that will minimize or eliminate potential impacts to the environment. The mitigation measures are provided at the end of each technical issue discussion and are listed in the Mitigation Monitoring Plan (Appendix A). Mitigation measures will be incorporated into the proposed project to avoid potentially significant impacts.

2.0 PROJECT OVERVIEW

The Zone 7 Water Agency (Zone 7) proposes to remove portions of an existing concrete pad that is assumed to have been an erosion control structure in Arroyo Las Positas under the North Livermore Avenue Bridge and to replace it with a V-notched concrete weir.



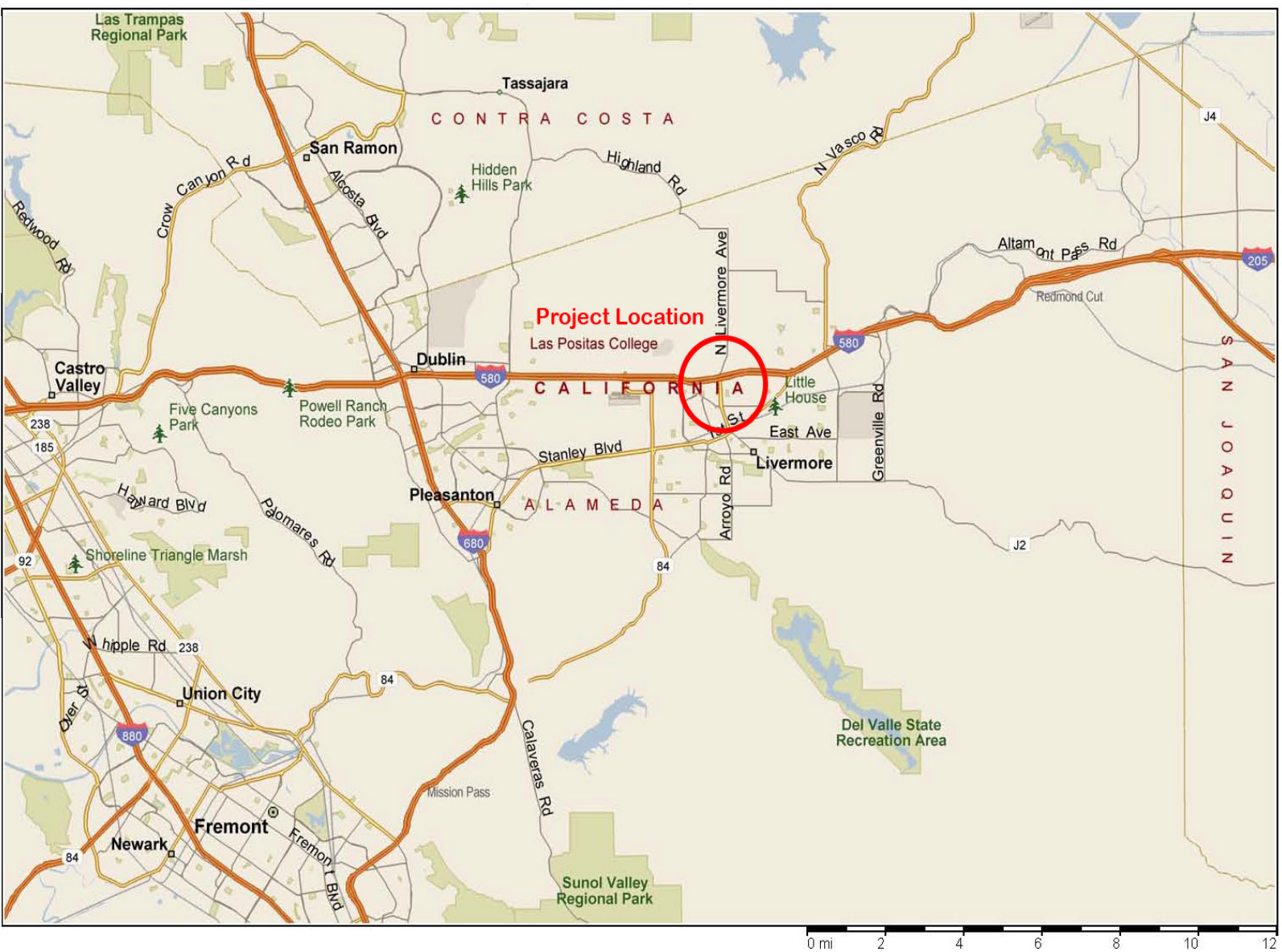
2.1 PROJECT LOCATION

The project is located within the streambed of Arroyo Los Positas in the City of Livermore, Alameda County (see Figure 2.1-1). The site is located within the portion of the streambed that is under the North Livermore Avenue Bridge, immediately south of Interstate 580 (I-580), and is within the Caltrans right of way. I-580 borders the site to the north and the Plaza Shopping Center, a large commercial retail shopping center, is located south of the site. The proposed laydown areas would be in the existing paved parking lot of the shopping center and in the dirt area to the north of the project site alongside the I-580 East on ramp (see Figure 2.1-2).

2.2 DESCRIPTION OF PROPOSED ACTION

Currently, there is a makeshift weir consisting of a piece of angle iron installed into a concrete pad across the channel (Photograph 2-1). The existing sill is currently serving as the control device and is located in the center of the existing 45 ft wide (cross-stream) by 26 ft long (stream-parallel) concrete pad. There is also an existing bubbler gauge that measures stream height upstream of the control structure and transmits a recording via piping to a recording station at the top of the stream bank. The sill, a portion of the pad, and the unused piping would be removed and a new reinforced concrete weir would be constructed under the bridge in the same location. Piping that protects the existing data logger cables will remain and will serve a similar function for the new weir.

Figure 2.2-1 shows plan and cross-section views of the proposed weir, which would span the width of the channel, a distance of approximately 46 ft, and would be founded approximately 3 ft below the existing streambed. As depicted in the cross-section of the proposed weir, the height above the streambed would be variable; however it would not exceed 2 ft. The weir would terminate with 5 ft to 8 ft wide concrete wingwalls founded into the channel banks. A portion of the existing concrete pillow rip rap on the north channel bank (Photograph 2-2) would be saw cut and removed in order to install the north wingwall. The southern wing wall would also be installed into the dirt bank (Photograph 2-3) and protected with approximately 16 cubic yards (CY) of rock riprap to prevent erosion. Approximately 21.55 CY of concrete would be required to construct the weir and wing wall structures. Approximately 34 CY of rock riprap will be placed in a 230 ft² area on the west side of the weir to prevent erosion (Figure 2.2-1).



Source: Microsoft Streets & Trips 2007

Figure 2.1-1
Regional Map
Las Positas Weir Project





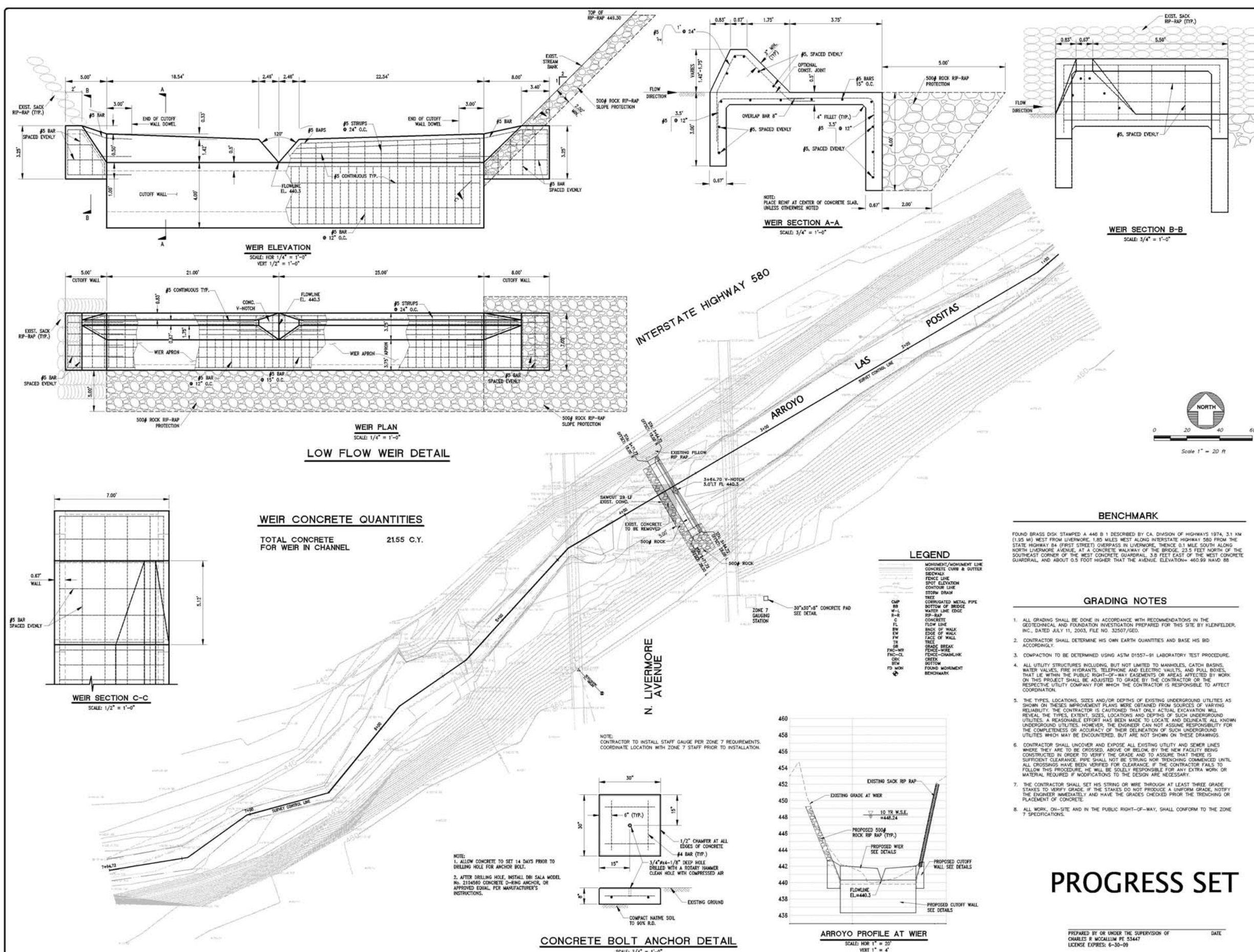
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Figure 2.1-2
Project Site Map
Las Positas Weir Project



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WEIR CONSTRUCTION PLAN
ARROYO LAS POSITAS WEIR PROJECT
NORTH LIVERMORE AVENUE
ZONE 7 WATER AGENCY
LIVERMORE, ALAMEDA COUNTY, CALIFORNIA

DATE: APRIL, 2003
SCALE: 1" = 20'
DESIGNER: CM
JOB NO.: A03531
SHEET: 1
OF 2 SHEETS

Figure 2.2-1
Plan View and Cross Section of Existing and Proposed Facilities
Las Positas Weir Project



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Photograph 2-1. Existing Concrete Pad and Sill



Photograph 2-2. Existing North Channel Bank



Photograph 2-3. Existing South Channel Bank

Construction of the weir is proposed under “dry conditions”, therefore a temporary wooden cofferdam would be installed across the streambed at a location approximately 140 ft upstream of the weir site (Figure 2.1-2 and 2.2-2). A flexible pipe, fitted with a pump, would be laid along the north bank and would divert the water around the work site during the construction period. The proposed release point for the diverted water is within the natural stream channel approximately 50 ft downstream of the weir site and will have erosion protection at the outfall to prevent scouring. In total, a reach of about 200 ft would be temporarily disturbed during the 30-day construction period.

Equipment would access the site from the two proposed laydown areas. The southern laydown area is an 150 ft wide by 25 ft long portion of an existing parking lot (Figure 2.1-2) approximately 520 ft south east of the existing weir. Photograph 2-4 shows the proposed corridor that would be used by the vehicles and personnel to access the site from the southern laydown area. Access to the stream bank will be across the parking lot perimeter road, through a landscaped strip adjacent to the perimeter road. The existing fencing adjacent to the parking area would be removed to allow vehicle access, but would be replaced following the completion of the construction activities. A temporary access path would be excavated along the south bank to allow construction vehicles and personnel to access the weir site (Figure 2.1-2 and Photograph 2-5). Silt fencing will be used around the temporary access path to protect the creek. Following construction, the access path will be graded to the existing slope and replanted with an appropriate hydro-seed mix.



The northern laydown area (pending CalTrans encroachment permit) is located approximately 100 ft north of the existing weir (Figure 2.1-2 and Photograph 2-6). This area will be used as a parking site for heavy equipment such as the concrete pump truck. No lateral access to the stream will be available from the northern laydown area.



Photograph 2-4. Access Corridor from the Southern Laydown Area to Stream Bank



Photograph 2-5. Lateral Access from Top of Stream Bank to Weir Site



Photograph 2-6. Northern Laydown Area

Demolition of the existing concrete pad will be completed using a jack hammer, excavator, and manual tools. The estimated 20 CY of demolished concrete will be removed from the site and transported to and disposed at a permitted landfill. Excavated soil within the weir site will be temporarily stored above the water line and will be replaced at the end of the construction period. The weir and wing walls will be constructed by pouring quick-drying concrete through a snorkel-type hose into fabricated wood frames from a truck located above the site in a turnout area off North Livermore Avenue. After the concrete is cured, the wood will be removed and disposed of or recycled. The rock riprap will be transported to the excavated area within the streambed via a bobcat-type vehicle using the lateral access from the southern laydown area.

2.3 PROJECT SCHEDULE

Site preparation, demolition of existing concrete, and installation of the weir structure is expected to take 30 days to complete. The project is scheduled to be initiated as early as the spring of 2009 and will be completed by October 15, 2009. Most construction activities will take place no earlier than 8 a.m. and no later than 5 p.m., Monday through Friday.

2.4 CONSTRUCTION EQUIPMENT

Conventional road-building equipment will be used during construction of the Project. Table 2.4-1 lists the specific equipment and anticipated daily hours of use during construction activities. Not all equipment will be operated every day of the 30-day construction period nor will it be operated continually for eight hours on any single day. However, to estimate emissions, a conservative approach (*i.e.* assuming eight hours per day) was used.



**Table 2.4-1. Expected Use of Construction Equipment
for the Arroyo Los Positas Weir Project**

Equipment	Daily Hours of Use
Backhoe Loader	8
Jackhammer	8
Small Generator	8
Truck Mounted Compressor	8
Air Rotary Drill	8
Dump Truck	8
Pump Truck	8
Concrete Truck	8
Vibrator	8
O2 Tanks	8
Power Saw	8



3.0 INITIAL STUDY AND DETERMINATION

This Initial Study complies with Section 21064.5 of the California Public Resources Code (CEQA) and Article 6 of the CEQA Guidelines (14 California Code of Regulations 15000 et seq.). The following Initial Study Checklist Form, subsequent Environmental Checklist, and evaluation of potential environmental effects were completed in accordance with Section 15063(d) of the CEQA Guidelines to determine if the proposed project could have any potentially significant effect on the physical environment, and if so, what mitigation measures would be imposed to reduce such impacts to a level that is less than significant.

An explanation is provided for all determinations. A “No Impact” or “Less-Than-Significant Impact” determination indicates that the proposed project would not have a significant effect on the physical environment for the specific environmental category.

3.1 INITIAL STUDY AND ENVIRONMENTAL CHECKLIST FORM

Project Title:	Arroyo Las Positas Weir Replacement
Lead Agency Name and Address:	Zone 7 Water Agency 100 North Canyons Parkway Livermore, CA 94551
Contact person and phone number:	Mary Lim, 925-454-5036
Project Location:	City of Livermore, Alameda County, California
Project Sponsor's name and Address:	Zone 7 Water Agency 100 North Canyons Parkway Livermore, CA 94551
General Plan Designation:	Open Space/Agricultural
Zoning:	Open Space/Agricultural
Project Description:	See Section 2.0
Surrounding Land Uses and Setting:	OSP (Parks, Trailways, Recreational Corridors, and Protected Areas), Developed Commercial and zoned as Community Serving General Commercial
Other Public Agencies Whose Approval is Required:	U.S. Army Corp of Engineers Regional Water Quality Control Board California Department of Fish and Game



3.2 DETERMINATION: (TO BE COMPLETED BY THE LEAD AGENCY)

On the basis of this initial evaluation:

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

Printed Name

For



4.0 ENVIRONMENTAL REVIEW CHECKLIST

4.1 ENVIRONMENTAL FACTORS

The environmental factors checked below would be potentially affected by this Project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- | | | |
|---|---|--|
| ☐ Aesthetics | ☐ Agriculture Resources | ☒ Air Quality |
| ☒ Biological Resources | ☒ Cultural Resources | ☒ Geology/Soils |
| ☒ Hazards & Hazardous Materials | ☒ Hydrology/Water Quality | ☐ Land Use/Planning |
| ☐ Mineral Resources | ☒ Noise | ☐ Population/Housing |
| ☐ Public Services | ☐ Recreation | ☒ Transportation/Traffic |
| ☐ Utilities/Service Systems | ☐ Mandatory Findings of Significance | |

4.2 AESTHETICS

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
A) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
B) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
C) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	☒
D) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

4.2.1 Setting

As is shown in the photographs, the existing visual quality of the site is limited, consisting of a concrete pad under a roadway bridge and a channelized section of a streambed with ruderal vegetation.



4.2.2 Answers to Check List Questions

Question A:

The project site and surrounding landscape has low scenic value. The project site is located within a streambed but laydown areas are in an urbanized area of the County and is surrounded by commercial and agricultural uses. Therefore, project activities would not result in the degradation of the scenic vista. No long-term negative aesthetic impacts are expected. As proposed, grading and re-planting will occur following completion of project activities will return the access path to its pre-use condition.

Questions B and C:

The project will not necessitate the removal of any trees and would not result in the substantial damage of scenic resources. No structures that would result in the degradation of the existing visual character or quality of the site and its surroundings will be added.

Question D:

All project activities will be conducted during daylight hours and no new light sources are proposed. Therefore, the project would not result in substantial light or glare, which would adversely affect day or nighttime views in the area.

4.3 AGRICULTURE RESOURCES

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
A) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
B) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
C) Involve other changes in the existing environment, which due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☐	☒

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.



4.3.1 Setting

As of 2002, approximately 1,061 acres of land within the Livermore City limits were in agricultural uses (City of Livermore, 2004). Unincorporated areas to the north, east, and west of Livermore are currently used for rangeland, dry farmland, irrigated cropland, and uncultivated farmland. Agricultural uses south of Livermore include extensive vineyards, orchards (mainly olives and nuts), rangeland, and uncultivated farmland (City of Livermore, 2004). Within the City limits, population and job growth has converted much of the agricultural lands to commercial and residential uses.

The immediate project area and access to the site is on undeveloped disturbed land adjacent to the freeway. According to the Open Space and Conservation Element of the City of Livermore General Plan, construction activities would occur on land classified as Urban and Built-up Land (City of Livermore, 2004). However, mapped Grazing Land surrounds the project area: south of Los Positas Road; west of N. Livermore Avenue; north of I-580; and east of the commercial shopping area along Arroyo Plaza and Los Positas Road, approximately 2,000 ft east of the site (City of Livermore, 2004).

4.3.2 Answers to Check List Questions

Question A:

There is mapped Grazing Land surrounding the project site and within 600 ft of construction activities (to the north of I-580), but it would not be disturbed by construction activities. No other Important Farmland is located in the project vicinity. Therefore, the project would not involve the conversion of Prime or Unique Farmland, or Farmland of Statewide Importance, to non-agricultural uses.

Question B:

The project is not within an established agricultural area and would not conflict with agricultural zoning, because project activities would be within the stream bed and the access area south of the stream bank is designated for Developed Commercial uses. The laydown area would be in an existing paved parking lot. No land in the area is under the Williamson Act contract.

Question C:

Project activities would not involve changes to the environment, which could result in the conversion of farmland to non-agricultural use.



4.4 AIR QUALITY

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
A) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
B) Violate any air quality standard or contribute substantially to an existing or Projected air quality violation?	☐	☐	☒	☐
C) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?	☐	☒	☐	☐
D) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
E) objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Where 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.

4.4.1 Setting

The project site is located in Alameda County within the San Francisco Bay Area Air Basin (SFBAB) which encompasses nine counties: Sonoma (portion), Napa, Solano (portion), Contra Costa, Alameda, Santa Clara, San Mateo, San Francisco and Marin. The SFBAB periodically fails to meet air quality standards and is a designated “non-attainment” area for:

- State 1-hour ozone standard;
- State and Federal 8-hour ozone standards;
- State particulate matter (PM₁₀) standard; and
- State fine particulate matter (PM_{2.5}) standard.

Air pollution control is administered on three governmental levels. The U.S. Environmental Protection Agency (USEPA) has jurisdiction under the Clean Air Act, the California Air Resources Board (ARB) has jurisdiction under the California Health and Safety Code and the California Clean Air Act, and the Bay Area Air Quality Management District (BAAQMD) shares responsibility with the ARB for ensuring that all State and Federal ambient air quality standards are attained within the SFBAB.



The BAAQMD adopted a 2005 Bay Area Ozone Strategy including measures to reduce emissions and attain the State 1-hour ozone standard as expeditiously as practicable, and to reduce the transport of ozone and ozone precursors to neighboring air basins. Currently, the BAAQMD is in the process of updating the 2005 Bay Area Ozone Strategy, as required by the California Clean Air Act.

The BAAQMD also adopted a Particulate Matter Implementation Schedule in 2005, which includes numerous particulate control measures to be implemented to make progress towards attainment of State particulate matter standards, and comply with SB 656 and the California Clean Air Act.

The ARB and BAAQMD operate an ambient air quality monitoring station in Livermore, located approximately 1 mile south-southwest of the project site. Air quality data collected at this station from 2004 through 2006 indicate:

- The State 1-hour ozone standard is exceeded an average of 8 days per year;
- The Federal 8-hour ozone standard is exceeded an average of 2 days per year; and
- The State PM₁₀ standard is exceeded an average of one sampling period per year.

4.4.2 Answers to Check List Questions

Question A:

The proposed project is limited to the replacement of an existing flow gauging station in Arroyo Las Positas. It would not include any new or modified land uses or otherwise generate any vehicle trips. In addition, the proposed project would not affect area roadways, such that traffic patterns would not be altered. Therefore, the proposed project is consistent with the emissions inventory and assumptions used to prepare the 2005 Bay Area Ozone Strategy.

Question B:

The proposed project would generate emissions during construction. However, the magnitude of these emissions (see Question C. below) would be small and limited to a 30 working day construction period. Ozone is a regional pollutant as it is formed in the atmosphere, and the project's contribution to regional ozone precursor emissions would be negligible. Therefore, air quality standards are not expected to be exceeded nor is the project expected to result in substantial contributions to exceeding existing air quality standards.

Question C:

Project-related peak day ozone precursor emissions would be limited to approximately 15.4 pounds of oxides of nitrogen (NO_x) and 1.6 pounds reactive organic compounds (ROC); these values are negligible and short-term. However, construction activities (excavation and access road construction) would generate particulate emissions, which



may be considered significant due to existing high levels of PM₁₀ in the area. **Mitigation measures to reduce potential impacts are proposed below.**

Question D:

Construction activities would result in emissions of diesel particulate matter from construction equipment and heavy-duty trucks. Diesel particulate matter is considered a toxic air contaminant by ARB. However, exposure to diesel particulate matter would be limited as no residences are located in close proximity to the project site.

Question E:

Diesel exhaust would be generated during project construction, and may be considered to have an objectionable odor by sensitive individuals. However, exposure to such odors would be limited as no residences are located in close proximity to the project site.

4.4.3 Mitigation Measures

Although no significant air quality impacts are anticipated, the following mitigations measures to reduce dust are recommended by the BAAQMD CEQA guidelines.

Mitigation Measure AIR-1. All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, on- and off-site, unpaved access roads, land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, covered with a tarp or other suitable cover or vegetative ground cover.

Mitigation Measure AIR-2. When earth materials are transported off-site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container shall be maintained.

Mitigation Measure AIR-3. All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each work day. Within urban areas, track-out or earth materials shall be immediately removed when it extends 50 or more feet from the site and at the end of each work day.

Mitigation Measure AIR-4. Following the addition or the removal of materials from the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant.



4.5 BIOLOGICAL RESOURCES

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
A) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
B) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☒	☐
C) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
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?	☐	☐	☒	☐
E) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐
F) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

4.5.1 Setting

The Arroyo Las Positas project site is situated in the City of Livermore within an urban setting, and is bordered by development on all sides except for the northwestern portion of the site, which contains grazed pasture.

The area surrounding the project site is comprised of a mix of non-native annual grassland and emergent wetland cover types. The proposed weir location under the bridge contains no vegetation, only soil and concrete from the existing weir are present. The terraces of the channel are lined with non-native annual grassland vegetation. Emergent vegetation is present within and immediately adjacent to the Arroyo Las Positas channel. Within the project site, Arroyo Las Positas contains open water consisting of pool, riffle, and run habitat. Width and depth of the water varies throughout the project site. The pool habitat located onsite has an estimated depth of three feet and a width of approximately 15 feet.



4.5.2 Vegetation and Wildlife

The Arroyo Las Positas Weir Replacement Project area is composed of two specific cover types. These cover types are generally quite distinct; however, they do integrate in some locations.

Annual Non-native Grassland. Historically, native grasslands covered a large expanse of California including virtually all of the Central Valley and much of the foothill region. However, settlement of these areas resulted in the introduction of European forbs and grasses to support livestock grazing. The aggressiveness of the hardier European species, and the elimination of native grazers such as elk and pronghorn, resulted in the conversion of vast expanses of native grasslands to the annual non-native grassland communities. Only scattered islands of native grassland continue to exist, and many of those are maintained through human intervention to prevent the invasion of annual non-native species. There is a limited diversity of plant species within this cover type. Species observed at the project site included Italian ryegrass (*Lolium multiflorum*), prickly lettuce (*Lactuca serriola*), ripgut grass (*Bromus diandrus*), hare barley (*Hordeum murinum* ssp. *leporinum*), field hedge parsley (*Torilis arvensis*), black mustard (*Brassica nigra*), wild radish (*Brassica rapa*), Italian thistle (*Carduus pycnocephalus*), bristly ox-tongue (*Picris echioides*), and wild oat (*Avena fatua*). Temporarily impacted non-native annual grassland will account for approximately 0.2 acre.

Freshwater Emergent Wetlands. Freshwater emergent wetlands are among the most productive wildlife habitats in California, providing food, cover, and water for over 160 species of birds, and numerous mammals, amphibians, and reptiles (Kramer, 1988). This cover type is typically associated with topographically lower areas. Within the project site, emergent wetlands are located within and immediately adjacent to the banks of Arroyo Las Positas. Plant species seen onsite include California bulrush (*Scirpus californicus*), Mexican rush (*Juncus mexicanus*), American tule (*Scirpus americanus*), poison hemlock (*Conium maculatum*), broad-leaved pepper-grass (*Lepidium latifolium*), and saltgrass (*Distichlis spicata*) (Padre Associates, 2008). Implementation of the project would temporarily impact approximately 0.085 acre of emergent wetlands.

Wildlife species seen onsite were typical species adapted to an urban environment; with dominant species consisting of European starling (*Sturnus vulgaris*), American crow (*Corvus brachyrhynchos*), northern mockingbird (*Mimus polyglottos*), western scrub-jay (*Aphelocoma californica*), rock pigeon (*Columba livia*), and house sparrow (*Passer domesticus*). No amphibians, fish, or mammals were seen during surveys. For a list of wildlife and vegetation found at the project site, see Table 4.5-1.



**Table 4.5-1. Vegetation and Wildlife Species Observed at the
Arroyo Las Positas Weir Replacement Project**

FAMILY/Common Name	Scientific Name	Protected Status¹
VEGETATION		
APIACEAE (Carrot Family)		
Poison hemlock	<i>Conium maculatum</i>	
Fennel	<i>Foeniculum vulgare</i>	
Field hedge-parsley	<i>Torilis arvensis</i>	
ASTERACEAE (Sunflower Family)		
Mugwort	<i>Artemisia douglasiana</i>	
Coyote brush	<i>Baccharis pilularis</i>	
Italian thistle	<i>Carduus pycnocephalus</i>	
Yellow star-thistle	<i>Centaurea solstitialis</i>	
Bull thistle	<i>Cirsium vulgare</i>	
Great Valley gumplant	<i>Grindelia camporum</i> var. <i>camporum</i>	
Prickly lettuce	<i>Lactuca serriola</i>	
Bristly ox-tongue	<i>Picris echioides</i>	
Milk thistle	<i>Silybum marianum</i>	
Salsify	<i>Tragopogon porrifolius</i>	
Rough cocklebur	<i>Xanthium strumarium</i>	
BRASSICACEAE (Mustard Family)		
Black mustard	<i>Brassica nigra</i>	
Broad-leaved peppergrass	<i>Lepidium latifolium</i>	
CHENOPODIACEAE (Goosefoot Family)		
Fat hen	<i>Atriplex triangularis</i>	
FABACEAE (Legume Family)		
White sweetclover	<i>Melilotus alba</i>	
Vetch	<i>Vicia sativa</i>	
GERANIACEAE (Geranium Family)		
Dove's-foot geranium	<i>Geranium molle</i>	
JUGLANDACEAE (Walnut Family)		
California black walnut	<i>Juglans californica</i>	
MALVACEAE (Mallow Family)		
Mallow	<i>Malva</i> sp.	
MYRTACEAE (Myrtle Family)		
Blue gum	<i>Eucalyptus globulus</i>	
ONAGRACEAE (Evening Primrose Family)		
Hairy willow herb	<i>Epilobium ciliatum</i>	
PLANTAGINACEAE (Plantain Family)		
English plantain	<i>Plantago lanceolata</i>	
POLYGONACEAE (Buckwheat Family)		
Curly dock	<i>Rumex crispus</i>	
ROSACEAE (Rose Family)		
Firethorn	<i>Pyracantha angustifolia</i>	



Table 4.5-1. (Continued)

FAMILY/Common Name	Scientific Name	Protected Status¹
SOLANACEAE (Nightshade Family)		
Tobacco tree	<i>Nicotiana glauca</i>	
CYPERACEAE (Sedge Family)		
Clustered field sedge	<i>Carex praegracilis</i>	
American tule	<i>Schoenoplectus americanus</i>	
California bulrush	<i>Schoenoplectus californicus</i>	
JUNCACEAE (Rush Family)		
Mexican rush	<i>Juncus mexicanus</i>	
POACEAE (Grass Family)		
Wild oat	<i>Avena fatua</i>	
Ripgut grass	<i>Bromus diandrus</i>	
Salt grass	<i>Distichlis spicata</i>	
Italian ryegrass	<i>Lolium multiflorum</i>	
Smilo grass	<i>Piptantherum milleaceum</i>	
WILDLIFE		
CATHARTIDAE (American Vultures)		
Turkey vulture	<i>Cathartes aura</i>	M
LARIDAE (Gulls and Terns)		
California gull	<i>Larus californicus</i>	M
COLUMBIDAE (Pigeons and Doves)		
Rock pigeon	<i>Columba livia</i>	
TROCHILIDAE (Hummingbirds)		
Anna's hummingbird	<i>Calypte anna</i>	M
TYRANNIDAE (Tyrant Flycatchers)		
Black phoebe	<i>Sayornis nigricans</i>	M
CORVIDAE (Jays, Magpies, and Crows)		
California scrub-jay	<i>Aphelocoma californica</i>	M
American crow	<i>Corvus brachyrhynchos</i>	M
MIMIDAE (Mockingbirds and Thrashers)		
Northern mockingbird	<i>Mimus polyglottos</i>	M
Golden-crowned sparrow	<i>Zonotrichia atricapilla</i>	M
White-crowned sparrow	<i>Zonotrichia leucophrys</i>	M
ICTERIDAE (Icterids)		
Red-winged blackbird	<i>Agelaius phoeniceus</i>	M
Brewer's blackbird	<i>Euphagus cyanocephalus</i>	M
FRINGILLIDAE (Finches)		
Lesser goldfinch	<i>Carduelis psaltria</i>	M
PASSERIDAE (Weaver Finches)		
House sparrow	<i>Passer domesticus</i>	

Status¹

M Protected under the federal Migratory Bird Treaty Act (MBTA)



4.5.3 Answers to Check List Questions

Question A:

Based on the species lists provided by the U.S. Fish and Wildlife Service (Service) (Appendix B) and a query of the California Natural Diversity Database (CNDDB) (Appendix C), an analysis was conducted to determine the range and habitat preferences of those species for which suitable habitat was present at or near the project site. California red-legged frog (*Rana aurora draytonii*) and northern Pacific pond turtle (*Clemmys m. marmorata*) were recorded within one mile of the project site, and California tiger salamanders (*Ambystoma californiense*) were also recorded in relatively close proximity (Figure 4.5-1). Consequently, this section is confined to those listed species that have a potential to occur on the project site based on vegetation cover types. Certain species, such as chaparral or woodland species, were eliminated from more thorough analyses due to the absence of potential habitat on the project site. Other species were eliminated from consideration because the project site was beyond the recorded geographic and/or elevational range for the species. Consequently, this analysis focuses on the California red-legged frog, California tiger salamander, and northern Pacific pond turtle.

California red-legged frog (CRLF) is a Federal Threatened species and a California Species of Special Concern. It formerly ranged from northern California south along the Pacific Coast, west of the Cascade Mountains and the Sierra Nevada, to northern Baja California at elevations from near sea level to 8,000 feet (Barry, 2002). Populations remain in the San Francisco Bay Area, along the California coast, and the western edge of the Central Valley. The CRLF occurs in different habitats depending on their life stage and season. All stages are most likely to be encountered in and around breeding sites, which include coast lagoons, marshes, springs, permanent and semi-permanent natural ponds, ponded and backwater portions of streams, as well as artificial impoundments such as stock ponds, irrigation ponds, and siltation ponds with dense and extensive vegetative cover of emergent and bank vegetation including willow (*Salix* sp.), cattail, and bulrush.

No CRLF were observed during surveys, but the likelihood of occurrence of CRLF is moderate based on the proximity of occurrences within the Arroyo Las Positas watershed. The closest occurrence is approximately 0.6 mile from the project site on Cayetano Creek, a tributary of Arroyo Las Positas (CNDDB, 2008). CRLF have been recorded approximately 3 miles downstream and 1.4 miles upstream of the project site within the Arroyo Las Positas channel (CNDDB, 2008). The project site is located within the urban area of Livermore, which lowers the habitat quality for CRLF. The project site and the immediate area contain all the primary constituent elements needed for CRLF to exist and reproduce. However, the site is highly disturbed from local transients making the quality of habitat less appealing for breeding or year-round residency. Based on the amount of disturbance at the project site, if CRLF occur within or immediately adjacent to the project site, they most likely due so for dispersal or migration.

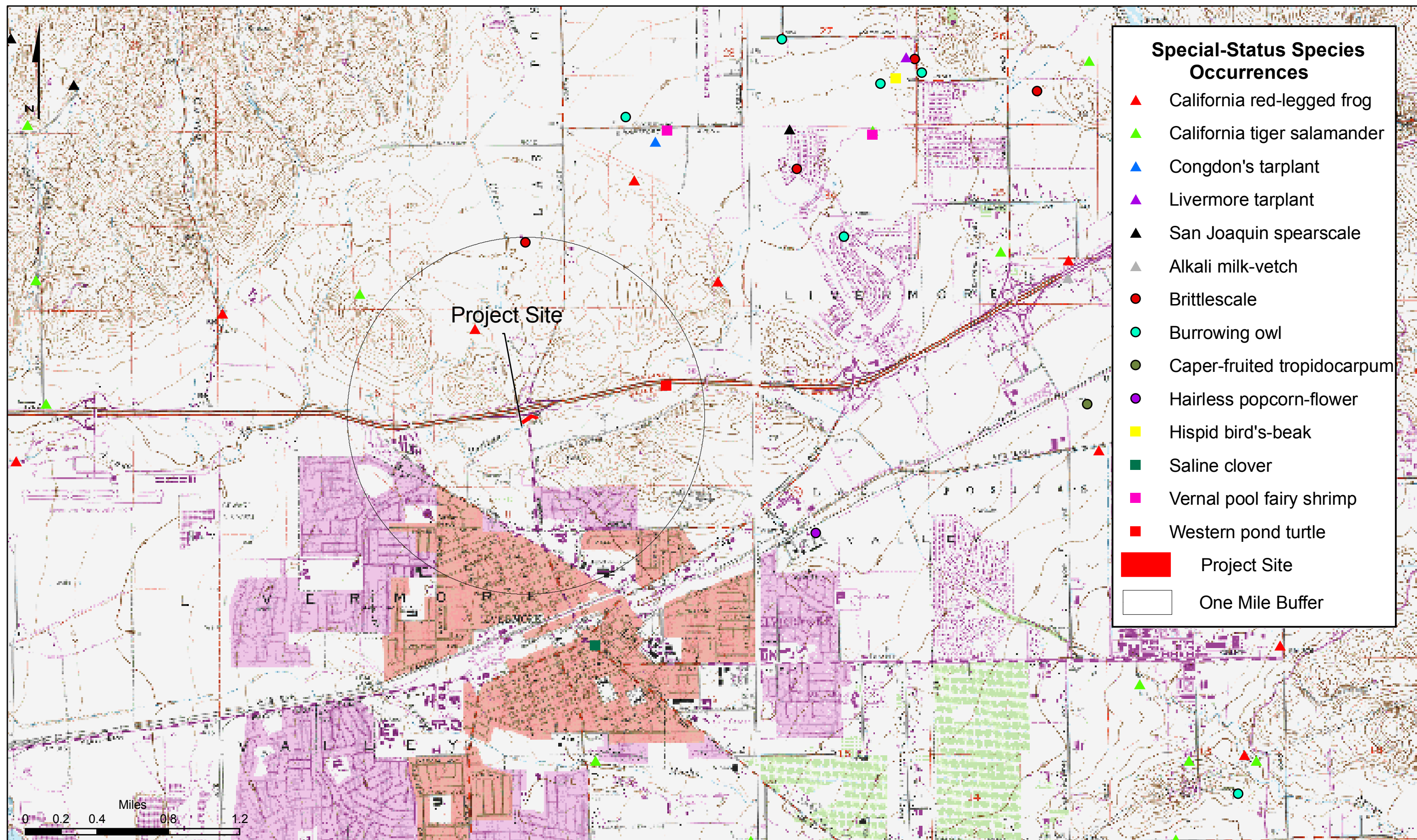


Figure 4.5-1
Special-Status Species Occurrences
Las Positas Weir Project



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California tiger salamander (CTS) is a Federal Threatened species and a California Species of Special Concern. The CTS typically inhabit grassland and oak woodland habitats below 1,500 feet that have scattered ponds, intermittent streams, and/or vernal pools. CTS aestivate in rodent burrows throughout the summer and emerge after the first few sustained rainstorms in November. Adults will migrate up to 3,300 feet from aestivation sites to breeding ponds. The breeding season extends from December through February. Adults remain in breeding ponds for several days before exiting to forage in terrestrial habitat.

No CTS were observed during field surveys, and the likelihood of occurrence is low to moderate based on the lack of quality habitat. The Arroyo Las Positas site lacks small mammal burrows that CTS use for retreat during the day. In most years, Arroyo Las Positas is a near-perennial channel, which is unfavorable to CTS. CTS dispersal is limited due to major roads, highways, and development in the area. Upland habitat to the northwest is available for dispersal; however, movements would be limited to less than 0.3 mile because of I-580. The closest CTS occurrence is approximately 1.75 miles west of the project site (CNDDDB, 2008).

Northern pacific pond turtle (NPPT) is a California Species of Special Concern. The NPPT occurs primarily in foothills west of the Cascade-Sierra crest throughout California. The NPPT is a subspecies that ranges north of the San Francisco Bay area and intergrades with the Southern Pacific pond turtle in the southern portion of the Central Valley (Holland, 1986). NPPT are a semi-aquatic species inhabiting streams, marshes, ponds, and irrigation ditches within woodland, grassland, and open forest communities, but require upland sites for nesting and over-wintering. This species inhabits stream as well as pond habitats. Stream habitat must contain large, deep pool areas (six feet) with moderate-to-good plant and debris cover, and rock and cobble substrates for escape retreats (Bury, 1986). Preferred depth in pond habitat is between three and five feet with mud substrate. Dense inshore vegetation is especially critical for hatchlings where they spend their first few years of life. Turtles from riverine systems over-winter in upland areas, while pond dwellers may remain as permanent residents with only nesting forays performed annually by gravid females (Rathbun et al., 1992).

The nearest recorded occurrence was in 2003 and is approximately 0.75 mile east of the project site within the Arroyo Las Positas channel (CNDDDB, 2008). Pools located within the channel could provide potential habitat for pond turtles; however, disturbance to the site by local transients makes this site less desirable.

The project will result in the temporary disturbance of approximately 0.32-acre of wetlands and WoUS, which is potentially suitable habitat for CRLF, CTS, or NPPT. No CRLF, CTS, or NPPT have been identified within the project site. Zone 7 will implement mitigation measures to reduce potential impacts to CRLF, CTS, and NPPT to less than significant levels. **Mitigation measures to reduce potential impacts are proposed below.**



Ground-clearing activities could impact protected raptors and bird species protected under the Migratory Bird Treaty Act and the California Fish and Game code. Mitigation measure will be implemented to reduce potential impacts to bird species protected under the migratory bird treaty. **Mitigation measures to reduce potential impacts are proposed below.**

Question B:

City of Livermore General Plan, Open Space and Conservation Element Objective 1.2 Policy 7 states: "The city shall require project proponents to identify and map sensitive biological and wetland resources on each development parcel and identify the measures necessary to avoid/ or minimize impacts on sensitive biological and wetland resources prior to approving the development. Mitigation for impacts to sensitive biological and wetland resources shall replace the functions and values of the resources as well as gross acreage." Arroyo Las Positas weir project contains 0.85-acres of wetland habitat. Other than the stream corridor and wetland habitat, which are analyzed below under Question C, there will be no impact to sensitive habitats protected by local ordinances, the Service, or California Fish and Game.

Question C:

Construction of the weir will require impacting both wetlands and "waters of the United States" (WoUS) protected under Section 404 of the Clean Water Act, California law, and the City of Livermore General Plan (see Question B above). Based on a preliminary wetland delineation conducted at the site, the total area of WoUS is approximately 0.32-acre (padre Associates, 2007). Of this, a 0.24-acre area between the limits of ordinary high water mark (OHWM) in the main channel of Arroyo Las Positas will be temporarily impacted. An additional 0.085-acre area of adjacent wetlands containing narrow bands of hydrophytic vegetation will be temporarily impacted. There will be a 0.01-acre of open channel permanently impacted by weir installation, but this is the location of the present weir. **Mitigation measures to reduce potential impacts are proposed below.**

Question D:

There are no known wildlife corridors or native wildlife nursery sites within the project area. However, any vegetated river, stream, slough or canal provides a potential migration corridor for wildlife. Therefore, the Arroyo Las Positas watershed could provide a corridor for wildlife movement. The amount of human disturbance and lack of riparian trees present along Arroyo Las Positas greatly lowers the habitat value as a migration corridor. The project would not permanently change the existing conditions with respect to wildlife movements.

Question E:

City of Livermore General Plan, Open Space and Conservation Element Objective 1.1 Policy 4 states: "The City shall require all projects that impact a Federal or State listed



threatened or endangered species, Federal or State listed candidate species, State Species of Special Concern, or State-designated sensitive habitats, to mitigate for identified impacts in a way consistent with mitigation and avoidance measures published and distributed by the Federal and/or State resource agencies at the time of the specific plan or project-level review. "Objective 1.2 Policy 1 states: "Habitats of rare or endangered species shall be preserved." Policies within the City of Livermore General Plan are consistent with Federal and State guidelines. After construction, habitat within and adjacent to the project site will be enhanced by the implementation of a Site Restoration and Mitigation Plan. **Mitigation measures are proposed below.**

Question F:

There is no habitat conservation plan for the region in which the project is located.

4.5.4 Mitigation Measures

Mitigation Measure BIO-1. A pre-construction survey will be conducted by a U.S. Fish & Wildlife Service- (USFWS) approved biologist immediately preceding any construction activity (including grading or equipment staging) that occurs in potential California red-legged frog (CRLF), California tiger salamander (CTS), or Northern Pacific pond turtle (NPPT) habitat, or an activity that may result in take of these species. The survey will include observations at all obvious potential locations for CTS, CRLF, and NPPT, such as in-water woody debris, wetland habitat, and the Arroyo Las Positas channel. Any individuals that are found will be captured and held for the minimum amount of time necessary, and then release them in suitable habitat outside of the work area that have been pre-approved by the USFWS..

Mitigation Measure BIO-2. If a CTS, CRLF, or NPPT is encountered during project construction, all construction activities in the immediate area will cease until the animal is removed and relocated to suitable habitat outside the work area by a USFWS-approved biologist.

- Nets or bare hands may be used to capture CTS, CRLF, and NPPT. USFWS-approved biologists will not use soaps, oils, creams, lotions, repellents, or solvents of any sort on their hands within two hours prior to and during periods when they are capturing and relocating those species. To avoid transferring disease or pathogens between aquatic habitats during the course of surveys, biologists will follow the protocols specified in *Declining Amphibian Populations Task Force's "Code of Practice"* (undated) and will limit the duration of handling and captivity of the individuals. While in captivity, these organisms will be kept in a cool, moist, aerated environment, such as a bucket containing a damp sponge. Containers used for holding or transporting adults of these species will not contain any standing water.

Mitigation Measure BIO-3. Tightly woven fiber netting or similar material will be used for erosion control or other purposes at the project site to ensure that the CRLF, CTS, or NPPT are not entrapped. Coconut coir matting is an acceptable erosion control material. No plastic mono-filament matting will be used for erosion control.



Mitigation Measure BIO-4. If bullfrogs, non-native fish, or non-native crawfish are observed during construction, they shall, to the extent practicable, be humanely dispatched.

Mitigation Measure BIO-5. During project activities, all trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas.

Mitigation Measure BIO-6. All refueling, maintenance, and staging of equipment and vehicles will occur at least 60 feet from riparian habitat or water courses, and not in a location from where a spill would drain directly to aquatic habitat. The on-site biologist will ensure the equipment storage and refueling area is properly located. Prior to the initiation of project activities, Zone 7 will ensure that a plan for prompt and effective response to any accidental spills is in place. All workers will be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

Mitigation Measure BIO-7. Project sites that are temporarily impacted will be re-vegetated with an assemblage of native riparian, wetland, and upland vegetation suitable for the area. Locally collected plant materials will be used to the extent practicable. Invasive, exotic plants will be controlled to the maximum extent practicable. This measure will be implemented in all areas disturbed by activities associated with the project, unless Zone 7 determines that it is not feasible or practical. For example, an area disturbed by construction that would be used for future activities need not be re-vegetated.

Mitigation Measure BIO-8. Zone 7 shall schedule work activities during low water-flow periods within the Arroyo Las Positas when impacts to the CRLF, CTS, and NPPT would be minimal. Equipment and personnel crossing of the channel will only be conducted in previously disturbed areas. To control sedimentation during and after project implementation, Zone 7 and its contractors will implement Best Management Practices (BMP) required for all project-specific permits. If BMPs are ineffective, Zone 7 will attempt to remedy the situation immediately, following consultation with the USFWS.

Mitigation Measure BIO-9. If a work site is to be temporarily dewatered by pumping, intakes will be completely screened with wire mesh with openings not larger than 5 mm (0.2-in) to prevent CRLF or CTS from entering the pump system. Water will be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. Sediment disturbance from discharge will be kept to a minimum to reduce impacts to downstream pools. The methods and materials used in any dewatering will be determined by Zone 7 in consultation with the USFWS.

Mitigation Measure BIO-10. Zone 7 will implement any additional mitigation measures specified in all permits.

Mitigation Measure BIO-11. Ground-clearing activities shall be scheduled prior to the initiation of nesting activity (April) or after fledging (August). If this is infeasible, pre-construction surveys shall be conducted in potential nesting habitat to identify nest sites for construction activities that are planned between February 15 and August 15. If any nest from a bird



protected under the Migratory Bird Treaty Act or state law is observed, a 100-foot buffer will be established. If an active raptor nest is observed within 350 feet of the project site, Zone 7 will notify California Department of Fish & Game (CDFG) and establish a 350-foot buffer around the nest tree. Construction activities shall be prohibited within the buffer zone until the young have fledged. Further, any bird species protected under the Migratory Bird Treaty Act found to be nesting within the project construction area shall not be disturbed until the young have fledged.

Mitigation Measure BIO-12. Zone 7 shall implement a Site Restoration and Mitigation Plan. The plan includes the planting of 40 willow cuttings (consisting of 10 bundles of three to four cuttings) on the banks of Arroyo Las Positas within and adjacent to the project site. In addition to the trees, an appropriate hydroseed mix will be used to restore the temporarily impacted areas of the project site.

Mitigation Measure BIO-13. Zone 7 will complete a worker training program focused on biological resources before initiating project activities. The training will be instructed by a USFWS-approved biologist.

4.6 CULTURAL RESOURCES

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
A) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?	☐	☒	☐	☐
B) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☒	☐	☐
C) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
D) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒

4.6.1 Setting

Intensive investigation of the San Francisco Bay region dates to the early 1900s, and is highlighted by the work of Max Uhle (1907) and N.C. Nelson (cf., Nelson 1907, 1909a, 1909b). Uhle began excavations at Emmeryville shellmound near Berkeley, and Nelson was the first archaeologist to recognize the Bay area as a discrete archaeological area.

The most relevant patterns to the archaeology of the project area are the Windmill, Berkeley, and Augustine Patterns. The Windmill Pattern or Early Horizon extended from 3,000 to 1,000 B.C., the Berkeley Pattern or Middle Horizon from 1,000 B.C. to A.D. 500, and the Augustine Pattern or Late Horizon from A.D. 500 to the historic period.

Native American Yokuts inhabited the San Joaquin Valley and are members of the Penutian language family (Latta 1977; Wallace 1978, 1981). Yokuts are generally divided into three groups, Northern Yokuts, Foothill Yokuts, and Southern Yokuts. Northern Yokuts occupy



the area east of the project. Tribelets were the principal political units of Yokuts (Latta 1977; Wallace 1978, 1981). These groups were organized around a male chief, or headman, who inherited his position from his father. Tribelets consisted of family groups that were organized into moieties.

The arrival of the Spanish in the San Francisco Bay area in 1775 initiated a rapid decline of native populations in the area. The disruption of Native American culture was due to factors such as the introduction of diseases, a declining birth rate, and missionization. The decline of both Native American populations and culture was exacerbated by the discovery of gold in California in 1848 and the subsequent influx of large numbers of Euroamericans into California. Costanoan populations, which historically were small, experienced dramatic reductions in the latter half of the 19th century through the early 20th century. Indeed, Costanoan languages were probably extinct by 1935 (Levy 1978). Remaining Costanoan descendants united in 1971 as a corporate entity identified as the Ohlone Indian Tribe.

The latter half of the nineteenth century witnessed a growing immigration of Euroamericans into California because of the discovery of gold in 1848. The population growth in the area was accompanied by regional cultural and economic changes. These changes are highlighted by the development of towns, such as Livermore, which was incorporated in 1876. The City of Livermore takes its name from Robert Thomas Livermore who had been ranching cattle in Livermore Valley as early as 1831. In 1839, he built an adobe house on Las Positas Creek (Hoover et al. 2002; Livermore Heritage Guild 2000). The City of Livermore has prospered since initial settlement in the area by Robert Livermore and today is still expanding.

4.6.2 Regulatory Setting

4.6.2.1 Local

The East County Area Plan (ECAP) contains policies to ensure the preservation of archaeological and historical resources. The County requires a background and records check of a project if a project is located within an extreme or high archaeological sensitivity zone as determined by the County. The County also requires all construction work to be suspended if any archaeological sites are found during construction until a qualified archaeological professional can investigate the findings. Policies 136 and 137 in the ECAP implement the County's goal for cultural resource preservation:

Policy 136: The County shall identify and preserve significant archaeological and historical resources, including structures and sites which contribute to the heritage of East County.

Policy 137: The County shall require development to be designed to avoid cultural resources or, if avoidance is determined by the County to be infeasible, to include [and] implement appropriate mitigation measures that offset the impacts.



4.6.3 Answers to Check List Questions

Questions A-D:

A records search was completed for the project area by the Northwest Information Center (NWIC), Sonoma State University, Rohnert Park on December 13, 2007 (Appendix D). The record search encompassed the project site and an area within a ½ mile radius of the project limits. The records search was conducted to identify the number and type of cultural resources (e.g., prehistoric sites, historic sites, historic buildings, or isolated artifacts) within the project area. The records search did not identify any significant cultural resources within or adjacent to the project site.

A sacred lands search was completed for the project area by the Native American Heritage Commission (NAHC) on December 7, 2007 (Appendix D). The sacred lands search did not identify any sensitive Native American cultural resources within the project area (Appendix B). All Native American groups and or individuals identified as having knowledge of the project area by the NAHC were contacted by letter regarding the project. Ms. Katherine Erolinda Perez, an Ohlone/Costanoan, Northern Valley Yokuts, Bay Miwok representative responded by telephone to the letter sent to her regarding the project on December 14, 2007 (Personal Communication 2007) (Appendix D). Ms. Perez did not have any information regarding the project site and did not have any concerns regarding the project as long as the requirements of CEQA were being followed for implementation of the project.

A search of the University of California Museum of Paleontology, University of California, Berkeley database was completed for the project area on December 7, 2007. The database search identified paleontological resources in Alameda County, but did not identify any paleontological resources within or adjacent to the project site.

While there are no historical resources as defined in § 15064.5, no known archaeological resources as defined in § 15064.5, and no known unique paleontological resources or sites, or any unique geologic features within the project site, it is possible that project related activities could uncover unrecorded resources. There are no archaeological sites in the project area and the project site is previously disturbed. Therefore, it is highly unlikely that the any project related activities would disturb any human remains within or near the project site.

In summary, while it is not anticipated that the project would cause a change in the significance of a historical or archaeological resource, directly or indirectly destroy any known unique paleontological resource or site, or any unique geologic feature, or disturb any human remains, discovery of unrecorded resources is possible. **Mitigation measures to reduce potential impacts are proposed below.**



4.6.4 Mitigation Measures

Mitigation Measure CUL-1. If cultural resources (i.e., prehistoric sites, historic sites, and isolated artifacts and features), and/or unique paleontological resources (fossils) are discovered during project construction, work within 50 feet of the discovery will be halted immediately, Zone 7 shall be notified, and a professional archaeologist or paleontologist will be retained to determine the significance of the discovery.

Mitigation Measure CUL-2. If human remains are discovered during project construction, all work within 50 of the discovery will be halted immediately, Zone 7 and the County Coroner will be notified, and appropriate steps will be taken.

4.7 GEOLOGY AND SOILS

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
A) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☒	☐	☐
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 43.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☒	☐	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☒	☐	☐
iv) Landslides?	☐	☒	☐	☐
B) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
C) Located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☒	☐	☐
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?	☐	☒	☐	☐
E) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

4.7.1 Setting

The Livermore Valley is located at the northern end of the Diablo Range, which is a part of the northwest trending coastal range. The Valley is a structural depression formed by an east



to west downfold, or syncline, along the Calaveras Fault. The Valley is bounded on the east by the Greenville fault. Livermore consists of two general topographic areas: the lowland area and the upland area. The lowland area is generally located in central Livermore, including the Downtown. The lowland area of Livermore is underlain by alluvium that is younger than two million years old, and consists mainly of unconsolidated gravel, sand, silt, and clay deposits subject to redistribution by fluvial (stream) processes. The upland areas include the hills to the northwest, northeast and the south of Livermore. The upland area consists primarily of tilted sedimentary rocks of Tertiary age, between 2 million and 65 million years old. The Green Valley and Tassajara formations and the non-marine sedimentary rock form the prominent portions of the uplands. Recent alluvial deposits mantle the canyon bottoms and fringes of the uplands.

4.7.1.1 Regional Geology

The Project Site is located within the Coast Ranges geomorphic province of California. The Coast Ranges stretch approximately 600 miles from the Oregon border to the Santa Ynez River and fall into two sub-provinces: the ranges north of San Francisco Bay and those from the bay south to Santa Barbara County. The northern ranges lie east of the San Andreas fault zone, whereas most of the southern ranges are to the west. The province contains many elongate ranges and narrow valleys that are approximately parallel to the coast, although the coast usually shows a somewhat more northerly trend than do the ridges and valleys. Thus, some valleys intersect the shore at acute angles and some mountains terminate abruptly at the sea (Norris and Webb, 1990).

4.7.1.2 Site Geology

The area of the project site lies within the Livermore Valley and is underlain by alluvium deposits (California Geological Survey, Geologic Map of the San Francisco-San Jose Quadrangle, 1990 - second printing, 2005). The alluvium deposits (Q) are described as unconsolidated stream and basin deposits, clay to boulder size.

4.7.1.3 Soils

According to the United States Department of Agriculture (USDA) Soil Conservation Service, Soil Survey - Alameda Area, California (March 1966), the soils at the project site are comprised of Clear Lake Clay.

The Clear Lake Clay (CdA), 0 to 3 percent slopes, consists of approximately 3 feet of clay over 1 foot of calcareous clay underlain by calcareous silty clay formed in fine-grained alluvium from sedimentary rock. Permeability is slow, available water capacity is high, and the shrink-swell potential is high. Additionally, runoff is very slow, and the hazard of erosion of water erosion is none.



4.7.2 Seismic Hazards

4.7.2.1 Faulting

The State of California designates faults as active, potentially active, and inactive depending on the recency of movement that can be substantiated for a fault. A fault is considered active if it can be demonstrated that the fault has ruptured during the Holocene (the last 11,000 years). A fault is considered potentially active if it can be demonstrated that it has ruptured during the Quaternary (the last 2-million years) but not the Holocene. A fault is considered inactive if it can be substantiated as not having ruptured within the Quaternary.

The California Division of Mines and Geology (CDMG) evaluates the activity rating of a fault in Fault Evaluation Reports (FER). FERs compile available geologic and seismologic data and evaluate if a fault should be zoned as active, potentially active, or inactive. If an FER evaluates a fault as active, then it is typically incorporated into a Special Studies Zone in accordance with the Alquist-Priolo Earthquake Hazards Act (AP). AP Special Studies Zones require site-specific evaluation of fault location and require a structure setback if the fault is found traversing a project site.

The Project site is located in the Livermore Valley, a region with moderately high seismic activity and several known active faults, which have demonstrated Historic or Holocene activity. The most notable is the San Andreas Fault Zone, which has generated numerous moderate to strong historic earthquakes in northern California and in the San Francisco Bay Area.

The Greenville fault, an active fault that is the easternmost strand of the San Andreas fault system, is located approximately five miles east of the Project site. Each of the three segments of the Greenville fault is considered capable of generating earthquakes in the range of Richter magnitude 6.6 to 6.9. If all segments were to rupture in a single seismic event, a 7.2 magnitude earthquake would be expected. The United States Geologic Survey (USGS) estimates a six percent probability of a 6.7 magnitude or greater earthquake on the Greenville fault during the period 2000 to 2030.

The Las Positas fault, which is considered to be active, trends northeast to southwest approximately 4 miles to the southeast of the Project site. The Las Positas fault could potentially generate an earthquake of Richter magnitude 6.3. The probability of an earthquake on the fault has not been determined. In addition, several other major active faults are located in the vicinity of Livermore, including the Calaveras and Hayward faults. Because of the high level of seismic activity in and around Livermore, the area has been classified as seismic risk Zone 4 (the highest risk category) by the California Building Code. In addition to these faults, the Livermore fault is located approximately 2 miles southwest from the Project site and is considered to be potentially active. It is approximately five miles in length and is considered capable of generating an earthquake with a moment magnitude of 6.2.



4.7.2.2 Liquefaction

Liquefaction is defined as the sudden loss of soil shear strength due to a rapid increase of soil pore water pressures caused by cyclic loading from a seismic event. In simple terms, it means that a liquefied soil acts more like a fluid than a solid when shaken during an earthquake. For liquefaction to occur, the following conditions are necessary:

- Granular soils (sand, silty sand, sandy silt, and some gravels);
- A high groundwater table; and
- A low density of the granular soils.

Based on the City of Livermore General Plan, the upland areas in the Livermore area have a very low potential for liquefaction. Liquefaction potential increases in the vicinity of major drainage channels where loose granular sediments have accumulated as a result of stream processes. Specifically, the liquefaction potential for sediments in the vicinity of Arroyo Las Positas, Arroyo Mocho, and Arroyo del Valle increases from high to very high. The potential for liquefaction also depends on soil conditions and groundwater levels, which may fluctuate. Groundwater in the vicinity of Project site is anticipated to be at approximate depths of 25 to 35 feet below ground surface (bgs); however, liquefaction potential should be considered high until actual conditions are determined by site-specific subsurface exploration and analyses.

4.7.2.3 Seismically-Induced Settlement

Seismically-induced settlement refers to settlement of unsaturated granular material as a result of densification and particle rearrangement due to earthquake shaking. Seismically induced settlement differs from settlement resulting from liquefaction because there is not a buildup of excess pore water pressure during the seismic shaking.

4.7.2.4 Other Geologic Hazards

Slope Stability. The Project site is located on the bed of the Arroyo Las Positas and considered to be a relatively flat area. However, engineered slopes associated with the North Livermore Avenue overcrossing are present on either side of the weir location and there is an approximate 2:1 slope that will provide ingress/egress to the work area from the proposed laydown area. Prior to modification of any existing slopes at the Project Site, the appropriate geotechnical study will be performed that will provide information for slope stability and minimize the potential for landsliding or the failure of natural slopes to affect the project site.

Expansive Soils. Based on USDA soil survey data, the Project site is underlain by soils with a high shrink-swell potential. However, the presence or absence of expansive soils should be verified by the sampling and testing of on-site earth materials as part of a site-specific geotechnical study.

Subsidence. Land subsidence is primarily caused by removal of fluids through oil and gas production, groundwater extraction (regional lowering of deeper aquifers, not localized dewatering-induced settlement), compaction of clays and organic layers, and tectonic activity.



However, since subsidence generally occurs fairly uniformly with changes occurring gradually over relatively long distances, the potential for damage due to subsidence is low.

Erosion. Excavation of surface soil is proposed in order to install the concrete weir; however this is planned to be performed during “dry conditions”. Based on the USDA soil survey data, soils at the Project site are classified as having an erosion hazard of none. Therefore, the potential for erosion to occur is considered low.

4.7.3 Regulatory Setting

4.7.3.1 State of California

For excavation and grading activities, Title 8 of the California Code of Regulations (CCR) and Occupational Safety and Health Act (OSHA) requirements state that excavations must be shored or otherwise stabilized to preclude slope failure during construction. In addition, the Universal Building Code (UBC) (Section A33 - Excavation and Grading) also requires that shoring of trenches or other structural integrity measures are implemented, as well as erosion control measures.

Alquist-Priolo Earthquake Fault Zoning Act. The Alquist-Priolo Earthquake Fault Zoning Act, signed into law December 1972, requires the delineation of zones along active, potentially active and well-defined faults. The purpose of the Alquist-Priolo Act is to regulate development on or near active fault traces to reduce the hazard of fault rupture.

Seismic Hazards Mapping Act. The Seismic Hazards Mapping Act, enacted by the California legislature in 1990, was developed to protect the public from the effects of strong ground shaking, liquefaction, landslides, or other ground failure, and other hazards caused by earthquakes. This Act requires the State Geologist to delineate various seismic hazard zones and requires cities, counties, and other local permitting agencies to regulate certain development projects within these zones. Before a development permit is granted for a site within a seismic hazard zone, a geotechnical investigation of the site has to be conducted and appropriate mitigation measures incorporated into the project design.

California Building Code (CBC). The CBC is another name for the body of regulations known as the California Code of Regulations (CCR.), Title 24, Part 2, which is a portion of the California Building Standards Code. Title 24 is assigned to the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under state law, all building standards must be centralized in Title 24 or they are not enforceable (Bolt, 1988).

Published by the International Conference of Building Officials, the Uniform Building Code is a widely adopted model building code in the United States. The CBC incorporates by reference the Uniform Building Code with necessary California amendments. About one-third of the text within the CBC has been tailored for California earthquake conditions.



4.7.3.2 Local

State law requires the development of a Safety Element to protect the community from risks associated with the effects of seismic and other geologic hazards, flooding and dam inundation, hazardous materials, as well as ensuring adequate emergency preparedness. The following City of Livermore General Plan Safety Element goals and policies are applicable to the project.

The project site is located in a seismically-active region and the proposed project will likely be subject to seismic shaking during the life of the project. State law requires the development of a Safety Element to protect the community from risks associated with the effects of seismic and other geologic hazards, flooding and dam inundation, hazardous materials, as well as ensuring adequate emergency preparedness.

4.7.4 Answers to Check List Questions

Questions A and C:

Liquefaction, seismically induced settlement, slope stability, and expansive soils have been identified as potential geohazards that cannot be quantified and/or mitigated, if necessary, without a site-specific geotechnical study. The geotechnical study may consist of a number of exploration locations (drill holes, cone penetration test soundings, and/or other methods) over the site development area. Geotechnical soil samples are collected and tested in the laboratory and the results of field and laboratory data are used by the geotechnical engineer to develop earthwork and foundation recommendations for the proposed development.

The proposed project is not located in an area with potentially significant and severe risks involving seismic shaking or fault rupture (i.e. the project is not located in an Alquist-Priolo Zone). However, because the project site is located in a seismically-active region involving risks from strong ground-shaking, any proposed construction would require the adoption of appropriate engineering design in conformance with geotechnical standards for construction. **Recommendations and standard geotechnical mitigation measures are provided below.**

Engineered slopes associated with the North Livermore Avenue overcrossing are present on either side of the weir location and there is an approximate 2:1 slope that will provide ingress/egress to the work area from the proposed laydown area. Prior to modification of any existing slopes at the Project Site, the appropriate geotechnical study will be performed that will provide information for slope stability and minimize the potential for landsliding or the failure of natural slopes to affect the project site.

The project would not create substantial subsidence or compaction of the ground surface through construction activities, nor would it draw down substantial amounts of near-surface groundwater; therefore significant subsidence is not likely to occur.



Question B:

Excavation of surface soil is proposed in order to install the concrete weir; however, this is planned to be performed during “dry conditions”. Based on the USDA soil survey data, soils at the Project site are classified as having an erosion hazard of none. The Project has low potential to result in significant soil erosion during construction, resulting in loss of topsoil or unstable soil conditions; however, construction mitigations shall ensure that impacts resulting from loss of topsoil by rain or wind are reduced to less than significant levels.

Question D:

Based on the USDA soil survey data, soils underlying the Project site have a high risk of expansiveness; however, the presence or absence of expansive soils should be verified by the sampling and testing of on-site earth materials as part of a site-specific geotechnical study. **A mitigation measure is proposed below.**

Question E:

The proposed project would not add restroom facilities that would rely on septic tanks or other alternative wastewater disposal systems, so the capability of soils to adequately support the use of septic tanks or alternative wastewater disposal systems is not an issue associated with development of the site as proposed.

4.7.5 Mitigation Measures

Mitigation Measure GEO-1. Zone 7 will design the weir replacement project to be in conformance with regulatory requirements, including those of the CBC, in order to minimize potential impacts from localized seismic ground-shaking hazards, slope stability, and expansive soils. As part of standard requirements, a geotechnical study will be completed. Project design shall follow any recommendations from the results of the geotechnical study concerning soil and structural engineering.

4.8 HAZARDS AND HAZARDOUS MATERIALS

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
A) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐
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?	☐	☐	☒	☐



Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
C) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
D) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65963.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
E) For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard for people residing or working in the Project area?	☐	☐	☐	☒
F) For a Project within the vicinity of a private airstrip, would the Project result in a safety hazard for people residing or working in the Project area?	☐	☐	☐	☒
G) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
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?	☐	☐	☐	☒

4.8.1 Setting

Products as diverse as gasoline, paint solvents, film solvents, household cleaning products, refrigerants and radioactive substances are categorized as hazardous materials. What remains of a hazardous material after use, or processing, is considered to be a hazardous waste. The handling, transportation and disposal of such materials and wastes are of concern in all communities. Improper handling of hazardous materials or wastes may result in significant effects to human health and the environment.

Many of the commercial and industrial operations in Livermore use hazardous materials and generate hazardous materials as part of their daily operations. Some examples of commonly encountered hazardous material users include gasoline stations, dry cleaners and automotive repair shops. The commercial use of hazardous materials and wastes in Livermore are heavily regulated by a range of federal, State and local agencies. One of the primary hazardous materials regulatory agencies is the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC), which is authorized by the United States Environmental Protection Agency (EPA) to enforce and implement federal hazardous materials laws and regulations, including disposal and transportation of hazardous materials.



4.8.2 Regulatory Setting

4.8.2.1 Federal

Many agencies regulate hazardous substances. These include federal agencies, such as the EPA, the Occupational Safety and Health Administration (OSHA), the Nuclear Regulatory Commission (NRC), the Department of Transportation (DOT) and the National Institute of Health (NIH).

At the federal level, the principal agency regulating the generation, transport and disposal of hazardous substances is the EPA, under the authority of the Resource Conservation and Recovery Act (RCRA). The EPA regulates hazardous substance sites under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA). Applicable federal regulations are contained primarily in Titles 29, 40, and 49 of the Code of Federal Regulations (CFR).

Hazardous Substances Handling Requirements. The RCRA established a federal hazardous substance “cradle-to-grave” regulatory program that is administered by EPA. Under the RCRA, EPA regulates the generation, transportation, treatment, storage and disposal of hazardous substances. The RCRA was amended in 1984 by the Hazardous and Solid Waste Act (HSWA), which affirmed and extended the “cradle-to-grave” system of regulating hazardous substances.

Hazardous Substances Worker Safety Requirements. The Federal Occupational Safety and Health Administration (Fed/OSHA) is the agency responsible for ensuring worker safety. Fed/OSHA sets federal standards for implementation of training in the work place, exposure limits, and safety procedures in the handling of hazardous substances (as well as other hazards). Fed/OSHA also establishes criteria by which each state can implement its own health and safety program.

4.8.2.2 State of California

The California Environmental Protection Agency (Cal/EPA) and the Governor’s Office of Emergency Services (OES) establish rules governing the use of hazardous substances. The State Water Resources Control Board (SWRCB) has primary responsibility to protect water quality and supply.

Within Cal/EPA, the DTSC, formerly the Department of Health Services has primary regulatory responsibility, with delegation of enforcement to local jurisdictions that enter into agreements with the state agency, for the generation, transport and disposal of hazardous substances under the authority of the Hazardous Waste Control Law (HWCL). State regulations applicable to hazardous substances are indexed in Title 26 of the California Code of Regulations (CCR).

California Hazardous Substances Handling Requirements. In California, approval of the state hazardous substance management program is still pending, so both existing state and



federal hazardous substances laws apply to the handling of hazardous substances. The current State program was created by the enactment of the HWCL, which is administered by the DTSC. The DTSC regulations govern the generation, transportation, and disposal of hazardous substances.

California Hazardous Substances Worker Safety Requirements. The California Occupational Safety and Health Administration (Cal/OSHA) assumes primary responsibility for developing and enforcing work place safety regulations within the State. Cal/OSHA standards are more stringent than federal regulations.

Cal/OSHA regulations concerning the use of hazardous substances include requirements for safety training, availability of safety equipment, hazardous substances exposure warnings, and emergency action and fire prevention plan preparation. Cal/OSHA enforces the hazard communication program regulations, which include provisions for identifying and labeling hazardous substances, describing the hazards of chemicals, and documenting employee training programs.

Groundwater Regulatory Background. As described above, the SWRCB and the Regional Water Quality Control Board (RWQCB) are the responsible agencies for implementing regulations designed to protect California waters, including groundwater. The RWQCB is responsible for overseeing groundwater contamination investigations and remedial activities. The RWQCB implements the clean-up standards required for sites of contaminated groundwater and assures site compliance with appropriate state regulations. Cal/EPA and Cal-OSHA are the agencies that are responsible for overseeing that appropriate measures are taken to protect workers from exposure to potential groundwater contaminants.

4.8.3 Answers to Check List Questions

Question A:

The project entails removal of a portion of the existing concrete pad currently used and replacing it with a V-notched concrete weir and would not create a significant hazard to the public or to the environment through routine transport, storage, use or disposal of hazardous materials.

While excavation and construction activities are near water and may involve the limited transport, storage, use or disposal of hazardous materials, such as the fueling/servicing of construction equipment onsite, the activities would be short-term or one-time in nature and would be subject to federal, state, and local health and safety requirements. Impacts related to grading and construction activities would be less than significant. Ingress and egress to the laydown areas will be wide enough to accommodate the vehicles expected and are not expected to interfere with non-project vehicle access. Near-water equipment will be limited to small excavation equipment (*i.e.* bobcat) and hand-operated tools.



Project activities have the potential to create a significant hazard to the public or the environment if an accidental discharge of fuels, lubricants, and hydraulic fluids onto the ground occurs. **A mitigation measure is proposed below.**

Question B:

The project will include excavation and construction activities that may involve the limited transport, storage, use or disposal of hazardous materials, such as the fueling/servicing of construction equipment onsite. However, these activities would be short-term or one-time in nature and would be subject to federal, state, and local health and safety requirements. In the event that an accident occurred involving the release of hazardous materials to the environment, the amount would be minor and the appropriate agency (Hazardous Materials Division of the Livermore-Pleasanton Fire Department) would be notified. Therefore, potential impacts are considered less than significant.

Question C:

The project site is not located within a ¼-mile of an existing or proposed school site. Therefore, impacts are not significant.

Question D:

The project site is not located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65963.5. Therefore, impacts are not significant.

Questions E and F:

The project site is not located within an airport land use plan or within two miles of a public use airport. The Livermore Municipal Airport is located slightly more than 2 miles west from the project site. Additionally, the project site is not located within the vicinity of a private airstrip. Therefore, impacts are not significant.

Question G:

Construction activities will occur primarily beneath North Livermore Avenue Bridge along the Arroyo Las Positas; however, concrete for the new V-notched weir will be delivered from a concrete truck situated in a "turnout" area located adjacent and southeast of the bridge. Lane closures are not anticipated and daily traffic along North Livermore Avenue will not be impacted. Therefore, emergency response plans and/or emergency evacuation plans would not be impaired and impacts are not significant.



Question H:

The project would not 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. The existing project site is located primarily beneath the North Livermore Bridge with no significant wildland areas adjacent to the site. Therefore, impacts are not considered significant.

4.8.4 Mitigation Measures

Mitigation Measure HAZ-1. Equipment utilizing petroleum fuels should be parked on impervious surfaces and fueling of those vehicles or equipment should be completed at a designated site that has been prepared for such servicing. The service location will be covered with an impervious material and off-site drainage should be protected by straw waddles or similar flow-diverting devices. No petroleum-laden liquids should be allowed to migrate into storm drains and any spilled petroleum products should be cleaned up with the appropriate on-site material.

4.9 HYDROLOGY AND WATER QUALITY

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
A) Violate any water quality standards or waste discharge requirements?	☐	☒	☐	☐
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 which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
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, which would result in substantial erosion or siltation on- or off-site?	☐	☒	☐	☐
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, which would result in flooding on- or off-site?	☐	☐	☐	☒
E) Create or contribute runoff water, which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☒
F) Otherwise substantially degrade water quality?	☐	☒	☐	☐



Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒
H) Place within a 100-year flood hazard area structures, which would impede or redirect flood flows?	☐	☐	☐	☒
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?	☐	☒	☐	☐
J) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

4.9.1 Setting

Arroyo Las Positas is categorized as an intermittent stream on the USGS topographic map. East of the project site, the creek receives flows from Arroyo Seco, Brushy Creek, and Altamont Creek. West of the project site, Arroyo Las Positas receives flows from Cottonwood Creek, Cayetano Creek, and Collier Canyon Creek. Arroyo Las Positas discharges into Arroyo Mocho, then into Arroyo de la Laguna, then Alameda Creek, and ultimately into San Francisco Bay and the Pacific Ocean. According to the National Wetland Inventory map for the Livermore, California quadrangle Arroyo Las Positas at the project site is classified as a riverine, intermittent, streambed, semi-permanently flooded wetland.

The water quality within Arroyo Las Positas is generally good (U.S. Department of Energy, 2005). Source water includes surface runoff from the eastern hills and stormwater from Livermore Valley developments, including that from the Lawrence Livermore Laboratory area. A14-mile section of the water way was listed in the 2006 303(d) listing for exceeding diazon concentrations.

4.9.2 Answers to Check List Questions

Questions A and F:

Project activities have the potential to violate water quality standards if an accidental discharge of fuels, lubricants, and hydraulic fluids onto the ground occurs. **A mitigation measure is proposed below.**

Question B:

The project will not utilize a substantial amount of water, therefore it is not expected to substantially deplete groundwater supplies or interfere substantially with ground water recharge, such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. The flow within the Arroyo will be maintained during



construction and therefore is not expected to affect downstream water tables. The project does not involve an increase in water demand or water consumption.

Questions C and D:

The project involves the temporary damming of the water way to allow removal and replacement of the existing weir. Drainage patterns will be maintained, albeit rerouted, to the existing streambed system to the west of the project. Re-contouring and re-planting of the slope will result in no increase runoff areas and no net increase in concrete area over that which is currently covered within the streambed will occur. Therefore no alteration or substantial increase the rate or amount of surface runoff would occur as a result of the project. As proposed, the project would not result in substantial on- or off-site erosion, siltation or flooding, however erosion, which may alter the course of a stream, may occur at the discharge location of the water diversion system. **A mitigation measure is proposed below.**

Question E:

The project will not create or contribute substantial runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.

Questions G and H:

The project does not involve the placement of any new housing; therefore, none will be placed 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.

Question I:

The project may expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of the temporary coffer dam during construction. Mitigations will be proposed to reduce impact.

Question J:

The project would not result in the increased exposure to inundation by seiche, or a tsunami.

4.9.3 Mitigation Measures

Mitigation Measure WQ-1. Equipment utilizing petroleum fuels should be parked on impervious surfaces and fueling of those vehicles or equipment should be completed at a designated site that has been prepared for such servicing. The service location will be covered with an impervious material and off-site drainage should be protected by straw waddles or similar flow-diverting devices. No petroleum-laden liquids should be allowed to migrate into



storm drains and any spilled petroleum products should be cleaned up with the appropriate on-site material.

Mitigation Measure WQ-2. Temporary erosion protection will be installed within the streambed at the discharge of the diversion pipe.

4.10 LAND USE AND PLANNING

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
A) Physically divide an established community?	☐	☐	☐	☒
B) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
C) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

4.10.1 Setting

The City of Livermore is situated in the Livermore Valley, in eastern Alameda County and is part of the nine-county Bay Area region. The Livermore Valley is edged to the north, south and east by rolling hills and to the west by the Cities of Dublin and Pleasanton. Livermore is bisected by I-580, which runs east-west through Alameda County and crosses just north of the project site. Livermore consists of a total area of approximately 24 square miles (mi²) and the project site is at the northern end of the City (City of Livermore, 2004).

The site would be located under the N. Livermore Avenue Bridge, which is bordered to the north by I-580 and to the south by the Arroyo Plaza Shopping Center, a large commercial retail shopping center. The laydown area would be in the existing paved parking lot of the commercial center. Roselawn Cemetery is located approximately 0.3 mi south of the site along N. Livermore Avenue. To the east and west of the site is the riparian/open space corridor of Arroyo Las Positas.

According to the City of Livermore (2004) land use in and immediately adjacent to Arroyo Las Positas is Open Space/Agricultural. The area south of I-580 and north of the stream is zoned OSP (Parks, Trailways, Recreational Corridors, and Protected Areas) (City of Livermore, 2004). However, south of the stream bank, the area that would be used for construction staging and access is classified as Developed Commercial and zoned CSGC (Community Serving General Commercial), which provides for commercial uses outside of the downtown, in areas with significant access potential from the region (City of Livermore, 2004).



4.10.2 Answers to Check List Questions

Question A:

The project would replace an existing concrete pad that is currently used to control stream flow within Arroyo Las Positas. Therefore, the project would not divide an established community.

Question B:

The project would replace an existing structure used to control stream flow and it would improve the accuracy of stage and discharge data. The project would be located primarily within an existing stream and the site would be accessed across disturbed land from an existing parking lot 75 ft south of the site. Therefore, no significant long-term land use impacts are anticipated as a result of construction of the project.

Question C:

There are no habitat conservation plans or natural community conservation plans that address the proposed project area.

4.11 MINERAL RESOURCES

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

4.11.1 Setting

The project is located within an existing streambed and adjacent developed area. No known mineral resources or leases for the extraction (i.e., sand and gravel mining or oil/gas production) of those resources are known within the project area.

4.11.2 Answers to Check List Questions

Question A:

The project site does not contain any known mineral resources that would have value to the region and the residents of the state.



Question B:

The project would not 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.

4.12 NOISE

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
A) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
B) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒
C) A substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project?	☐	☐	☐	☒
D) A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project?	☐	☐	☒	☐
E) For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?	☐	☐	☒	☐
F) For a Project within the vicinity of a private airstrip, would the Project expose people residing or working in the Project area to excessive noise levels?	☐	☐	☒	☐

4.12.1 Setting

Noise is generally defined as unwanted or objectionable sound. Noise levels are measured on a logarithmic scale because of physical characteristics of sound transmission and reception. Noise energy is typically reported in units of decibels (dB). Noise levels diminish (or attenuate) as distance from the source increases according to the inverse square rule, but the rate-constant varies with the type of sound source. In general, attenuation from point sources, such as industrial facilities, is about six dB per doubling of distance, while noise generated along a heavily traveled road with few gaps in traffic behaves as continuous line sources and attenuates at three dB per doubling of distance. Noise from more lightly traveled roads is attenuated at 4.5 dB per doubling of distance.

Community noise levels are measured in terms of the A-weighted decibel (dBA). A-weighting is a frequency correction that correlates overall sound pressure levels with the frequency response of the human ear. Equivalent noise level (Leq) is the average noise level on an energy basis for a specific time period. The duration of noise and the time of day at which



it occurs are important factors in determining the impact of noise on communities. Noise is more disturbing at night and noise indices have been developed to account for the time of day and duration of noise generation. The Community Noise Equivalent Level (CNEL) and Day-Night Average Level (DNL or Ldn) are such indices. These indices are time-weighted average values equal to the amount of acoustic energy equivalent to a time-varying sound over a 24-hour period. The CNEL index penalizes night-time noise (10 p.m. to 7 a.m.) and evening noise (7 p.m. to 10 p.m.) by adding 10 dB and 5 dB, respectively, to account for increased sensitivity of the community after dark. The Ldn index penalizes night-time noise the same as the CNEL index, but does not penalize evening noise (City of Livermore, 2004).

People are subject to a multitude of sounds in the environment. Typical noise levels of indoor/outdoor environments and public response to these sounds are shown in Figure 4.11-1.

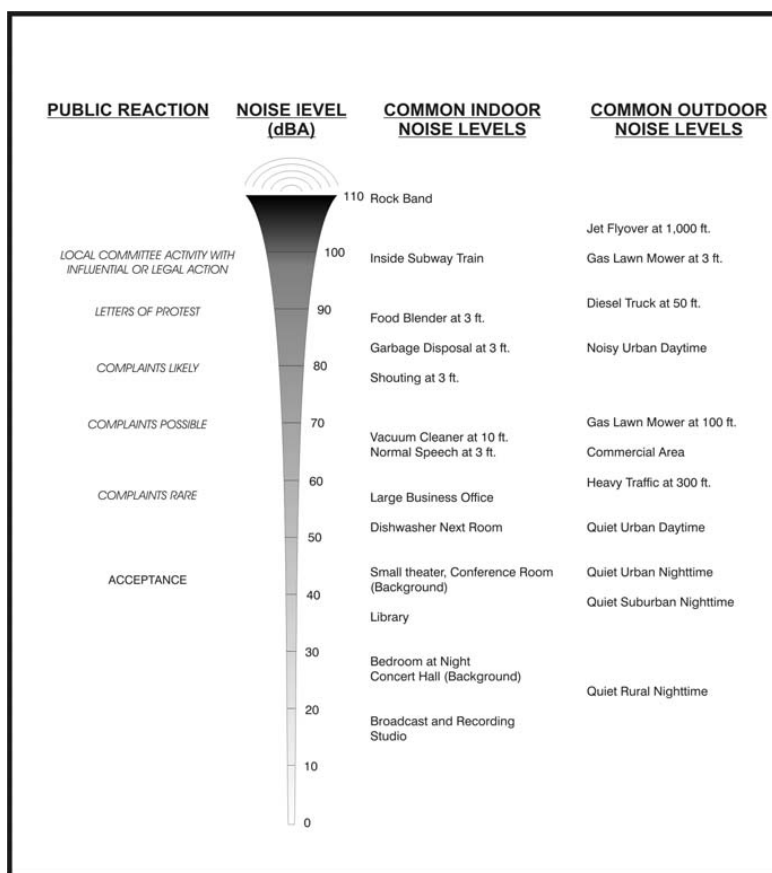


Figure 4.11-1. Magnitude of Common Sounds

Excessive noise cannot only be undesirable, but may also cause physical and/or psychological damage. The amount of annoyance or damage caused by noise is dependent primarily upon three factors: 1) the amount and nature of the noise; 2) the amount of ambient noise present before the intruding noise; and, 3) the activity of the person working or living in the noise source area.



In the City of Livermore, noise is principally generated by cars, trucks, buses, trains, aircraft, industrial plant equipment, and activities associated with neighborhoods and schools (lawn mowing and leaf blowing, children playing, etc.). The City of Livermore (2004) contains guidelines and goals regarding noise levels, which include:

- The establishment of noise levels within residential areas to allow citizens to pursue normal residential activities without the intrusion of excessive noise and its adverse effects.
- The establishment of noise levels within commercial, industrial, and other non-residential areas to protect residential areas from increased noise levels.
- The establishment of noise levels within commercial, industrial, and other non-residential areas to protect a single use or activity from the adverse effects of another.
- The establishment of noise levels within industrial and commercial areas to protect the health and welfare of area workers and members of the general public who may be on the premises.
- The establishment of public education programs, regulations, or political actions to reduce levels of noise generated by mechanical and other equipment.
- The adoption of design standards and the design of alternative devices to assist in achieving the goals of reducing noise to acceptable levels where the prevention or reduction of noise levels cannot be accomplished by existing methods.

In Chapter 9.36 of its noise ordinance, the City of Livermore prohibits operation of loud equipment (such as pile drivers and pneumatic hammers) in construction, demolition, or other repair work between 8 p.m. and 7 a.m. (City of Livermore, 2007).

4.12.2 Answers to Check List Questions

Questions A and D:

Impacts from project activities are a result of the noise generated by construction equipment, and the significance of those noise levels on sensitive receptors is based on the equipment type, location related to sensitive receptors, and the timing and duration of the activities.

The operation of heavy equipment will generate noise. The mobilization and demobilization of equipment will also result in noise at the project site and surrounding areas. To assure that the work area remains dry, the low capacity bypass pump will operate continuously throughout the 30-day construction period. Therefore, sensitive receptors, including nearby residences and businesses, could potentially be impacted by increased noise levels during construction. However, the project will be in compliance with noise requirements within City of Livermore General Plan with mitigations. **A mitigation measure is proposed below.**



Question B:

Although the project would result in the generation of ground vibration during demolition of the existing concrete pad, that vibration is not expected to be excessive and will be of a short duration and localized under the existing bridge.

Question C:

Demolition of the existing concrete pad will result in short-term, local increases in noise, however the project does not involve long-term, noise-producing activities that would result in a substantial increase over current noise levels. Therefore, the proposed improvements would not cause a substantial permanent increase in ambient noise levels over those that would occur without the project.

Questions E and F:

The project is located in approximately two miles of a public airport. However, the type of aircraft that use that airport and the distance from the runway to the site is expected to not expose people working in the project area to excessive noise levels.

4.12.3 Mitigation Measures

Mitigation Measure NO-1. Except for a low capacity bypass pump, project activities will be conducted between the hours of 8 a.m. and 5 p.m. and no activities will occur during the weekend.

4.13 POPULATION AND HOUSING

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
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)?	☐	☐	☐	☒
B) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
C) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

4.13.1 Setting

Table 4.13-1 identifies the year 2006 Census population and housing and employment statistics for the project area.



Table 4.13-1. Demographic Characteristics in the Project Area

Location	2006 Estimated Household Population	2006 Estimated Housing Units	2006 Estimated Employed
Alameda County	1,426,617	559,704 Vacancy Rate: 7.6% (42,463 units)	• Labor Force: 760,138 persons • Construction Occupations: 59,195 persons • Unemployed: 54,654 persons
City of Livermore (Alameda County)	74,357	28,651 Vacancy Rate: 4.8% (1,364 units)	• Labor Force: 40,210 persons • Construction Occupations: 3,902 persons • Unemployed: 1,959 persons

Source: U.S. Census, 2006.

Construction of the weir is proposed for the summer of 2008 and is expected to take approximately 30 days. Due to a large local construction workforce available in the area and short construction duration, no workers are expected to relocate to the project area and/or require housing for the project activities.

4.13.2 Answers to Check List Questions

Question A:

The project is not a form of infrastructure, such as roads, water lines, or sewer lines, which could induce population growth within specific areas. Furthermore, the project would not result in the construction of new housing. The purpose of the project is to replace an existing concrete pad with a V-notched concrete weir to provide accurate stage and discharge data for the stream. The project would not induce substantial population growth and would have no impact on the growth rate or housing of the area.

Questions B and C:

The weir would be constructed within a streambed and channel banks, and would replace an existing concrete pad. Access would be provided from an existing commercial parking lot approximately 75 ft from the site. No residential properties or people would be displaced by the construction or operation of the project.



4.14 PUBLIC SERVICES

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
A) Fire protection?	☐	☐	☒	☐
B) Police protection?	☐	☐	☒	☐
C) Schools?	☐	☐	☐	☒
D) Parks?	☐	☐	☐	☒
E) Other public facilities?	☐	☐	☒	☐

4.14.1 Setting

Fire Protection. Livermore is served by the Livermore-Pleasanton Fire Department (LPFD), which was consolidated in 1996. Each city builds and maintains its own fire stations and purchases and maintains its own light-duty vehicles and fire apparatus. In addition, the Lawrence Livermore National Laboratory (LLNL) has its own fire department on-site. The LPFD has mutual aid agreements with both the LLNL fire department and the Alameda County Fire Department. The LPFD maintains 10 stations and one training center. The training center, headquarters, and five of the stations are located in Pleasanton. An additional five stations, are located in Livermore. As of May 2003, the LPFD had a total staff of 128 people (City of Livermore, 2004). The closest fire station to the project would be Station #7, which is located at 951 Rincon Avenue, approximately 1.6 mi southwest of the site.

Law Enforcement. The Livermore Police Department (LPD) operates one station, located in the Civic Center at 1110 South Livermore Avenue, which is approximately 2.1 mi south of the project site. As of May 2003, the LPD has a total paid staff of 170, as well as five unpaid reserve officers. As of May 2003, the police department includes 97 sworn officers, along with 73 administrative and support staff. In 2002, this number of officers served a population of roughly 76,700, at a ratio of 1.14 officers per thousand population (City of Livermore, 2004).

Schools. The City of Livermore is served by the Livermore Valley Joint Unified School District (LVJUSD). LVJUSD covers a 240 mi² area (including the City of Livermore), and includes 12 elementary schools, four middle schools, and two comprehensive high schools and three alternative high schools. During the 2002/2003 school year, 13,978 students were enrolled in LVJUSD and total capacity was 15,567 (City of Livermore, 2004). Valley Montessori School, an independent non-profit school, is located at 1273 N. Livermore Avenue, approximately 0.2 mile south of the site, and Don Gaspar de Portola Elementary School is located approximately 0.6 mile south of the site at 2451 Portola Avenue.

Parks. Two parks are in proximity to the project. Vista Meadows Park is a 5.7-acre park located approximately 0.25 mi south of the weir site, and Livermore Downs Park is a 6-acre park



located approximately 0.5 mi southwest of the weir site. Livermore Downs Park contains a tot lot and tennis courts. Vista Meadows Park also has a tot lot, as well as picnic tables and a dog park. Both of these parks are operated by LAPRD (LARP, 2007).

Other Public Facilities. Livermore is served by three main medical facilities: Valley Care Medical Center in Pleasanton, Valley Care Medical Plaza in Livermore, and Kaiser Permanente in Livermore. The City is served by three libraries: the main library located in the Civic Center complex south of the site, and two branch libraries in the Springtown and Rincon areas.

4.14.2 Answers to Check List Questions

Question A:

Fire protection service could be required during project construction in the event of an accident. The likelihood of such an accident is low. Since the fire department is prepared to respond to accidents within their jurisdiction, it is expected that it would be able to adequately respond, if necessary, should a project-related accident occur. Impacts would be less than significant.

Since project construction would not involve lane closures, it would not interfere with emergency response by ambulance, fire, paramedic, and police.

Question B:

During construction, there is a higher risk of vandalism and theft of construction equipment or tampering with a construction site that would rely upon the current police force. However, the construction period is short (30 days) and there is a sufficient police force currently in place. The use of the police force would be a temporary construction-related impact, but that impact would be less than significant.

Because there is no population growth anticipated as a result of the project that would require increased police protection to accommodate increases in population or new facilities, the operation of the project would not impact police services.

Question C:

The project would not cause a long-term increase in the local student population, which would require additional school facilities. Also, project construction is short-term and is not anticipated to result in a significant construction force that would require an increase of school services. Therefore, the project would have no impact on school services.

Question D:

Since the project would not impact existing parks or cause a significant increase in population or in-migration, no increased demand for public parks or park-related services would result.



Question E:

The project would not have a significant long-term impact on public services such as libraries or hospitals since it would not cause a significant increase in population or immigration. Therefore, the proposed project would not increase any long-term demands for existing public services in the project area.

Any short-term construction impacts to hospitals (in the event of an accident) or emergency service providers would be less than significant, because construction would be short-term and would primarily use workers from the surrounding area who would already have been included in regional planning for public services. Therefore, hospitals would have adequate capacity. No lane closures are anticipated so response times for emergency service providers also would not be impacted either.

4.15 RECREATION

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
A) Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
B) Does the Project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☐	☒

4.15.1 Setting

There are three providers of recreational facilities in Livermore. The City of Livermore owns and operates several of the smaller parks in the City. The Livermore Area Park and Recreation District (LAPRD) has the primary responsibility to provide, plan for, and maintain parks and community facilities, as well as many miles of scenic multi-use trails in Livermore and the surrounding area. Finally, the East Bay Regional Parks District (EBRPD), an additional park and recreation district, also provides and is responsible for developing and maintaining parks and public open space in the Livermore, particularly in the larger regional area (City of Livermore, 2004).

Two parks are in proximity to the project: Vista Meadows Park is a 5.7-acre park located approximately 0.25 mi south of the proposed weir site, and Livermore Downs Park is a six-acre park located approximately 0.5 mi southwest of the proposed weir site. Livermore Downs Park contains a tot lot and tennis courts. Vista Meadows Park also has a tot lot, as well as picnic tables and a dog park. Both of these parks are operated by LAPRD (LAPRD, 2007).



4.15.2 Answers to Check List Questions

Question A:

The project would not cause a significant increase in population or in-migration, as described in Section 3.12.2 (Population and Housing) and would; therefore, not result in an increased demand for neighborhood or regional parks or park-related services. Also, since no park facilities would be used for construction activities or staging areas, the project would not impact access to recreational facilities nor cause their physical deterioration.

Question B:

The project would not include recreation facilities nor require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

4.16 TRANSPORTATION/TRAFFIC

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
A) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☒	☐	☐
B) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒
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?	☐	☐	☐	☒
D) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☒	☐	☐
E) Result in inadequate emergency access?	☐	☐	☐	☒
F) Result in inadequate parking capacity?	☐	☐	☐	☒
G) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	☒

4.16.1 Setting

The project site is located adjacent to North Livermore Avenue, and project-related traffic would utilize this roadway. North Livermore Avenue is a 4-lane arterial in the project area, but



transitions to a 2-lane rural highway north of I-580. Traffic counts conducted by Alameda County in 2002 on the 2-lane portion of North Livermore Avenue yielded 4,780 average daily trips. These data indicate a Level of Service of (LOS) A on North Livermore Avenue in the project area. However, increases in traffic volume are expected to have occurred since 2002, and the LOS may have declined to B.

East County Area Plan Policy 193 establishes acceptable standards for LOS on major arterial roadways and on Congestion Management Plan designated roadways. The LOS standard for major arterial roadways (such as North Livermore Avenue) is D.

4.16.2 Answers to Check List Questions

Question A:

The project involves improvements to a flood control channel and would not generate traffic. Therefore, the project would not result in any long-term changes in traffic volume or congestion on North Livermore Avenue or other local roadways. However, the project would generate up to 20, one-way vehicle trips per day, which are associated with transportation of materials and construction workers. That increase in traffic is less than one percent of existing traffic volume and is considered less than significant. However, the southern laydown area is within an existing commercial parking lot utilized by local businesses. East-west public transit within the parking lot adjacent to the southern laydown area may be affected. The use of that area may cause a minor and local increase in parking lot congestion. A mitigation measure is proposed below.

Question B:

The Alameda County Congestion Management Agency updated the Congestion Management Program in 2005. North Livermore Avenue was not identified as a problem roadway and is not addressed in the Congestion Management Program. In any case, no project-related long-term traffic increases that would substantially affect the existing level of service on local roadways would occur.

Question C:

The Livermore Airport is located two miles west of the project site. All project structures would be below grade, within the existing drainage and would not adversely affect the operation of the Livermore Airport. The project would not result in population growth or associated air traffic. Therefore, the project would not adversely affect air traffic levels or traffic patterns, or cause any safety risks.



Question D:

The project does not involve the construction of any roads. The northern laydown area (pending CalTrans encroachment permit) is located approximately 100 ft north of the stream just south of the I-580 on-ramp. The location of the northern laydown area may conflict with safe operation of area roadways, which could result in a significant impact. **A mitigation measure is proposed below.**

Question E:

North Livermore Avenue is an arterial roadway, and may be considered an emergency access corridor. Project-related activities would not affect the operation of North Livermore Avenue or any other potential emergency access roadway.

Question F:

No new land uses are proposed; therefore, no increase in parking demand would occur. Parking of construction-related vehicles would be accommodated within the adjacent commercial parking lot resulting in limited parking space loss within that lot but no loss of street parking would occur.

Question G:

The project would not generate any new demand for transportation and would not conflict with existing policies, plans or facilities related to alternative transportation.

4.16.3 Mitigation Measures

Mitigation Measure TRA-1. A Traffic Control Plan will be developed prior to project initiation. The plan will focus on the ingress and egress to the project's proposed southern laydown area and developing a safe buffer zone around the northern laydown area.

4.17 UTILITIES AND SERVICE SYSTEMS

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
A) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
B) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
C) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒



Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
D) Have sufficient water supplies available to serve the Project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
E) Result in a determination by the wastewater treatment provider, which serves or may serve the Project that it has adequate capacity to serve the Project's Projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
F) Be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs?	☐	☐	☒	☐
G) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

4.17.1 Setting

Water Service. As a water wholesaler, Zone 7 supplies treated water to retail water agencies, such as the City of Livermore, Pleasanton, California Water Service (Cal Water), and the Dublin San Ramon Services District, for municipal and industrial use. Zone 7 also supplies untreated, or non-potable, water to non-municipal users, such as agricultural operators. Zone 7 currently has a long-term average sustainable water supply of 84,100 acre-feet/year. In Livermore, the long-term water demand is estimated to be approximately 22,000 acre-feet (City of Livermore, 2004). The project would be located in the Cal Water service area, which is supplied by Zone 7. Thus, water for project construction and concrete production would be supplied by Zone 7.

Wastewater Service. Within the City of Livermore, sewer service is provided by the City of Livermore's Public Services Department. The Water Resources Division of the City's Public Services Department operates the City of Livermore's Water Reclamation Plant. The Water Reclamation Plant's 2003 capacity is 8.5 million gallons per day (MGD), average dry weather flow (City of Livermore, 2004).

Solid Waste Service. The Alameda County Waste Management Authority has entered into an agreement with the City of Livermore and provides refuse collection services within the City. In addition, Alameda County has eight permitted and active solid waste facilities in Livermore, Pleasanton, San Leandro, Fremont, Alameda, and Berkeley. The closest landfill, Altamont Landfill & Resource Recovery (10840 Altamont Pass Road), is located in Livermore, approximately six mi east of the project site. The facility has a maximum permitted throughput of 11,150 tons/day and a remaining capacity of 124,400,000 CY. The site allows the following waste types: ash, construction/demolition, contaminated soil, green materials, industrial, mixed municipal, other designated, tires, shreds (California Integrated Waste Management Board, 2007).



Public Utilities. The Pacific Gas and Electric Company (PG&E) provides natural gas and electricity within the Livermore area. Most of Livermore's electric power is delivered via a 230 kilovolt (kV) transmission line running between the Contra Costa Power Plant near Antioch and the Newark Substation. SBC Pacific Bell (SBC) provides residential and commercial telephone service within the Livermore area.

4.17.2 Answers to Check List Questions

Questions A, B, and E:

The project does not include any new structures that would result in additional sanitary wastewater generation and, therefore, would not cause the existing wastewater treatment capacity to be exceeded. All ground disturbing activities would be within the stream bed and channel banks where there are no existing utilities or service pipelines.

Question C:

Project construction would occur under "dry conditions" and it would not involve the relocation or construction of storm water drains.

Question D:

Water would be used for mixing approximately 25 CY of concrete for the new weir. Typically, a concrete mix is approximately 10 to 15 percent cement, 60 to 75 percent aggregate, and 15 to 20 percent water. Entrained air in many concrete mixes may also take up another 5 to 8 percent (Portland Cement Association, 2007). Therefore, 25 CY of concrete would require approximately 750 to 1,010 gallons of water for mixing.

In addition, construction workers would utilize personal or company-provided water. The completed project would not require new or expanded water supply. Because of the small scale of the project and the short-term nature of construction (30 days), water use would be a comparatively small fraction of the overall water supply of Zone 7. Potential impacts would be less than significant.

Question F:

Construction would generate 65 CY of solid waste during demolition of the existing concrete pad. Concrete and other construction debris would be disposed of at Altamont Landfill & Resource Recovery Facility, which is the closest landfill to the project site. The Altamont Landfill & Resource Recovery Facility has sufficient capacity to serve the project's needs.

Other solid waste generation would be minimal. On-site receptacles would be used for waste and recyclable material; therefore, no substantial landfill increase is expected. To the extent feasible, construction materials would be diverted to recycling facilities to minimize the amount of solid waste. Therefore, impacts would be less than significant.



Question G:

The project would comply with federal, state, and local statutes and regulations related to solid waste.

4.18 MANDATORY FINDINGS OF SIGNIFICANCE (SECTION 15065)

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
A) Potential to Degrade: Does the 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, 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?	☐	☒	☐	☐
B) Cumulative: Does the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a Project are considerable when viewed in connection with the effects of past Projects, the effects of other current Projects, and the effects of probable future Projects)?	☐	☐	☒	☐
C) Substantial adverse: Does the Project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

4.18.1 Answers to Check List Questions

Question A:

The project may have the potential to degrade the quality of the environment; however short-term impacts will be minimized through avoidance and minimization measures, as well as through mitigation. For these reasons, temporary impacts will be less than significant with mitigation incorporated.

Question B:

As the project is located in an isolated area, is of short duration, and will not add impacts to other regional projects, it is not expected to result significant cumulative impacts.

Question C:

The project will not directly or indirectly result in significant environmental effects, which will cause substantial adverse effects on human beings.



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