

INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION ROSEVILLE ROAD BRIDGE REPLACEMENT PROJECT (T15068500)

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TABLE OF CONTENTS

TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
Mitigated Negative Declaration	
Section I – Project Background	1
Section II – Project Description	3
Project Location	3
Project Background	3
Project Purpose	3
Project Need	3
Proposed Project Build Scenarios	4
Construction Phasing, Access, Staging, and Methods	5
Permits, Reviews, and Approvals	7
No-Build (No-Project) Scenario	7
Scenarios Considered and Withdrawn	7
Section III – Environmental Checklist and Discussion	9
1. Air Quality	9
2. Biological Resources	18
3. Cultural Resources	35
4. Geology, Soils, and Mineral Resources	38
5. Hazards and Hazardous Materials	41
6. Hydrology and Water Quality	45
7. Noise and Vibration	49
8. Parks and Open Space	56
9. Public Services	58
10. Public Utilities	60
11. Transportation and Circulation	63
12. Urban Design and Visual Resources	68
13. Mandatory Findings of Significance	71
Section IV – Affected Environment	73
Section V – Determination	75
References Cited	
Appendix A – Air Quality Model Results	

LIST OF TABLES

<u>Tables</u>	<u>Page</u>
1 Required Permits, Reviews, and Approvals	7
2 Sacramento Metropolitan Air Quality Management District Particulate Matter Screening Levels for Construction Projects	11
3 Construction Emissions under Scenario A with Method 1.....	13
4 Construction Emissions under Scenario B with Method 1.....	14
5 Total Area of Natural Communities and Development in the Project Area	19
6 Sensitive Plant Species with the Potential to Occur in the Vicinity of the Roseville Road Bridge Replacement Project Area.....	follows 22
7 Sensitive Wildlife and Fish Species with the Potential to Occur in the Roseville Road Bridge Replacement Project Region	follows 22
8 Sensitive Receptors in the Project Area.....	50
9 Construction Noise Levels—Grading Phase	52
10 Pile Driving Noise Levels—Pile Driving.....	53
11 Typical Vibration Generated by Construction Equipment	54

LIST OF FIGURES

<u>Figures</u>	<u>Follows Page</u>
1 Project Location Map	4
2 Proposed Project – Short Replacement Bridge Structure with Channel Realignment.....	4
3 Project Alternative – In-kind Bridge Replacement.....	4
4 Natural Habitat Areas in Del Paso Regional Park.....	18
5 Natural Communities and Development in the Project Area	18
6 Impacts from Scenario A.....	28
7 Impacts from Scenario B.....	28

LIST OF ACRONYMS

$\mu\text{g}/\text{m}^3$	micrograms per cubic meter
ACCM	asbestos-containing construction material
ADL	Aerially deposited lead
AFB	Air Force Base
APE	area of potential effects
ARB	California Air Resources Board
BMP	best management practice
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CFGF	California Fish and Game Code
CFR	Code of Federal Regulations
CHRIS System	California Historic Resources Information System
City	City of Sacramento
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
CWA	federal Clean Water Act
dbh	diameter at breast height
DFG	California Department of Fish and Game
EPA	U.S. Environmental Protection Agency
ESU	evolutionary significant unit
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FTA	Federal Transit Administration
General Plan	Sacramento 2030 General Plan
GHG	greenhouse gas
golf course	Haggin Oaks Golf Complex
ISA	initial site assessment
LBP	lead-based paint
L_{eq}	equivalent sound level
light rail	Sacramento Regional Transit Light Rail Blue Line
L_{max}	maximum noise level
LOS	level of service
Master EIR	Master Environmental Impact Report

MBTA	Migratory Bird Treaty Act
mph	miles per hour
NAAQS	national ambient air quality standard
NAHC	Native American Heritage Commission
NO _x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
PM	particulate matter
PM ₁₀	PM less than or equal to 10 microns in diameter
PM _{2.5}	PM less than or equal to 2.5 micrometers in diameter
ppm	parts per million
PRC	California Public Resources Code
REC	recognized environmental condition
ROD	Record of Decision
ROG	reactive organic gas
RWQCB	Regional Water Quality Control Board
SAFCA	Sacramento Regional Flood Control Agency
SMAQMD	Sacramento Metropolitan Air Quality Management District
SRCSD	Sacramento Regional County Sanitation District
SRCSWA	Sacramento Regional County Solid Waste Authority
SVAB	Sacramento Valley Air Basin
SWPPP	storm water pollution prevention plan
TAC	toxic air contaminant
TPH	total petroleum hydrocarbon
UPRR	Union Pacific Railroad
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
UST	underground storage tank
V/C ratio	volume-to-capacity ratio
WBWG	Western Bat Working Group priority species

MITIGATED NEGATIVE DECLARATION



COMMUNITY DEVELOPMENT
DEPARTMENT

ENVIRONMENTAL PLANNING
SERVICES

CITY OF SACRAMENTO
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300 RICHARDS BLVD
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MITIGATED NEGATIVE DECLARATION
ROSEVILLE ROAD BRIDGE REPLACEMENT PROJECT

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

Roseville Road Bridge Replacement Project (T15068500) - The Roseville Road Bridge over Arcade Creek is located along a two-lane segment of Roseville Road paralleled on the west by UPRR tracks and on the east by the Haggin Oaks Golf Complex. The project site is in the City of Sacramento, Sacramento County, approximately 0.5 mile north of Connie Drive and 0.33 mile east of Business 80 (Capital City Freeway). The proposed project would replace the two-lane bridge on Roseville Road over Arcade Creek with a new bridge that meets current design standards and is compatible with future improvements. The project would also include the addition of shoulders and sidewalks to the new bridge to accommodate existing and future bicycle traffic, and improvements to the road approaches on both sides of the bridge.

The project is consistent with the 2030 General Plan Mobility Element.

The Lead Agency is the City of Sacramento, Community Development Department. The Department reviewed the proposed project and, on the basis of the whole of the record before it, determined that the proposed project is consistent with the land use designation for the project site as set forth in the 2030 General Plan. The City prepared the attached Initial Study that identifies potentially new or additional significant environmental effects (project-specific effects) that were not analyzed in the 2030 General Plan Master EIR. The City will incorporate all feasible mitigation measures or feasible alternatives appropriate to the project as set forth in the Master EIR, and adopt project-specific mitigation measures in order to avoid or mitigate the identified effects to a level of insignificance. (CEQA Guidelines Sections 15177(d), 15178(b)(2)). This proposed Mitigated Negative Declaration reflects the Lead Agency's independent judgment and analysis. An Environmental Impact Report is not required pursuant to the Environmental Quality Act of 1970 (Sections 21000, et seq., Public Resources Code of the State of California).

This Mitigated Negative Declaration was prepared pursuant to the California Environmental Quality Act (Public Resources Code Sections 21000 et seq.), CEQA guidelines (Title 14, Sections 15000 et seq. of the California Code of Regulations), the Sacramento Local Environmental Regulations (Resolution 91-892) adopted by the City of Sacramento, and the Sacramento City Code.

A copy of this document and all supportive documentation may be reviewed or obtained at the City of Sacramento, Community Development Department, 300 Richards Boulevard, 3rd Floor, Sacramento, CA 95811. The public counter is open from 9:00 am to 4:00 pm, Monday through Friday (earlier or later with prior arrangement). The counter is closed the first Friday of each month. The document may also be viewed online at <http://www.cityofsacramento.org/dsd/planning/environmental-review/eirs/>

Environmental Services Manager, City of Sacramento,
California, a municipal corporation

By: _____

Date: _____

[Signature]
March 6, 2012

INITIAL STUDY CHECKLIST

Roseville Road Bridge Replacement Project

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

ANTICIPATED SUBSEQUENT PROJECT UNDER THE 2030 GENERAL PLAN MASTER EIR

This initial study was prepared by the City of Sacramento (City) Community Development Department, 300 Richards Boulevard, Third Floor, Sacramento, CA 95811, pursuant to the California Environmental Quality Act (Public Resources Code Sections 21000 *et seq.*), CEQA Guidelines (Title 14, Section 15000 *et seq.*, of the California Code of Regulations [CCR]) and the Sacramento Local Environmental Regulations (Resolution 91-892) adopted by the City of Sacramento.

Organization of the Initial Study

This Initial Study contains the following sections:

SECTION I – PROJECT BACKGROUND: Provides summary background information about the project name, location, sponsor, and the date this Initial Study was completed.

SECTION II – PROJECT DESCRIPTION: Includes a detailed description of the proposed project.

SECTION III – ENVIRONMENTAL CHECKLIST AND DISCUSSION: Reviews the proposed project and states whether the project would have additional significant environmental effects (project-specific effects) that were not evaluated in the master EIR for the 2030 General Plan.

SECTION IV – POTENTIALLY AFFECTED ENVIRONMENTAL FACTORS: Identifies which environmental factors were determined to have additional significant environmental effects.

SECTION V – DETERMINATION: States whether environmental effects associated with development of the proposed project are significant, and what, if any, added environmental documentation may be required.

REFERENCES CITED: Identifies source materials that have been consulted in the preparation of the Initial Study.

Section I – Project Background

Project Name and File Number:	Roseville Road Bridge Replacement Project (T15068500)
Project Location:	Along a two-lane segment of Roseville Road, paralleled on the west by the Union Pacific Railroad (UPRR) tracks and on the east by the Haggin Oaks Golf Complex, approximately 0.5 mile north of Connie Drive and 0.33 mile east of Business 80.
Project Applicant:	City of Sacramento
Project Manager:	Matthew Johns, City of Sacramento Department of Transportation, 916/808-5760
Environmental Planner:	Scott Johnson, City of Sacramento Community Development Department, 916/808-5842
Date Initial Study Completed:	December 2011, revised March 2012

This initial study was prepared in accordance with the California Environmental Quality Act (CEQA; California Public Resources Code [PRC] 1500 et. seq.). The lead agency is the City of Sacramento (City).

The City of Sacramento Community Development Department reviewed the proposed project and, on the basis of the whole record before it, determined that the proposed project is an anticipated subsequent project identified and described in the *Sacramento 2030 General Plan Master Environmental Impact Report* (City of Sacramento 2009a), and is consistent with the land use designation and permissible densities and intensities of use for the project site as set forth in the *Sacramento 2030 General Plan* (City of Sacramento 2009b). For additional information, see State CEQA Guidelines Sections 15176(b) and (d).

The City prepared this initial study to:

- Review the discussions of cumulative impacts, growth-inducing impacts, and irreversible significant impacts in the Master EIR to determine their adequacy for the project (State CEQA Guidelines Section 15178[b] and [c]).
- Identify any potential new or additional project-specific significant impacts that were not analyzed in the Master EIR, and any mitigation measures or alternatives that may avoid or mitigate any identified effects to a level of insignificance.

As part of the Master EIR process, the City is required to incorporate all feasible mitigation measures or feasible alternatives appropriate to the project as set forth in the Master EIR (State CEQA Guidelines Section 15177[d]). The identified Master EIR mitigation measures are set forth in the appropriate technical sections.

This analysis incorporates by reference the general discussion portions of Master EIR (State CEQA Guidelines Section 15150[a]). The Master EIR is available for public review at the City of Sacramento Community Development Department; 300 Richards Boulevard, Third Floor; Sacramento, CA 95811. It is also available online at <http://www.sacgp.org>.

The City is soliciting views of interested persons and agencies on the content of the environmental information presented in this document. Because of the time limits mandated by state law, responses must be sent at the earliest possible date, but no later than the end of the 30-day review period—February 6, 2012. Please send written responses to:

Scott Johnson
City of Sacramento Community Development Department
300 Richards Blvd, Third Floor
Sacramento, CA 95811

or

srjohnson@cityofsacramento.org

Direct Line: 916/808-5842

Section II – Project Description

The City, in cooperation with the California Department of Transportation (Caltrans), is sponsoring the proposed project.

Project Location

The Roseville Road Bridge over Arcade Creek is located along a two-lane segment of Roseville Road paralleled on the west by UPRR tracks and on the east by the Haggin Oaks Golf Complex. The project site is in the City of Sacramento, Sacramento County, approximately 0.5 mile north of Connie Drive and 0.33 mile east of Business 80 (Capital City Freeway) (Figure 1).

Project Background

The most recent bridge inspection report for the Roseville Road Bridge over Arcade Creek detailed longitudinal and transverse cracks in the bridge deck, and exposed pier footings due to scour. The bridge was also found to have insufficient width (two 12-foot lanes, no shoulders), and the existing nonstandard timber railing did not meet crash test criteria. As a result, the bridge is considered structurally deficient and functionally obsolete, with a sufficiency rating of 42. The City is receiving Federal Highway Administration (FHWA) Highway Bridge Program funding to design and construct a replacement bridge.

Project Purpose

The overall purpose of the project is to replace the Roseville Road Bridge over Arcade Creek. The primary purpose is to replace the crossing with a new bridge that meets current design standards and is compatible with future improvements. As stated, the existing bridge is structurally deficient and functionally obsolete, lacking roadside shoulders and adequate barrier rails. Secondary purposes are as follows:

- Improve the hydraulics of Arcade Creek as it flows under the bridge to reduce future scour potential around bridge abutments.
- Provide accommodations for bicycle and pedestrian use in the future.
- Enhance riparian habitat in the project area, upstream of the bridge, through nonnative invasive plant removal and native plant installation.
- Reduce maintenance costs.

Project Need

Caltrans conducted a bridge inspection on July 6, 2006 that revealed exposed pier footings due to creek scour, and longitudinal and transverse cracks in the bridge deck. The bridge was also found to have insufficient width (two 12-foot lanes, no shoulders), and the existing non-standard timber railing does not meet crash test criteria. As a result, the bridge is considered structurally deficient and functionally obsolete. Based on these results, the City applied for and obtained Highway Bridge Program funding to design and construct a replacement bridge.

Arcade Creek flows under the existing bridge at a significant skew, entering the bridge at the northeast corner and exiting at the southwest corner. Based on discussions with the Sacramento Area Flood Control Agency (SAFCA), this skew and encroachment of the north abutment embankment affect the hydraulic efficiency of the bridge, creating significant backwater and scour, and encroaching on the required freeboard at the bridge.

The project is necessary to address these structural and creek alignment issues. In addition, Arcade Creek in the vicinity of the project area has reduced habitat quality and is subject to localized flooding. Project efforts will partially address these issues. The *Existing Conditions and Assessment Report and Stream Corridor Management Plan for the Arcade Creek Watershed* (ICF Jones & Stokes 2008), prepared for the City's Arcade Creek Watershed Management Project, states that Arcade Creek in the vicinity of the project area could be improved through bank stabilization, debris and flow obstruction removal, and nonnative invasive plant species removal. Bank stabilization and debris removal would increase the conveyance capacity of the creek channel, decrease scour and erosion, and reduce localized flooding. Nonnative plant species removal would increase ecosystem functions, preserve or increase wildlife habitat values, reduce fuel buildup, minimize wildfires, and preserve scenic and recreational attributes of open space areas.

Proposed Project Build Scenarios

This section describes in detail the build scenarios for the proposed project. Two scenarios are being considered, shown in Figures 2 and 3, respectively:

- Scenario A—Short Replacement Bridge Structure with Channel Realignment
- Scenario B—In-Kind Bridge Replacement

Both scenarios include replacement of the bridge, addition of shoulders and sidewalks to the new bridge to accommodate existing and future bicycle traffic, and improvements to the road approaches on both sides of the bridge.

Scenario A—Short Replacement Bridge Structure with Channel Realignment

To reduce the hydraulic impacts on the bridge abutments and foundation associated with the skewed creek alignment, Scenario A would realign the creek channel upstream of the bridge to match the alignment of the proposed bridge and construct a significantly shorter clear-span bridge across the creek (Figure 2). The new bridge would be higher and wider than the original structure to provide the required freeboard over Arcade Creek and to provide shoulders and sidewalks to address safety concerns and accommodate future bicycle and pedestrian traffic. Aligning the creek with the bridge would significantly reduce the length of the new bridge, which would allow for a clear-span bridge. A clear-span bridge would reduce debris accumulation because there would be no piers in the creek channel.

Bridge Foundation and Abutment Installation

Under Scenario A, the new bridge is proposed to be a single-span precast concrete girder bridge on seat abutments. The foundation may include cast-in-drilled-hole piles, driven piles, or spread footing; the specific foundation type would be determined during final design. If pile driving is necessary, it would be used during an approximately 1-week period during one or both stages of construction, depending on whether Method 1 or 2 is used (see “Bridge Removal and Construction Methods” below).

Creek Realignment

Scenario A would realign Arcade Creek to reduce the hydraulic impacts associated with the current skewed creek alignment. The creek channel would be realigned upstream of the bridge to match the alignment of the proposed bridge. Aligning the creek with the bridge would lower headlosses and associated backwater through the bridge, reduce the 100-year floodplain, and decrease scour so that expensive, deep bridge foundations would not be required. This phase may occur immediately before or concurrent with bridge replacement activities.



Figure 1
Project Location Map
 60 of 159



Figure 2
Proposed Project - Short Replacement
Bridge Structure with Channel Realignment of 159



Figure 3

Project Alternative - In-Kind Bridge Replacement

Scenario B—In-Kind Bridge Replacement

Scenario B would replace the existing bridge in its exact (or nearly the same) location. The new bridge would be longer, wider and higher than the original structure to provide the freeboard needed over Arcade Creek, and to provide shoulders and sidewalks to address safety concerns and to accommodate future bicycle and pedestrian traffic. Arcade Creek would be temporarily affected during construction, but it would continue in its current alignment (Figure 3).

Bridge Foundation and Abutment Installation

Under Scenario B, the new bridge would be a multispan cast-in-place slab bridge on closed-end cantilever abutments (similar to tall seat abutments) on cast-in-drilled-hole or driven piles. Placement of new piers in the Arcade Creek channel would be necessary. If pile driving is necessary, it would be used during an approximately 1-week period during one or both stages of construction, depending on whether Method 1 or 2 is used.

Construction Phasing, Access, Staging, and Methods

Project Access and Staging Areas

To allow equipment to access the project site, vegetation would be removed within the footprint of the proposed bridge, and temporary access roads would be constructed. Access would be through existing access points along Roseville Road at the northern and southern ends of the project area. Construction and equipment staging would occur in three locations:

- UPRR right-of-way beginning at the existing toe of fill for the railroad or 25 feet from the centerline of the track, whichever is farther.
- Closed traffic lanes on Roseville Road.
- Within the limits of construction on the Haggin Oaks Golf Complex, but outside areas of active play.

Right-of-Way Acquisition

A temporary easement would be obtained from UPRR for work during construction and from Haggin Oaks for access and construction staging. No permanent right-of-way would be obtained.

Anticipated Construction Equipment

Typical construction equipment would include the following:

- Crane
- Backhoe
- Excavator
- Concrete saw (partial removal of existing bridge and approach for stage construction)
- Hoe ram (bridge removal)
- Pile driver (existing bridge on piles)
- Air compressor
- Cement truck
- Cement pump truck

- Paver
- Rollers
- Motor grader
- Various dump trucks
- Various light tools (e.g., saws, jackhammer)

Most construction noise related to this project would occur when the existing bridge is removed, and possibly during pile driving for construction of the replacement bridge (pile driving may not be necessary depending on the footing type ultimately selected). This operation would likely include noise from concrete hammers/breakers and occur in one or two stages, depending on the construction method used (see “Bridge Removal and Construction Methods” below).

Bridge Removal and Construction Methods

Construction and traffic handling would be implemented using one of two methods. Method 1 would consist of closing Roseville Road to all traffic and constructing the bridge in one phase during one construction season.

Method 2 would construct the bridge in two stages. The first stage would remove half of the existing bridge, leaving the remaining half (one lane) open to traffic. The first half of the new bridge would be constructed with a cross section that includes the northbound lane, shoulder/bike lane, and sidewalk. Once the first stage is completed, traffic would be shifted to the completed half of the new bridge, allowing the remainder of the existing structure to be removed and the remainder of the new structure to be constructed.

Roadway Construction

The project would replace up to approximately 950 feet of road approach on either side of the bridge. To transition from the width of the existing road north and south of the bridge to the width of the new bridge, the roadbed would be widened as the road approaches the bridge. This would require placement of fill adjacent to the existing roadbed to support the wider roadway sections. However, retaining walls may be used to help confine fill within the existing right-of-way.

Traffic Management

Depending on the construction method used, either no travel lanes would be open or only one travel lane would be open to traffic throughout the duration of bridge and roadway construction.

Method 1 would require a detour because Roseville Road would be closed to traffic between Connie Drive and the Watt Avenue Regional Transit Metro Station entrance during demolition and replacement of the bridge, a period of 4 to 5 months. Vehicles traveling southbound (toward Sacramento) on Roseville Road would be redirected to westbound Interstate 80 and westbound Business 80 as alternate routes to destinations west of the project site. Traffic may divert to Business 80 to avoid the closure and may enter the freeway at either the Watt Avenue interchange or Marconi Avenue interchange.

Method 2 would close one lane of traffic on Roseville Road over an approximately 1.5-year period. Traffic management would include temporary traffic signals at the northern and southern limits of the project site to provide directional traffic control matched to commute patterns.

Temporary Bridge Lighting

No permanent lighting would be installed to illuminate the roadway. However, should the contractor choose to work at night, temporary lighting would be used. Temporary traffic signals used for bridge construction under Method 2 would also generate light.

Utilities

Relocation of utilities in the project area is anticipated. A sewer pipeline east of the existing bridge, overhead power and telephone lines paralleling the west side of the bridge, and other utilities along the UPRR maintenance road between the tracks and Roseville Road may need to be relocated before construction of the proposed project. Meetings will occur with the utility companies to ensure that they have adequate time to design and construct their relocations before the start of construction.

Permits, Reviews, and Approvals

The permits, reviews, and approvals listed in Table 1 would be required for project construction.

Table 1. Required Permits, Reviews, and Approvals

Agency	Permit/Approval	Status
U.S. Army Corps of Engineers	Clean Water Act Section 404 authorization for fill of waters of the United States	Not yet initiated
California Department of Fish and Game	California Fish and Game Code Section 1602 streambed alteration agreement	Not yet initiated
Central Valley Regional Water Quality Control Board	Clean Water Act Section 401 water quality certification	Not yet initiated
Central Valley Flood Protection Board	Encroachment permit	Not yet initiated
Sacramento Area Flood Control Agency	Review/approval of hydraulic impacts.	Completed
Union Pacific Railroad	Temporary easement	Not yet initiated
Haggin Oaks Golf Complex	Temporary easement	Not yet initiated

No-Build (No-Project) Scenario

Under the No-Build (No-Project) Scenario, the structurally deficient, functionally obsolete bridge would not be replaced. Widening the bridge to current standards, including shoulders and provision for future addition of bicycle and pedestrian facilities, would not occur. No disruption of or direct impacts on Arcade Creek or the surrounding riparian vegetation would occur because no project-related construction activities would take place.

Given the structurally deficient status of the existing Roseville Road Bridge over Arcade Creek, its age, and its scour vulnerabilities, portions of the structure are nearing the end of its service life. Extensive rehabilitation or replacement is required at this time. The No-Build (No-Project) Scenario does not meet the proposed project's purpose and need.

Scenarios Considered and Withdrawn

Two scenarios were considered but withdrawn from further analysis. First, another design scenario with a single-span bridge structure was considered. This scenario would have excavated a new, second creek channel east of the existing one. This new channel would reduce the hydraulic impacts of the skewed creek alignment, while keeping creek flows in the two channels. The existing channel would still be

affected by the placement of fill adjacent to the existing roadbed to support the wider roadway sections. Only a minimal amount of the original channel would be preserved. Compared to the proposed project, almost double the area of riparian habitat would be disturbed by roadbed support construction and new channel creation, and there would be no additional restored habitat. Water flows needed to maintain riparian habitat would be split between the two channels. This flow pattern may not provide adequate water to support riparian vegetation along both channels. Further, there would be only minimal separation between the two channels, in highly erodible soils, which could compromise the stability of both channels. This scenario was eliminated from further consideration because of the additional effects on riparian habitat without equivalent restoration gains, as well as concerns about the stability of the channels.

Second, a structure rehabilitation scenario was considered. The State of California establishes guidelines and rating criteria that dictate replacement or rehabilitation based on safety to the general public. These guidelines are the reason this bridge has been identified for replacement rather than rehabilitation, and therefore are the reasons for eliminating rehabilitation as a viable scenario. The bridge is eligible for replacement based on the following conditions:

- The bridge elevation does not accommodate the 3-foot freeboard required by the Central Valley Flood Protection Board to prevent the bridge from being compromised by debris during high water. Given the age of the existing bridge, the cost of raising the bridge is not feasible.
- The Caltrans bridge inspection report dated July 6, 2006 shows that there are both longitudinal and transverse cracks in the deck that cannot be repaired by rehabilitating the bridge deck and superstructure.
- The footings have been exposed because of scour from the creek and must be replaced to prevent complete failure of the bridge.
- The bridge has insufficient width (two 12-foot lanes, no shoulders).
- The existing nonstandard timber railing does not meet crash test criteria.

As a result of the above conditions, the bridge is considered structurally deficient with a sufficiency rating of 42 (on a scale of 1 to 100). The sufficiency rating of 42 qualifies it for replacement under the Highway Bridge Program. Therefore, this scenario was eliminated from further consideration.

Section III – Environmental Checklist and Discussion

1. AIR QUALITY

Impacts to air quality may be considered significant if construction and/or implementation of the proposed project would result in the following impacts that remain significant after implementation of General Plan policies or mitigation from the General Plan Master EIR:

	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
A. Result in construction emissions of a) above 85 pounds per day	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
B. Result in operational emissions of NO _x or reactive organic gases (ROGs) above 65 pounds per day	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
C. Violate any air quality standard or contribute substantially to an existing or projected air quality violation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
D. Result in emissions of particulate matter less than or equal to 10 microns in diameter (PM ₁₀) that would threaten violations of the threshold (concentrations equal to or greater than 5% of California ambient air quality standard [CAAQS]), which is assumed to occur if project emissions of NO _x and ROGs are above the emission thresholds above	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
E. Result in carbon monoxide (CO) concentrations that exceed the 1-hour CAAQS (i.e., 20.0 parts per million [ppm]) or the 8-hour CAAQS (i.e., 9.0 ppm)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
F. Result in exposure of sensitive receptors to substantial pollutant concentrations	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
G. Result in toxic air contaminant (TAC) emissions that could adversely affect sensitive receptors	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
H. Impede the City or state efforts to meet AB 32 standards for the reduction of greenhouse gas emissions	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

The project site is located in the Sacramento Valley Air Basin (SVAB), which is a valley bounded by the North Coast Ranges on the west and the northern Sierra Nevada on the east. The SVAB is subject to federal, state, and local air quality regulations under the jurisdiction of the Sacramento Metropolitan Air Quality Management District (SMAQMD). SMAQMD is responsible for implementing emission standards and other requirements of federal and state laws. Air quality hazards are caused primarily by carbon monoxide (CO), particulate matter (PM), and ozone, primarily as a result of motor vehicles.

In December 2006, the U.S. Environmental Protection Agency (EPA) revised the national ambient air quality standard (NAAQS) for fine particle pollution to provide increased protection of public health and

welfare. The revised standard is 35 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) for PM less than or equal to 2.5 micrometers in diameter ($\text{PM}_{2.5}$), averaged over 24 hours. The EPA administrator identified nonattainment areas by county in December 2008 and confirmed the designations in October 2009. Sacramento County is on this list of counties (along with portions of surrounding counties) that contribute to nonattainment conditions.

Greenhouse Gas Emissions

The General Plan Master EIR includes extensive discussion of the potential effects of greenhouse gas (GHG) emissions that could occur as a result of development proposed under the General Plan. The Master EIR discussions regarding climate change are incorporated here by reference. See:

- Draft EIR: 6.1 Air Quality (Page 6.1-1)
- Final EIR: City Climate Change Master Response (Page 4-1)
- Errata No. 2: Climate Change (Page 12)

Standards of Significance

For purposes of this initial study, the following impacts on air quality from project construction or operation may be considered significant if they are not reduced to a less-than-significant level after implementation of General Plan policies, Master EIR mitigation, or project-specific mitigation:

- Conflict with or obstruct implementation of an applicable air quality plan (defined further below).

In the Sacramento Federal Ozone Nonattainment Area, the Rate of Progress Plan and the 2011 Reasonable Further Progress Plan have been adopted to address attainment of the federal 8-hour ozone standard. Similarly, the 2003 Triennial Report and the 2006 Annual Progress Report address attainment of the state ozone standard. SMAQMD considers that any development project or plan with the following effects or emissions of ozone precursors—nitrogen oxides (NO_x) and reactive organic gases (ROGs)—would represent a significant conflict or obstruction to the success of the regional ozone attainment plans:

- Result in short-term (construction) emissions of NO_x above 85 pounds per day.
- Result in long-term (operational) emissions of NO_x or ROGs above 65 pounds per day.
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Current violations of the federal and state standards for PM less than or equal to 10 microns in diameter (PM_{10}) are being recorded at Sacramento monitoring stations. There is evidence of federal and state CO standard violations at Sacramento monitoring stations in the recent past. SMAQMD considers that the following effects or concentrations of PM_{10} and CO would represent a significant violation of these ambient air quality standards:

- Result in emissions of PM_{10} that would threaten violations of the threshold (concentrations equal to or greater than 5% of CAAQS), which is assumed to occur if project emissions of NO_x and ROGs are above the emission thresholds above.
- Result in CO concentrations that exceed the 1-hour CAAQS (i.e., 20.0 parts per million [ppm]) or the 8-hour CAAQS (i.e., 9.0 ppm).
- Expose sensitive receptors to substantial pollutant concentrations.
- Ambient air quality standards have not been established for toxic air contaminants (TACs). TAC exposure is deemed to be significant if:
- TAC exposures create a risk of 10 in 1 million for stationary sources, or substantially increase the risk of exposure to TACs from mobile sources.

For the assessment of significant impacts from construction-related PM emissions, SMAQMD has established screening levels based on a project's maximum actively disturbed area. Based on this area, SMAQMD recommends mitigation measures that would reduce PM emissions to a less-than-significant level. For project sites disturbing more than 15 acres per day that may result in PM concentrations exceeding the CAAQS, additional dispersion modeling is required. Table 2 summarizes the mitigation measures that SMAQMD recommends for various project sizes.

**Table 2. Sacramento Metropolitan Air Quality Management District
Particulate Matter Screening Levels for Construction Projects**

Project Site Size	Mitigation
5 acres and below	No mitigation required.
5.1–8 acres	Level 1 Mitigation Required: Water exposed soil twice daily. Maintain 2 feet of freeboard space on haul trucks.
8.1–12 acres	Level 2 Mitigation Required: Water exposed soil three times daily. Water soil piles three times daily. Maintain 2 feet of freeboard space on haul trucks.
12.1–15 acres	Level 3 Mitigation Required: Keep soil moist at all times. Maintain 2 feet of freeboard space on haul trucks. Use emulsified diesel or diesel catalysts on applicable heavy-duty diesel construction equipment.
Source: Sacramento Metropolitan Air Quality Management District 2009.	

An impact pertaining to climate change is considered significant if it would:

- Impede the City or state efforts to meet AB 32 standards for the reduction of greenhouse gas emissions.

Summary of Analysis in the 2030 General Plan Master EIR

The Master EIR identifies the following impacts on air quality from implementation of the General Plan:

- **Impact 6.1-1:** Implementation of the General Plan could conflict with or obstruct implementation of Sacramento area air quality plans.
- **Impact 6.1-2:** Implementation of the General Plan could result in construction activities that would increase NO_x levels above 85 pounds per day.
- **Impact 6.1-3:** Implementation of the General Plan would result in operational emissions that would increase either of the ozone precursors, NO_x or ROG_s, above 65 pounds per day.
- **Impact 6.1-4:** Implementation of the General Plan would result in PM₁₀ concentrations due to the emission of PM associated with construction activities at a level equal to or greater than 5% of the state ambient air quality standard (i.e., 50 µg/m³ for 24 hours).
- **Impact 6.1-5:** Implementation of the General Plan could result in CO concentrations that exceed the 1-hour state ambient air quality standard of 20.0 ppm or the 8-hour state ambient standard of 9.0 ppm.
- **Impact 6.1-6:** Implementation of the General Plan would result in TAC emissions that could adversely affect sensitive receptors.
- **Impact 6.1-7:** Implementation of the General Plan, in conjunction with other construction activities in the SVAB, would increase cumulative construction-generated NO_x levels above 85 pounds per day.

- **Impact 6.1-8:** Implementation of the General Plan, in conjunction with other development in the SVAB, would increase cumulative operational levels of either of the ozone precursors, NO_x or ROG_s, above 65 pounds per day.
- **Impact 6.1-9:** Implementation of the General Plan, in conjunction with other development in the SVAB, would emit particulate pollutants associated with construction activities at a cumulative level equal to, or greater than, 5% of the CAAQS (50 µg/m³ for 24 hours).
- **Impact 6.1-10:** Implementation of the General Plan, in conjunction with other development in the SVAB, could result in CO cumulative concentrations that exceed the 1-hour state ambient air quality standard of 20.0 ppm or the 8-hour state ambient standard of 9.0 ppm.
- **Impact 6.1-11:** Implementation of the General Plan, in conjunction with other development in the SVAB, would generate TAC emissions that could adversely affect sensitive receptors.

Implementation of the General Plan was determined to result in significant and unavoidable impacts due to significant emissions of NO_x during construction activities, operational emissions of NO_x and ROG_s (ozone precursors) during implementation of the plan, and emissions of PM during construction activities. The City Council adopted a statement of overriding considerations for these impacts. Implementation of the General Plan was determined to have less-than-significant impacts due to conflicts with or obstructions of implementation of regional air quality plans, emissions of CO, and emissions of TACs.

The cumulative effects of development in accordance with the General Plan were determined to result in significant and unavoidable impacts due to the emissions of NO_x, ROG_s, and PM. The City also determined that GHG emissions that could be generated by development consistent with the 2030 General Plan would be a cumulatively considerable contribution to climate change, and the impact, therefore, a significant cumulative impact. The City Council adopted a statement of overriding considerations for these impacts. The emissions of CO and TACs were determined to be less than significant at the cumulative level.

The significance conclusions of the proposed project's impacts are discussed below under "Answers to Checklist Questions," and its consistency with the Master EIR's conclusions is summarized under "Findings."

Mitigation Measures from the 2030 General Plan Master EIR That Apply to the Proposed Project

No mitigation measures for air quality were identified in the Master EIR. General Plan policies ER 6.1.3, 6.1.4, and 6.1.5, set goals for GHG reduction, citywide GHG assessment, and GHG reduction in new development. Appendix K of the Master EIR shows a complete list of 2030 General Plan goals and policies as well as implementation programs that address climate change and reducing GHG emissions.

Answers to Checklist Questions

QUESTION A

Short-term impacts result from the following construction-related sources: 1) construction and demolition equipment emissions; 2) dust from building operations; and 3) emissions from workers' vehicles and haul/material vehicles traveling to and from construction sites. Tables 3 and 4 show the unmitigated and mitigated emissions that would result from construction under Scenarios A and B, respectively, using construction Method 1. Method 1 is shown below because it was calculated to result in slightly higher pounds-per-day construction emission levels in some construction phases compared to Method 2 though Method 2 requires construction to occur over two construction seasons instead of one. Emissions are not anticipated to exceed SMAQMD thresholds during construction under either scenario or method.

While Tables 3 and 4 indicate that construction emissions are not anticipated to exceed SMAQMD thresholds, SMAQMD has identified "Basic Construction Emission Control Practices" that must be

implemented for all projects to further minimize construction-related impacts regardless of the CEQA significance determination (SMAQMD 2011). For this project, these practices are included as Mitigation Measure AQ-1. The proposed project would not result in an additional impact that was not addressed in the Master EIR.

Table 3. Construction Emissions under Scenario A with Method 1 (pounds per day)

Phase	ROGs	NO _x	CO	PM ₁₀	PM _{2.5}	CO ₂
Creek realignment and bridge demolition (3/1/2014 – 3/31/2014)						
Unmitigated emissions	2.84	22.74	14.33	28.1	6.6	3,683
Mitigated emissions	2.84	17.68	14.33	2.25	0.69	3,683
Rough grading (4/1/2014 – 4/15/2014)						
Unmitigated emissions	1.97	14.52	10.62	15.77	3.84	2,075
Mitigated emissions	1.97	11.73	10.62	1.33	0.48	2,075
Construct bridge, retaining walls, & underground facilities (4/16/2014 – 8/31/2014)						
Unmitigated emissions	1.45	10.78	6.11	0.62	0.57	1,358
Mitigated emissions	1.45	7.79	6.11	0.05	0.04	1,358
Finished grading, rip rap & landscape replanting (9/1/2014 – 9/15/2014)						
Unmitigated emissions	2.21	16.23	11.85	0.87	0.8	2,278
Mitigated emissions	2.21	16.23	11.85	0.87	0.8	2,278
Paving (9/16/2014 – 9/30/2014)						
Unmitigated emissions	1.58	9.66	8.11	0.78	0.72	1,191
Mitigated emissions	1.58	7.01	8.11	0.07	0.06	1,191
Guard rail, signing & striping (10/1/2014 – 10/21/2014)						
Unmitigated emissions	0.61	0.66	8.15	0.20	0.17	2,331
Mitigated emissions	0.61	0.66	8.15	0.20	0.17	2,331
Final cleanup and construction completion (10/22/2014 – 11/7/2014)						
Unmitigated emissions	0.52	0.59	7.35	0.19	0.16	2,104
Mitigated emissions	0.52	0.59	7.35	0.19	0.16	2,104
Total unmitigated emissions	2.84	22.74	14.33	28.10	6.60	3,683
Total mitigated emissions	2.84	17.68	14.33	2.25	0.80	3,683
SMAQMD threshold	–	85	–	–	–	–

Table 4. Construction Emissions under Scenario B with Method 1 (pounds per day)

Phase	ROGs	NO _x	CO	PM ₁₀	PM _{2.5}	CO ₂
Bridge demolition (3/1/2014 – 3/31/2014)						
Unmitigated emissions	0.87	8.22	3.71	0.33	0.26	1,609
Mitigated emissions	0.87	5.96	3.71	0.08	0.03	1,609
Rough grading (4/1/2014 – 4/15/2014)						
Unmitigated emissions	1.97	14.52	10.62	15.77	3.84	2,074
Mitigated emissions	1.97	11.73	10.62	1.33	0.48	2,074
Construct bridge, retaining walls, & underground facilities (4/16/2014 – 9/30/2014)						
Unmitigated emissions	1.45	10.78	6.11	0.62	0.57	1,358
Mitigated emissions	1.45	7.79	6.11	0.05	0.04	1,358
Finished grading, rip rap & landscape replanting (10/1/2014 – 10/15/2014)						
Unmitigated emissions	2.21	16.23	11.85	0.87	0.8	2,278
Mitigated emissions	2.21	16.23	11.85	0.87	0.8	2,278
Paving (10/16/2014 – 10/30/2014)						
Unmitigated emissions	1.58	9.66	8.11	0.78	0.72	1,191
Mitigated emissions	1.58	7.01	8.11	0.07	0.06	1,191
Guard rail, signing & striping (11/1/2014 – 11/21/2014)						
Unmitigated emissions	0.61	0.66	8.15	0.20	0.17	2,331
Mitigated emissions	0.61	0.66	8.15	0.20	0.17	2,331
Final cleanup and construction completion (11/22/2014 – 12/7/2014)						
Unmitigated emissions	0.52	0.59	7.35	0.19	0.16	2,104
Mitigated emissions	0.52	0.59	7.35	0.19	0.16	2,104
Total unmitigated emissions	2.21	16.23	11.85	15.77	3.84	2,331
Total mitigated emissions	2.21	16.23	11.85	1.33	0.80	2,331
SMAQMD threshold	–	85	–	–	–	–

QUESTIONS B AND E

Because the proposed project would not increase the capacity of the roadway, no additional trips or delays are expected to result from the project. Therefore, the project is not anticipated to result in increased operational emissions. The proposed project would not result in an additional significant impact that was not addressed in the Master EIR.

QUESTION C

Because construction and operational emissions are expected to be well below the thresholds, as discussed for Questions A and B, the project is not expected to violate any air quality standards. The proposed project would not result in an additional significant impact that was not addressed in the Master EIR.

QUESTION D

PM₁₀ emissions are assumed to be below the thresholds because as discussed for Question A. Construction NO_x emissions are below the thresholds. There are no construction ROG thresholds, and

both NO_x and ROG operational thresholds are not expected to be exceeded. Therefore, the proposed project would not result in an additional significant impact that was not addressed in the Master EIR.

SMAQMD has established screening-level criteria for the assessment of significant impacts from construction-related emissions of fugitive dust. These criteria are based on a project's maximum actively disturbed area. Construction activities that would disturb less than 15.0 acres per day would be required to implement the appropriate level of mitigation, identified by the SMAQMD as "Basic Construction Emission Control Practices," for all projects to further minimize construction-related impacts regardless of the CEQA significance determination. Because the proposed project covers an area less than 15 acres, Mitigation Measure AQ-1 has been included to reduce construction-related emissions of fugitive dust.

QUESTIONS F AND G

Although the nearest sensitive receptor is located more than 700 feet from the project area, construction activities, which involve the use of diesel-powered equipment, are short-term, and emissions are expected to be well below the thresholds. Operational emissions are not expected to increase, as discussed for Question B. Despite a low-impact expectation for this project, measures for construction activities are still recommended to further reduce impacts on sensitive receptors.

SMAQMD defines sensitive receptors as facilities that house or attract children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants or may experience adverse effects from unhealthful concentrations of air pollutants. Hospitals, clinics, schools, convalescent facilities, and residential areas are examples of sensitive receptors. The nearest sensitive receptors in the vicinity of the project site are a residential subdivision approximately 0.13 mile (700 feet) west of Roseville Road and residences approximately 0.44 mile (2,300 feet) east of the project site on the other side of the Haggin Oaks Golf Complex.

Construction activities are anticipated to involve the operation of diesel-powered equipment. In 1998, the California Air Resources Board (ARB) identified diesel exhaust as a TAC. Cancer health risks associated with exposures to diesel exhaust typically are associated with chronic exposure, in which a 70-year exposure period often is assumed. Although elevated cancer rates can result from exposure periods of less than 70 years, acute exposure (i.e., exposure periods of 2 to 3 years) to diesel exhaust typically are not anticipated to result in an increased health risk because acute exposure typically does not result in exposure concentrations that would represent a health risk. Health impacts associated with exposure to diesel exhaust from project construction are not anticipated to be significant because construction activities are expected to occur over 8 months, well below the 70-year exposure period used in health risk assessments. Therefore, construction of the project is not anticipated to result in an elevated cancer risk to exposed persons. Tables 3 and 4 indicate that PM₁₀ emissions from diesel exhaust are relatively low under either scenario. No mitigation is required. Therefore, the proposed project would not result in an additional significant impact that was not addressed in the Master EIR.

QUESTION H

The GHG emission discussion in the General Plan Master EIR addresses the potential emissions from implementation of the General Plan. The proposed project is an anticipated subsequent project identified and described in the General Plan Master EIR and is consistent with the General Plan designation for the project site. The MEIR addressed climate change and GHG emissions resulting from construction of specific land uses but not GHG emissions from construction of specific infrastructure improvements separate from land use development. Because the amount of emitted CO₂ can be calculated for a specific project, the proposed project's GHG emissions (construction and operational) are discussed below.

Short-term Construction Emissions

During construction of the proposed project, GHG emissions would be emitted from the operation of construction equipment and from worker and building supply vendor vehicles. URBEMIS modeling was conducted to estimate the total CO₂ emissions generated by the construction of the project. The total CO₂ emissions generated would be approximately between 2,331 and 3,683 pounds per year, or 1.06 and 1.67 metric tons per year, for construction of the project (see Table 3, above). These emissions would equate to approximately 0.0000003 percent of the estimated GHG emissions for all sources in California (483 million metric tons). The results of the URBEMIS modeling for CO₂ is in Appendix A.

Long-term Operational Emissions

Because the proposed project is a bridge replacement and does not increase capacity of the roadway, there are no long-term operational activities associated with the project. The project would not lead to changes in vehicular operations and associated emissions. While there may be maintenance visits to the project site, these visits are expected to be infrequent, and occur for emergency repair or for repaving, which occurs after the lifetime of the installed pavement has been reached. Long term operational emissions are thus expected to be negligible.

Ongoing Activities for the Reduction of GHG Emissions in the City

The 2030 General Plan included direction to staff to prepare a Climate Action Plan for the City. Staff has continued work on this plan since adoption of the 2030 General Plan. The Climate Action Plan will provide additional guidance for the City's ongoing efforts to reduce GHG emissions. The tentative completion date for the Climate Action Plan is December 2011. This Plan's purpose is to reduce the City's operational emissions.

Action continues at the State and federal level to combat climate change. In December 2009 the Environmental Protection Agency listed GHGs as harmful emissions under the Clean Air Act. The EPA action could eventually result in regulations that would have as their purpose the reduction of such emissions.

The Master EIR concluded that GHG emissions that could be emitted by development that is consistent with the 2030 General Plan would be cumulatively considerable and unavoidable (Errata No. 2, Page 12). The Master EIR includes a full analysis of GHG emissions and climate change, and adequately addresses these issues. A complete list of 2030 General Plan goals and policies as well as implementation programs that address climate change and GHG emissions are included as Appendix K of the Master EIR.

The proposed project is consistent with the City's goals as set forth in the 2030 General Plan and Master EIR relating to reduction of GHG emissions. The project would not impede the City's efforts to comply with AB 32 requirements. Therefore, the proposed project would not have any additional significant effects relating to GHG emissions or climate change that was not addressed or considered in the Master EIR.

Mitigation Measures**Mitigation Measure AQ-1: Basic Construction Emission Control Practices**

Due to the nonattainment status of the basin with respect of ozone, PM₁₀, and PM_{2.5}, the District recommends that projects implement the following set of Basic Construction Emission Control Practices as best management practices regardless of the significance determination.

- Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads.

- Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered.
- Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.
- Limit vehicle speeds on unpaved roads to 15 miles per hour (mph).
- All roadways, driveways, sidewalks, parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.
- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes [required by California Code of Regulations, Title 13, sections 2449(d)(3) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site.
- Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determine to be running in proper condition before it is operated.

Findings

Construction and operation of the proposed project would not result in new or more substantial significant impacts on air quality or GHG emissions, and it would not result in individually limited but collectively significant impacts. Therefore, no further analysis is necessary.

2. BIOLOGICAL RESOURCES

Impacts to biological resources may be considered significant if construction and/or implementation of the proposed project would result in the following impacts that remain significant after implementation of General Plan policies or mitigation from the General Plan Master EIR

	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
A. Create a potential health hazard, or use, production, or disposal of materials that would pose a hazard to plant or animal populations in the area affected	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B. Result in substantial degradation of the quality of the environment, a reduction in habitat, or a reduction in population below self-sustaining levels of threatened or endangered species of plant or animal	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C. Affect other species of special concern to agencies or natural resource organizations (e.g., regulatory waters and wetlands)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
D. Violate the City's Heritage Tree Ordinance (City Code 12.64.040).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

This section is based on the natural environment study report prepared for the proposed project (City of Sacramento 2011a).

The project area is relatively flat, with elevations ranging from approximately 40 to 50 feet above mean sea level. According to the Natural Resources Conservation Service (NRCS) soil surveys, the project area is located in two soil mapping units: San Joaquin fine sandy loam, 3–8% slopes, and Xerarents-Urban land-San Joaquin complex, 0–5% slopes. Soil conditions vary throughout the project area, and the soil profile has been disturbed by the construction of existing roads.

The project area is in the Lower Sacramento hydrologic unit, and Arcade Creek and its associated tributaries drain to the Natomas East Main Canal before flowing into the American River. Arcade Creek and its two tributaries in the project area qualify as *other waters of the United States*. In addition, there is a small wetland adjacent to the creek that is considered jurisdictional. Annual precipitation averages 22.71 inches in the project vicinity, and the area has a growing season of 365 days.

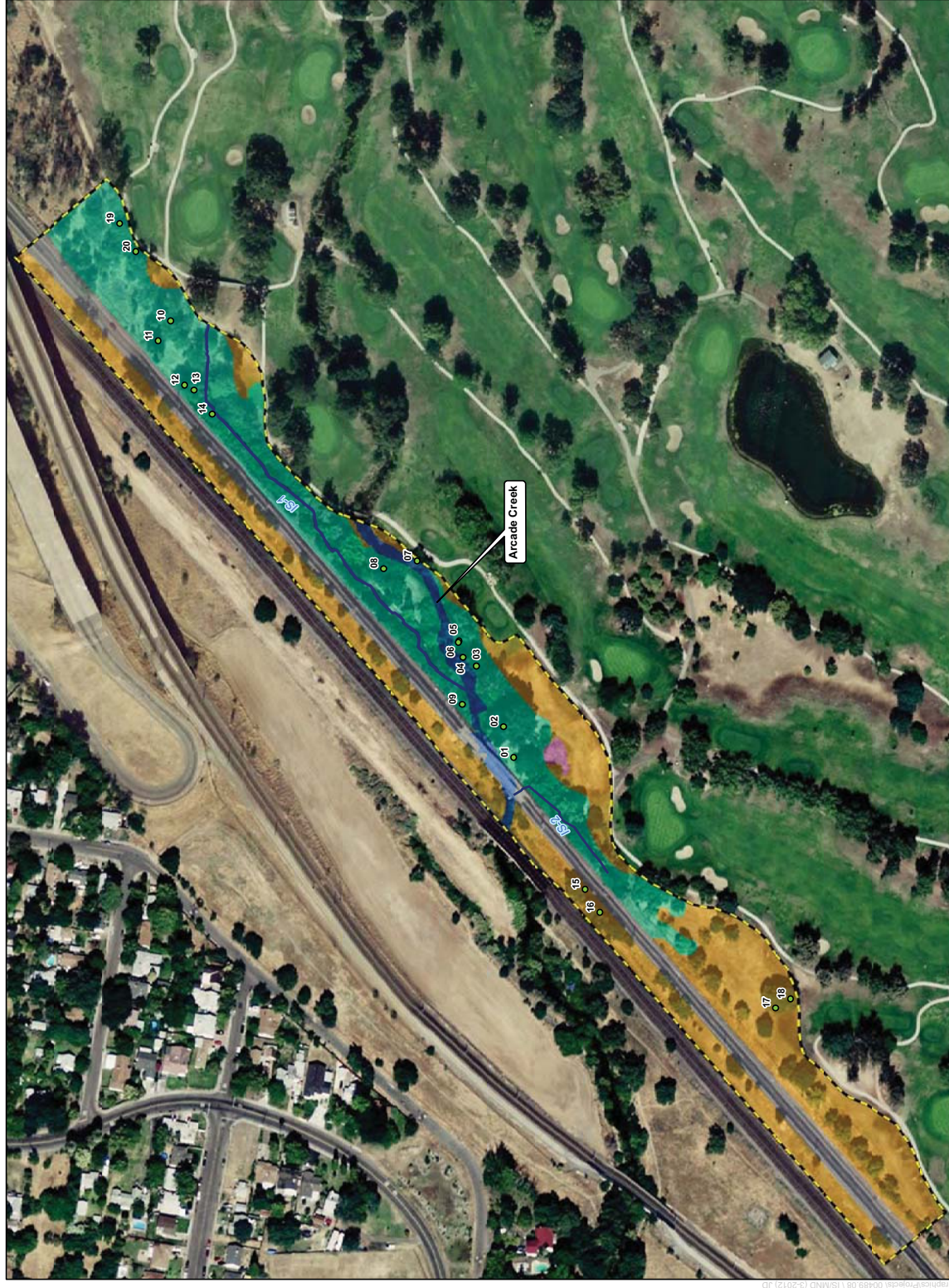
The project area is bordered by undeveloped land, Arcade Creek, Union Pacific Railroad (UPRR) tracks, and the Haggin Oaks Golf Complex, a part of Del Paso Regional Park. Natural habitat areas delineated within Del Paso Regional Park are shown on Figure 4.

Natural Communities

Four distinct natural community types were identified and mapped in the project area—nonnative annual grassland, riparian woodland, perennial and intermittent drainages, and perennial marsh (Table 5; Figure 5). As shown, these community types fall into two categories: common natural communities and natural communities of special concern. In addition, a portion of the project area is developed.



Figure 4
Natural Habitat Areas in Del Paso Regional Park
 77 of 159



Community	Acres Mapped
Perennial marsh	0.058
Perennial and Intermittent Drainages	0.585
Developed (Road)	2.477
Riparian woodland	4.739
Nonnative annual grassland	6.230
Totals (acres)	14.089

Legend

- Heritage Tree
- Study Area (14,089 acres)

Figure 5
Natural Communities and Development in the Project Area

Scale: 0 to 200 Feet
 Aerial Photo Source: ESRI, IQuint 2010

Project Location

Figure 5
Natural Communities and Development in the Project Area
 78 of 159

Table 5. Total Area of Natural Communities and Development in the Project Area

Community Type	Acres
Common natural communities	
Nonnative annual grassland	6.230
Natural communities of special concern	
Riparian woodland	4.7390
Perennial and intermittent drainages	0.585
Perennial marsh	0.058
Developed areas	
Developed areas	2.477
Total	14.089

Common Natural Communities

Common natural communities are habitats with low species diversity that are widespread, reestablish naturally after disturbance, or support primarily nonnative species. These communities are not generally protected by agencies unless the specific site provides habitat for or supports special-status species (e.g., raptor foraging or nesting habitat, upland habitat in a wetland watershed). Nonnative annual grassland is the only common natural community on the project site.

NONNATIVE ANNUAL GRASSLAND

Nonnative annual grassland is present throughout the project area, consisting of annual grasses and a variety of native and nonnative annual forbs. It is mapped within patches of undeveloped land, generally close to the golf course and in areas of patchy tree cover; the tree canopy in these areas is generally too small to be considered woodland. Dominant plant species include wild oat, soft chess, ripgut brome, and Italian ryegrass. Other characteristic species include yellow star-thistle, hare barley, mustards, and filarees. Nonnative annual grasslands in the project area occur in relatively small patches along Roseville Road and the golf course. Noise and disturbance associated with these areas reduce the quality of the habitat for wildlife and decrease the number of species expected to occur there. These nonnative annual grasslands typically support common species of insects, reptiles, and small rodents that are food sources for birds and raptors, including western scrub-jays, western kingbirds, cliff swallows, red-tailed hawks, red-shouldered hawks, and American kestrels.

Natural Communities of Special Concern

Natural communities of special concern are habitats considered sensitive because of their high species diversity, high productivity, unusual nature, limited distribution, or declining status. Local, state, and federal agencies consider these habitats important. The California Natural Diversity Database (CNDDB) contains a current list of rare natural communities throughout the state. The U.S. Fish and Wildlife Service (USFWS) considers certain habitats, such as wetlands and riparian communities, important to wildlife, and the U.S. Army Corps of Engineers (USACE) and EPA consider wetland habitats important for water quality and wildlife. The riparian woodland, perennial and intermittent drainages, and perennial marsh in the project area, discussed below, meet the criteria for natural communities of special concern.

RIPARIAN WOODLAND

Riparian woodland occurs along Arcade Creek and its associated tributaries. It is the dominant vegetation cover in the project area. In this case, riparian woodland is dominated by valley oak, Fremont cottonwood, and several willow species. Associated species include western sycamore, interior live oak, and black

locust, with a dense understory of shrubs and vines such as elmleaf blackberry, Himalayan blackberry, and California grape. Although several species of native trees dominate the woodland, in general the riparian habitat onsite is degraded and supports numerous nonnative invasive species.

Riparian vegetation provides a variety of functions, such as bank stabilization, erosion control, and wildlife habitat. Because their vegetation is diverse and well-developed, riparian communities provide high-value habitat for many wildlife species. Multilayered riparian communities provide escape cover, foraging, and nesting opportunities for wildlife. Riparian woodlands are important wildlife resources because of their scarcity statewide and because they are used by a large variety of wildlife species.

Riparian woodland supports abundant aquatic and terrestrial invertebrates that are prey for numerous amphibians and reptiles, such as common garter snakes, western skinks, Pacific treefrog, and western toads, as well as insectivorous birds, such as common yellow-throats, yellow-rumped warblers, northern flickers, downy woodpeckers, western wood pewees, and black phoebes. Small mammals found in riparian habitats include ornate shrews, California meadow voles, deer mice, and bats, including yuma myotis, California myotis, and fringed myotis. Raptors that nest in large riparian trees include Swainson's hawks, white-tailed kites, great horned owls, red-tailed hawks, and American kestrels. Cavity-dependent species, such as acorn woodpeckers, the bats listed previously, western grey squirrels, and raccoons, require mature stands of trees. Striped skunks, raccoons, and gray foxes would be expected to forage in riparian habitats and use them for cover and travel in the project area. Local, state, and federal agencies recognize riparian habitats as sensitive natural communities.

PERENNIAL AND INTERMITTENT DRAINAGES

The drainage numbers used in this discussion are the same as those used in the project's wetland delineation (City of Sacramento 2011b). Drainage boundaries were indicated by changes in vegetation, shelving, or water marks on concrete banks.

Arcade Creek is considered a perennial drainage and carries flow year-round. The functions of perennial drainages in the project area include flood conveyance, fish production, and wildlife habitat. Two intermittent drainages (IS-1 and IS-2) also cross the project area. These drainages connect to a jurisdictional stream (Arcade Creek) and are subject to USACE jurisdiction, in addition to being considered sensitive natural communities. The functions of intermittent drainages in the project area include flood conveyance during and after storm events.

Drainages in the project area provide habitat for a variety of wildlife. Vegetation growing along the edges of drainages provides nesting habitat for several bird species similar to those discussed under riparian woodland communities, as well as foraging and refuge habitat for amphibians, reptiles, and mammals occupying the open water and adjacent grassland habitats. Birds such as egrets, herons, and belted kingfishers forage in these communities, primarily along the water's edge. Many species of insectivorous birds, including white-throated swifts, barn swallows, cliff swallows, black phoebes, and ash-throated flycatchers, also catch their prey over open water.

Drainages may be considered jurisdictional by USACE and subject to regulation under federal Clean Water Act (CWA) Section 404. Regardless of jurisdiction, local, state, and federal agencies recognize drainages as sensitive natural communities, although intermittent drainages constructed in uplands to carry runoff are not necessarily considered sensitive.

PERENNIAL MARSH

Perennial marsh is present in a small part of the project area, mapped in the wetland delineation as a depressional wetland. This feature supports freshwater marsh vegetation and is dominated by broad-leaved cattail, with species such as curly dock, umbrella sedge, and mosquito fern occurring in smaller quantities. This community type is inundated or saturated year-round. The wetland functions of this

perennial marsh include flood storage, groundwater discharge due to high water tables, and wildlife habitat due to the presence of generally dense wetland vegetation.

This perennial marsh holds standing water for only a portion of the year. It contained 3–6 inches of standing water within a 20- by 15-foot area during a site visit on May 24, 2011. Its maximum depth was estimated to be approximately 18 inches. Perennial marsh provides habitat for aquatic invertebrates that in turn provide food for birds such as great blue heron, killdeer, American avocet, black-necked stilt, and greater yellowlegs. In addition, amphibians such as Pacific treefrog and western toad use temporary and permanent water sources such as perennial marsh for breeding and feeding. When standing water is absent, perennial marsh may also be used by reptiles and small mammals for foraging and cover.

This perennial marsh is considered jurisdictional by USACE and subject to regulation under CWA Section 404. Regardless of USACE jurisdiction, however, local, state, and federal agencies recognize perennial marshes as sensitive natural communities.

Developed Areas

The developed cover type occurs throughout the project area in the form of roads, bridges, and graded areas along and adjacent to Roseville Road. Although only unvegetated areas have been mapped as developed, these areas are frequently associated with a mixture of landscaped ornamentals, including cork oak, eucalyptus, and ruderal species that typically colonize recently disturbed or graded areas. Because of high levels of noise disturbance and human activity, developed and graded portions of the project area provide low habitat value for wildlife species. However, the Roseville Road Bridge can provide nesting habitat for swallows and swifts, and roosting habitat for bats.

Regional Species and Habitats

A CNDDDB search conducted in 2011 indicated that 33 sensitive species—13 plant species, 16 wildlife species, and four fish species/evolutionary significant units (ESUs)—have been recorded within 10 miles of the project area. A USFWS list of species in the project region issued in 2009 contains one plant species, eight wildlife species, and five fish species/ESUs that may occur in the project area or be affected by the proposed project. It also lists critical habitat for eight species, but no critical habitat for any of these species exists in the project area. Also, ICF Jones & Stokes biologists determined in 2008 that no suitable habitat for sensitive fish species occurs in Arcade Creek. Therefore, they did not request a list of endangered, threatened, and other special-status species that could occur in the project area from the National Marine Fisheries Service.

Sensitive Plant Species

Based on the CNDDDB search, California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants in California, and USFWS list, 14 sensitive plant species were determined to have potential to occur in the project region (Table 6). Suitable or potentially suitable habitat, based on plant communities, soil types, and hydrologic conditions, does not occur for any of these species. The project area has a high level of disturbance from previous and ongoing activities, such that suitable microhabitat conditions for sensitive plant species are not present.

Sensitive Wildlife Species

Based on the CNDDDB search and USFWS list, 21 sensitive wildlife species were determined to have potential to occur in the project region (Table 7). Two additional species—pallid bat and western red bat—that were not in the CNDDDB or USFWS lists were included in Table 7 based on the presence of suitable habitat. After completion of the field survey and review of species distribution and habitat requirements data, it was determined that 17 of the species would not occur in the project area, or they would have very low potential to occur because the area lacks suitable habitat or particular habitat conditions for the species or the area is outside the species' known range. An explanation for the absence of each species

from the project area is provided in Table 7. Suitable habitat for six sensitive wildlife species was also found in the project area during field surveys. These species have potential to occur in the project area and may be affected by construction activities.

Sensitive Fish Species

Based on a review of existing information, eight sensitive fish species/ESUs were initially identified as having potential to occur in the project region (Table 7). None of these species is likely to occur in the project area because it lacks suitable habitat.

Native fish species likely to occur in Arcade Creek include tule perch, Sacramento sucker, and several minnow species. Chinook salmon and steelhead were historically present in Arcade Creek but have not been observed in the creek in more than 20 years. Because of the lack of suitable rearing and spawning habitat, summer low flows, and poor water quality, it is not likely that these species will return to Arcade Creek in the foreseeable future. However, Chinook salmon and steelhead do occur in the Sacramento River, and both species have been documented in recent years in Miners and Secret Ravines, tributaries to nearby Dry Creek. While the Dry Creek watershed is not as heavily urbanized as the Arcade Creek watershed, potential does exist for these species to return to Arcade Creek if aquatic habitat conditions improve.

Nonnative fish species likely to occur in Arcade Creek are similar to those found in Dry Creek. These species include catfish, bluegill, and mosquitofish. Green sunfish may also be present, and both carp and largemouth bass were reported in 1977.

Other Protected Species

Other protected species include migratory birds and raptors, heritage trees, and Western Bat Working Group priority species (WBWG).

MIGRATORY BIRDS AND RAPTORS

Nonsensitive migratory birds, including raptors, have potential to nest in trees and shrubs in the project area. Swallows have potential to nest under bridges and in tree cavities in the project area. Although these species are not considered special-status species, their occupied nests and eggs are protected by California Fish and Game Code (CFGF) Sections 3503 and 3503.5 and the Migratory Bird Treaty Act (MBTA).

HERITAGE TREES

The City's Heritage Tree Ordinance (City Code 12.64.040) protects native oaks, buckeye, and western sycamore trees that are greater than 36 inches diameter at breast height (dbh). In addition, the ordinance applies to any tree that is 36 inches dbh or greater and is within a riparian zone. In total, 20 trees in the project area meet the requirements of the ordinance (Figure 5).

WESTERN BAT WORKING GROUP PRIORITY SPECIES

WBWG held a workshop in 1998 and subsequently published a regional priority matrix for western bat species. The matrix is intended to provide states, provinces, federal land management agencies, and interested organizations and individuals with a better understanding of the overall status of each bat species throughout their western North American ranges. Subsequently, the importance of a single region or multiple regions to the viability and conservation of each species becomes more apparent.

The matrix also provides a means for prioritizing and focusing on population monitoring, research, conservation actions, and efficient use of the limited funding and resources currently devoted to bats. High priority status is based on available information on distribution, status, ecology, and known threats,

Table 6. Sensitive Plant Species with the Potential to Occur in the Vicinity of Roseville Road Bridge Replacement Project Area

Common Name Scientific Name	Legal Status ^a			Geographic Distribution	Habitat Requirements	Blooming Period	Habitat Present in Study Area?	Rationale
	Federal	State	CRPR ¹					
Big-scale balsamroot <i>Balsamorhiza macrolepis</i> var. <i>macrolepis</i>	–	–	1B.2	Scattered occurrences in Coast Ranges and Sierra Nevada foothills.	Chaparral, cismontane woodland, valley and foothill grassland, sometimes on serpentine soils, at 90 to 1,555 meters.	March–June	No	Suitable habitat does not occur on the project site. Although nonnative grassland occurs on site, this habitat has been highly disturbed in the past due to roadside and golf course activities and therefore is not likely to support this species. The site is also outside the elevation range for this species.
Hispid bird's-beak <i>Chloropyron molle</i> ssp. <i>hispidum</i>	–	–	1B.1	Central Valley. Alameda, Kern, Merced, Placer, and Solano Counties.	Meadow, grassland, and playa on alkaline soils below 155 meters.	June–September	No	Suitable alkaline soils do not occur on the project site.
Dwarf downingia <i>Downingia pusilla</i>	–	–	2.2	Central Valley	Vernal pools and valley and foothill grasslands, 1 to 445 meters.	March–May	No	Suitable vernal pool habitat does not occur on the project site. Although nonnative grassland occurs on site, this habitat has been highly disturbed in the past due to roadside and golf course activities and therefore is not likely to support this species.

¹ In March, 2010, DFG changed the name of “CNPS List” or “CNPS Ranks” to “California Rare Plant Rank” (or CRPR). This was done to reduce confusion over the fact that CNPS and DFG jointly manage the Rare Plant Status Review groups (300+ botanical experts from government, academia, non-governmental organizations, and the private sector) and that the rank assignments are the product of a collaborative effort and not solely a CNPS assignment.

Table 6. Continued

Common Name Scientific Name	Legal Status ^a			Geographic Distribution	Habitat Requirements	Blooming Period	Habitat Present in Study Area?	Rationale
	Federal	State	CRPR ¹					
Stinkbells <i>Fritillaria agrestis</i>	–	–	4.2	Alameda, Contra Costa, Fresno, Kern, Mendocino, Monterey, Merced, Monterey, Mariposa, Placer, Sacramento, Santa Barbara, San Benito, San Luis Obispo, San Mateo, Stanislaus, and Tuolumne Counties	Chaparral, cismontane woodland, pinyon-juniper woodland, valley and foothill grassland, on clay, sometimes serpentine substrate, 10 to 1,555 meters	March–June	No	Suitable habitat and clay soils do not occur on the project site. Although nonnative grassland occurs on site, this habitat has been highly disturbed in the past due to roadside and golf course activities and therefore is not likely to support this species.
Boggs Lake hedge-hyssop <i>Gratiola heterosepala</i>	–	E	1B.2	Inner North Coast Ranges, Central Sierra Nevada foothills, Sacramento Valley and Modoc Plateau: Fresno, Lake, Lassen, Madera, Merced, Modoc, Placer, Sacramento, Shasta, Siskiyou, San Joaquin, Solano, and Tehama Counties; also Oregon	Clay soils in areas of shallow water, lake margins and vernal pool margins, 10 to 2,375 meters.	April–August	No	Suitable habitat and clay soils do not occur on the project site.
Woolly rose-mallow <i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i>	–	–	1B.2	Scattered small locations in central California, from Butte to San Joaquin County	Freshwater marshes and swamps, below 120 meters.	June–September	No	Suitable habitat does not occur on the project site. Although freshwater marsh occurs on site, this habitat has been highly disturbed in the past due to golf course activities and therefore is not likely to support this species.
Ahart's dwarf rush <i>Juncus leiospermus</i> var. <i>arthartii</i>	–	–	1B.2	Eastern Sacramento Valley, northeastern San Joaquin Valley, Butte, Calaveras, Placer, Sacramento, and Yuba Counties	Vernal pool margins, 30 to 229 meters.	March–May	No	Suitable vernal pool habitat does not occur on the project site.

Table 6. Continued

Common Name Scientific Name	Legal Status ^a			Geographic Distribution	Habitat Requirements	Blooming Period	Habitat Present in Study Area?	Rationale
	Federal	State	CRPR ¹					
Red Bluff dwarf rush <i>Juncus leiospermus</i> var. <i>leiospermus</i>	–	–	1B.1	Northern Sacramento Valley and Cascade Range foothills: Butte, Shasta, and Tehama Counties	Vernally mesic sites in chaparral, cismontane woodland, valley and foothill grassland, 35 to 1,020 meters.	March–May	No	Suitable habitat does not occur on the project site. Although nonnative grassland occurs on site, this habitat has been highly disturbed in the past due to roadside and golf course activities and therefore is not likely to support this species. The site is also outside the elevation range for this species.
Legenere <i>Legenere limosa</i>	–	–	1B.1	Primarily in the lower Sacramento Valley, also from north Coast Ranges, northern San Joaquin Valley and the Santa Cruz Mountains	Vernal pools, below 880 meters.	April–June	No	Suitable vernal pool habitat does not occur on the project site.
Slender Orcutt grass <i>Orcuttia tenuis</i>	T	E	1B.1	Sierra Nevada and Cascade Range foothills, from Siskiyou County to Sacramento County	Vernal pools, 35 to 1,760 meters	May–September (uncommonly October)	No	Suitable vernal pool habitat does not occur on the project site.
Sacramento Orcutt grass <i>Orcuttia viscida</i>	E	E	1B.1	Endemic to Sacramento County	Vernal pools, 30 to 100 meters.	April–July	No	Suitable vernal pool habitat does not occur on the project site.
Bearded popcorn-flower <i>Plagiobothrys hystericulus</i>	–	–	1B.1	Endemic to Solano County	Mesic grassland, vernal pools, 10 to 274 meters	April–May	No	Suitable vernal pool habitat does not occur on the project site.
Sanford's arrowhead <i>Sagittaria sanfordii</i>	–	–	1B.2	Scattered locations in Central Valley and Coast Ranges	Freshwater marshes, sloughs, canals, and other slow-moving water habitats with open water; below 650 meters.	May–August	No	Suitable marsh habitat does not occur on site. Although freshwater marsh occurs on the project site, it is dense with vegetation and is highly disturbed.

Table 6. Continued

Common Name <i>Scientific Name</i>	Legal Status ^a			Geographic Distribution	Habitat Requirements	Blooming Period	Habitat Present in Study Area?	Rationale
	Federal	State	CRPR ¹					
Suisun Marsh aster <i>Symphotrichum lentum</i>	–	–	1B.2	Sacramento - San Joaquin Delta, Suisun Marsh, Suisun Bay: Contra Costa, Napa, Sacramento, San Joaquin, and Solano Counties	Brackish and freshwater marshes and swamps, below 3 meters	May–November	No	No brackish marsh occurs on site.
Sources: California Natural Diversity Database 2011; California Native Plant Society 2011; ICF study area surveys 2008.								
^a Status explanations:								
Federal								
E Listed as endangered under the federal Endangered Species Act.								
T Listed as threatened under the federal Endangered Species Act.								
– No listing.								
State								
E Listed as endangered under the California Endangered Species Act.								
– No listing.								
California Rare Plant Rank								
1B List 1B species: rare, threatened, or endangered in California and elsewhere.								
2 List 2 species: rare, threatened, or endangered in California but more common elsewhere.								
4 = List 4 species: species of limited distribution that are on a watch list.								
CRPR Code Extensions:								
.1 = seriously endangered in California (over 80% of occurrences threatened; high degree and immediacy of threat)								
.2 = fairly endangered in California (20–80% of occurrences threatened)								

Table 7. Sensitive Wildlife and Fish Species with the Potential to Occur in the Roseville Road Bridge Replacement Project Region Page 1 of 8

Common Name Scientific Name	Legal Status ^a		Geographic Distribution	Habitat Requirements	Habitat Present in Study Area?	Comments
	Federal	State				
Invertebrates						
Conservancy fairy shrimp <i>Branchinecta conservatio</i>	E	–	Disjunct occurrences in Solano, Merced, Tehama, Ventura, Butte, and Glenn Counties.	Large deep vernal pools in annual grasslands.	Absent	No suitable habitat (large, deep vernal pools) is present in the study area.
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	T	–	Central Valley and central and south Coast Ranges from Tehama County to Santa Barbara County. Isolated populations also in Riverside County.	Common in vernal pools. Also found in sandstone rock outcrop pools.	Absent	No suitable habitat (vernal pools) is present in the study area.
Vernal pool tadpole shrimp <i>Lepidurus packardii</i>	E	–	Shasta County to Merced County.	Vernal pools and ephemeral stock ponds.	Absent	No suitable habitat (vernal pools) is present in the study area.
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	T	–	Streamside habitats below 915 meters (3,000 feet) above sea level throughout the Central Valley.	Riparian and oak savanna habitats with elderberry shrubs and streamside habitats below 915 meters (3,000 feet) above sea level. Elderberries are the host plant.	Absent	No suitable habitat (elderberry shrubs) is present in the study area.
Fish						
Delta smelt <i>Hypomesus transpacificus</i>	T	T	Sacramento River–San Joaquin River Delta	Euryhaline estuary channels.	Absent	The study area does not contain suitable habitat (estuary channels).
Central Valley steelhead <i>Oncorhynchus mykiss</i>	T	–	Sacramento and San Joaquin Rivers and tributary streams in the Central Valley	Occurs in well-oxygenated, cool, riverine habitat containing riffles, runs, and pools and with water temperatures from 7.8 to 18°C (Moyle 2002). Spawns in flowing rivers and streams with gravel substrates relatively free from fine sediments.	Absent	While historically present, species has not been observed in Arcade Creek in over 20 years (ICF Jones & Stokes 2008). The study area does not currently contain suitable habitat.
Central valley fall/late fall–run Chinook salmon <i>Oncorhynchus tshawytscha</i>	SC	SSC	Sacramento and San Joaquin Rivers and tributary streams in the Central Valley	Occurs in well-oxygenated, cool, riverine habitat with water temperatures from 8.0 to 12.5°C. Habitat types are riffles, runs, and pools (Moyle 2002)	Absent	While historically present, a self-sustaining population of this species does not occur in Arcade Creek (ICF Jones & Stokes 2008). The study area does not currently contain suitable habitat (spawning gravel with relatively small amounts of fine sediments (silt, sand, and clay)).

Table 7. Continued

Common Name Scientific Name	Legal Status ^a		Geographic Distribution	Habitat Requirements	Habitat Present in Study Area?	Comments
	Federal	State				
Central valley spring-run Chinook salmon <i>Oncorhynchus tshawytscha</i>	T	T	Tributaries to the upper Sacramento River, primarily Butte, Big Chico, Deer, and Mill Creeks, and coastal marine waters off California.	Higher-elevation tributaries to the Sacramento River.	Absent	While historically present, species has not been observed in Arcade Creek in over 20 years (ICF Jones & Stokes 2008). The study area does not currently contain suitable habitat (higher-elevation tributaries with abundant over-summer pools with cool summer temperatures)
Winter-run chinook salmon, Sacramento River <i>Oncorhynchus tshawytscha</i>	E	E	Upper mainstem Sacramento River, Sacramento River–San Joaquin River Delta (juveniles), and coastal marine waters off California.	Spring-fed headwaters to the Sacramento River.	Absent	The study area does not contain suitable habitat (spring-fed waters).
Green sturgeon <i>Acipenser medirostris</i>	T	SSC	In marine waters of the Pacific Ocean from the Bering Sea to Ensenada, Mexico. In rivers from British Columbia south to the Sacramento River, primarily in the Klamath/Trinity and Sacramento Rivers.	Primarily marine, using large anadromous freshwater rivers and associated estuaries for spawning and rearing.	Absent	The study area does not contain suitable habitat (large river and associated estuary channels).
Sacramento splittail <i>Pogonichthys macrolepidotus</i>	–	SSC	Largely confined to Sacramento River–San Joaquin River Delta, Napa River, Petaluma River, Sacramento River, and Suisun Marsh.	Shallow-water, low-salinity habitats throughout slow areas of rivers and sloughs; areas of flooded vegetation for spawning and rearing.	Absent	The study area does not contain suitable habitat (slow areas of rivers and sloughs).
Sacramento perch <i>Archopites interruptus</i>	–	SSC	Largely extirpated from their native range. Presently occur in Clear Lake and disjunct localities throughout California such as reservoir and farm ponds, where they have been introduced.	Warm, lacustrine (lake) environments. Often associated with beds of rooted, submerged and emergent vegetation and other submerged objectives. Aquatic vegetation is particularly important to young which remain in shallow water close to aquatic vegetation.	Absent	The study area does not currently contain suitable habitat (lake or pond habitats). Introduced species of bass and sunfish prey on and/or compete with Sacramento perch for spawning and rearing habitat.

Table 7. Continued

Common Name Scientific Name	Legal Status ^a		Geographic Distribution	Habitat Requirements	Habitat Present in Study Area?	Comments
	Federal	State				
Amphibians						
Western spadefoot <i>Spea hammondi</i>	–	SSC	Sierra Nevada foothills, Central Valley, Coast Ranges, coastal counties in southern California	Shallow streams with riffles; seasonal wetlands, such as vernal pools in annual grasslands and oak woodlands	Present	Suitable breeding habitat (perennial wetland) is present in the study area. Upland grassland habitat is limited and no burrows are present for aestivation. The study area is isolated from natural habitat by Interstate 80 and Business 80, and is surrounded by substantial development. Therefore, the species is highly unlikely to occur.
California red-legged frog <i>Rana draytonii</i>	T	SSC	Along the coast and coastal mountain ranges of California from Marin County to San Diego County and in the Sierra Nevada from Tehama County to Fresno County.	Permanent and semi-permanent aquatic habitats, such as creeks and coldwater ponds, with emergent and submergent vegetation. May aestivate in rodent burrows or cracks during dry periods.	Present	Drainages in the study area may provide habitat during portions of the year when flows are lower and slow. However, the species has been extirpated from the valley floor (USFWS 2002) and is not expected to occur.
California tiger salamander <i>Ambystoma californiense</i>	T	T	Central Valley, including Sierra Nevada foothills, up to approximately 305 meters (1,000 feet) above sea level and coastal region from Butte County to northeastern San Luis Obispo County	Valley floor grasslands or low (below 450 meters [1,500 feet] above sea level) foothill elevations where lowland aquatic sites like large vernal pools, playa pools, sag ponds, and stock ponds are available for breeding. Upland habitat consists of small mammal burrows within approximately 670 meters (2,200 feet) of breeding habitat.	Present	Suitable breeding habitat (perennial wetland) is present in the study area. Upland grassland habitat is limited and no burrows are present for aestivation. The study area is isolated from natural habitat by Interstate 80 and Business 80, and is surrounded by substantial development. There are no known CNDDB occurrences within 10 miles of the study area. Therefore, the species is highly unlikely to occur.

Table 7. Continued

Common Name <i>Scientific Name</i>	Legal Status ^a		Geographic Distribution	Habitat Requirements	Habitat Present in Study Area?	Comments
	Federal	State				
Reptiles						
Giant garter snake <i>Thamnophis gigas</i>	T	T	Central Valley from the vicinity of Burrel in Fresno County to near Chico in Butte County. Extirpated from areas south of Fresno.	Sloughs, canals, low-gradient streams, and freshwater marshes where there is a prey base of small fish and amphibians. Also irrigation ditches and rice fields. Requires grassy banks and emergent vegetation for basking and areas of high ground protected from flooding during winter.	Present	Portions of Arcade Creek provide suitable habitat for giant garter snake. These areas have aquatic vegetation and open areas for basking. Other portions of the creek are unsuitable due to excessive shade and lack of basking areas. The steeper eroded banks may also limit suitability for giant garter snake. The nearest known occurrence of giant garter snake is 5 linear miles from the study area. This waterway only connects with Arcade Creek through the American River (which is unsuitable habitat). Another occurrence is approximately 8 canal/creek miles to the study area, and is connected to Arcade Creek through the Natomas East Main Drainage Canal. Based on these conditions, giant garter snake is unlikely to occur in the study area.
Western pond turtle <i>Emys marmorata</i>	–	SSC	Occurs from the Oregon border of Del Norte and Siskiyou Counties along the coast to San Francisco Bay, inland through the Sacramento Valley, and on the western slope of the Sierra Nevada.	Ponds, marshes, rivers, streams, and irrigation canals with muddy or rocky bottoms and with watercress, cattails, water lilies, or other aquatic vegetation in woodlands, grasslands, and open forests.	Present	Suitable habitat is present in the study area (marsh and slow moving water in Arcade Creek with associated woodland).

Table 7. Continued

Common Name <i>Scientific Name</i>	Legal Status ^a		Geographic Distribution	Habitat Requirements	Habitat Present in Study Area?	Comments
	Federal	State				
Birds						
White-tailed kite <i>Elanus leucurus</i>	–	FP	Lowland areas west of Sierra Nevada from the head of the Sacramento Valley south, including coastal valleys and foothills, to western San Diego County at the Mexico border.	Low foothills or valley areas with valley or live oaks, riparian areas, and marshes near open grasslands for foraging.	Present	Suitable nesting habitat is present in the study area (large trees in the riparian woodland along Arcade Creek).
Golden eagle <i>Aquila chrysaetos</i>	P	SSC, FP	Foothills and mountains throughout California. Uncommon nonbreeding visitor to lowlands such as the Central Valley	Nest on cliffs and escarpments or in tall trees overlooking open country. Forages in annual grasslands, chaparral, and oak woodlands with plentiful medium and large-sized mammals	Absent	Cliffs and tall trees and large open grassland areas are absent from the study area.
Swainson's hawk <i>Buteo swainsoni</i>	–	T	Lower Sacramento and San Joaquin Valleys, Klamath Basin, and Butte Valley. Highest nesting densities occur near Davis and Woodland, Yolo County.	Nests in oaks or cottonwoods in or near riparian habitats. Forages in grasslands, irrigated pastures, and grain fields.	Present	Suitable nesting habitat is present in the study area (large trees in the riparian woodland along Arcade Creek).
Western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>	C	E	Nests along the upper Sacramento, lower Feather, south fork of the Kern, Amargosa, Santa Ana, and Colorado Rivers	Wide, dense riparian forests with a thick understory of willows for nesting; sites with a dominant cottonwood overstory are preferred for foraging.	Absent	The study area does not contain suitable habitat (dense riparian with willow understory) and is outside of the species known range.
Burrowing owl <i>Athene cucularia</i>	–	SSC	Lowlands throughout California, including the Central Valley, northeastern plateau, southeastern deserts, and coastal areas. Rare along south coast.	Level, open, dry, heavily grazed or low-stature grassland or desert vegetation with available burrows. Also occurs along agricultural ditches and abandoned lots.	Absent	The study area does not contain suitable habitat (burrows for nesting and roosting).
Least Bell's vireo <i>Vireo bellii pusillus</i>	E	E	Small populations remain in southern Inyo, southern San Bernardino, Riverside, San Diego, Orange, Los Angeles, Ventura, and Santa Barbara Counties. Found in Yolo County in 2010 and 2011.	Riparian thickets either near water or in dry portions of river bottoms; nests along margins of bushes and forages low to the ground; may also be found using mesquite and arrow weed in desert canyons	Present	Shrub understory along creek may provide suitable habitat but unlikely to occur since it is primarily found in southern California and has only recently been detected in Yolo County.

Table 7. Continued

Common Name <i>Scientific Name</i>	Legal Status ^a		Geographic Distribution	Habitat Requirements	Habitat Present in Study Area?	Comments
	Federal	State				
Purple Martin <i>Progne subis</i>	–	SSC	Coastal mountains south to San Luis Obispo County, west slope of the Sierra Nevada, and northern Sierra and Cascade ranges. Absent from the Central Valley except in Sacramento. Isolated, local populations in southern California	Nests in abandoned woodpecker holes in oaks, cottonwoods, and other deciduous trees in a variety of wooded and riparian habitats. In Sacramento County, nests in vertical drainage holes under elevated freeways and highway bridges.	Absent	The study area does not contain suitable nesting habitat (bridges with vertical drainage holes).
Bank swallow <i>Riparia riparia</i>	–	T	Occurs along the Sacramento River from Tehama County to Sacramento County, along the Feather and lower American Rivers, in the Owens Valley; and in the plains east of the Cascade Range in Modoc, Lassen, and northern Siskiyou Counties. Small populations near the coast from San Francisco County to Monterey County	Nests in bluffs or banks of rivers and streams, where the soil consists of sand or sandy loam	Absent	The study area does not contain suitable nesting habitat (banks and bluffs of rivers and streams).
Grasshopper sparrow <i>Ammodrammus savannarum</i>	–	SSC	Breeds locally from Del Norte, Trinity, and Tehama counties south, west of the Cascade-Sierra Nevada axis and southeastern deserts to Sand Diego County; from sea level to 4900 feet. Rare breeder in the Shasta Valley, Siskiyou County and on the valley floor in the Central Valley.	Prefer large tracts of short to middle height, moderately open grasslands with scattered shrubs.	Absent	The study area does not contain suitable habitat (open grasslands with scattered shrubs).
Tricolored blackbird <i>Agelaius tricolor</i>	–	SSC	Permanent resident in the Central Valley from Butte County to Kern County; breeds at scattered coastal locations from Marin County south to San Diego County and at scattered locations in Lake, Sonoma, and Solano Counties; rare nester in Siskiyou, Modoc, and Lassen Counties	Nests in dense colonies in emergent marsh vegetation, such as tules and cattails, or upland sites with blackberries, nettles, thistles, and grain fields; habitat must be large enough to support 50 pairs; often water is found at or near the nesting colony	Absent	The project area does not contain suitable nesting (large marshes or blackberry thickets) or foraging (pastures and grasslands) habitats.

Table 7. Continued

Common Name Scientific Name	Legal Status ^a		Geographic Distribution	Habitat Requirements	Habitat Present in Study Area?	Comments
	Federal	State				
Mammals						
Pallid bat <i>Antrozous pallidus</i>	–	SSC; WBWG: High priority	Throughout California.	Day roosts include rock outcrops, mines, caves, hollow trees, buildings and bridges. Recent research suggests high reliance on tree roosts.	Present	Suitable roosting habitat is present in the study area (trees in the riparian woodland along Arcade Creek).
Western red bat <i>Lasiurus blossevillii</i>	–	SSC; WBWG: High priority	Scattered throughout much of California at lower elevations	Found primarily in riparian and wooded habitats; also in fruit orchards in Central Valley. Occurs at least seasonally in urban areas. Day roosts in trees within the foliage.	Present	Suitable roosting habitat is present in the study area (trees in the riparian woodland along Arcade Creek).
Hoary bat <i>Lasurius cinerius</i>	–	WBWG: Medium priority	Occurs throughout California from sea level to 13,200 feet.	Primarily found in forested habitats. Also found in riparian areas and in park and garden settings in urban areas. Day roosts within foliage of trees.	Present	Suitable roosting habitat is present in the study area (trees in the riparian woodland along Arcade Creek).
American badger <i>Taxidea taxus</i>	–	SSC	In California, badgers occur throughout the state except in humid coastal forests of northwestern California in Del Norte and Humboldt Counties	Badgers occur in a wide variety of open, arid habitats but are most commonly associated with grasslands, savannas, mountain meadows, and open areas of desert scrub; the principal habitat requirements for the species appear to be sufficient food (burrowing rodents), friable soils, and relatively open, uncultivated ground	Absent	The study area does not contain suitable habitat (grasslands with open uncultivated ground).

Table 7. Continued

^a Status explanations:	
Federal	
E	Listed as endangered under the federal Endangered Species Act.
T	Listed as threatened under the federal Endangered Species Act.
P	Officially proposed (in the Federal Register) for listing as endangered or threatened.
C	Candidate to become a proposed species.
SC	Species of concern.
–	No listing.
State	
E	Listed as endangered under the California Endangered Species Act.
T	Listed as threatened under the California Endangered Species Act.
FP	Fully protected under the California Fish and Game Code.
SSC	Species of special concern in California.
–	No listing.
Western Bat Working Group (WBWG, http://www.wbwg.org/spp_matrix.html)	
High priority	Species are imperiled or at high risk of imperilment.
Moderate priority	This designation indicates a level of concern that should warrant closer evaluation, more research, and conservation actions of both the species and possible threats. A lack of meaningful information is a major obstacle in adequately assessing these species' status and should be considered a threat.
Low priority	While there may be localized concerns, the overall status of the species is believed to be secure.

and is designated for species that should receive the highest priority for funding, planning, and conservation actions. Moderate priority indicates a level of concern that should warrant closer evaluation, more research, and conservation actions for the species and alertness to possible threats.

The project area provides suitable roosting habitat for several species of bats that are designated as high or moderate priority. Several tree roosting bats, including hoary bat and silver-haired bat, and multihabitat-roosting myotis species have potential to roost in crevices and tree foliage in the project area.

Standards of Significance

For purposes of this initial study, the following impacts on biological resource from project construction or operation may be considered significant if they are not reduced to a less-than-significant level after implementation of General Plan policies, Master EIR mitigation, or project-specific mitigation:

- Create a potential health hazard, or involve the use, production, or disposal of materials that pose a hazard to plant or animal populations in the affected area.
- Result in substantial degradation of the quality of the environment, a reduction in habitat, or a reduction in population below self-sustaining levels of threatened or endangered species of plant or animal.
- Affect other species of special concern to agencies or natural resource organizations (e.g., regulatory waters and wetlands).
- Violate the City's Heritage Tree Ordinance (City Code 12.64.040).

Summary of Analysis in the 2030 General Plan Master EIR

The Master EIR identifies the following impacts on biological resources from implementation of the General Plan:

- **Impact 6.3-1:** Implementation of the proposed 2030 General Plan could create a potential health hazard, or involve the use, production, or disposal of materials that pose a potential hazard to plant or animal populations in the affected area.
- **Impact 6.3-2:** Implementation of the proposed 2030 General Plan could adversely affect special-status plant species due to the substantial degradation of the quality of the environment or a reduction of habitat or population below self-sustaining levels.
- **Impact 6.3-3:** Implementation of the proposed 2030 General Plan could result in substantial degradation of the quality of the environment or a reduction of habitat or population below self-sustaining levels of special-status invertebrates.
- **Impact 6.3-4:** Implementation of the proposed 2030 General Plan could result in substantial degradation of the quality of the environment or a reduction of habitat or population below self-sustaining levels of special-status birds, through the loss of both nesting and foraging habitat.
- **Impact 6.3-5:** Implementation of the proposed 2030 General Plan could result in substantial degradation of the quality of the environment or a reduction of habitat or population below self-sustaining levels of special-status amphibians and reptiles.
- **Impact 6.3-6:** Implementation of the proposed 2030 General Plan could result in substantial degradation of the quality of the environment or a reduction of habitat or population below self-sustaining levels of special-status mammals.
- **Impact 6.3-7:** Implementation of the proposed 2030 General Plan could result in substantial degradation of the quality of the environment or a reduction of habitat or population below self-sustaining levels of special-status fish.
- **Impact 6.3-8:** Implementation of the proposed 2030 General Plan could result in the loss or modification of riparian habitat, resulting in a substantial adverse effect.

- **Impact 6.3-9:** Implementation of the proposed 2030 General Plan could result in a substantial adverse effect on state or federally protected wetlands or waters of the United States through direct removal, filling, or hydrological interruption.
- **Impact 6.3-10:** Implementation of the 2030 General Plan could result in the loss of California Department of Fish and Game (DFG)–defined sensitive natural communities such as elderberry savanna, northern claypan vernal pool, and northern hardpan vernal pool, resulting in a substantial adverse effect.
- **Impact 6.3-11:** Implementation of the 2030 General Plan could violate the City’s Heritage Tree Ordinance.
- **Impact 6.3-12:** Implementation of the City’s 2030 General Plan combined with buildout assumed in the greater Sacramento Valley could result in a regional potential health hazard, or involve the use, production, or disposal of materials that pose a hazard to plant or animal populations in the affected area.
- **Impact 6.3-13:** Implementation of the City’s 2030 General Plan and regional buildout assumed in the Sacramento Valley could result in a regional loss of special-status plant or wildlife species or their habitat.

Implementation of the General Plan was determined to result in significant and unavoidable impacts due to the creation of potential hazards to plants and animals, a reduction of the quality of habitat or a reduction of population below self-sustaining levels of special-status species, the loss of riparian habitat, the loss of wetlands or other waters of the United States, and the loss of sensitive natural communities. The City Council adopted a statement of overriding considerations for these impacts. Implementation of the General Plan was determined to have a less-than-significant impact due to potential violations of the City Code related to the protection of trees, in particular heritage trees. The cumulative effects of development in accordance with the General Plan were determined to result in less-than-significant impacts on biological resources.

The significance conclusions of the proposed project’s impacts are discussed below under “Answers to Checklist Questions,” and its consistency with the Master EIR’s conclusions is summarized under “Findings.”

Mitigation Measures from the 2030 General Plan Master EIR That Apply to the Proposed Project

The Master EIR identifies the following mitigation measures and policies for impacts on biological resources:

- **Mitigation Measure 6.3-2.** The City of Sacramento shall revise Policy ER 2.1.10 in the Environmental Resource section to read as follows:

Habitat Assessments. The City shall consider the potential impact on sensitive plants and for each project requiring discretionary approval and shall require preconstruction surveys and/or habitat assessments for sensitive plant and wildlife species ~~for any project requiring discretionary approval. If the preconstruction survey and/or habitat assessment determines that suitable habitat for sensitive plant and/or wildlife species is present, then either (1) protocol-level or industry-recognized (if no protocol has been established) surveys shall be conducted; or (2) presence of the species shall be assumed to occur in suitable habitat on the project site. Survey Reports shall be prepared and submitted to the City and the DFG or USFWS (depending on the species) for further federal law.~~
- **Mitigation Measure 6.3-8.** The City of Sacramento shall revise Policy ER 2.1.5 in the Environmental Resources section to read as follows:

Riparian Habitat Integrity. The City shall preserve the ecological integrity of ~~habitat areas,~~ creek corridors, canals, and drainage ditches that support riparian resources by preserving native plants and, to the extent feasible, removing invasive, non-native plants. ~~If not feasible, the mitigation of~~

~~all adverse impacts on riparian habitat shall comply with State and Federal regulations be mitigated by the preservation and/or restoration of this habitat at a 1:1 ratio, in perpetuity.~~

- **Mitigation Measure 6.3-9.** The City of Sacramento shall revise Policy ER 2.1.6 in the Environmental Resources section to read as follows:

Wetland Protection. The City shall preserve and protect wetland resources including creeks, rivers, ponds, marshes, vernal pools, and other seasonal wetlands, to the extent feasible. If not feasible, the mitigation of all adverse impacts on wetland resources shall be required in compliance with State and Federal regulations protecting wetland resources, and if applicable, threatened or endangered species.

Additionally, the City shall require either on- or offsite permanent preservation of an equivalent amount of wetland habitat to ensure no-net-loss of value and/or function.

Answers to Checklist Questions

QUESTIONS A AND B

Special-Status Plant Species

The project area has a high level of disturbance from previous and ongoing activities, such that suitable microhabitat conditions for sensitive plant species are not present. No impacts on special-status plants would occur. Therefore, the proposed project would not result in additional significant impacts on special-status plant species that were not addressed or considered in the Master EIR.

Special-Status Animal Species

Western Pond Turtle

Construction activities in or adjacent to Arcade Creek could cause injury or mortality of western pond turtles (adults, nestlings, or eggs). Construction noise or activity could disturb turtles or cause them to avoid the area. Additionally, Scenario A would result in the permanent loss of 1.636 acres and temporary loss of 0.114 acre of riparian woodland that provides suitable nesting and overwintering habitat for western pond turtles. Scenario B would result in the permanent loss of 0.281 acre and temporary loss of 0.137 acre of riparian woodland.

This would be a significant impact. Implementation of Mitigation Measures BIO-1–BIO-4 and BIO-7 would avoid or minimize potential impacts on western pond turtle, reducing this impact to a less-than-significant level.

Swainson's Hawk

Scenario A would result in the permanent loss of 1.636 acres and temporary loss of 0.114 acre of riparian woodland, which provides suitable nesting habitat for Swainson's hawks (state-listed as threatened). Tree removal or noise associated with construction activities could result in the loss of nesting trees and nests, or disturbance of nesting Swainson's hawks if active nests are present in or near the construction area. These disturbances could cause nest abandonment and death of young or loss of reproductive potential at active nests located in or near the project area. Scenario A could result in a substantial adverse effect, through the loss of eggs or young, on this species.

Scenario B would result in the permanent loss of 0.281 acre and temporary loss of 0.137 acre of riparian woodland, which provides suitable nesting habitat for Swainson's hawks. Potential impacts from construction activities and noise from Scenario B would be the same as those for Scenario A, although at a lesser magnitude because fewer trees would be removed and the construction period would be shorter.

This would be a significant impact. Implementation of Mitigation Measure BIO-4 would compensate for the permanent and temporary loss of riparian woodland that provides suitable nesting habitat for Swainson's hawk. Also, implementation of Mitigation Measure BIO-8 would ensure that the project would not result in take of Swainson's hawk eggs or young. These measures would reduce this impact to a less-than-significant level.

White-Tailed Kite

Scenario A would result in the permanent loss of 1.636 acres and temporary loss of 0.114 acre of riparian woodland, which provides suitable nesting habitat for white-tailed kites. Tree removal or noise associated with construction activities could result in the loss of nesting trees and nests, or disturbance of nesting white-tailed kites if active nests are present in or near the construction area. These disturbances could cause nest abandonment and death of young or loss of reproductive potential at active nests located in or near the project area. Such disturbance would violate CFGC 3503.5 and 3511 and the MBTA.

Scenario B would result in the permanent loss of 0.281 acre and temporary loss of 0.137 acre of riparian woodland, which provides suitable nesting habitat for white-tailed kites. Potential impacts from construction activities and noise from Scenario B would be the same as those for Scenario A, although at a lesser magnitude because fewer trees would be removed and the construction period would be shorter.

This would be a significant impact. Implementation of Mitigation Measures BIO-1–BIO-4 and BIO-8 would avoid and minimize impacts on nesting white-tailed kites. These measures would reduce this impact to a less-than-significant level.

Migratory Birds

Scenario A could affect nesting birds, including raptors, if construction activities remove or otherwise disturb occupied nests during the breeding season. Construction activities during the breeding season that result in death of young or loss of reproductive potential would violate CFGC 3503 and 3503.5 and the MBTA. Also, Scenario A would also result in the permanent loss of 1.636 acres and temporary loss of 0.114 acre of riparian woodland, which provides suitable nesting habitat for migratory birds.

Scenario B would result in the permanent loss of 0.281 acre and temporary loss of 0.137 acre of riparian woodland, which provides suitable nesting habitat for migratory birds. Potential impacts from construction activities and noise from Scenario B would be the same as those for Scenario A, although at a lesser magnitude because fewer trees would be removed and the construction period would be shorter.

This would be a significant impact. Implementation of Mitigation Measures BIO-1–BIO-4 would avoid or minimize impacts on nesting migratory birds. These measures would reduce this impact to a less-than-significant level.

Swallows

Construction activities could result in the direct loss of active swallow nests. Loss of a nest could in turn result in the death of adults, young, or eggs. This would violate CFGC 3503 and the MBTA and would be considered a significant impact. Implementation of Mitigation Measure BIO-9 would ensure that the proposed project would not result in the loss of migratory bird and raptor nests, eggs, or young, which would reduce this impact to a less-than-significant level.

Roosting Bats

Scenario A would result in the permanent loss of 1.636 acres and temporary loss of 0.114 acre of riparian woodland, which provides potential roosting habitat for special-status bat species. Tree removal or noise associated with construction activities could result in the disturbance of roosting bats if active roosts are

present in or near the construction area. These disturbances could cause mortality of individuals or roost abandonment, and death of young or loss of reproductive potential at active roosts located in or near the project area.

Scenario B would result in the permanent loss of 0.281 acre and temporary loss of 0.137 acre of riparian woodland, which provides potential roosting habitat for special-status bat species. Potential impacts from construction activities and noise from Scenario B would be the same as those for Scenario A, although at a lesser magnitude because fewer trees would be removed and the construction period would be shorter.

This would be a significant impact. Implementation of Mitigation Measures BIO-1–BIO-4 and BIO-8 would avoid or minimize impacts on roosting bats, reducing this impact to a less-than significant level.

Special-Status Fish Species

Based on a review of existing information, eight sensitive fish species/ESUs were initially identified as having potential to occur in the project region (Table 7). However, none of the eight species is likely to occur in the project area because of the lack of suitable habitat. Therefore, there would be no impact on special-status fish. The proposed project would not result in additional significant impacts on special-status fish species that were not addressed or considered in the Master EIR.

Invasive Plant Species

During project construction, a number of nonnative plant species could be introduced into the project area. Plants typical of an urban environment already occur to some degree in the region because of the presence of development in the immediate vicinity. Nonnative and exotic plant species are often more adapted to a wider variety of growing conditions and can out-compete native plant populations for available nutrients, prime growing locations, and other resources. Because these plants reproduce so quickly and prolifically, they can quickly replace many native plant populations. This can result in lower species diversity, loss of suitable breeding and nesting habitat for common and special-status wildlife species, changes to the adjacent riparian ecosystem, and overall reductions in habitat values. This would be a significant impact. Implementation of Mitigation Measure BIO-11 would avoid or minimize the introduction and spread of invasive plants during construction, reducing this impact to a less-than-significant level.

QUESTION C

Riparian Woodland

Scenario A would result in the permanent loss of 1.636 acres and temporary loss of 0.114 acre of riparian woodland along the three drainages in the project area (Figure 6). The impact area would include riparian trees and woody understory plants such as young trees, elmleaf blackberry, and Himalayan blackberry within the project area at Arcade Creek and along both the north and south intermittent streams. Additional trees and understory vegetation may be removed to provide equipment access to the drainages. Indirect impacts on riparian woodland vegetation could occur from adjacent construction activity. Riparian vegetation adjacent to the construction area that is not to be removed for construction could be damaged by equipment.

Scenario B would result in the permanent loss of 0.281 acre and temporary loss of 0.137 acre of riparian woodland along the three drainages in the project area (Figure 7). Although the magnitude of effects under Scenario B would be substantially smaller than those under Scenario A, the nature of the effects is the same. The grading footprint would largely be constrained to the west side of the two intermittent streams.

State and federal agencies require avoidance, minimization, and compensatory mitigation for the loss of riparian habitat. Because riparian woodland vegetation provides a variety of important ecological functions and values, its loss or disturbance is considered significant. Implementation of Mitigation Measures BIO-1–BIO-4 would ensure that the proposed project minimizes effects on riparian habitat in and adjacent to the study area and would reduce these impacts to less-than-significant levels.

Perennial and Intermittent Drainages

Scenario A would involve placement of fill for bridge supports and road widening, resulting in direct disturbance of jurisdictional intermittent drainages. In addition, under Scenario A, the stream would be realigned, with modifications made to the channel to improve the habitat quality of the creek and reduce erosion and flooding. Additional indirect impacts caused by sedimentation or modification of hydrology could occur in portions of perennial and intermittent drainages that are outside the project footprint.

Riprap or rock revetment can adversely affect the habitat quality of the creek by reducing or eliminating the recruitment of riparian vegetation and altering stream hydraulics. Rock revetment inhibits the establishment of riparian vegetation, eliminating the potential for the affected areas to contribute to stream shading, cover, and other riparian habitat functions in the future. In addition, hard structures that confine the cross sectional area of the stream channel can cause localized scour and erosion, thereby altering water depths, velocities, and substrate composition in the adjacent channel. These changes can adversely affect the suitability of habitat for fish.

Scenario A would result in the permanent loss of 0.397 acre of jurisdictional drainage within the project area (Figure 6). Approximately 0.002 acre of perennial and intermittent drainages would be temporarily affected by equipment access during project construction activities.

Natural drainages that connect to the Sacramento River and tributaries of these drainages are considered waters of the United States, protected under CWA Section 404. Placement of material in these areas, including bridge supports, would be considered placement of fill within waters of the United States. This activity would require CWA Section 404 authorization from USACE and CWA Section 401 water quality certification from the Regional Water Quality Control Board (RWQCB).

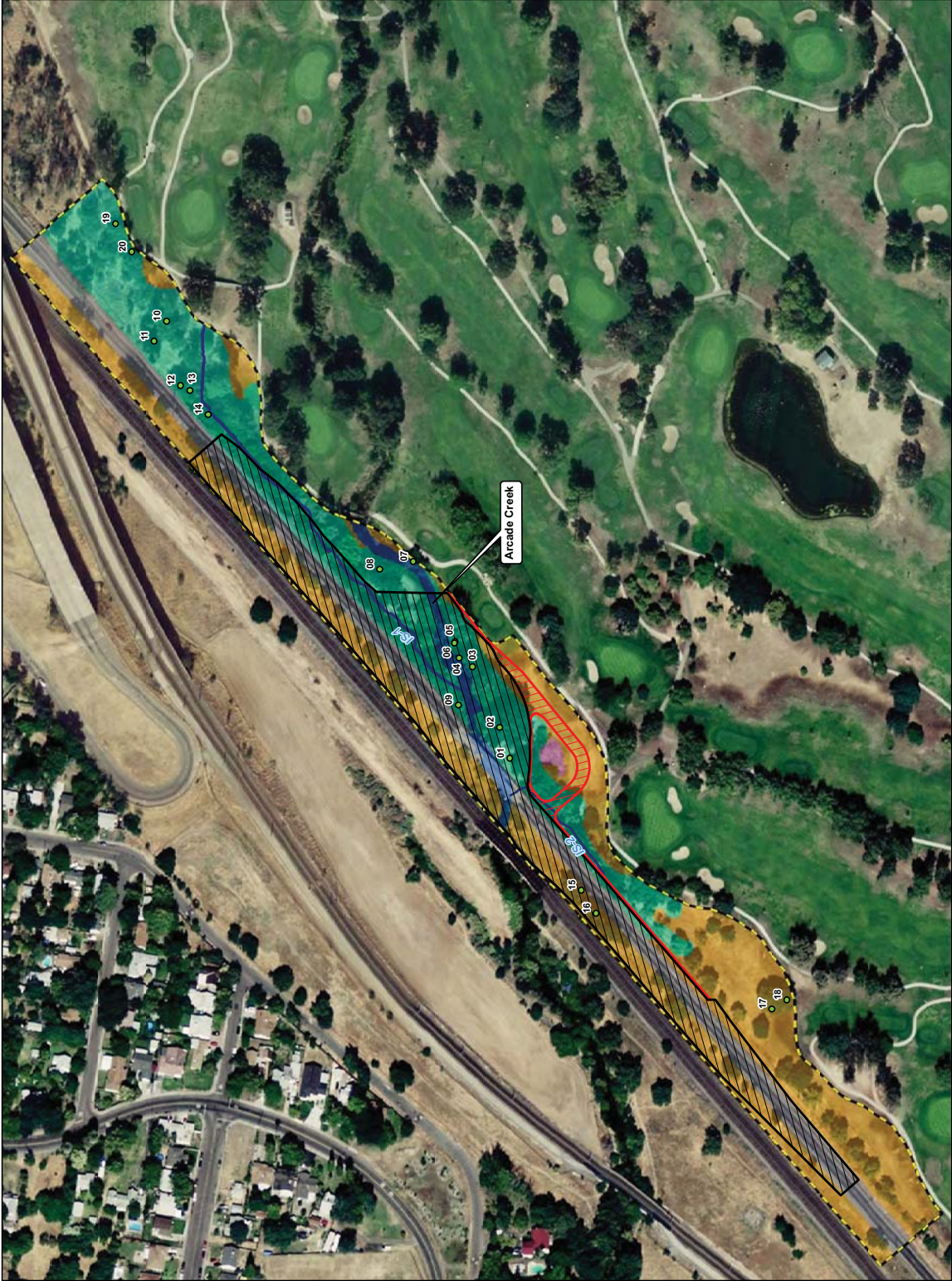
Scenario B would result in the permanent loss of 0.117 acre and temporary loss of 0.050 acre of jurisdictional drainage in the project area (Figure 7). Scenario B would involve placement of fill for bridge supports and road widening, resulting in direct disturbance of jurisdictional perennial and intermittent drainages. Temporary impacts on perennial and intermittent drainages would occur during project construction activities for equipment access. Additional indirect impacts caused by sedimentation or modification of hydrology could occur in portions of perennial and intermittent drainages that are outside the project footprint. As described for Scenario A, Scenario B would affect waters of the United States and would require CWA Section 404 authorization and CWA Section 401 certification.

These impacts are considered significant. Implementation of Mitigation Measures BIO-1–BIO-3, BIO-5, BIO-6, and BIO-12 would reduce these impacts to less-than-significant levels and would prevent indirect impacts on drainages.

Perennial Marsh

One perennial marsh, encompassing 0.058 acre, was identified in the project area. In the wetland delineation for the project (City of Sacramento 2011b), this feature was characterized as a depressional wetland. Like other wetland types, it could provide cover, foraging, and nesting habitat for a variety of amphibians, birds, and reptiles, as well as a few mammal species.

Because the perennial marsh is outside the grading limit for the proposed project, no direct effects are anticipated under Scenario A or B. However, because of the feature's proximity to potential areas of disturbance, the proposed project could result in inadvertent direct or indirect impacts on perennial marsh.



Community	Permanent Impacts	Temporary Impacts
Perennial marsh	0.000	0.000
Perennial and Intermittent Drainages	0.397	0.002
Developed (Road)	1.679	0.000
Riparian woodland	1.636	0.114
Nonnative annual grassland	1.949	0.263
Impact Totals (acres)	5.661	0.379

Legend

- Heritage Tree
- Study Area (14,089 acres)
- Temporary Impact Area (0.379 acres)
- Permanent Impact Area (5.661 acres)

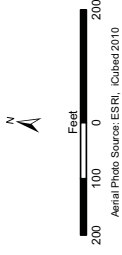
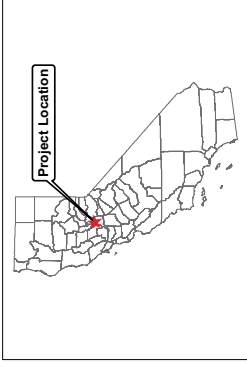


Figure 6
Impacts from Scenario A



Community	Permanent Impacts	Temporary Impacts
Perennial marsh	0.000	0.000
Perennial and Intermittent Drainages	0.117	0.050
Developed (Road)	0.777	0.043
Riparian woodland	0.281	0.137
Nonnative annual grassland	0.421	0.628
Impact Totals (acres)	1.596	0.858

Legend

- Heritage Tree
- Study Area (14,089 acres)
- Temporary Impact Area (0.858 acres)
- Permanent Impact Area (1,596 acres)

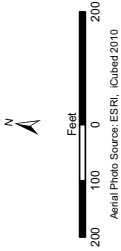


Figure 7
Impacts from Scenario B

These impacts would be significant. Implementation of Mitigation Measures BIO-1–BIO-3 and BIO-5 would reduce these impacts to less-than-significant levels.

QUESTION D

The City's Heritage Tree Ordinance protects native trees, including native oaks, buckeye, and western sycamore trees that are greater than 36 inches dbh. In addition, the ordinance applies to any tree that has a dbh of 36 inches or greater and that is within a riparian zone.

In the grading limits for Scenario A, nine trees that meet the criteria of the Heritage Tree Ordinance were observed. Therefore, Scenario A would remove nine heritage trees primarily within the riparian woodland area of the project area. The locations of the heritage trees within the impact area are shown in Figure 6. Scenario B would remove two heritage trees (Figure 7), as opposed to nine for Scenario A. Indirect impacts on riparian woodland vegetation could occur from adjacent construction activity. Riparian trees that are adjacent to the construction area but would not be removed could be damaged by equipment.

Per the City Code, permission to remove heritage trees must be obtained from the City's director of transportation before the initiation of the project. Compliance with the code and other city policies would ensure that this impact is less than significant. To further reduce project-specific impacts, implementation of Mitigation Measures BIO-1–BIO-4 and BIO-10 would ensure that construction activities would avoid impacts on native trees in the area adjacent to construction and that the project would compensate for the loss of trees within the impact area.

Mitigation Measures

Mitigation Measure BIO-1: Install Fencing to Protect Biologically Sensitive Areas Adjacent to the Project Area

The City or its contractor will install orange construction barrier fencing to identify environmentally sensitive areas (e.g., sensitive natural communities, heritage trees, active bird nests). A qualified biologist will identify sensitive biological resources adjacent to the construction area before the final design plans are prepared so that the areas to be fenced can be included in the plans. The protected areas will be clearly identified as environmentally sensitive areas on the construction specifications. The construction barrier fencing will be in place before construction activities are initiated. The fencing will be maintained by the City or its contractor throughout the duration of the construction period. If the fencing is removed, damaged, or otherwise compromised during the construction period, construction activities will cease until the fencing is replaced.

The following paragraph will be included in the construction specifications:

The contractor's attention is directed to the areas designated as "environmentally sensitive areas." These areas are protected, and no entry by the contractor for any purpose will be allowed unless specifically authorized in writing by the City. The contractor will take measures to ensure that contractor's forces do not enter or disturb these areas, including giving written notice to employees and subcontractors. Vehicle operation, material and equipment storage, and other surface-disturbing activities are prohibited within the fenced environmentally sensitive areas.

Mitigation Measure BIO-2: Conduct Environmental Awareness Training for Construction Employees

The City or its contractor will retain a qualified biologist to develop and conduct environmental awareness training for construction employees on the importance of onsite biological resources, including sensitive natural communities; native trees to be retained; special-status wildlife habitats for western pond turtles (Arcade Creek); nests and nest trees of special-status birds; roosting habitat for bats; and the threat of invasive plant infestation, how to identify invasive species, and how to control and prevent the spread of such infestations. The environmental awareness program will be provided to all construction personnel to brief them on the life history of special-

status species in or adjacent to the project area, the need to avoid impacts on sensitive biological resources, any terms and conditions required by state and federal agencies, and the penalties for not complying with biological mitigation requirements. If new construction personnel are added to the project, the contractor's superintendent will ensure that the personnel receive the mandatory training before starting work. An environmental awareness handout will be provided to each person that describes and illustrates sensitive resources (e.g., nesting birds and raptors, western pond turtles, roosting bats, and native trees) that will be avoided during project construction and identifies all relevant permit conditions.

Mitigation Measure BIO-3: Avoid and Minimize Potential Indirect Disturbance of Riparian Woodland

To the extent possible, the City will avoid or minimize potential indirect disturbance of riparian woodland by implementing the following measures:

- The potential for long-term loss of riparian vegetation will be minimized by trimming vegetation rather than removing entire shrubs. Shrubs that need to be trimmed will be cut at least 1 foot above ground level to leave the root systems intact and allow for more rapid regeneration. Trimming of shrubbery will be limited to the minimum area necessary within the construction zone. To protect nesting birds and maternity roosts/young bats, the City will not allow pruning or removal of woody riparian vegetation between February 1 and August 15.
- A certified arborist will be retained to perform any necessary pruning or root cutting of riparian trees.
- The areas that undergo vegetative pruning and tree removal will be inspected immediately before construction, immediately after construction, and 1 year after construction to determine the amount of existing vegetative cover, cover that has been removed, and cover that resprouts. If, after 1 year, these areas have not resprouted sufficiently to return the cover to the preproject level, the City will replant the areas with the same species to reestablish the cover to the preproject level.

Mitigation Measure BIO-4: Compensate for Temporary and Permanent Loss of Riparian Woodland

The City will compensate for temporary and permanent loss of riparian woodland as follows:

- The City will compensate for construction-related loss of riparian woodland by replanting the temporarily disturbed area with the native species removed.
- The City will compensate for the permanent loss of riparian woodland at a minimum ratio to be determined through coordination with state and federal agencies as part of the permitting process for the proposed project.
- The City will compensate for temporary disturbances of riparian woodland onsite. A mitigation planting plan will be developed by the City or its contractor, in consultation with regulatory agencies, that will include a species list, the number of each species, planting locations, and maintenance requirements. Plantings will consist of cuttings taken from local plants, or plants grown from local material obtained in the Arcade Creek watershed. Planted species will be based on those removed from the project area and will include valley oak, interior live oak, willows, and Fremont's cottonwood. Suitable native understory species, such as sedge species, mugwort, California wild rose, and California wild grape, also will be planted.
- Plantings will be monitored annually for 3 years or as required in the project permits. A minimum of 75% of the plantings will have survived at the end of the monitoring period for mitigation to be considered successful. If the survival criterion is not met at the end of the monitoring period, planting and monitoring will be repeated until the survival criterion is met. Additional enhancement measures could include removal of invasive species in and adjacent to the project area, such as elmleaf blackberry, and replacement with a native cover, such as California blackberry, grown from local stock.

Mitigation Measure BIO-5: Protect Water Quality and Prevent Erosion in Drainages and Wetlands

The City will protect water quality in drainages and wetlands that are outside the project footprint. Features to be protected include Arcade Creek, its associated unnamed intermittent drainages (IS-1 and IS-2), and wetlands in and adjacent to the project area. The City will implement best management practices (BMPs) and the water quality measures described in the water quality study prepared for the project (City of Sacramento 2009c) before and during construction.

A storm water pollution prevention plan (SWPPP) will be prepared and implemented for the proposed project and will include the following provisions and protocols:

- Discharge from dewatering operations, if needed, and runoff from disturbed areas will conform to the water quality requirements of the waste discharge permit issued by the RWQCB.
- Material stockpiles will be located in non-traffic areas only. Side slopes will not be steeper than 2:1.
- Erosion control measures will be applied throughout construction of the proposed project. The SWPPP will detail the applications and types of measures and the allowable exposure of unprotected soils.
- The contractor will conduct periodic maintenance of erosion and sediment control measures.
- All temporary erosion and sediment control measures will be removed after the working area is stabilized or as directed by the engineer.
- An appropriate seed mix of native species will be planted on disturbed areas upon completion of construction.

Mitigation Measure BIO-6: Compensate for Temporary and Permanent Loss of Drainage Habitat

The City will compensate for temporary and permanent loss of drainage habitat as follows:

- The City will return temporarily disturbed portions of the drainages to their original grade following construction.
- The City will compensate for the permanent fill of other waters of the United States. The actual compensation ratios will be determined through coordination with the RWQCB and USACE as part of the permitting process.
- The City will compensate for permanent loss of perennial and intermittent drainages by implementing one or both of the following options:
 - Purchase credits for created riparian stream channel at an approved local mitigation bank. The City will provide written evidence to the resource agencies that compensation has been established through the purchase of mitigation credits. The amount to be paid will be the fee in effect at the time of purchase.
 - Compensate out of kind for loss of drainages by implementing Mitigation Measure 4. The riparian restoration acreage used to compensate for loss of drainages will be in addition to the acreage restored for loss of riparian habitat.

Mitigation Measure BIO-7: Conduct Preconstruction Survey for Western Pond Turtle

To avoid potential injury or mortality of western pond turtles, the City or its contractor will retain a qualified wildlife biologist to conduct a preconstruction survey for western pond turtles within 24 hours before the start of construction. The biologist will survey the aquatic habitat and adjacent riparian woodland habitat in the construction area. If in-water work does not start immediately, the biologist will return to the construction site immediately before the start of in-water work to conduct another preconstruction survey. If in-water work occurs in two different time periods or

stops and restarts, the biologist will survey the aquatic habitat and adjacent riparian woodland habitat immediately before in-water work restarts. The biologist will remain onsite until initial in-water work is complete.

If a turtle becomes trapped during in-water work, the biologist will relocate the individual to suitable aquatic habitat upstream or downstream of the construction area. The biologist will need to have had their DFG scientific collecting permit amended to include capture and relocation of turtles. For the remainder of construction, the biologist will remain on call in case a turtle is discovered. The construction crew will be instructed to notify the crew foreman, who will contact the biologist if a turtle is found trapped within the construction area. Work in the area where the turtle is trapped will stop until the biologist arrives and removes and relocates the turtle. The biologist will report their activities to the City and DFG within 1 day of relocating any turtle.

Mitigation Measure BIO-8: Conduct Preconstruction Nesting Bird and Bat Surveys and Implement Protective Measures if Necessary

To avoid or minimize impacts on nesting migratory birds and bats, the City or its contractor will implement one or more of the following surveys and restrictions:

- It is recommended that vegetation removal be conducted between August 15 and November 1 to avoid impacts on nesting birds, maternal bats and their young, and bats entering torpor in winter.
- If construction activities, including vegetation removal, are scheduled to occur during the breeding season for migratory birds and raptors (generally between February 1 and August 15), the City or its contractor will retain a qualified wildlife biologist with knowledge of the relevant species to conduct nesting surveys before the start of construction. The nesting surveys should be conducted within 15 days before the initiation of construction activities (including tree removal) that are scheduled between February 1 and August 15. Surveys for active nests will occur in the project area and up to a 0.25-mile buffer area for raptors. A minimum of three separate surveys will be conducted in those 15 days. If no active nests are detected during these surveys, no additional mitigation is required.
- If surveys indicate that migratory bird or raptor nests are present in the project area, no-disturbance buffers will be established around the sites to avoid disturbance or destruction of the nest site until after the breeding season or until after a qualified wildlife biologist determines that the young have fledged (usually between June and August, depending on the species). The extent of these buffers will be determined by the biologist (in coordination with DFG) and will depend on the level of noise or construction disturbance, line-of-sight between the nest and disturbance, ambient levels of noise and other disturbances, and other topographic or artificial barriers. These factors will be analyzed to make an appropriate decision on buffer distances. Suitable buffer distances may vary by species.
- If tree removal is scheduled to occur between November 1 and August 15, preconstruction acoustic surveys to determine which bat species are potentially roosting in the project area will be conducted. Based on the results of the surveys, and in consultation with DFG, protective measures such as removing trees within 1 hour before sunset and 30 minutes after sunset, monitoring tree removal activities, or other measures may be required.

Mitigation Measure BIO-9: Prevent Swallows from Nesting Adjacent to New Bridge Construction

To avoid impacts on nesting swallows and other bridge-nesting migratory birds that are protected under the MBTA and CFGC, the City will implement the following measures:

- The City or its contractor will hire a qualified wildlife biologist to inspect the bridge during the swallows' nonbreeding season (August 16 through February 15). If nests are found and are abandoned, they may be removed. To avoid damaging active nests adjacent to new bridge construction, nests must be removed before the breeding season begins (March 1).

- After nests are removed, the underside of the bridge will be covered with 0.5- to 0.75-inch mesh net or poultry wire. All net installation will occur before March 1. The netting will be anchored so that swallows cannot attach their nests to the bridge through gaps in the net.
- An alternative to netting is to remove any newly constructed nests daily until the start of construction.
- If netting of the bridges does not occur by March 1 and swallows colonize the bridge, modifications to this structure should not begin before August 15 of that year or until a qualified biologist has determined that the young have fledged and all nest use has been completed.

If appropriate steps are taken to prevent swallows from constructing new nests, work can proceed at any time of the year.

Mitigation Measure BIO-10: Compensate for Loss of Heritage Trees

Based on the requirements of the City's Heritage Tree Ordinance, the City will compensate for the removal of heritage trees. The City will submit and comply with a tree replacement mitigation plan developed in consultation with a certified arborist and any other conditions related to compliance with the Heritage Tree Ordinance and related tree removal permit.

A mitigation planting plan will be developed that includes a species list and number of each, planting locations, and maintenance requirements. Plantings will consist of cuttings taken from local plants, or plants grown from local material. Planted species will be based on those removed from the project area and may include valley oak, interior live oak, Fremont's cottonwood, and red willow.

Plantings will be monitored annually for 3 years or as required by project permits. A minimum of 75% of the plantings will have survived at the end of the monitoring period for mitigation to be considered successful, or as required by the City. If the survival criterion is not met at the end of the monitoring period, planting and monitoring will be repeated until the survival criterion is met. A final monitoring report will be developed by the City (or, if developed by an independent party, submitted to the City for approval) at the end of the monitoring period when the survival criterion is met.

Mitigation Measure BIO-11: Avoid the Introduction and Spread of Invasive Plants

The City will be responsible for avoiding the introduction of new invasive plants and spread of invasive plants previously documented in the project area. Accordingly, the following measures will be implemented during construction:

- Construction supervisors and managers will be educated about invasive plant identification and the importance of controlling and preventing the spread of invasive plant infestations.
- Surface disturbance in the construction work area will be minimized to the greatest extent possible.
- All disturbed areas will be seeded with certified weed-free native mixes and, if appropriate, mulched with certified weed-free mulch.
- Native, noninvasive species will be used in erosion control plantings to stabilize site conditions and prevent invasive species from colonizing.

Mitigation Measure BIO-12: Minimize the Use of Rock Revetment to Stabilize Streambanks

The City will limit the use of rock slope protection to the minimum needed to ensure long-term channel and bank stability. To the extent feasible, the City will use biotechnical methods that allow reestablishment of riparian vegetation along the affected banks. If rock revetment is required, the design will include provisions that allow soil and riparian vegetation or large woody debris to be incorporated into the rock. Performance of these plantings will be monitored in accordance with the onsite mitigation planting plan (Mitigation Measure 4).

Findings

Construction and operation of the proposed project would result in no additional significant impacts on biological resources, and it would not result in individually limited but collectively significant impacts. Therefore, no further analysis is necessary.

3. CULTURAL RESOURCES

Impacts to cultural resources may be considered significant if construction and/or implementation of the proposed project would result in the following impacts that remain significant after implementation of General Plan policies or mitigation from the General Plan Master EIR:

	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
A. Cause a substantial adverse change in the significance of a historical or archaeological resource as defined in Section 15064.5 of the State CEQA Guidelines	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Environmental Setting

A detailed description of the prehistoric and historic background of the region can be found in the Master EIR (Section 6.4, Cultural Resources) and the archaeological survey report (City of Sacramento 2009d) prepared for the proposed project. These reports are fully incorporated by reference.

No cultural resources were identified in the project area based on a records search, literature review, sacred lands search conducted by the Native American Heritage Commission (NAHC), consultation with Native American tribes and individuals, and a pedestrian survey of the direct area of potential effects (APE). However, a previously recorded prehistoric archaeological site, CA-Sac-201, was identified within 1 mile of the project site and is directly relevant for assessing the sensitivity of the project site. Geomorphological data in the area of CA-Sac-201 suggest that there is moderate potential for buried archaeological deposits to be present in the project vicinity, for two reasons. First, CA-Sac-201 and the project site share the same soil type. Second, CA-Sac-201 is buried under 9 feet of alluvium, which is within the proposed depth of construction for the creek realignment. As a result, mechanical test excavations were conducted in archaeologically sensitive areas on April 16 and 17, 2009. The archaeological test excavations did not identify any cultural resources.

Standards of Significance

For purposes of this initial study, the following impacts on parks and open space from project construction or operation may be considered significant if they are not reduced to a less-than-significant level after implementation of General Plan policies, Master EIR mitigation, or project-specific mitigation:

- Causes a substantial change in the significance of a historical or archaeological resource as defined in Section 15064.5 of the State CEQA Guidelines.

Summary of Analysis in the 2030 General Plan Master EIR

The Master EIR identifies the following impacts on cultural resources from implementation of the General Plan:

- **Impact 6.4-1:** Implementation of the General Plan could cause a substantial change in the significance of historical resources as defined in State CEQA Guidelines Section 15064.5.
- **Impact 6.4-2:** Implementation of the General Plan could cause a substantial change in the significance of an archaeological resource as defined in State CEQA Guidelines Section 15064.5.
- **Impact 6.4-3:** Implementation of the General Plan, in conjunction with other development within the county, could cause a substantial change in the significance of a historical resource as defined in State CEQA Guidelines Section 15064.5.

- **Impact 6.4-4:** Implementation of the General Plan, in conjunction with other development within the Central Valley, could cause a substantial change in the significance of an archaeological resource as defined in State CEQA Guidelines Section 15064.5.

These impacts were found to be significant and unavoidable, even with General Plan policies implemented, because no other mitigation was available to reduce them to a less-than-significant level. The significance conclusions of the proposed project's impacts are discussed below under "Answers to Checklist Questions," and its consistency with the Master EIR's conclusions is summarized under "Findings."

Mitigation Measures from the 2030 General Plan Master EIR That Apply to the Proposed Project

No mitigation measures for cultural resources were identified in the Master EIR. However, the following General Plan policies for historic and cultural resources apply to the proposed project:

- **HCR 2.1.1: Identification.** The City shall identify historic and cultural resources including individual properties, districts, and sites (e.g., archaeological sites) to provide adequate protection of these resources.
- **HCR 2.1.2: Applicable Laws and Regulations.** The City shall ensure that City, State, and Federal historic preservation laws, regulations, and codes are implemented, including the California Historical Building Code and State laws related to archaeological resources, to ensure the adequate protection of these resources.
- **HCR 2.1.3: Consultation.** The City shall consult with the appropriate organizations and individuals (e.g., Information Centers of the CHRIS System [California Historic Resources Information System], the Native American Heritage Commission, and Native American groups and individuals) to minimize potential impacts to historic and cultural resources.
- **HCR 2.1.8: Historic Preservation Enforcement.** The City shall ensure that City code enforcement procedures and activities comply with local, State, and Federal historic and cultural preservation requirements.
- **HCR 2.2.15: Archeological Resources.** The City shall develop or ensure compliance with protocols that protect or mitigate impacts to archaeological, historic, and cultural resources including prehistoric resources.

Answers to Checklist Questions

QUESTION A

Ground-disturbing construction activities could expose previously unidentified cultural resources. The ground disturbance under Scenario A includes excavation for the new creek channel. Construction under Scenario B does not include realignment of the creek channel, and therefore would cause less ground disturbance than Scenario A and have a less potential to affect previously undiscovered archaeological resources.

No cultural resources were identified during test excavations; therefore, it is unlikely the project would disturb buried archaeological resources or human remains, including those interred outside formal cemeteries. Because ground disturbance is required, however, there is still a chance that the project could uncover previously undiscovered archeological resources.

This potential for disturbance is considered a significant impact. The City has committed to minimizing potential impacts on cultural resources; the General Plan includes specific policies (listed above) to ensure that this occurs. In addition, implementation of Mitigation Measures CR-1 to CR-3 would reduce this impact to a less-than-significant level.

Mitigation Measures

Mitigation Measure CR-1: Consult with Qualified Archaeologist

If any historic subsurface features, artifacts, or deposits, or prehistoric subsurface archaeological features or deposits, including locally darkened soil (midden) that could conceal cultural deposits, animal bone, obsidian, or mortars are discovered during construction-related earthmoving activities, all work within 100 feet of the resource will be halted, and the City will consult with a qualified archaeologist to assess the significance of the find. A qualified archaeologist will conduct archaeological test excavations to help determine the nature and integrity of the find. If the find is determined to be significant by the archaeologist, representatives of the City and the archaeologist will coordinate to determine the appropriate course of action. All significant cultural materials recovered will be subject to scientific analysis and professional museum curation. In addition, the qualified archaeologist according will prepare a report consistent with current professional standards.

Mitigation Measure CR-2: Consult with an Archaeologist and Native American Representatives

If a Native American site is discovered, the evaluation process will include consultation with the appropriate Native American representatives. If Native American archaeological, ethnographic, or spiritual resources are involved, all identification and treatment will be conducted by qualified archaeologists who are certified by the Society of Professional Archaeologists and/or meet the federal standards as stated in Code of Federal Regulations (CFR) Title 36, Section 61, and Native American representatives who are approved by the local Native American community as scholars of the cultural traditions.

In the event that no such Native American is available, persons who represent tribal governments or organizations in the locale in which resources could be affected will be consulted. If historic archaeological sites are involved, all identified treatment will be carried out by qualified historical archaeologists who meet either Register of Professional Archaeologists or 36 CFR 61 requirements.

Mitigation Measure CR-3: Stop Work and Consult with the County Coroner and/or Native American Heritage Commission

If human bone or bone of unknown origin is found during construction, all work will stop within 100 feet of the find, and the county coroner will be contacted immediately. If the remains are determined to be Native American, the coroner will notify NAHC, which will notify the person most likely believed to be a descendant. The most likely descendant will work with the contractor to develop a program for re-interment of the human remains and any associated artifacts. No additional work is to take place in the immediate vicinity of the find until the identified appropriate actions have taken place.

Findings

Construction and operation of the proposed project would not result in new or more substantial significant impacts on cultural resources, and it would not result in individually limited but collectively significant impacts. Therefore, no further analysis is necessary.

4. GEOLOGY, SOILS, AND MINERAL RESOURCES

Impacts from geological features, soil conditions, or mineral resources may be considered significant if construction and/or implementation of the proposed project would result in the following impacts that remain significant after implementation of General Plan policies or mitigation from the General Plan Master EIR:

	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
A. Allow a project to be built that will introduce either geologic or seismic hazards by allowing the construction of the project on a site without protection against those hazards	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
B. Directly or indirectly destroy a unique paleontological resource	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

Sacramento is in the Great Valley province, an alluvial plain about 50 miles wide and 400 miles long in central California. Its northern part is the Sacramento Valley, drained by the Sacramento River; its southern part is the San Joaquin Valley, drained by the San Joaquin River. The Great Valley is a trough in which sediments have been deposited almost continuously since the Jurassic (about 160 million years ago). The project site is located in central Sacramento Valley. Materials underlying the site consist of Quaternary levee and channel deposits associated with the Sacramento River basin fluvial deposits, a few hundred meters in thickness, that are underlain by older alluvium, consisting of alternating layers of clay, silt, sand, and gravel up to a few kilometers in depth.

The closest fault system, the Foothill Fault System, is approximately 20 miles east of the site and considered potentially active. The Dunnigan Hills Fault is located about 35 miles northwest of the site and is not considered active (California Division of Mines and Geology 1999).

Standards of Significance

For purposes of this initial study, the following impacts on geology, soils, and mineral resources from project construction or operation may be considered significant if they are not reduced to a less-than-significant level after implementation of General Plan policies, Master EIR mitigation, or project-specific mitigation:

- Allow a project to be built that will introduce either geologic or seismic hazards by allowing the construction of the project on a site without protection against those hazards.
- Directly or indirectly destroy a unique paleontological resource.

Summary of Analysis in the 2030 General Plan Master EIR

The Master EIR identifies the following impacts on geology, soils, and mineral resources from implementation of the General Plan:

- **Impact 6.5-1:** Implementation of the General Plan may allow development in areas that could be affected by seismic hazards, such as ground rupture, groundshaking, and liquefaction, potentially exposing people to risk from these hazards.

- **Impact 6.5-2:** Implementation of the General Plan may allow development in areas that could be affected by geologic hazards associated with unstable soil conditions, including expansive soils and subsidence, potentially exposing people to risk from these hazards.
- **Impact 6.5-3:** Implementation of the General Plan may allow development that could result in substantial soil erosion.
- **Impact 6.5-5:** Implementation of the General Plan could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.
- **Impact 6.5-7:** Implementation of the General Plan, in conjunction with other development within the Central Valley, could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

These impacts were determined to be less than significant. The significance conclusions of the proposed project's impacts are discussed below under "Answers to Checklist Questions," and its consistency with the Master EIR's conclusions is summarized under "Findings."

Mitigation Measures from the 2030 General Plan Master EIR That Apply to the Proposed Project

No mitigation measures for geology, soils, and mineral resources were identified in the 2030 General Plan Master EIR. However, the following General Plan policy for geology, soils, and mineral resources applies to the proposed project:

- **HCR 2.1.15: Archaeological Resources.** The City shall develop or ensure compliance with protocols that protect or mitigate impacts to archaeological, historic, and cultural resources including prehistoric resources.

Answers to Checklist Questions

QUESTION A

The project area is located approximately 33 miles northwest of the nearest active fault and is not within an Alquist-Priolo Earthquake Fault Zone. Therefore, the chance of fault rupture within the project area is very low. The probabilistic peak horizontal ground acceleration values for the project area are 0.1g to 0.2g, indicating low potential for groundshaking. Because of the low probability of groundshaking affecting the project area, the possibility of seismic-induced ground failure is remote.

General Plan Goal EC 1.1 and Policies EC 1.1.1 to 1.1.3 would ensure that lives and property are protected from seismic hazards. These policies include regular review and enforcement of seismic and geologic safety standards, and geotechnical investigations to determine potential for hazards such as ground rupture, groundshaking, and liquefaction due to seismic events, as well as expansive soils and subsidence problems on sites where these hazards may be present. This impact is within the scope of the General Plan and was analyzed in the Master EIR. By complying with the General Plan policies and City Code, the proposed project would have a less-than-significant impact on exposing life and property to seismic hazards.

The project site is relatively level, so there would be no impacts related to the possibility of landslides.

Scenario A is not expected to create substantial erosion or loss of topsoil. However, construction activities could disturb soils, leading to erosion. Also, this scenario involves channel realignment of Arcade Creek that would ultimately help to restore fish habitat conditions. Vegetation, erosion control blankets, or riprap will be used to help prevent excessive erosion once the new channel is created. The old channel would be filled and compacted to prevent subsurface instability. Erosion control in the form of hydroseeding will be applied to stabilize for surface erosion. Native plants and trees will be planted for long-term surface and subsurface stabilization.

The Regional Water Quality Control Board (RWQCB) permits all regulated construction activities under the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction Activity for projects with more than 1 acre of ground disturbance. The project's construction activities would be required to comply with the City's Grading, Erosion, and Sediment Control Ordinance. Compliance under this ordinance includes preparation of an erosion and sediment control plan that identifies and implements a variety of best management practices (BMPs) to reduce the potential for erosion or sedimentation.

Impacts related to geology and soils under Scenario B would be similar to Scenario A. Under Scenario B, however, no channel realignment would occur, resulting in fewer impacts relating to erosion. Regardless, impacts for either scenario are considered less than significant with implementation of existing state and city regulations and policies. Therefore, the proposed project would not result in additional significant impacts on parks and open space that were not addressed or considered in the Master EIR.

QUESTION B

Sacramento is not considered highly sensitive for paleontological resources, and there are no known paleontological resources within the project area. However, it is possible that unanticipated and accidental paleontological discoveries will be made during ground-disturbing activities. Such discoveries have the potential to affect significant paleontological resources.

Scenario A, which proposes a shorter bridge structure and requires channel realignment, would have a higher possibility of unearthing a paleontological resource than Scenario B because of the larger area of ground disturbance.

The City interprets General Plan Policy HCR 2.1.15 to also address paleontological resources because paleontological resources are generally considered historical resources, as defined in State CEQA Guidelines Section 15064.5(a)(3)(D). Therefore, Policy HCR 2.1.15 requires the City to develop or ensure compliance with protocols that protect or mitigate impacts on paleontological resources. Compliance with this policy would reduce potential impacts on paleontological resources to less-than-significant levels. Therefore, the proposed project would not result in additional significant impacts on parks and open space that were not addressed or considered in the Master EIR.

Mitigation Measures

None required.

Findings

Construction and operation of the proposed project would not result in new or more substantial significant impacts on geology, soils, and mineral resources, and it would not result in individually limited but collectively significant impacts. Therefore, no further analysis is necessary.

5. HAZARDS AND HAZARDOUS MATERIALS

Impacts due to hazards and/or hazardous materials may be considered significant if construction and/or implementation of the proposed project would result in the following impacts that would remain significant after implementation of General Plan policies or mitigation from the General Plan Master EIR:

	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
A. Expose people (e.g., residents, pedestrians, construction workers) to existing contaminated soil during construction activities	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
B. Expose people (e.g., residents, pedestrians, construction workers) to asbestos-containing materials or other hazardous materials	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
C. Expose people (e.g., residents, pedestrians, construction workers) to existing contaminated groundwater during dewatering activities	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

Most of the information provided in this section is based on the initial site assessment (ISA) for the project (Blackburn Consulting 2008). The project area consists of an existing bridge, roadway, and open shoulder areas. It is bordered by undeveloped land, Arcade Creek, Union Pacific Railroad (UPRR) tracks, and the Haggin Oaks Golf Complex, a part of Del Paso Regional Park. The landscape includes gently rolling terrain with grass, shrubs, large oak trees, and Arcade Creek. A 36-inch sewer line runs through the project area. Along the north end of the project site, the sewer pipe emerges aboveground, crossing Arcade Creek on concrete piers. It is below grade on the south side, where it ties into a nearby manhole.

Blackburn Consulting identified two sites with potential recognized environmental conditions (RECs) near the project area. The first, John Blazona Construction, is located at 2500 Grand Avenue, approximately 0.25 mile north of the project area. This facility maintains underground storage tanks (USTs), one of which had a gasoline leak in 1988. Documentation of the amount of gasoline released and the type of remediation was not provided in the records search. The case was closed in 1988. The second is McClellan Air Force Base (AFB), located 0.5 mile north of the project site. This site has known soil and groundwater contamination associated with historical aircraft operation and maintenance activities.

A database search for the project area was conducted by Environmental Data Resources, Inc., and included a review of federal, state, county, and Environmental Data Resources' proprietary databases. Sites identified near or in the project area included the abovementioned facilities.

The existing Roseville Road Bridge has been extant since at least 1952. Bridges built before 1970 could contain hazardous materials. Although not identified in the ISA, the bridge could contain asbestos-containing construction materials (ACCMs) or lead-based paint (LBP).

The ISA also identified three additional environmental conditions that are within the project area, which are described below.

Union Pacific Railroad

Topographic maps indicate that the UPRR has existed in its current alignment since 1902. Soils within the railroad right-of-way may have been affected by historical railroad operations. Potential contaminants

include locomotive fuel (total petroleum hydrocarbon [TPH] as diesel), railroad ties (polynuclear aromatics), and slag ballast used to set ties (heavy metals).

Yellow Traffic Stripes

Yellow traffic stripes on the existing road surface have the potential to contain lead and chromium at concentrations in excess of the hazardous waste thresholds contained in the California Code of Regulations.

Aerially Deposited Lead

Aerially deposited lead (ADL) has been found to occur in soils adjacent to heavily traveled roads and highways. The presence of lead is presumed from the historical use of leaded gasoline and subsequent exhaust emissions. Roseville Road and Marysville Boulevard, located 1 mile west of Roseville Road, existed in 1902 in their current alignments.

Standards of Significance

For purposes of this initial study, the following impacts related to hazards and hazardous materials from project construction or operation may be considered significant if they are not reduced to a less-than-significant level after implementation of General Plan policies, Master EIR mitigation, or project-specific mitigation:

- Expose people (e.g., residents, pedestrians, construction workers) to existing contaminated soil during construction activities.
- Expose people (e.g., residents, pedestrians, construction workers) to asbestos-containing materials or other hazardous materials.
- Expose people (e.g., residents, pedestrians, construction workers) to existing contaminated groundwater during dewatering activities.

Summary of Analysis under the 2030 General Plan Master EIR

The Master EIR identifies the following impacts related to hazards and hazardous materials from implementation of the General Plan:

- **Impact 6.6-1:** Implementation of the General Plan may result in the exposure of people to hazards and hazardous materials during construction activities.
- **Impact 6.6-2:** Implementation of the General Plan may result in the exposure of people to hazards and hazardous materials during the life of the General Plan.
- **Impact 6.6-3:** Implementation of the 2030 General Plan combined with each airport's ALUCP within and adjacent to the Policy Area may result in the exposure of people to hazards associated with interference with emergency response and airport hazards during the life of the General Plan.

These impacts were determined to be less than significant. The significance conclusions of the proposed project's impacts are discussed below under "Answers to Checklist Questions," and its consistency with the Master EIR's conclusions is summarized under "Findings."

Mitigation Measures from the 2030 General Plan Master EIR that Apply to the Proposed Project

No mitigation measures related to hazards and hazardous materials were identified in the Master EIR.

Answers to Checklist Questions

QUESTION A

As noted above, two RECs are located near the project area. Soil contamination was reported at the John Blazona Construction facility, located approximately 0.25 mile north of the project area. Although documentation of the amount of gasoline released or the type of remediation was not provided in the records search, the case was closed in 1988. McClellan AFB, located approximately 0.5 mile north of the project site, is listed on numerous hazardous materials databases. This site has known soil and groundwater contamination, and its contamination plumes are well documented. There are no indications that contamination at McClellan AFB would affect the project site. Exposure to existing contaminated soil at these two sites is not likely. Therefore, there would be no impact.

Impacts associated with ADL could occur during ground-disturbing construction activities, exposing workers to elevated concentrations of lead. As previously mentioned, Roseville Road and Marysville Boulevard, (located 1 mile west of Roseville Road), existed in 1902 with their current alignments. However, Roseville Road terminates at El Camino Boulevard, while Marysville Boulevard continues south to the city of Sacramento, indicating that Marysville Boulevard was the major north/south roadway in 1902. By the early 1950s, Auburn Boulevard and U.S. 40/U.S. 99 had been constructed 0.5 mile east of Roseville Road. Roseville Road, having major roadways both to the east and west, is not likely to have sustained historically heavy traffic, which would have produced ADL in significant amounts. Therefore, the ISA did not recommend an ADL evaluation. Any impacts associated with exposure to contaminated soil would be less than significant.

Soils within the UPRR right-of-way may have been affected by historic railroad operations. As discussed, potential contaminants include locomotive fuel (TPH as diesel), railroad ties (polynuclear aromatics), and slag ballast used to set ties (heavy metals). Disturbance of these soils during construction or ground-disturbing activities could expose construction workers to contaminants. However, compliance with all applicable rules and regulations, along with implementation of General Plan policies related to hazardous materials, would ensure that construction workers and the general public would not be exposed to any unusual or excessive risks related to contaminated soils during demolition or construction activities.

This impact would be less than significant. Therefore, the proposed project would not result in additional significant impacts related to hazards and hazardous materials that were not addressed or considered in the Master EIR.

QUESTION B

As discussed above, the existing Roseville Road Bridge has been extant since at least 1952. Bridges built before 1970 could contain hazardous materials, including ACCMs and/or LBP.

The project includes replacement of Roseville Road Bridge and segments of the roadway. Exposure to ACCMs or LBP could occur during bridge demolition. Construction workers would be at greatest risk because they would be working directly with the removal equipment within the construction zone. The public would be at less risk because they would be prohibited from entering the work zone.

Yellow traffic markings (consisting of thermoplastic and paint) have the potential to contain hazardous levels of lead chromate. If yellow traffic markings are removed separately from the adjacent pavement during construction of the proposed project and not properly assessed, this could inadvertently expose people to adverse health effects. As the primary exposure pathway, the inhalation of airborne dust released from dried paint, if removed separately from the pavement, could expose receptors to LBP. Construction workers would be at greatest risk because they would be working directly with the removal equipment within the construction zone. The public would be at less risk because they would be prohibited from entering the work zone. However, compliance with all applicable rules and regulations, along with implementation of General Plan policies related to hazardous materials, would ensure that

construction workers and the general public would not be exposed hazardous levels of ADL, LBP, or other hazardous materials during demolition or construction activities.

This impact would be less than significant. Therefore, the proposed project would not result in additional significant impacts related to hazards and hazardous materials that were not addressed or considered in the Master EIR.

QUESTION C

As noted in the ISA, the regional groundwater table in the project vicinity is at a depth of approximately 60 to 90 feet. Most of the Arcade Creek channel is deeply incised to depths ranging from 8 to 15 feet. The lower creek bed may intercept shallow perched groundwater. Shallow perched groundwater is expected to be encountered at a depth of 6 to 7 feet.

The only site identified by the ISA with known groundwater contamination is McClellan AFB, located 0.5 mile north of the project site. Groundwater contamination at this site is associated with historic aircraft operation and maintenance activities. However, contamination plumes were well documented in the 2003 EPA Superfund Record of Decision (ROD) for McClellan AFB. The ROD identifies the off-base groundwater impact area as extending south to Grand Avenue and east to Roseville Road. There are no indications that contamination associated with McClellan AFB would affect the project site.

This impact would be less than significant. Therefore, the proposed project would not result in additional significant impacts related to hazards and hazardous materials that were not addressed or considered in the Master EIR.

Mitigation Measures

None required.

Findings

Construction and operation of the proposed project would not result in new or more substantial significant impacts related to hazards and hazardous materials, and it would not result in individually limited but collectively significant impacts. Therefore, no further analysis is necessary.

6. HYDROLOGY AND WATER QUALITY

Impacts on hydrology and water quality may be considered significant if construction and/or implementation of the proposed project would result in the following impacts that would remain significant after implementation of General Plan policies or mitigation from the General Plan Master EIR:

	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
A. Substantially degrade water quality and violate any water quality objectives set by the State Water Resources Control Board due to increases in sediments and other contaminants generated by construction and/or development of the project	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
B. Substantially increase the exposure of people and/or property to the risk of injury or damage in the event of a 100-year flood	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

The project area is within the Sacramento River watershed and, more specifically, the Arcade Creek watershed. Most of the Arcade Creek watershed is composed of commercial and residential neighborhoods, with the majority of the land use being residential. The Arcade Creek watershed drains an area that covers approximately 38 square miles (24,484 acres) (City of Sacramento 2009c).

The Federal Emergency Management Agency (FEMA) issues Flood Insurance Rate Maps (FIRMs) that delineate flood zones. According to the FIRM for the city of Sacramento, the project area is located in Zone AE and Zone X (Federal Emergency Management Agency 1998). Zone AE is defined as an area within the 100-year floodplain where base flood elevations and flood hazards have been determined. Zone X is defined as an area between the 500-year floodplain and the 100-year floodplain with average depths of less than 1 foot (City of Sacramento 2009c).

The incised nature of Arcade Creek created the present-day condition that results in significant flooding (especially in the downstream reaches, including the project area). At Roseville Road, the channel is constrained by the road structure. Consequently, during some storm events, the elevated flows back up, causing flooding in the golf course to the northeast and the residential area to the southeast. These flooding episodes are associated with large amounts of bank erosion and failure (City of Sacramento 2009c).

Standards of Significance

For purposes of this initial study, the following impacts on hydrology and water quality from project construction or operation may be considered significant if they are not reduced to a less-than-significant level after implementation of General Plan policies, Master EIR mitigation, or project-specific mitigation:

- Substantially degrade water quality and violate any water quality objectives set by the State Water Resources Control Board due to increases in sediments and other contaminants generated by construction and/or development of the project.
- Substantially increase the exposure of people and/or property to the risk of injury or damage in the event of a 100-year flood.

Summary of Analysis under the 2030 General Plan Master EIR

The Master EIR identifies the following impacts on hydrology and water quality from implementation of the General Plan:

- **Impact 6.7-1:** Implementation of the General Plan could result in construction activities that could degrade water quality and violate state water quality objectives by increasing sedimentation and levels of other contaminants in streams and rivers.
- **Impact 6.7-2:** Implementation of the General Plan could generate new sources of polluted runoff that could violate water quality standards.
- **Impact 6.7-3:** Implementation of the General Plan could increase exposure of people and/or property to risk of injury or damage from a localized 100-year flood.
- **Impact 6.7-4:** Implementation of the General Plan could increase exposure of people and/or property to risk of injury or damage from a regional 100-year flood.
- **Impact 6.7-5:** Implementation of the General Plan, in addition to other projects in the watershed, could result in the generation of polluted runoff that could violate water quality standards or waste discharge requirements for receiving waters.
- **Impact 6.7-6:** Implementation of the General Plan, in addition to other projects in the watershed, could result in increased numbers of residents and structures exposed to a localized 100-year flood event.
- **Impact 6.7-7:** Implementation of the General Plan, in addition to other projects in the watershed, could result in increased numbers of residents and structures exposed to a regional 100-year flood event.

It was determined that implementation of the General Plan would result in less-than-significant impacts due to potential degradation of water quality during construction and implementation of individual projects within the City. It was also determined that cumulative impacts related to development would be less than significant. Furthermore, potential impacts due to the exposure of people and property to local and regional 100-year floods were determined to be less than significant. No mitigation was adopted for this issue area.

The proposed project is consistent with the General Plan's assumptions and conclusions regarding hydrology and water quality assumed for the site in the Master EIR. The project does not propose construction methods or operations that would result in a greater level of impact on hydrology and water quality than that previously analyzed. Therefore, it would not result in individually minor but collectively significant project impacts.

As required by Section 15126.2(d) of the State CEQA Guidelines, ways in which a proposed project could foster economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment must be discussed. A discussion of growth inducement is not necessary for the analysis of potential impacts on hydrology and water quality.

Mitigation Measures from the 2030 General Plan Master EIR that Apply to the Proposed Project

The Master EIR identifies the following mitigation measures and policies for hydrology and water quality impacts:

- **Mitigation Measure 6.7-3:** The City shall include the following policy in the Environmental Constraints section of the 2030 General Plan to address localized flooding concerns:

No Net Increase. The City shall require all new development to contribute to no net increase in stormwater runoff peak flows over existing conditions associated with a 100-year storm event.

- **ER 1.1.3 Stormwater Quality.** The City shall control sources of pollutants and improve and maintain urban runoff water quality through stormwater protection measures consistent with the City's NPDES permit.
- **ER 1.1.6 Post-Development Runoff.** The City shall impose requirements to control the volume, frequency, duration, and peak flow rates and velocities of runoff from development projects to prevent or reduce downstream erosion and protect stream habitat.
- **ER 1.1.7 Construction Site Impacts.** The City shall minimize disturbances of natural water bodies and natural drainage systems caused by development, implement measures to protect areas from erosion and sediment loss, and continue to require construction contractors to comply with the City's erosion and sediment control ordinance and stormwater management and discharge control ordinance.

Answers to Checklist Questions

Information provided in this section was taken from the water quality technical study (City of Sacramento 2009c) prepared for the proposed project.

QUESTION A

Under either Scenario A or Scenario B, construction of the bridge footings would disturb relatively small areas of soil; however, realignment of Arcade Creek would disturb approximately 0.7 acre of soil. Construction activities in water channels, such as removing old bridge footings or realigning an existing watercourse, are likely to affect erosion, sedimentation, and water quality. In addition, fuel, oil, grease, solvents, concrete wash, and other chemicals used during construction have the potential to create toxic conditions if allowed to enter a waterway. Construction activities are also a source of various other materials, including trash, soap, and sanitary wastes. The impact of toxic construction-related materials on water quality varies, depending on the duration and time of activities. Because of low precipitation, construction during the dry season is less likely to cause soil and channel erosion and exacerbate toxic runoff into Arcade Creek. However, the project would be required to comply with the City of Sacramento Code, Ordinance 15.88.250, Erosion and Sediment Control. The contractor would employ best management practices (BMPs) approved by the Department of Utilities before, during, and after construction.

Compliance with the provisions of the BMPs would ensure that construction of the proposed project would result in a less-than-significant impact on surface water and would not alter surface water quality. Therefore, after compliance with the abovementioned requirements, impacts on surface water would be less than significant.

Because of the amount of disturbed area associated with the proposed project, as a condition of the NPDES General Construction Permit, the City or its contractor would be required to prepare a Stormwater Prevention Pollution Plan (SWPPP) before implementation of the project. SWPPP objectives include identifying pollutant sources that could affect the quality of stormwater, implementing practices to reduce pollutants in stormwater runoff, and protecting the quality of receiving water.

Scenario A would realign a short segment of channel. A channel diversion or a cofferdam would minimize impacts on water quality. Dewatering of the onshore construction areas near the bridge support footings or shallow-water areas may be required if excavations become inundated by seepage or surface runoff. Fill and culverts, or a cofferdam, may be used to divert the stream around construction during removal of the existing foundations, installation of new foundations, and the creation of the new creek alignment. The diversion could create a direct path to Arcade Creek during construction for sediment, oil and grease, and hazardous materials discharged as part of the construction-related dewatering effluent.

Scenario B would require in-water work related to footing installation similar to that of Scenario A; therefore, the potential for impacts during construction would be similar. However, under either Scenario

A or B, potential water quality impacts would be minimized or eliminated through implementation of the measures stipulated in the SWPPP. As such, no mitigation measure is required.

Both Scenario A and Scenario B would increase the amount of impervious surface by an incremental amount. This increase would generate a small increase in surface runoff during storms. Increases in total runoff volume could accelerate soil erosion and stream channel scour and increase the transport of pollutants to waterways. Because drainage plans have not been completed for the proposed project, the quantity of additional flow is not known. However, the proposed project is not expected to alter existing drainage patterns.

Implementation of the drainage plan would not cause any appreciable change in the direction or routing of stormwater. Furthermore, because the increase in impervious surface would be incremental and slight, the loss of groundwater recharge would be very low. Groundwater levels are not expected to be affected by either Scenario A or Scenario B.

The amount of potential pollutant discharge associated with vehicular traffic is difficult to predict. However, the proposed project would not alter the pattern or volume of traffic. Therefore, no mitigation is required.

These impacts would be less than significant. Therefore, the proposed project would not result in additional significant impacts on hydrology and water quality that were not addressed or considered in the Master EIR.

QUESTION B

As previously discussed, the incised nature of Arcade Creek created the present-day condition that results in significant flooding (especially in the downstream reaches, including the project area). Scenario A would realign the creek channel upstream of the bridge to match the alignment of the proposed bridge, which would be a significantly shorter clear-span bridge. Aligning the creek with the bridge would lower head loss and associated backwater volumes at the bridge, decrease scour, and reduce the 100-year floodplain.

Scenario B would replace the existing bridge. The new bridge would be longer and wider than the original structure but otherwise in the same location.

In conclusion, Scenario A would result in a decrease in upstream water surface elevations. Scenario B would decrease surface water elevations less than Scenario A.

There would be no impact. Therefore, the proposed project would not result in additional significant impacts on hydrology and water quality that were not addressed or considered in the Master EIR.

Mitigation Measures

None required.

Findings

Construction and operation of the proposed project would not result in new or more substantial significant impacts on hydrology or water quality, and it would not result in individually limited but collectively significant impacts. Therefore, no further analysis is necessary.

7. NOISE AND VIBRATION

Impacts due to noise and vibration may be considered significant if construction and/or implementation of the proposed project would result in the following impacts that remain significant after implementation of General Plan policies or mitigation from the General Plan Master EIR:

	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
A. Result in exterior noise levels in the project area that are above the upper value of the normally acceptable category for various land uses due to the project's noise level increases	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
B. Result in residential interior noise levels of 45 dBA L_{dn} or greater caused by noise level increases due to the project	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
C. Result in construction noise levels that exceed the standards in the City of Sacramento Noise Ordinance	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
D. Permit existing and/or planned residential and commercial areas to be exposed to vibration peak particle velocities greater than 0.5 inch per second due to project construction	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
E. Permit adjacent residential and commercial areas to be exposed to vibration peak particle velocities greater than 0.5 inch per second due to highway traffic and rail operations	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
F. Permit historic buildings and archaeological sites to be exposed to vibration peak particle velocities greater than 0.2 inch per second due to project construction and highway traffic	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

Traffic on Roseville Road is the primary source of existing noise in the project area. City of Sacramento Department of Transportation traffic data indicate that the 2007 average daily traffic volume on Roseville Road between Connie Drive (located approximately 0.5 mile southwest of the project site) and Interstate 80 was about 14,791 vehicles (City of Sacramento 2011c).

UPRR tracks are located near the project site, but a reduction in rail activity has resulted in only minimal noise from the railroad. There are plans to increase capacity on the tracks, however, so noise may increase in the future. Light rail tracks are also located near the project site. Two light rail trains pass through the area approximately every 30 minutes between 5 a.m. and 11 p.m., but they contribute only minimal noise to the area around the project site.

The main land uses in the project area are residential (i.e., several well-established neighborhoods), public (i.e., the golf course), and commercial/warehouse (i.e., along Roseville Road southwest and northeast of the project site). New development in the project vicinity is limited to infill. Table 8 summarizes the nearest noise-sensitive receptors to the project site based on Google Earth.

Table 8. Sensitive Receptors in the Project Area

Receptor	Location Relative to Bridge	Approximate Distance to Bridge (feet)
Haggin Oaks Golf Complex	East	80
Single-family residences	Northwest	690
Single-family residence	Southwest	910
Evangel Church of Deliverance	West	1,080

Standards of Significance

For purposes of this initial study, the following impacts due to noise and vibration from project construction or operation may be considered significant if they are not reduced to a less-than-significant level after implementation of General Plan policies, Master EIR mitigation, or project-specific mitigation:

- Result in exterior noise levels in the project area that are above the upper value of the normally acceptable category for various land uses due to the project's noise level increases.
- Result in residential interior noise levels of 45 dBA L_{dn} (A-weighted decibels, day-night average) or greater caused by noise level increases due to the project.
- Result in construction noise levels that exceed the standards in the City of Sacramento Noise Ordinance (City Code, Title 8, Chapter 8.68).
- Permit existing and/or planned residential and commercial areas to be exposed to vibration peak particle velocities greater than 0.5 inch per second due to project construction.
- Permit adjacent residential and commercial areas to be exposed to vibration peak particle velocities greater than 0.5 inch per second due to highway traffic and rail operations.
- Permit historic buildings and archaeological sites to be exposed to vibration peak particle velocities greater than 0.2 inch per second due to project construction and highway traffic.

Summary of Analysis in the 2030 General Plan Master EIR

The Master EIR identifies the following impacts due to noise and vibration from implementation of the General Plan:

- **Impact 6.8-1:** Implementation of the General Plan could result in exterior noise levels in the Policy Area that are above the upper value of the normally acceptable category for various land uses (per Table EC-1) due to an increase in noise levels.
- **Impact 6.8-2:** Implementation of the General Plan would result in residential interior noise levels of L_{dn} 45 dB or greater caused by an increase in noise levels.
- **Impact 6.8-3:** Implementation of the General Plan could result in construction noise levels that exceed the standards in the City of Sacramento Noise Ordinance.
- **Impact 6.8-4:** Implementation of the General Plan could permit existing and/or planned residential and commercial areas to be exposed to vibration peak particle velocities greater than 0.5 inches per second due to project construction.
- **Impact 6.8-5:** Implementation of the General Plan could permit adjacent residential and commercial areas to be exposed to vibration peak particle velocities greater than 0.5 inches per second due to highway traffic and rail operations.

- **Impact 6.8-6:** Implementation of the General Plan could permit historic buildings and archaeological sites to be exposed to vibration peak particle velocities greater than 0.2 inch per second due to project construction, highway traffic, and rail operations.
- **Impact 6.8-7:** Implementation of the General Plan along with other development in the region could result in an increase in interior and exterior noise levels in the Policy Area that are above acceptable levels.
- **Impact 6.8-8:** Implementation of the General Plan could result in cumulative construction noise and vibration levels that exceed the standards in the City of Sacramento Noise Ordinance as well as vibration peak particle velocities greater than 0.5 inch per second.
- **Impact 6.8-9:** Implementation of the General Plan could result in cumulative construction vibration levels that exceed the vibration peak particle velocities greater than 0.5 inch per second.
- **Impact 6.8-10:** Implementation of the General Plan could result in cumulative impacts on adjacent residential and commercial areas exposed to vibration peak particle velocities greater than 0.5 inch per second due to highway traffic and rail operations.

These impacts were determined to be less than significant with mitigation incorporated. The significance conclusions of the proposed project's impacts are discussed below under "Answers to Checklist Questions," and its consistency with the Master EIR's conclusions is summarized under "Findings."

Mitigation Measures from the 2030 General Plan Master EIR That Apply to the Proposed Project

The Master EIR identifies the following mitigation measures and policies for noise and vibration impacts:

- **Mitigation Measure 6.8-4—Interior Vibration Standards:** The City shall require construction projects anticipated to generate a significant amount of vibration to ensure acceptable interior vibration levels at nearby residential and commercial uses based on the current City or FTA (Federal Transit Administration) criteria.
- **Mitigation Measure 6.8-6—Vibration:** The City shall require an assessment of the damage potential of vibration-induced construction activities, highways, and rail lines in close proximity to historic buildings and archeological sites and require all feasible mitigation measures be implemented to ensure no damage would occur.
- **Policy EC 3.1.10—Construction Noise:** The City shall require development projects subject to discretionary approval to assess potential construction noise impacts on nearby sensitive uses and to minimize impacts on these uses, to the extent feasible.

Answers to Checklist Questions

QUESTION A

Implementation of Scenario A or B would not increase roadway capacity or substantially change the roadway alignment. Therefore, operation of the proposed project would not result in changes to exterior noise levels. This impact would be less than significant. Therefore, the proposed project would not result in an additional significant impact that was not addressed or considered in the Master EIR.

QUESTION B

The closest residences to the project site are northwest and southwest of the bridge (Table 8). Operation of the proposed project would not result in changes to noise levels, so would not result in a change in residential interior noise levels. This impact would be less than significant. Therefore, the proposed project would not result in an additional significant impact that was not addressed or considered in the Master EIR.

QUESTION C

During construction of the project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Construction of the project under Method 1 is anticipated to last up to 8 months. Construction under Method 2 is anticipated to last up to 20 months. Construction under both scenarios would involve four phases: demolition, grading, bridge construction (possibly including pile driving—see below), and paving. This evaluation analyzes the grading phase because it would generate the most noise. It is assumed to employ several pieces of noise-generating equipment: an excavator, a grader, a dump truck, and a backhoe.

Construction noise has been evaluated using methods recommended by FTA (2006) and the Federal Highway Administration (Federal Highway Administration 2006). Table 9 summarizes noise levels anticipated to be produced during grading. The equivalent sound level (L_{eq}) is calculated from the maximum noise level (L_{max}) and a typical utilization factor. This factor is the fraction of time that the equipment is assumed to be operating during the construction period. Table 9 also shows the calculated noise levels at the nearest sensitive receptors based on geometric attenuation of 6 dB per doubling of distance and ground effect attenuation (about 1.5 dB per doubling of distance).

Table 9. Construction Noise Levels—Grading Phase

Source Data		L_{max} (dBA)	Utilization Factor	L_{eq} (dBA)
Construction condition = Site leveling				
Source 1: Grader—sound level (dBA) at 50 feet =		85	0.4	81.0
Source 2: Excavator—sound level (dBA) at 50 feet =		85	0.4	81.0
Source 3: Dump truck—sound level (dBA) at 50 feet =		84	0.4	80.0
Source 4: Backhoe—sound level (dBA) at 50 feet =		80	0.4	76.0
Average height of sources (H_s) in feet = 10				
Average height of receiver (H_r) in feet = 5				
Ground type (soft or hard) = Soft				
Calculated Data				
All sources combined— L_{max} (dBA) at 50 feet = 90				
All sources combined— L_{eq} (dBA) at 50 feet = 86				
Effective height ($H_s + H_r$)/2 = 7.5				
Ground factor (G) = 0.62				
Distance from Source to Receiver (feet)	Geometric Attenuation (dB)	Ground Effect Attenuation (dB)	L_{max} (dBA)	L_{eq} (dBA)
50	0	0	90	86
80	-4	-1	85	81
690	-23	-7	60	56
910	-25	-8	57	53
1,080	-27	-8	55	51
Notes: Calculations based on Federal Transit Administration 2006. This calculation does not include the effects, if any, of local shielding from walls, topography, or other barriers that may reduce sound levels further.				

Construction of either scenario may involve pile driving during bridge construction. Pile driving would last for approximately 1 week under Scenario A and 3 weeks under Scenario B. Table 10 summarizes the noise levels that would be produced by pile driving. L_{max} from a pile driver is about 95 dBA, and L_{eq} is about 88 dBA at 50 feet. Table 10 also shows the calculated noise levels at the nearest sensitive receptors.

Table 10. Pile Driving Noise Levels—Pile Driving

Source Data		L_{max} (dBA)	Utilization Factor	L_{eq} (dBA)
Construction condition: Site leveling				
Source 1: Pile driver—sound level (dBA) at 50 feet =		95	0.2	88.0
Average height of sources (H_s) in feet = 10				
Average height of receiver (H_r) in feet = 5				
Ground type (soft or hard) = Soft				
Calculated Data				
All sources combined - L_{max} sound level (dBA) at 50 feet = 95				
All sources combined - L_{eq} sound level (dBA) at 50 feet = 88				
Effective height ($H_s + H_r$)/2 = 7.5				
Ground factor (G) = 0.62				
Distance from Source to Receiver (feet)	Geometric Attenuation (dB)	Ground Effect Attenuation (dB)	L_{max} (dBA)	L_{eq} (dBA)
50	0	0	95	88
80	-4	-1	90	83
690	-23	-7	65	58
1,080	-27	-8	60	53
Notes: Calculations based on Federal Transit Administration 2006. This calculation does not include the effects, if any, of local shielding from walls, topography, or other barriers that may reduce sound levels further.				

L_{max} limits in the City of Sacramento Noise Ordinance were used as a threshold for assessing the severity of impacts of the construction noise levels. Construction activity that occurs outside the exempt hours of the day (7 a.m. to 6 p.m. from Monday through Saturday, and 9 a.m. to 6 p.m. on Sunday) could result in noise that exceeds the 50-dBA daytime standard or 45-dBA nighttime standard. The contractor would be required to comply with the noise ordinance during construction activities. Construction noise is exempt as long as there is compliance with the noise code requirements pursuant to the City Code Section 8.68.080. However, if construction activities generate noise in violation of the timeframes described above, the contractor will be required to obtain the proper variances as outlined in Sections 8.68.250 and 8.68.260. The project would include construction methods, structure designs, and operational methods that would reduce the potential noise and vibration impacts to less-than-significant project levels.

Construction noise would last a shorter time under Scenario A than Scenario B. Similarly, Method 1 would result in less construction noise than Method 2.

This impact would be less than significant. Therefore, the proposed project would not result in an additional significant impact that was not addressed or considered in the Master EIR.

QUESTION D

Table 11 shows typical vibration levels expressed in terms of peak particle velocity for various types of construction equipment. Impact pile driving would create the most ground vibration. The data indicate that pile driving and other construction equipment would result in peak particle velocity of less than 0.5 inch per second beyond about 55 feet.

Table 11. Typical Vibration Generated by Construction Equipment

Equipment	Peak Particle Velocity at:			
	25 feet	50 feet	75 feet	100 feet
Pile driver (impact)	1.518	0.5367	0.2921	0.1898
Pile drive (sonic)	0.734	0.2595	0.1413	0.0918
Vibratory roller	0.210	0.0742	0.0404	0.0263
Hoe ram	0.089	0.0315	0.0171	0.0111
Large bulldozer	0.089	0.0315	0.0171	0.0111
Caisson drilling	0.089	0.0315	0.0171	0.0111
Loaded truck	0.076	0.0269	0.0146	0.0095
Jackhammer	0.035	0.0124	0.0067	0.0044
Small bulldozer	0.003	0.0011	0.0006	0.0004
Source: Federal Transit Administration 2006.				

Accordingly, it is not anticipated that existing and/or planned residential or commercial uses would be exposed to vibration peak particle velocities greater than 0.5 inch per second from construction.

This impact would be less than significant. Therefore, the proposed project would not result in an additional significant impact that was not addressed or considered in the Master EIR.

QUESTION E

The proposed project will not change the location of highway traffic or rail operations, and it will not change the vibration generated by these sources. This impact would be less than significant. Therefore, the proposed project would not result in an additional significant impact that was not addressed or considered in the Master EIR.

QUESTION F

Based on the analysis in the cultural resource section, there are no historic buildings in the project vicinity. Also, mechanical test excavations were conducted to identify potentially buried archaeological sites, but none was located. Therefore, no known historic buildings or archaeological sites in the project vicinity would be exposed to vibration peak particle velocities greater than 0.2 inch per second. This impact would be less than significant. Therefore, the proposed project would not result in an additional significant impact that was not addressed or considered in the Master EIR.

Mitigation Measures

None required.

Findings

Construction and operation of the proposed project would result in no additional significant impacts from noise and vibration, and it would not result in individually limited but collectively significant impacts. Therefore, no further analysis is necessary.

8. PARKS AND OPEN SPACE

Impacts to parks and open space may be considered significant if construction and/or implementation of the proposed project would result in the following impacts that remain significant after implementation of General Plan policies or mitigation from the General Plan Master EIR:

	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
A. Result in increased use of existing parks or recreational facilities such that substantial physical deterioration of these facilities could occur	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
B. Create a need for construction or expansion of recreational facilities beyond what was anticipated in the 2030 General Plan	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

The City of Sacramento Department of Parks and Recreation maintains more than 2,000 acres of developed parkland. It manages more than 210 parks; 81 miles of on- and off-road bikeways and trails; 17 lakes, ponds, or beaches; more than 20 aquatic facilities; and 18 community centers. It also provides park and recreation services at City-owned facilities. The Roseville Road Bridge over Arcade Creek is located along a two-lane segment of Roseville Road. Del Paso Regional Park, a part of which is the Haggin Oaks Golf Complex, a public golf course, is located immediately adjacent to the bridge.

Standards of Significance

For purposes of this initial study, the following impacts on parks and open space from project construction or operation may be considered significant if they are not reduced to a less-than-significant level after implementation of General Plan policies, Master EIR mitigation, or project-specific mitigation:

- Result in increased use of existing parks or recreational facilities such that substantial physical deterioration of these facilities could occur.
- Create a need for construction or expansion of recreational facilities beyond what was anticipated in the 2030 General Plan.

Summary of Analysis in the 2030 General Plan Master EIR

The Master EIR identifies the following impacts on parks and open space from implementation of the General Plan:

- **Impact 6.9-1:** Implementation of the General Plan could result in increased use of existing parks or recreational facilities such that substantial physical deterioration of these facilities could occur.
- **Impact 6.9-2:** Implementation of the General Plan could create a need for construction or expansion of recreational facilities beyond what was anticipated in the General and/or Community Plans.

These impacts were determined to be less than significant. The significance conclusions of the proposed project's impacts are discussed below under "Answers to Checklist Questions," and its consistency with the Master EIR's conclusions is summarized under "Findings."

Mitigation Measures from the 2030 General Plan Master EIR That Apply to the Proposed Project

No mitigation measures for parks and open space were identified in the Master EIR.

Answers to Checklist Questions**QUESTIONS A AND B**

The Haggin Oaks Golf Complex and the 14th-hole tee boxes are located immediately adjacent to the project site. During construction, under either scenario, a temporary easement would be obtained from Haggin Oaks for access and construction staging. The temporary easement area would avoid cart paths, golf tees, and other areas of active play on the course so that full use of the course could continue during construction. Temporary fencing would be installed to clearly separate areas of active play from construction activities. To further reduce disturbance to golfers, the golf course tournament schedule would be obtained once it is available in the spring the year of construction and used to identify dates that construction activity on golf course property would be prohibited. Construction on Roseville Road would not be restricted by tournament dates. Temporary irrigation systems would be installed before disturbance of any landscaping or existing irrigation systems to prevent deterioration of undisturbed landscaped areas. The construction contractor would be required to repair any damage to the golf course (e.g., to landscaping, irrigation systems, and cart paths).

Because the golf course would remain open during construction and any damage would be repaired, the proposed project would not result in increased use or substantial deterioration of other golf courses. Also, because the proposed project does not include construction of new homes, it would not result in increased use or substantial deterioration of existing parks and recreational facilities.

These impacts would be less than significant. Therefore, the proposed project would not result in additional significant impacts on parks and open space that were not addressed or considered in the Master EIR.

Mitigation Measures

None required.

Findings

Construction and operation of the proposed project would not result in new or more substantial significant impacts on parks and open space, and it would not result in individually limited but collectively significant impacts. Therefore, no further analysis is necessary.

9. PUBLIC SERVICES

Impacts to public services may be considered significant if construction and/or implementation of the proposed project would result in the following impacts that remain significant after implementation of General Plan policies or mitigation from the General Plan Master EIR.

	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
A. Require or result in the construction of new, or the expansion of existing, facilities related to the provision of police and fire protection and schools	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

The project site is located along a two-lane segment of Roseville Road paralleled on the west by the UPRR tracks and on the east by the Haggin Oaks Golf Complex, a part of Del Paso Regional Park in the City of Sacramento park system. Basic public services (e.g., fire and police protection) are provided by the City of Sacramento Fire and Police Departments. The project site is located in the Twin Rivers Unified School District.

Standards of Significance

For purposes of this initial study, the following impacts on public services from project construction or operation may be considered significant if they are not reduced to a less-than-significant level after implementation of General Plan policies, Master EIR mitigation, or project-specific mitigation:

- Require or result in the construction of new, or the expansion of existing, facilities related to the provision of police and fire protection and schools.

Summary of Analysis in the 2030 General Plan Master EIR

The Master EIR identifies the following impacts on public services from implementation of the General Plan:

- Impact 6.10-1:** Implementation of the General Plan could result in the construction of new, or the expansion of existing, facilities related to the provision of police protection.
- Impact 6.10-2:** Implementation of the General Plan could result in the construction of new, or the expansion of existing, facilities related to the provision of fire protection.
- Impact 6.10-3:** Implementation of the General Plan would generate additional elementary, middle, and high school students in the Policy Area.
- Impact 6.10-4:** Implementation of the General Plan would generate additional higher education students in the Policy Area.
- Impact 6.10-5:** Implementation of the General Plan combined with other development within the seven school districts that extend outside the Policy Area would generate additional elementary, middle, and high school students.
- Impact 6.10-6:** Implementation of the General Plan combined with other development outside of the Policy Area would generate additional higher education students.
- Impact 6.10-7:** Implementation of the General Plan could result in the construction of new, or the expansion of existing, facilities related to the provision of library services.

- **Impact 6.10-8:** Implementation of the General Plan combined with other development within the Sacramento Public Library Authority service area could result in the construction of new, or the expansion of existing, facilities related to the provision of library services.
- **Impact 6.10-9:** Implementation of the General Plan could result in the construction of new, or the expansion of existing, emergency response facilities related to the provision of emergency services.
- **Impact 6.10-10:** Implementation of the General Plan combined with other development served by emergency services in the region could result in the construction of new, or the expansion of existing, emergency response facilities related to the provision of emergency services.

These impacts were determined to be less than significant. The significance conclusions of the proposed project's impacts are discussed below under "Answers to Checklist Questions," and its consistency with the Master EIR's conclusions is summarized under "Findings."

Mitigation Measures from the 2030 General Plan Master EIR That Apply to the Proposed Project

No mitigation measures for public services were identified in the Master EIR.

Answers to Checklist Questions

QUESTION A

The proposed project involves bridge replacement and roadway improvements immediately adjacent to the bridge. It does not involve changes in or expansion of land uses, and does not include a residential component. The proposed project would not require police or fire protection service when in operation, and no new facilities are necessary to serve the project. Because the project does not include a residential component, the capacity of existing or planned schools would not be affected.

This impact would be less than significant. Therefore, the proposed project would not result in an additional significant impact that was not addressed or considered in the Master EIR.

Mitigation Measures

None required.

Findings

Construction and operation of the proposed project would result in no additional significant impacts on public services, and it would not result in individually limited but collectively significant impacts. Therefore, no further analysis is necessary.

10. PUBLIC UTILITIES

Impacts to public utilities may be considered significant if construction and/or implementation of the proposed project would result in the following impacts that remain significant after implementation of General Plan policies or mitigation from the General Plan Master EIR:

	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
A. Result in the determination that adequate capacity is not available to serve the project's demand in addition to existing commitments	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
B. Require or result in either the construction of new utilities or the expansion of existing utilities, the construction of which could cause significant environmental impacts	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

Utilities within the project limits include natural gas, electricity, storm drainage, water, sewer, and telecommunications service. Natural gas is provided by Pacific Gas and Electric Company (PG&E) and electricity by Sacramento Municipal Utility District (SMUD). The City of Sacramento provides storm drainage, municipal water service, and wastewater collection (sewer) within the project area. Telecommunications service in Sacramento is offered by multiple providers, including AT&T, Sprint, Comcast, SureWest, and Integra Telecom.

Solid waste collection is handled by the City and permitted private haulers, although the City collects all residential solid waste. Construction and demolition waste and commercial waste that is collected by the City's fleet or private companies is disposed of at a variety of facilities, including the Sacramento County Kiefer Landfill, Yolo County Central Landfill, Forward Landfill in Manteca, and L & D Landfill in Sacramento. Private haulers can deliver waste to the landfill of their choice and base the decision on market conditions and capacity (City of Sacramento 2009a).

Standards of Significance

For purposes of this initial study, the following impacts on public utilities from project construction or operation may be considered significant if they are not reduced to a less-than-significant level after implementation of General Plan policies, Master EIR mitigation, or project-specific mitigation:

- Result in the determination that adequate capacity is not available to serve the project's demand in addition to existing commitments.
- Require or result in either the construction of new utilities or expansion of existing utilities, the construction of which could cause significant environmental impacts.

Summary of Analysis in the 2030 General Plan Master EIR

The Master EIR identifies the following impacts on parks and open space from implementation of the General Plan:

- **Impact 6.11-1:** Implementation of the General Plan would increase demand for potable water.
- **Impact 6.11-2:** Implementation of the General Plan would result in an increase in demand for potable water in excess of the City's existing diversion and treatment capacity, and could require the construction of new water supply facilities.

- **Impact 6.11-3:** Implementation of the General Plan would generate additional wastewater and stormwater that could require the expansion of existing conveyance and treatment facilities.
- **Impact 6.11-4:** Implementation of the General Plan would require the need for expansion of wastewater treatment facilities, which could cause significant environmental effects.
- **Impact 6.11-5:** Implementation of the General Plan, in combination with future development in the SRCSD (Sacramento Regional County Sanitation District) Service Area, would require expansion of wastewater conveyance and treatment capacity to serve the project's sewer needs in addition to existing commitments.
- **Impact 6.11-6:** Implementation of the General Plan, in combination with future development in the lower Sacramento River watershed, would increase the demand for storm drainage infrastructure.
- **Impact 6.11-7:** Implementation of the General Plan could result in the construction of new solid waste facilities or expansion of existing facilities.
- **Impact 6.11-8:** Implementation of the General Plan, along with other future development in the SRCSWA (Sacramento Regional County Solid Waste Authority) service area could result in the need for construction of new solid waste facilities or expansion of existing facilities.
- **Impact 6.11-9:** Implementation of the General Plan would not require or result in the construction of new energy production or transmission facilities.
- **Impact 6.11-10:** Implementation of the City of Sacramento 2030 General Plan combined with other development within the areas serviced by SMUD and PG&E would result in permanent and continued use of electricity and natural gas resources.
- **Impact 6.11-11:** Implementation of the 2030 General Plan could require the construction of new or expansion of existing telecommunication facilities.
- **Impact 6.11-12:** Implementation of the City of Sacramento 2030 General Plan would result in permanent and continued need for telecommunication services.

Implementation of the General Plan was determined to result in less-than-significant impacts, at the project and cumulative levels, on facilities for solid waste, energy, and telecommunications. The increased demand for potable water was determined to exceed the City's existing diversion and treatment capacity, and therefore could require construction of new water supply facilities. This impact was determined to be significant and unavoidable. Similarly, the increased demand for wastewater treatment would require new treatment facilities, construction of which would result in a significant and unavoidable impact. Also, the cumulative impacts related to water treatment and wastewater treatment were determined to be significant and unavoidable. The City Council adopted a statement of overriding considerations for these impacts. The significance conclusions of the proposed project's impacts are discussed below under "Answers to Checklist Questions," and its consistency with the Master EIR's conclusions is summarized under "Findings."

Mitigation Measures from the 2030 General Plan Master EIR That Apply to the Proposed Project

No mitigation measures for public utilities were identified in the 2030 General Plan Master EIR that apply to the proposed project.

Answers to Checklist Questions

QUESTIONS A AND B

The proposed project (Scenario A and B) is consistent with the General Plan land use designations and zoning for the project site and would not create a demand for new utility facilities during construction or operation. During construction, the project would generate solid waste as a result of demolition of the old

bridge and roadway, and removal of the debris. Construction and demolition waste would be disposed at one of several facilities, including the Sacramento County Kiefer Landfill, Yolo County Central Landfill, Forward Landfill, and L & D Landfill, based on market conditions and capacity.

Although no new utilities would be installed as part of the project, relocation of utilities at the project site is anticipated. A sewer pipeline east of the existing bridge, overhead power and telephone lines paralleling the west side of the bridge, and other utilities possibly located along the UPRR maintenance road between the tracks and Roseville Road may need to be relocated before construction of the project. Meetings will be held with the utility companies to ensure that they have adequate time to design and construct their relocations before the start of construction so they can avoid or minimize any potential service disruptions. Relocation of these systems would not result in construction of new utilities or expansion of existing utilities.

These impacts would be less than significant. Therefore, the proposed project would not result in additional significant impacts on public utilities that were not addressed or considered in the Master EIR.

Mitigation Measures

None required.

Findings

Construction and operation of the proposed project would not result in new or more substantial significant impacts on public utilities, and it would not result in individually limited but collectively significant impacts. Therefore, no further analysis is necessary.

11. TRANSPORTATION AND CIRCULATION

Impacts resulting from traffic generated by the project or changes in circulation are considered significant if construction and/or implementation of the proposed project would result in the following impacts that remain significant after implementation of General Plan policies or mitigation from the General Plan Master EIR:

	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
A. Roadway segments: Degrade peak period level of service (LOS) from A, B, C, or D (without the project) to E or F (with project), <u>or</u> the LOS (without project) is E or F and project-generated traffic increases the volume-to-capacity ratio (V/C ratio) by 0.02 or more	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B. Intersections: Degrade peak period LOS from A, B, C, or D (without project) to E or F (with project), <u>or</u> the LOS (without project) is E or F and project-generated traffic increases the peak period average vehicle delay by 5 seconds or more	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C. Freeway facilities: Off-ramps with vehicle queues that extend into the ramp's deceleration area or onto the freeway; project traffic increases that cause any ramp's merge/diverge LOS to be worse than the freeway's LOS; project traffic increases that cause the freeway LOS to deteriorate beyond the LOS threshold defined in the Caltrans route concept report for the facility; or the expected ramp queue is greater than the storage capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
D. Transit: Adversely affect public transit operations or fail to adequately provide for access to public	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
E. Bicycle facilities: Adversely affect bicycle travel or bicycle paths, or fail to adequately provide for access by bicycle	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
F. Pedestrian: Adversely affect pedestrian travel or pedestrian paths, or fail to adequately provide for access by pedestrians	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

The Roseville Road Bridge over Arcade Creek is located along a two-lane segment of Roseville Road that is paralleled on the west by UPRR tracks and on the east by the Haggin Oaks Golf Complex. The bridge is approximately 0.5 mile north of Connie Drive and 0.33 mile west of Business 80. Roseville Road is a minor arterial with an average operating speed of 55 miles per hour (mph) in the project vicinity. The roadway and bridge have one traffic lane in each direction.

Standards of Significance

For purposes of this initial study, the following impacts on transportation and circulation from project construction or operation may be considered significant if they are not reduced to a less-than-significant level after implementation of General Plan policies, Master EIR mitigation, or project-specific mitigation:

City of Sacramento Roadways

- Generate traffic that degrades peak period LOS from acceptable LOS (without project) to unacceptable LOS (with project).
- Generate traffic increases the V/C ratio by 0.02 or more, if the LOS (without project) is unacceptable.

Freeways

Interstates 5 and 80

- Cause the freeway segment to change from LOS A, B, C, D, or E under the 2030 No-Build (No-Project) Scenario to LOS F.
- Add one trip to a freeway segment already operating worse than LOS E under the 2030 No-Build (No-Project) Scenario.

U.S. Highway 50, Business 80, and State Route 99

- Add one trip to a freeway segment already operating worse than LOS F under the 2030 No-Build (No-Project) Scenario.

Transit

- Change the project-generated ridership, when added to the existing or future ridership, so that it exceeds existing and/or planned system capacity that adversely affects transit system operations or facilities in a way that discourages ridership (e.g., removes shelter, system of buses and light rail vehicles can carry during the peak hours of operation).

Bicycles

- Eliminate or adversely affect an existing bikeway facility in a way that discourages bicycle uses; interferes with implementation of a proposed bikeway; or results in unsafe conditions for bicyclists, including bicycle/pedestrian or bicycle/motor vehicle conflicts.

Pedestrian Facilities

- Adversely affect an existing pedestrian facility or result in unsafe conditions for pedestrians, including pedestrian/bicycle or pedestrian/motor vehicle conflicts.

Parking

- Exceed the available or planned parking supply for typical day conditions, unless the project is consistent with the parking requirements stipulated in the City Code.

Summary of Analysis in the 2030 General Plan Master EIR

The Master EIR identifies the following impacts on transportation and circulation from implementation of the General Plan:

- **Impact 6.12-1:** Implementation of the General Plan could result in roadway segments located within the Policy Area that do not meet the City's current LOS C standard or the proposed LOS D–E goal.
- **Impact 6.12-2:** Implementation of the General Plan could result in roadway segments located in adjacent jurisdictions that do not meet the jurisdiction's minimum acceptable level of service threshold.
- **Impact 6.12-3:** Implementation of the General Plan could result in freeway segments that do not meet the **jurisdiction's** minimum acceptable level of service threshold.
- **Impact 6.12-4:** Implementation of the General Plan could adversely affect transit facilities.
- **Impact 6.12-5:** Implementation of the General Plan could result in an impact on pedestrian facilities.
- **Impact 6.12-6:** Implementation of the General Plan would adversely affect bicycle facilities.
- **Impact 6.12-7:** Implementation of the General Plan could adversely affect parking facilities.
- **Impact 6.12-8:** Implementation of the General Plan could result in a cumulative increase in traffic that would adversely impact the existing LOS for city roadways.
- **Impact 6.12-9:** Implementation of the General Plan could result in a cumulative increase in traffic on roadway segments located in adjacent jurisdictions that do not meet the jurisdiction's minimum acceptable level of service threshold.
- **Impact 6.12-10:** Implementation of the proposed 2030 General Plan could result in a cumulative increase in traffic that could exceed the LOS along some freeway segments.
- **Impact 6.12-11:** Implementation of the proposed 2030 General Plan under cumulative conditions could adversely affect transit facilities.

The Master EIR concluded that the general plan development would result in significant and unavoidable effects—Impacts 6.12-1 and 6.12-8 (roadway segments in the city), Impacts 6.12-2 and 6.12-9 (roadway segments in neighboring jurisdictions), and Impacts 6.12-3 and 6.12-10 (freeway segments). The significance conclusions of the proposed project's impacts are discussed below under “Answers to Checklist Questions,” and its consistency with the Master EIR's conclusions is summarized under “Findings.”

Mitigation Measures from the 2030 General Plan Master EIR That Apply to the Proposed Project

None of the mitigation measures for transportation and circulation impacts in the Master EIR applies to the proposed project.

Answers to Checklist Questions

QUESTIONS A–C

Temporary Impacts

Construction of the proposed project (Scenario A or B) would be accomplished using one of two bridge demolition and construction methods. Each method would result in temporary changes in traffic patterns that could temporarily worsen traffic conditions in the vicinity of the project.

Method 1 would close Roseville Road to all traffic during bridge demolition and replacement, requiring a detour between Connie Drive and the Watt Avenue Regional Transit Metro Station entrance for 4 to 5 months. Vehicles traveling southbound (toward Sacramento) on Roseville Road would be redirected to westbound Interstate 80 or westbound Business 80 as alternate routes to destinations west of the project

site. Traffic diverting to Business 80 to avoid the temporary closure may enter at either the Watt Avenue or Marconi Avenue interchange.

The westbound Watt Avenue on-ramps to I-80 and Business 80 would experience a temporary increase in traffic volumes, as would the westbound I-80 on-ramps from Raley Boulevard, Madison Avenue, and Elkhorn Boulevard. I-80 would experience a temporary increase in traffic because it is evenly distributed from these on ramps. Business 80 would experience a temporary increase in mainline traffic from Watt Avenue to Marconi Avenue.

Method 2 would remove half of the existing bridge, leaving the other half (one lane) open to traffic. The first half of the new bridge would include the northbound lane, a shoulder/bike lane, and a sidewalk. Once the first stage is completed, traffic would be shifted to the new bridge, allowing the remainder of the existing bridge to be removed and remainder of the new bridge to be constructed. This method would close one lane of traffic on Roseville Road over an approximately 1.5-year period. Traffic management would include temporary traffic signals at the northern and southern limits of the project site to provide directional traffic control matched to commute patterns.

Traffic disruptions under either method would be temporary and implemented for only the minimum amount of time required to demolish the old bridge and construct the new one, but this impact would be considered significant. Mitigation Measure 3.11-1, described below, would reduce this impact to a less-than-significant level. Therefore, the proposed project would not result in an additional significant impact on transportation and circulation that was not addressed or considered in the Master EIR.

Permanent Impacts

Because the project would not change the number of travel lanes or adjacent land uses, it would not result in a permanent impact on LOS or peak hour traffic volumes on local roadways or intersections. For the same reasons, it would not affect ramp queue lengths for local freeways. There would be no impact. Therefore, the proposed project would not result in an additional significant impact on transportation and circulation that was not addressed or considered in the Master EIR.

QUESTION D

No transit systems are currently operated on Roseville Road in the vicinity of the proposed project. Transit ridership, transit shelters, and transit routes would not be affected during construction or operation. There would be no impact. Therefore, the proposed project would not result in an additional significant impact on transportation and circulation that was not addressed or considered in the Master EIR.

QUESTIONS E AND F

The Roseville Road Bridge over Arcade Creek does not accommodate bicycle or pedestrian use, nor does Roseville Road on either side of the bridge. The existing bridge lacks roadside shoulders and does not have adequate width to accommodate bicycle use, and there are no bicycle paths in the project vicinity. Replacement of the bridge under Scenario A or B would provide accommodations for bicycle and pedestrian use in the future. No impacts on bicycle travel or pedestrians would result from the proposed project. Therefore, the proposed project would not result in additional significant impacts on transportation and circulation that were not addressed or considered in the Master EIR.

Mitigation Measures

Mitigation Measure 3.11-1: Prepare and Implement Traffic Management Plan

The City will mitigate the proposed project's temporary construction-related impacts by requiring their contractors to develop and implement a traffic management plan throughout project construction. The plan will:

- Contain a plan for communicating with emergency service providers, and an access and circulation plan for use by emergency vehicles when lane closures or detours are in effect.
- Specify that the contractor will provide advance notice to local fire and police departments to ensure that alternative evacuation and emergency routes are designated to maintain response times during lane or road closures.
- Contain a plan for communicating to the public the locations and routes of detours.
- Require that access to driveways and private roads be maintained at all times.
- Restrict delivery of construction materials to between 9 a.m. and 3 p.m. to avoid more congested morning and evening hours.
- Specify that a sign be posted at all active construction areas that gives the name and telephone number or email address of the City staff person and contractor personnel designated to receive complaints regarding construction traffic.

The provisions of the traffic management plan will be incorporated into the terms and specifications of the contracts for construction of the proposed project and will implemented during the entire construction period.

Findings

Construction and operation of the proposed project would not result in new or more substantial significant impacts relating to transportation and circulation, and it would not result in individually limited but collectively significant impacts. Therefore, no further analysis is necessary.

12. URBAN DESIGN AND VISUAL RESOURCES

Impacts on urban design or visual resources may be considered significant if construction and/or implementation of the proposed project would result in the following impacts that would remain significant after implementation of General Plan policies or mitigation from the General Plan Master EIR:

	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
A. Create a source of glare that would cause a public hazard or annoyance	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
B. Create a new source of light that would be cast onto oncoming traffic or residential uses	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

The project area is characterized primarily by the recreational open space provided by the Haggin Oaks Golf Complex (golf course) to the east (part of Del Paso Regional Park); a transportation corridor, which includes Roseville Road, the UPRR, and the Sacramento Regional Transit Light Rail Blue Line (light rail); and residential development adjacent to the transportation corridor rights-of-way. Roseville Road is at grade and transects the project vicinity with a northeast/southwest alignment.

There is commercial/warehouse development along Roseville Road, both northeast and southwest of the project site. In addition, I-80 and the light rail cross over Roseville Road to the north and include substantial structural elements. Land uses include residential, public, and commercial/warehouse. Development in the project vicinity is limited to in-fill development because the area consists of well-established neighborhoods, existing transportation facilities, and the golf course.

Arcade Creek runs through the project area and is crossed by Roseville Road Bridge. The creek corridor is characterized by both a dense mix of natural riparian and ruderal vegetation and some areas, smaller in size, with open channel conditions. The urban forest in the project vicinity includes remnant native oaks that have been preserved, ornamental and native trees in private yards and on the golf course, and planted and naturally colonized trees between Roseville Road and the golf course.

Standards of Significance

For purposes of this initial study, the following impacts on urban design and visual resources from project construction or operation may be considered significant if they are not reduced to a less-than-significant level after implementation of General Plan policies, Master EIR mitigation, or project-specific mitigation:

- **Glare.** Glare is considered to be significant if it would be cast in such a way as to cause a public hazard or annoyance for a sustained period of time.
- **Light.** Light is considered significant if it would be cast onto oncoming traffic or residential uses.

Summary of Analysis in the 2030 General Plan Master EIR

The Master EIR identifies the following impacts on urban design and visual resources from implementation of the General Plan:

- **Impact 6.13-1:** Implementation of the General Plan could cast glare in such a way as to cause a public hazard or annoyance for a sustained period of time. Implement Mitigation Measure 6.13-1.

- **Impact 6.13-2:** Implementation of the General Plan could cast light onto oncoming traffic or residential uses.
- **Impact 6.13-3:** Implementation of the General Plan, in combination with other projects in the County and West Sacramento, could cast glare in such a way as to cause a public hazard or annoyance for a sustained period of time. Implement Mitigation Measure 6.13-1.
- **Impact 6.13-4:** Implementation of the General Plan, in combination with other projects in the County and West Sacramento, could cast light onto oncoming traffic or residential uses.

The proposed project is consistent with the Master EIR's assumptions and conclusions regarding light and glare for the project site. The project would not result in greater light or glare than that previously analyzed in the Master EIR. Therefore, it would not result in individually minor but collectively significant project impacts.

As required by Section 15126.2(d) of the State CEQA Guidelines, ways in which a proposed project could foster economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment must be discussed. Aesthetics does not foster economic or population growth and is therefore not related to growth-inducing impacts.

Mitigation Measures from the 2030 General Plan Master EIR that Apply to the Project

The following General Plan policy was used to mitigate effects on urban design and visual resources identified in the Master EIR and applies to the proposed project:

- **ER 7.1.5 Lighting.** The City shall minimize obtrusive light by limiting outdoor lighting that is misdirected, excessive, or unnecessary.

Answers to Checklist Questions

Information provided in this section was taken from the Visual Impact Assessment (City of Sacramento 2011d) prepared for the proposed project.

QUESTION A

Residential development would not be affected visually by the proposed project. The elevated UPPR and light rail tracks, combined with fencing, effectively obstruct ground-level views of the at-grade Roseville Road. In addition, because the creek realignment would occur on the golf course side of Roseville Road, most tree removal would occur east of the roadway and not be visible to residences.

The new bridge would have a widened bridge surface, but this widening would not be substantial enough to create a new source of reflective daytime or nighttime glare. Project implementation under both scenarios would require that existing vegetation be removed along the entire length of the roadway within the project area, thereby increasing the effects of glare and reducing the available shade for roadway surfaces. Because it does not include realignment of the creek channel, Scenario B would require much less vegetation to be removed than Scenario A, resulting in less of a change with respect to glare. Furthermore, the project would not include the construction of structures that could reflect or concentrate sunlight, thereby increasing glare.

These impacts would be less than significant. Therefore, the proposed project would not result in additional significant impacts on urban design or visual resources that were not addressed or considered in the Master EIR.

QUESTION B

Construction and traffic management under Method 2 would require the use of temporary traffic signals at the northern and southern limits of the project site for approximately 1.5 years. The temporary traffic signals would generate light, including at night. However, traffic lights are not sources of bright light and would not constitute a hazard or annoyance to drivers. This impact would be temporary and less than significant.

No permanent lighting would be installed to illuminate the roadway. However, if the contractor chooses to work at night, temporary lighting would be used. In compliance with General Plan policy ER 7.1.5, lights used during nighttime construction would be shielded and focused by hoods and other implements to minimize light spill and glare outside the work area.

These impacts would be less than significant. Therefore, the proposed project would not result in additional significant impacts on urban design or visual resources that were not addressed or considered in the Master EIR.

Mitigation Measures

None required.

Findings

Construction and operation of the proposed project would not result in new or more substantial significant impacts related to urban design or visual resources, and it would not result in individually limited but collectively significant impacts. Therefore, no further analysis is necessary.

13. MANDATORY FINDINGS OF SIGNIFICANCE	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
A. 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
C. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
A. As discussed in this study, the proposed project could result in impacts on biological resources, and potential impacts on cultural resources. Construction of the bridge would also result in temporary traffic impacts due to either the closure of Roseville Road or only having one lane available during construction. These effects would be significant without mitigation. Mitigation measures included in this study would reduce the impacts to less-than-significant levels.			
B. The proposed project is consistent with the General Plan and the findings in the MEIR and would not result in individually limited but collectively significant impacts. Therefore, the project would not cause any additional environmental effects.			
C. As described in the resource sections above, the project would not result in either direct or indirect substantial adverse effects on human beings. Air quality and traffic impacts can be reduced to less-than-significant levels through implementation of the mitigation measures included in this study.			

Section IV – Affected Environment

The environmental factors checked below would potentially be affected by this project.

- | | |
|--|--|
| <input type="checkbox"/> Air Quality | <input type="checkbox"/> Noise and Vibration |
| <input checked="" type="checkbox"/> Biological Resources | <input type="checkbox"/> Parks and Open Space |
| <input checked="" type="checkbox"/> Cultural Resources | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Geology, Soils, and Mineral Resources | <input type="checkbox"/> Public Utilities |
| <input type="checkbox"/> Hazards and Hazardous Materials | <input checked="" type="checkbox"/> Transportation and Circulation |
| <input type="checkbox"/> Hydrology and Water Quality | <input type="checkbox"/> Urban Design and Visual Resources |
| <input type="checkbox"/> None | |

Section V – Determination

Based on this initial study:

- ☐ 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 (a) the proposed project is an anticipated subsequent project identified and described in the 2030 General Plan Master EIR; (b) the proposed project is consistent with the 2030 General Plan land use designation and the permissible densities and intensities of use for the project site; (c) that the discussions of cumulative impacts, growth inducing impacts, and irreversible significant effects in the Master EIR are adequate for the proposed project; and (d) the proposed project will have additional significant environmental effects not previously examined in the Master EIR. A **MITIGATED NEGATIVE DECLARATION** will be prepared. Mitigation measures from the Master EIR will be applied to the project as appropriate, and additional feasible mitigation measures and alternatives will be incorporated to revise the proposed project before the negative declaration is circulated for public review, to avoid or mitigate the identified effects to a level of insignificance. (CEQA Guidelines Section 15178(b)).
- ☐ I find that the proposed project **MAY** have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required.

Signature

Date

Printed Name

For

References Cited

- Blackburn Consulting. 2008. Initial Site Assessment: Roseville Road Bridge Replacement Project. December. West Sacramento, CA.
- California Division of Mines and Geology. 1999. Simplified Fault Activity Map of California, Map Sheet 54. Revised 2002. Compiled by Charles W. Jennings and George J. Saucedo. Sacramento, CA.
- City of Sacramento. 2009a. Sacramento 2030 General Plan Master Environmental Impact Report. Certified March 3, 2009. Preparer's consultant: PBS&J, Sacramento, CA.
- City of Sacramento. 2009b. Sacramento 2030 General Plan. Adopted March 3, 2009.
- City of Sacramento. 2009c. Roseville Road Bridge Replacement Project Water Quality Technical Study. April. Preparer's consultant: ICF International, Sacramento, CA.
- City of Sacramento. 2009d. Archaeological Survey Report for the Proposed Roseville Road Bridge Replacement Project, Sacramento County, California. Preparer's consultant: ICF International, Sacramento, CA.
- City of Sacramento. 2011a. Roseville Road Bridge Replacement Project Natural Environment Study. Preparer's consultant: ICF International, Sacramento, CA.
- City of Sacramento. 2011b. Roseville Road Bridge Replacement Project Preliminary Wetland Delineation Report. Preparer's consultant: ICF International, Sacramento, CA.
- City of Sacramento. 2011c. Engineering and Traffic Survey for Roseville Road, 2/1/2011. Traffic Engineering Division. Sacramento, CA.
- City of Sacramento. 2011d. Roseville Road Bridge Replacement Project Visual Impact Assessment. June. Preparer's consultant: ICF International, Sacramento, CA.
- City of Sacramento. 2012. Department of Parks and Recreation. Del Paso Regional Park Natural Habitat Areas. Available: http://www.cityofsacramento.org/parksandrecreation/parks/sites/delpaso_nathab.htm#mplans. Accessed February 2012.
- Federal Emergency Management Agency. 1998. Flood Insurance Rate Map (FIRM), Sacramento County, California. Map Number: 060266 005F. Map revised: July 6, 1998.
- Federal Highway Administration. 2006. FHWA Highway Construction Noise Handbook. Washington, D.C.
- Federal Transit Administration. 2006. Transit Noise and Vibration Impact Assessment. Washington, D.C.
- ICF Jones & Stokes. 2008. Final Existing Conditions and Assessment Report and Stream Corridor Management Plan. September. Prepared for the City of Sacramento and California Department of Transportation.
- Sacramento Metropolitan Air Quality Management District. 2011. CEQA Guide Update, Guide to Air Quality Assessment in Sacramento County. Available: <http://www.airquality.org/ceqa/ceqaguideupdate.shtml>. Last modified June 3, 2011. Accessed December 2011.

APPENDIX A

Summer Emissions (lbs/day) - Unmitigated*

Scenario A (Creek Realignment) with Method 1 (road closure)

Phase	ROG	NOx	CO	PM10	PM2.5	SO2	PM10 Dust	PM2.5 Dust	PM2.5 Exhaust	CO2	Source
Creek realignment and bridge demolition (3/1/2014 – 3/31/2014)	2.84	22.74	14.33	28.1	6.6	0	n/a	n/a	n/a	3683.04	URBEMIS 2007
Rough grading (4/1/2014 – 4/15/2014)	1.97	14.52	10.62	15.77	3.84	0	n/a	n/a	n/a	2074	URBEMIS 2007
Construct bridge, retaining walls, & underground facilities (4/16/2014 – 8/31/2014)	1.45	10.78	6.11	0.62	0.57	0	n/a	n/a	n/a	1358	URBEMIS 2007
Finished grading, rip rap & landscape replanting (9/1/2014 – 9/15/2014)	2.21	16.23	11.85	0.87	0.8	0	n/a	n/a	n/a	2278	URBEMIS 2007
Paving (9/16/2014 – 9/30/2014)	1.58	9.66	8.11	0.78	0.72	0	n/a	n/a	n/a	1191	URBEMIS 2007
MBGR, signing & striping (10/1/2014 – 10/21/2014)	0.61	0.66	8.15	0.04	0.04	0.02	0.02	0.02	0.02	2331	EMFAC 2007
Final cleanup and construction completion (10/22/2014 – 11/7/2014)	0.52	0.59	7.35	0.04	0.04	0.02	0.02	0.02	0.02	2104	EMFAC 2007

Scenario B (In-Kind) with Method 1 (road closure)

Phase	ROG	NOx	CO	PM10	PM2.5	SO2	PM10 Dust	PM2.5 Dust	PM2.5 Exhaust	CO2	Source
Bridge demolition (3/1/2014 – 3/31/2014)	0.87	8.22	3.71	0.33	0.26	0	n/a	n/a	n/a	1608.68	URBEMIS 2007
Rough grading (4/1/2014 – 4/15/2014)	1.97	14.52	10.62	15.77	3.84	0	n/a	n/a	n/a	2074	URBEMIS 2007
Construct bridge, retaining walls, & underground facilities (4/15/2014 – 9/30/2014)	1.45	10.78	6.11	0.62	0.57	0	n/a	n/a	n/a	1358	URBEMIS 2007
Finished grading, rip rap & landscape replanting (10/1/2014 – 10/15/2014)	2.21	16.23	11.85	0.87	0.8	0	n/a	n/a	n/a	2278	URBEMIS 2007
Paving (10/16/2014 – 10/30/2014)	1.58	9.66	8.11	0.78	0.72	0	n/a	n/a	n/a	1191	URBEMIS 2007
MBGR, signing & striping (11/1/2014 – 11/21/2014)	0.61	0.66	8.15	0.04	0.04	0.02	0.02	0.02	0.02	2331	EMFAC 2007
Final cleanup and construction completion (11/22/2014 – 12/7/2014)	0.52	0.59	7.35	0.04	0.04	0.02	0.02	0.02	0.02	2104	EMFAC 2007

EMFAC Assumptions

ROG	NOx	CO	PM10	PM2.5	SO2	PM10 Dust	PM2.5 Dust	PM2.5 Exhaust	CO2
MDT (Sacramento County, 2014, 5mph) (g/mi)	0.515	0.531	6.569	0.148	0.125	0.021	0.007	0.118	1876
LDT (Sacramento County, 2014, 5mph) (g/mi)	0.313	0.382	4.795	0.140	0.118	0.021	0.007	0.111	1376
Project length (mi)	0.227	0.227	0.227	0.227	0.227	0.227	0.227	0.227	0.227

*Note: Mitigated emissions estimates were not included because unmitigated emissions are below the significance thresholds.

12/14/2011 9:23:34 AM

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: G:\Sacramento\LGT-Air&Noise\Air\Roseville Road Bridge Replacement 00489.08\URBEMIS\Roseville Rd Scen A Meth 1.urb924

Project Name: Roseville Road Bridge - Scenario A Method 1

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2014 TOTALS (lbs/day unmitigated)	2.84	22.74	14.33	0.00	27.07	1.03	28.10	5.65	0.95	6.60	3,683.04
2014 TOTALS (lbs/day mitigated)	2.84	17.68	14.33	0.00	1.95	0.87	2.25	0.41	0.80	0.80	3,683.04

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
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12/14/2011 9:23:34 AM

Time Slice 3/3/2014-3/31/2014 Active Days: 21	<u>2.84</u>	<u>22.74</u>	<u>14.33</u>	<u>0.00</u>	<u>27.07</u>	<u>1.03</u>	<u>28.10</u>	<u>5.65</u>	<u>0.95</u>	<u>6.60</u>	<u>3,683.04</u>
Demolition 03/01/2014- 03/31/2014	0.87	8.22	3.71	0.00	0.06	0.27	0.33	0.01	0.25	0.26	1,608.68
Fugitive Dust	0.00	0.00	0.00	0.00	0.05	0.00	0.05	0.01	0.00	0.01	0.00
Demo Off Road Diesel	0.85	8.17	3.13	0.00	0.00	0.26	0.26	0.00	0.24	0.24	1,517.50
Demo On Road Diesel	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.27
Demo Worker Trips	0.02	0.02	0.57	0.00	0.00	0.00	0.01	0.00	0.00	0.00	83.92
Mass Grading 03/01/2014- 03/31/2014	1.97	14.52	10.62	0.00	27.01	0.76	27.77	5.64	0.70	6.34	2,074.36
Mass Grading Dust	0.00	0.00	0.00	0.00	27.00	0.00	27.00	5.64	0.00	5.64	0.00
Mass Grading Off Road Diesel	1.94	14.47	9.47	0.00	0.00	0.76	0.76	0.00	0.70	0.70	1,906.53
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.03	0.05	1.15	0.00	0.01	0.00	0.01	0.00	0.00	0.01	167.83
Time Slice 4/1/2014-4/15/2014 Active Days: 11	1.97	14.52	10.62	0.00	15.01	0.76	15.77	3.14	0.70	3.84	2,074.36
Fine Grading 04/01/2014- 04/15/2014	1.97	14.52	10.62	0.00	15.01	0.76	15.77	3.14	0.70	3.84	2,074.36
Fine Grading Dust	0.00	0.00	0.00	0.00	15.00	0.00	15.00	3.13	0.00	3.13	0.00
Fine Grading Off Road Diesel	1.94	14.47	9.47	0.00	0.00	0.76	0.76	0.00	0.70	0.70	1,906.53
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.03	0.05	1.15	0.00	0.01	0.00	0.01	0.00	0.00	0.01	167.83
Time Slice 4/16/2014-8/29/2014 Active Days: 98	1.45	10.78	6.11	0.00	0.00	0.62	0.62	0.00	0.57	0.57	1,358.02
Building 04/16/2014-08/31/2014	1.45	10.78	6.11	0.00	0.00	0.62	0.62	0.00	0.57	0.57	1,358.02
Building Off Road Diesel	1.45	10.78	6.11	0.00	0.00	0.62	0.62	0.00	0.57	0.57	1,358.02
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

12/14/2011 9:23:34 AM

Time Slice 9/1/2014-9/15/2014 Active Days: 11	2.21	16.23	11.85	0.00	0.01	0.87	0.87	0.00	0.80	0.80	2,277.53
Mass Grading 09/01/2014- 09/15/2014	2.21	16.23	11.85	0.00	0.01	0.87	0.87	0.00	0.80	0.80	2,277.53
Mass Grading Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Off Road Diesel	2.17	16.18	10.70	0.00	0.00	0.86	0.86	0.00	0.79	0.79	2,109.69
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.03	0.05	1.15	0.00	0.01	0.00	0.01	0.00	0.00	0.01	167.83
Time Slice 9/16/2014-9/30/2014 Active Days: 11	1.58	9.66	8.11	0.00	0.01	0.78	0.78	0.00	0.71	0.72	1,191.19
Asphalt 09/16/2014-09/30/2014	1.58	9.66	8.11	0.00	0.01	0.78	0.78	0.00	0.71	0.72	1,191.19
Paving Off-Gas	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.51	9.54	6.74	0.00	0.00	0.77	0.77	0.00	0.71	0.71	979.23
Paving On Road Diesel	0.00	0.06	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.16
Paving Worker Trips	0.04	0.06	1.34	0.00	0.01	0.00	0.01	0.00	0.00	0.01	195.80

Phase Assumptions

Phase: Demolition 3/1/2014 - 3/31/2014 - Demolish half of bridge
 Building Volume Total (cubic feet): 1634.88
 Building Volume Daily (cubic feet): 130
 On Road Truck Travel (VMT): 1.81
 Off-Road Equipment:
 1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day
 2 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day

Phase: Fine Grading 4/1/2014 - 4/15/2014 - Rough Grading

Total Acres Disturbed: 0.75

Maximum Daily Acreage Disturbed: 0.75

Fugitive Dust Level of Detail: Default

12/14/2011 9:23:34 AM

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

2 Dumpers/Tenders (16 hp) operating at a 0.38 load factor for 8 hours per day

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 3/1/2014 - 3/31/2014 - Creek Realignment

Total Acres Disturbed: 1.35

Maximum Daily Acreage Disturbed: 1.35

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

2 Dumpers/Tenders (16 hp) operating at a 0.38 load factor for 8 hours per day

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 9/1/2014 - 9/15/2014 - Finished grading, rip rap & landscape replanting

Total Acres Disturbed: 0

Maximum Daily Acreage Disturbed: 0

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

2 Dumpers/Tenders (16 hp) operating at a 0.38 load factor for 8 hours per day

Page: 5

12/14/2011 9:23:34 AM

- 1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
- 1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
- 1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 9/16/2014 - 9/30/2014 - Paving

Acres to be Paved: 0.15

Off-Road Equipment:

- 4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day
- 1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day
- 1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 4/16/2014 - 8/31/2014 - Construct bridge, retaining walls, & underground facilities

Off-Road Equipment:

- 1 Air Compressors (106 hp) operating at a 0.48 load factor for 8 hours per day
- 1 Cranes (399 hp) operating at a 0.43 load factor for 8 hours per day
- 2 Dumpers/Tenders (16 hp) operating at a 0.38 load factor for 8 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

12/14/2011 9:27:09 AM

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: G:\Sacramento\LGT-Air&Noise\Air\Roseville Road Bridge Replacement 00489.08\URBEMIS\Roseville Rd Scen B Meth 1.urb924

Project Name: Roseville Road Bridge - Scenario B Method 1

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2014 TOTALS (lbs/day unmitigated)	2.21	16.23	11.85	0.00	15.01	0.87	15.77	3.14	0.80	3.84	2,277.53

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
Time Slice 3/3/2014-3/31/2014 Active Days: 21	0.87	8.22	3.71	0.00	0.06	0.27	0.33	0.01	0.25	0.26	1,608.68
Demolition 03/01/2014- 03/31/2014	0.87	8.22	3.71	0.00	0.06	0.27	0.33	0.01	0.25	0.26	1,608.68
Fugitive Dust	0.00	0.00	0.00	0.00	0.05	0.00	0.05	0.01	0.00	0.01	0.00
Demo Off Road Diesel	0.85	8.17	3.13	0.00	0.00	0.26	0.26	0.00	0.24	0.24	1,517.50
Demo On Road Diesel	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.27
Demo Worker Trips	0.02	0.02	0.57	0.00	0.00	0.00	0.01	0.00	0.00	0.00	83.92

12/14/2011 9:27:09 AM

Time Slice 4/1/2014-4/15/2014 Active Days: 11	1.97	14.52	10.62	0.00	<u>15.01</u>	0.76	<u>15.77</u>	<u>3.14</u>	0.70	<u>3.84</u>	2,074.36
Fine Grading 04/01/2014- 04/15/2014	1.97	14.52	10.62	0.00	15.01	0.76	15.77	3.14	0.70	3.84	2,074.36
Fine Grading Dust	0.00	0.00	0.00	0.00	15.00	0.00	15.00	3.13	0.00	3.13	0.00
Fine Grading Off Road Diesel	1.94	14.47	9.47	0.00	0.00	0.76	0.76	0.00	0.70	0.70	1,906.53
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.03	0.05	1.15	0.00	0.01	0.00	0.01	0.00	0.00	0.01	167.83
Time Slice 4/16/2014-9/30/2014 Active Days: 120	1.45	10.78	6.11	0.00	0.00	0.62	0.62	0.00	0.57	0.57	1,358.02
Building 04/16/2014-09/30/2014	1.45	10.78	6.11	0.00	0.00	0.62	0.62	0.00	0.57	0.57	1,358.02
Building Off Road Diesel	1.45	10.78	6.11	0.00	0.00	0.62	0.62	0.00	0.57	0.57	1,358.02
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Time Slice 10/1/2014-10/15/2014 Active Days: 11	<u>2.21</u>	<u>16.23</u>	<u>11.85</u>	0.00	0.01	<u>0.87</u>	0.87	0.00	<u>0.80</u>	0.80	<u>2,277.53</u>
Mass Grading 10/01/2014- 10/15/2014	2.21	16.23	11.85	0.00	0.01	0.87	0.87	0.00	0.80	0.80	2,277.53
Mass Grading Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Off Road Diesel	2.17	16.18	10.70	0.00	0.00	0.86	0.86	0.00	0.79	0.79	2,109.69
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.03	0.05	1.15	0.00	0.01	0.00	0.01	0.00	0.00	0.01	167.83

12/14/2011 9:27:09 AM

Time Slice 10/16/2014-10/30/2014 Active Days: 11	1.58	9.66	8.11	<u>0.00</u>	0.01	0.78	0.78	0.00	0.71	0.72	1,191.19
Asphalt 10/16/2014-10/30/2014	1.58	9.66	8.11	0.00	0.01	0.78	0.78	0.00	0.71	0.72	1,191.19
Paving Off-Gas	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.51	9.54	6.74	0.00	0.00	0.77	0.77	0.00	0.71	0.71	979.23
Paving On Road Diesel	0.00	0.06	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.16
Paving Worker Trips	0.04	0.06	1.34	0.00	0.01	0.00	0.01	0.00	0.00	0.01	195.80

Phase Assumptions

Phase: Demolition 3/1/2014 - 3/31/2014 - Demolish bridge

Building Volume Total (cubic feet): 1634.88

Building Volume Daily (cubic feet): 130

On Road Truck Travel (VMT): 1.81

Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

2 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day

Phase: Fine Grading 4/1/2014 - 4/15/2014 - Rough Grading

Total Acres Disturbed: 0.75

Maximum Daily Acreage Disturbed: 0.75

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

2 Dumpers/Tenders (16 hp) operating at a 0.38 load factor for 8 hours per day

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

12/14/2011 9:27:09 AM

Phase: Mass Grading 10/1/2014 - 10/15/2014 - Finished grading, rip rap & landscape replanting

Total Acres Disturbed: 0

Maximum Daily Acreage Disturbed: 0

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

2 Dumpers/Tenders (16 hp) operating at a 0.38 load factor for 8 hours per day

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 10/16/2014 - 10/30/2014 - Paving

Acres to be Paved: 0.15

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 4/16/2014 - 9/30/2014 - Construct bridge, retaining walls, & underground facilities

Off-Road Equipment:

1 Air Compressors (106 hp) operating at a 0.48 load factor for 8 hours per day

1 Cranes (399 hp) operating at a 0.43 load factor for 8 hours per day

2 Dumpers/Tenders (16 hp) operating at a 0.38 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day